



Cambodia Trade Integration Strategy 2019-2023

Full Report



Phnom Penh, May 2019



FOREWORD



Cambodia has, for the last two decades, enjoyed exceptional economic growth of around 7.2% per annum, ranking as one of the fastest growing economies in the world. This rapid rise in prosperity is very notable indeed and in 2015, with the gross national income (GNI) per capita surpassing US\$1,075, Cambodia reached an important milestone in its development by having its status reclassified from a low-income country to a lower-middle income country, according to the World Bank criteria.

At the forefront of this remarkable growth is trade. In the foreseeable future, trade will continue to play this engine role. Against this backdrop, the Ministry of Commerce undertook the formulation of its fourth-generation trade strategy called the Cambodia Trade Integration Strategy (CTIS) 2019-2023, covering the sixth mandate of the Royal Government of Cambodia. This fourth iteration uses, as underlying foundations, the Rectangular Strategy Phase IV, the Industrial Development Policy 2015-2025 encapsulating Cambodia Vision 2030 and 2050, WTO Trade Policy Review 2017, Sustainable Development Goals (SDG) among others. It provides an up-to-date integration strategy for short- to medium-term to ensure trade development objectives for the sixth mandate are realized and that trade contributes directly to the achievement of Vision 2030 and the Cambodian SDGs.

CTIS 2019 puts a special focus on new developments, in recent years, in the global setting that could have detrimental impact on Cambodia's economy if not mitigated. The emergence of protectionism and the rise of geopolitical divide provide both threats and opportunities for small economies like Cambodia. In addition, other external factors such as potential unilateral suspension of trade preferences, the fast-changing environment in the forms of bilateral and multilateral free-trade agreements affecting favourable trading rules and systemic erosion of preferences through future Cambodia's graduation out of Least Developed Country (LDC) warrant a closer look at Cambodia's trade competitiveness factors and how Cambodia can maintain its comparative advantage.

In this regard, competitiveness analysis was conducted for current labour-intensive manufacturing sectors that are the mainstays of the Cambodian economy through addressing priority needs in cross-cutting areas such as skills, education, trade facilitation, trade logistics, business climate, trade financing and quality infrastructure and standards, among others, to ensure Cambodia remain competitive and maintain comparative advantage for sustainable growth. In doing so, the study identifies priority needs to sustain and develop the current sectors by enhancing stagnant and nascent industries. Policy considerations will also be made in the areas of regional integration, potential bilateral FTAs, and other cooperation platforms. In the meantime, the advent of digital economy and the fourth industrial revolution laid down the needs to diversify and to leverage opportunities in new growth sectors, especially for fostering new value added and skill-oriented industries, emerging digital economy and services sector and harnessing the power of e-Commerce.

With this 4th CTIS, I am confident that Cambodia will continue to maintain this remarkable rise and achieved all the objectives set forth in the strategy. This strategy provides a clear path for policy actions for all stakeholders with the Ministry of Commerce at the forefront. I call on other trade-related ministries and agencies, private sector and non-state actors to implement, make value contribution to Cambodia's economic development through trade and to help realize long-term vision and sustainable goals.

[signature]

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Minister of Commerce

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The strategy benefited as well from more than 250 stakeholders who took part in the 12 Focus-Group discussions organized throughout the formulation process as well as from the more than 150 bilateral meetings organized with key stakeholders, including resident development partners. While it is not possible to thank them all individually here, the strategy would not have been possible without their support.

CTIS 2019-2023 Inter-Ministerial Committee (Task Force)

The CTIS 2019-2023 Inter-Ministerial Committee (Task Force) was created in September 2018 to guide the CTIS update process, from the concept note to the final validation. Members of the Committee provided invaluable comments, directions, encouragements and inputs to the CTISU team. They ensured that the CTISU could be aligned with the Government development plans and did not overall but rather complemented existing sector development policies and plans.

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ACRONYMS

AAE-1	Asia Africa Europe-1
AAG	Pan-Pacific Asia-America Gateway
ACCSQ	ASEAN Consultative Committee on Standards and Quality
ADB	Asian Development Bank
AEC	ASEAN Economic Community
AFAS	ASEAN Framework Agreement on Services
AI	Artificial Intelligence
AJCEP	ASEAN-Japan Comprehensive Economic Partnership
AKR	Angkor Kasekam Roongroueng
ANNAHC	ASEAN Network on Aquatic Animal Health Centers
APO	Asia Pacific Organization
ARAC	ASEAN Risk Assessment Cooperation
ARASFF	ASEAN Rapid Alert System for Food and Feed
ASEAN	Association of South East Asian Nations
ASO/DSO	Analogue Switch-Off/Digital Switch-On
ATIGA	ASEAN Trade in Goods Agreement
BPO	Business Process Outsourcing
BRIC	Battambang Rice Investment Co
CAC	Consumers Association of Cambodia
CAD	Computer-Aided Design
CAGR	Compound Annual Growth Rate
CAM	Computer-Aided Manufacturing
CamLAPF	Cambodia Laboratory of Animal Health and Production
CAVAC	Cambodia Agricultural Value Chain Program
CDC	Council for the Development of Cambodia
CDRI	Cambodia Development Research Institute
CGTI	Cambodia Training Centre Institute
CIB	The Cambodian Investment Board
CIRRD	Cambodian Institute for Research and Rural Development
CNCC	Cambodia National Codex Committee
CNSW	Cambodia National Single Window
COP	Code of Practice
CORAA	Cambodia Organic Agricultural Association
CP-TPP	Comprehensive and Progressive Agreements for Trans-Pacific Partnership
CRDB	Cambodian Rehabilitation and Development Board
CTIS	Cambodia trade integration strategy
CTISU	Cambodia trade integration strategy update
DAI	Department of Agro-Industry
DB	Doing Business
DHAP	Department of Animal Health and Production
DIPR	Department of Intellectual Property Rights
DTIS	Diagnostic Trade Integration Strategy
DVD	Digital Video Discs

e-KYC	Electronic Know-Your-Customer Platform
EBA	Everything but arms
EIF	Enhanced Integrated Framework
EU	European Union
EU/EC	European Union/ European Commission
FAO	Food and Agriculture Organization of the UN
FDI	Foreign Direct Investment
FiA	Fisheries Administration
FVO	Food and Veterinary Office of the EC (DG Health & Consumers)
GAP	Good agricultural practices
GATS	General Agreement on Trade in Services
GDA	General Department for Agriculture
GDAHP	General Directorate of Animal Health and Production
GDCE	General Department of Customs and Excise
GDP	Gross Domestic Product
GDR	General Directorate of Rubber
GHP	Good hygiene practice
GI	Geographical Indications
GMAC	Garments Manufacturing Association in Cambodia
GMOs	Genetically modified organisms
GMP	Good manufacturing practice
GNI	Gross National Income
GPT	General-Purpose Technologies
GVC	Global Value Chain
GVCs	Global Value Chain
HACCP	Hazard analysis critical control point
HK	Hong Kong
HPLC	High-performance liquid chromatography
HS	Harmonized System
ICC	International Chamber of Commerce
ICT	Information and Communication Technologies
IDP	Industrial Development Plan
IFC	International Finance Corporation
ILCC	Industrial Laboratory Centre of Cambodia
ILO	International Labour Organization
IMC	Inter-ministerial committee
IP	Intellectual Property
IPM	Integrated pest management
IPPC	International Plant Protection Convention
IPR	Intellectual Property Right
ISA	International Searching Authority
ISC	Institute of Standards of Cambodia
ISO	International Organization for Standardization
IT	Information Technology
ITC	International Trade Centre
ITeS	IT-enabled services

JV	Joint Venture
LC	Letter of Credit
LDC	Least Developed Country
LHS	Left Hand Side
LMO	Living modified organisms
LPI	Logistics Performance Index
MAFF	Ministry of Agriculture, Forestry and Fisheries
MBI	Mekong Business Initiative
MCT	Malaysia-Cambodia-Thailand
MEF	Ministry of Economy and Finance
MFI	Micro-Finance Institution
MICE	Meetings, Incentives, Conferences and Events
MIH	Ministry of industries and handicraft
MIST	Mekong Innovative Start-up Tourism
MIT	Massachusetts Institute of Technology
MLVT	Ministry of Labour and Vocational Training
MoC	Ministry of Commerce
MoCFA	Ministry of Culture and Fine Arts
MoEYS	Ministry of Education, Youth and Sports
MoH	Ministry of Health
MoPT	Ministry of Posts and Telecommunications
MoT	Ministry of Tourism
MOU	Memorandum of Understanding
MRL	Maximum Residue Limits
MSP	Mekong Strategic Partners
NACA	Network of Aquaculture Centers in Asia-Pacific
NAL	National Agriculture Laboratory
NBC	National Bank of Cambodia
NGO	Non-Government Organization
NSDP	National Strategic Development Plan
NTB	National Training Board
OECD	Organization for Economic Co-operation and Development
OIE	World Organization for Animal Health (Office International des Epizooties)
OTJ	On-The-Job
PCT	Patent Cooperation Treaty
PPCC	Phnom Penh Chamber of Commerce
R&D	Research and Development
REER	Real Effective Exchange Rate
RHG	Rice Husk Gazifiers
RHS	Right Hand Side
RSIV	Rectangular Strategy Phase IV
SEZs	Special Economic Zones
SIDA	Swedish International Development Cooperation Agency
SJC2	South-East Asia – Japan Cable 2
SME	Small and medium enterprises

SNDP	Sustainable National Development Plan
SNEC	Supreme National Economic Council
SPS	Sanitary and Phytosanitary Measures
SRP	Sustainable Rice Platform
STDF	Standards and Trade Development Facility
SWAp	Trade Sector-Wide Approach
TBPS	Terabytes Per Second
TBT	Technical Barriers to Trade
TCF	Textile, Clothing and Footwear
TI	Transparency International
TISI	Trade and Investment Support Institutions
TPO	Trade promotion organization
TRIPS	Trade-Related Aspects of Intellectual Property Rights
TTRI	Trade training and research institute
TVET	Technical and vocational education and training
UHF	Ultra-High Frequency
UN	United Nations
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
UPOV	International Convention for the Protection of New Varieties of Plants
US	United States
USA	United States of America
USD	United States Dollar
WB	World Bank
WCT	WIPO Copyright Treaty
WDI	World Development Indicators
WEF	World Economic Forum
WHO	World Health Organization
WIPO	World Intellectual Property Organization
WITS	World Integrated Trade Solution
WPPT	WIPO Performances and Phonograms Treaty
WTO	World Trade Organization
YEA	Young Entrepreneurs Association

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BACKGROUND

Cambodia has been at the forefront and has been a key beneficiary of the Enhanced Integrated Framework partnership for Least Developed Countries (EIF). Diagnostic Trade Integration Study (DTIS) or Trade Integration Strategies as they have come to be known are the cornerstone of the EIF programme in terms of mainstreaming. The DTIS and the country's policies and action plans are the basis for all subsequent Aid-for-Trade projects. The paramount objective of a DTIS is to identify the constraints that are hampering the integration of a country into the multilateral trading system and the mainstreaming of trade issues into the NSDP and national development plans.

The original DTIS of Cambodia, prepared with the support of the World Bank Group, was launched in November 2001 and put a strong emphasis on Cambodia's reintegration to the world trade arena, paving the way for its successful accession to the WTO in 2003.

Cambodia was the first EIF beneficiary to update its DTIS in 2007 (a process known as *Cambodia Trade Integration Strategy 2007* or CTIS 2007). CTIS 2007, prepared by UNDP Cambodia on behalf of MOC had export diversification as its main theme, supporting the efforts by the Royal Government of Cambodia to diversify its economy using trade as its main engine of growth. The CTIS 2007 also introduced the notion of Trade Pillars (aka SWAp Pillars) and transformed the initial "action matrix" into "trade roadmap" to further enhance mainstreaming of trade into national development strategies, such as the National Strategic Development Plan and Rectangular Strategy.

CTIS 2014, covering the Fifth Mandate of the Royal Government of Cambodia (2014-2018) was produced in time for Cambodia's participation into the ASEAN Economic Community launched in 2015. The CTISU 2014, prepared jointly by UNDP Cambodia and the MoC, it highlighted the challenges and opportunities for Cambodia's Export Diversification and Expansion and looked into deepening Cambodia's Trade Integration in regional and other emerging markets;

The decision to update the CTIS once again was taken by MoC senior leadership early 2018, and negotiations with the EIF Executive Secretariat were concluded in July 2018. The main goal of the CTIS 2019 is to develop an up-to-date integration strategy that can be mainstreamed through the new Rectangular Strategy IV and Vision 2030 that were formulated by the Government and will serve as a basis for the design of the new National Strategic Development Plan (2019-2023) that will guide the work of the new Government following the recent general elections.

Since the first DTIS in 2001, leadership of the DTIS formulation process in Cambodia has changed significantly. This reflects Cambodia's growing capacity to manage its Aid-for-Trade process. The first DTIS was largely agency-driven, with the WB leading a team of experts under IF funding. CTIS 2007 and CTISU 2014 were carried out under the joint leadership of the Ministry of Commerce and the UNDP. CTIS 2019-2023 is the first a fully Government-led and Government-owned trade strategy update process.

This report and the accompanying action matrix benefited from extensive comments received from Cambodian government officials, private sector stakeholders, development partners, as well as members of the EIF Board and EIF Executive Secretariat on earlier drafts. In addition, the draft Report and Road Map went through an intensive validation process during the first quarter of 2019 that included (1) 12 Focus Group Discussions during which Government officials, private sector representatives, and development partners with an in-depth knowledge of selected issues and/or sectors were invited to review, comment, and propose clarifications or modifications and (2) a meeting of the *CTISU 2019-2023 inter-Ministerial Committee* on May 2, 2019 chaired by H.E. PAN Sorasak, Minister of Commerce.

[DATES TO BE UPDATED FOLLOWING APPROVAL BY THE EIF EXECUTIVE BOARD]

GUIDING PRINCIPLES

The CTISU 2019-2023 formulation was guided by four principles:

1. **Incorporate best practices learned from the 2014 study.** To prepare the various chapters, MoC sought cooperation from various line ministries and government bodies that have been associated with the formulation and implementation of CTIS 2014 as well as various Development Partners that have supported Trade SWAp through over the past few years. In this regard, the preparation of the various chapters was be more “localized” and integrated more Cambodian resources than previous updates. This was helped by the fact that there are now a number of Cambodian counterparts that have been directly involved in the implementation of various technical assistance projects such as the Trade Development Support Programme (TDSP) co-funded by EU, DANIDA and UNIDO or the EIF-funded CEDEP Programme. As a result, Cambodian public and private stakeholders participating in the update formulation were well informed about the objectives and modus operandi of Cambodia Trade SWAp.
2. **Build on recent policies, strategies, visions developed in or for Cambodia, following its reclassification as a lower middle-income country in 2016.** Since the last update of the CTIS (CTISU 2014), Cambodia has benefited from unprecedented amount of policy and strategy formulation. The CTISU 2019 recognized that conditions may have changed and new priorities and needs may have emerged as a result. Equally important, the new CTISU also ensured that key new priorities identified by the Government are reflected in the update- Such documents include Cambodia’s Industrial Development Policy 2015-2025 (IDP), Cambodia Vision 2030 update, Cambodia Vision 2050, WTO Trade Policy Review, Rice Policy Update, among others.
3. **Align the diversification theme with changing economic patterns.** To provide focus relevant to policy-makers, the CTISU 2019 paid particular attention throughout each chapter to a couple of priorities central to current government actions. This includes the increasing contribution of services to GDP, employment and trade as well as the strong drive to derive benefits from the Digital Economy and be able to embrace the Industry 4.0 revolution.
4. **Keep innovating for the benefit of the CTISU implementation and the benefit of other LDCs.** Through the different CTIS updates, Cambodia has always tried to innovate to make the DTIS process, output and recommendation implementation better ones. This trend was maintained with CTISU 2019 through different forms: (i) by involving private sector and business associations and federations in all focus-group discussions, (ii) in ensuring an effective and efficient use of the CTISU recommendations through a very practical approach to action matrix, reflecting the growing role of FDI and decreasing role of ODA in shaping Cambodia’s trade development, (iii) in integrating its monitoring and evaluation functions into the MoC own M&E mechanisms (carried out annually).

EXECUTIVE SUMMARY

The Cambodia Trade Integration Strategy Update (CTISU) 2019-2023 presents an innovative trade strategy built upon the vision of prosperity and economic growth outlined in the Phase IV of the Rectangular Strategy or “Growth, Employment, Equity and Efficiency: Building the Foundation Towards Realizing the Cambodia Vision 2050”, as well as the Royal Government of Cambodia’s process toward embracing a new development framework, namely the 2030 Agenda for Sustainable Development, which is geared towards establishing close links between economic development, environmental sustainability and social justice. The CTISU 2019-2023 also sets out a roadmap for implementation of the recommendations aligned with the result framework of the Rectangular Strategy Phase IV.

In the past 15 years, since its accession to the WTO, Cambodia has undertaken major economic reforms and secured growth as an engine for pro-poor development. The country is highly integrated into the global economy and is the third most open economy in ASEAN. Growth has been sustained at high rates above developing country averages (around 7.5% in 2018) over the last decade, leading to Cambodia's graduation to lower middle-income country¹ status in 2016. Cambodia’s high growth trajectory is expected to continue. Growth has been sustained thanks to the main drivers of growth that constitute the agriculture (i.e. rice, cassava, rubber), industry (i.e. garment and footwear, travel goods, bicycles) and services (i.e. construction and tourism sectors). Growth is projected to accelerate to 7.0 percent in 2019, underpinned by rising government spending and robust demand in advanced economies. Cambodia’s growth rate is, however, expected to gradually decelerate, if structural problems are left unaddressed.

Cambodia has performed well in attracting foreign direct investment (FDI) compared to other countries in the region, due to the relocation of low-cost manufacturing (accelerated by increasing labour costs in China, Vietnam and Thailand), and a low tax regime with additional tax incentives. Besides the preferential access to the EU, which as a Least Developed Country (LDC) Cambodia benefits from, and other markets, Cambodia's central location in ASEAN has made it an attractive FDI destination with significant opportunities to integrate regional and global value chains.

However around 80% of Cambodia’s exports are sold to just 8 partner countries, mostly to the EU and US. Given this narrow production and export base and concentrated export markets, Cambodia's growth is vulnerable and expected to become gradually constrained over the longer term. Further, textiles, clothing, footwear and travel goods exports to Europe and the USA (markets that import 70% of total Cambodian exports of goods) are reliant on preferential treatment.

Cambodia has not yet fully reaped the benefits of regional integration, bearing in mind the country’s meagre volume of intra-ASEAN trade compared to other countries in the region. Only around one fifth of Cambodia’s exports are sold to ASEAN Member States. The use of tariff preferences among Cambodian businesses is low and only relatively few Cambodian companies apply for preferential certificates of origin under ASEAN related Free Trade Agreements. Cambodian exports to ASEAN are predominantly machinery and agro-products, with minor exports of apparel: under 20% of total exports go to ASEAN. Owing to its dependence on such products for the ASEAN markets, priorities for further integration lie in respecting Sanitary and Phyto-Sanitary (SPS) measures, complying with agricultural and food standards and adhering to preferential origin rules.

In the last few years since CTISU 2014, there has been clear progress as a result of the Cambodian Government's efforts to accelerate economic diversification. The share of exports to the Greater Mekong Sub-region (GMS), ASEAN and larger Asian region has increased rapidly (in particular, to China, Japan,

¹ World Bank Group (WBG) classification of countries by income groups based on Gross National Income (GNI) per capita. The WBG reported in July 2016, that Cambodia’s GNI per capita for 2015 (\$1,070) was above the threshold of \$1,025 for low-income countries.

Korea, Thailand, and Vietnam), driven by the development of new industries integrated into regional manufacturing value chains, such as automotive parts and a bicycle industry, as well as an increase in exports of pre-processed agriculture commodities to the region. On the other hand, Cambodia remains dependent on large import volumes of agricultural inputs, agricultural products and processed food.

Despite formidable achievements made in reforms, major bottlenecks to the business and trade-enabling environment remain. Trade costs weigh heavily on Cambodia's export structure and exporting firms' performance. The contribution of transport and logistics to the total exported value added reached 14 percent, double the corresponding number in Thailand and 3.5 times that of Malaysia or Vietnam. The supply chain links between foreign and domestic firms are weak. Addressing these challenges will require embarking on structural reforms, especially those that can help improve the investment climate, and reducing costs of doing business, including the introduction of competitive energy prices and lower logistic costs.

Generally, SMEs have more limited access to information than bigger companies, both through formal and informal channels. They struggle with complex regulations and standards (including export processes, technical measures, and registration). These distortions largely explain Cambodian SMEs' very limited participation in export to ASEAN markets and in regional market integration.

Over the last few years, there has been progress in addressing some of the trade competitiveness and business climate issues in Cambodia. The reform of export-import processes, including the increased use of ICT through the roll out of the computerised customs management system ASYCUDA and a move towards paperless export procedures and company registration, the automation and digitization of key trade processes for their inclusion into the Cambodia National Single Window (CNSW) and future ASEAN Single Window (ASW) are good examples of the Government's commitment.

Yet, Cambodia's eventual graduation from LDC status, the increased competition from neighbouring countries, the gradual conclusion of free trade agreements between the EU and some ASEAN countries, and the threat of suspension of the EBA scheme by the European Union may further erode Cambodia's competitiveness if not tackled.

This report therefore reflects efforts by the Royal Government of Cambodia (RGC) to take stock of the important developments in the country's trade sector since the previous CTISU (2014) and update Cambodia's strategy and directions for trade integration into global and regional markets. The report used four main entry points in analyzing the evolving economic and trade patterns:

- **Entry point #1:** Progress main on each cross-cutting issues and each sector strategy since CTISU 2014, using the CTISU 2014 road maps baseline data and indicators, results of the stock-taking exercise carried out in 2016 and trade policy review findings. In addition, and in line with entry point #2 below as well, the Ministry of Commerce and the EIF Executive Secretariat agreed on the need for a "light" update. As a consequence, it is foreseen that the main CTISU report will be no longer than 200 pages, and the accompanying road map should be contained in a document of less than 40 pages.
- **Entry point #2:** Cambodia mid-term economic development plans and strategies. The CTISU work cannot work in isolation from the proposed milestones to be found in the Rectangular Strategy IV (2019-2023) and other policy documents. Whenever possible, references will be taken in each chapter to these instruments, to ensure that the CTISU recommendations supports broader economic development, as trade development cannot happen in "silos".
- **Entry point #3:** As an LDC aspiring to graduate, Cambodia has set as well a long-term development vision, through its localization of Sustainable Development Goals, its proposed path to LDC graduation and the ambitious Vision 2030 and 2050. These long-term goals should serve as beacon

for Cambodia to find its own development way, while ensuring quality of growth, inclusiveness and, in fine, durable poverty reduction.

- **Entry point #4:** As Cambodia's economy grows and integration in regional market deepens, the nature of ODA in general and Aid-for-Trade received by Cambodia is changing profoundly. Committed and confirmed Foreign Direct Investment (FDI) into Cambodia have surpassed total flows of ODA provided by development partners for a decade. The nature of legal and regulatory reforms the Government is keen to take is largely determined by the massive FDI projects that have fueled Cambodia's economic development in the past. The CTISU 2019 and in particular the trade roadmap must recognize and reflect this.

In line with the above, two equally important objectives are used as cross-cutting themes for the CTISU 2019: (1) increased competitiveness supporting LDC graduation and Vision 2030 and (2) harnessing new sources of growth to be found in services and industry 4.0 revolution.

Increasing competitiveness

The remarkable growth that Cambodia has experienced is the direct result of its ability to compete in international markets and maintain an open economy. Cambodia's competitiveness was initially based primarily on its abundant and low-priced labor. More recently, trade preferences under GSP and duty-free-quota-free (DFQF) programmes, in particular the EU's EBA programme, have been the key to export expansion: as much as 80% of the growth of Cambodia's exports occurred in markets providing non-reciprocal tariff preferences. These incentives, when combined with Cambodia's attractive investment regime, account for the major part of Cambodia's growth performance. The circumstances that allowed this rapid growth is changing, and will change further in the future. Some countries providing GSP preferences are also entering into free-trade agreements, which tend to dilute the commercial value of Cambodia's preferential access. The special DFQF privileges that Cambodia enjoys as an LDC will at some point come to an end. Wage rates of labor costs in Cambodia are going up, as they must if the benefits of Cambodia's integration into the world economy are to be equitably shared. The old bases for Cambodia's competitiveness are eroding, and new ones must be found and created by Cambodia itself.

Cambodia's main manufacturing exports —garments, shoes, travel goods and bicycles—operate almost exclusively within global value chains by assembling imported materials and parts into finished products that are then exported. Cambodia's agricultural exports mainly take the form of unprocessed agricultural products. In both cases the value added in Cambodia is usually a small fraction of the value of the finished consumer product. In both cases, Cambodia needs to exploit the possibilities for adding additional value in Cambodia. In the case of agriculture, this entails undertaking processing of farm-gate output – as is already underway in the case of rice. In the case of garments, shoes, travel goods and bicycles attention needs to be given to the production, in Cambodia, of inputs presently imported.

Part of the response to the actual and prospective erosion of traditional preferential trading arrangements has been to create new ones. Cambodia participates fully in the elaboration and execution of the ASEAN Economic Community and has entered free-trade agreements with ASEAN Dialogue Partners. These destinations currently account for a relatively small part of Cambodia's total exports, but regional value chains are being established and regional trade is growing rapidly. Cambodia's ability in the years ahead to expand rapidly its exports within these preferential trading arrangements and to penetrate markets where it does not enjoy preferences depends critically on its underlying competitiveness; bringing about rapid improvements in that competitiveness is Cambodia's biggest challenge.

There are a number of broad, cross-cutting issues that affect the competitiveness of Cambodia as an investment destination and that impact all firms seeking to produce for export. These include the quality and completeness of the legal environment; the cost of complying with government regulations and procedures; the quality of the labor force; the cost of energy; and the cost of transportation and logistics.

Measures to improve competitiveness will mitigate the potential negative impacts of EBA suspension. It is a priority to embark on structural reforms, especially those that can help improve investment climate, and reduce costs of doing business, including by introducing competitive energy prices and lower logistic costs. In early 2019, at the time of the local appraisal of this report, the Royal Government of Cambodia has announced a series of reforms to be implemented immediately that will have a strong impact on competitiveness and trade costs.

Measures to improve Cambodia's competitiveness and reduce trade costs

During the 18th Government - Private Sector Forum on March 29, 2019, a range of measures to facilitate trade and increase competitiveness were announced by Samdech Prime Minister Hun Sen. The measures are:

- Withdrew the inspection role of the Cambodia Import- Export and Fraud Repression Directorate General (Camcontrol) at the international gateways, which include border crossings such as checkpoints, seaports, special economic zones, and other export and import inspection zones in Cambodia.
- Abolished the (state-owned) Kampuchea Shipping Agency and Brokers (Kamsab).
- Ceased issuing Certificates of Origin (CO) for the export of goods unless importing countries need one (Inter ministerial Prakas No. 1627 between the Ministry of Economy and Finance and the Ministry of Commerce).
- Reduced logistics costs including loading costs and services fees at both the Phnom Penh and Sihanouk Ville Autonomous ports. Those fees include the Terminal Handling Charge (THC) which was reduced by US\$5/twenty-foot equivalent unit (TEU); and the Container Imbalance Charge (CIC) which was reduced by US\$20 (to US\$100 from US\$120) for 20-foot containers, and US\$40 (to US\$200 from US\$240) for 40 foot containers. The Ocean Freight Charge (OFC) was reduced by 50 percent (SITC Logistics Cambodia agreed). The Emergency Bunker Charge (EBC) was eliminated. It was US\$15, US\$30, and US\$30 for 20-, 30-, and 40- foot containers, respectively. Lift-on/liftoff (LoLo) fees at Sihanoukville port were reduced by 10 percent, while bonus was reduced to US\$5/ box down from US\$7.5/box with shifting is now free of charge. Phnom Penh port is considering reducing the Stevedoring Charge, the Gate Fee, the Export Container fee, and the LO-LO scan fee.
- Electricity cost reduction will be discussed to respond to the growing short- and medium-term needs in the country.
- The government announced policies to support small and medium-sized enterprises (SMEs), which include establishment of an SME bank with initial capital of US\$100million, entrepreneurship funds with a budget of US\$5 million a year, and SME tax incentives for six priority sectors, related to agro-industry and food production and processing.
- Trade facilitation measures under customs include a Prakas on customs automated and transparent receipted fees and charges. Effective April 1, 2019, container scan fees are reduced by 50 percent, declining to US\$10 from US\$20 for 20-foot containers, and to US\$16 from US\$32 for 40 foot containers, and implementation of risk-based container scanning.
- Measures under tax administration include online VAT refunds and VAT credits, a tax audit review period going back three years (instead of 10 years), while the late tax payment penalty has been reduced to 1.5 percent a month from 2 percent a month.
- Reduced the number of observed holidays by seven days, starting 2020. Now, there are from 28 to 30 official holidays a year. This is estimated to result in a 0.5 percent gain in economic growth.
- Consolidated factory inspections (by various agencies) into one team and once a year.

- Accelerated the amendment to the Law on Investment and the finalization of the draft Law on Special Economic Zones, expected to be ready in the first half of 2019. In principle, incentives are to be moved from the Law on Investment to the Budget Law.
- Projected the E-commerce law will be finalized by mid-2019.

Source : Cambodia Government – Private Sector Forum

Harnessing new sources of growth: services, digital economy and industry 4.0 revolution

New sources of growth can be found, new exports markets—with or without trade preferences—must be tapped and new jobs must be created: the demand for occupations such as skilled agricultural, forestry and fishery workers which accounted for majority of the jobs in the past decade and were behind Cambodia’s impressive jobs growth, especially during agriculture commodity price boom are not likely the occupations that will drive future jobs growth.

These new sources of growth will be rooted in Cambodia’s integration in regional value chains, the needs for more services-intensive and processed products by wealthier consumers in Cambodia and in the region (including in China) and the need for producers to search for more specialized and sophisticated inputs and professional advice. Last but not least, as clearly reflected in the Rectangular Strategy IV, the rise of knowledge economies and development of digital technologies including Internet penetration will create new needs and command new occupations, including in Cambodia.

For Cambodia to benefit from the digital economy, it needs not only to invest in infrastructure but also to develop complementary regulations, skills, and institutions. Priority areas to facilitate digital development include: (i) closing the digital gap by enhancing spectrum reallocation and mandating passive infrastructure sharing among telecom operators; (ii) elaborating a Digital Skills Readiness Strategy; (iii) adopting laws in e-commerce, cybersecurity, and data protection and privacy; and (iv) aligning efforts toward implementation of the Digital Government Strategy.

In recent years, the Cambodian authorities have issued several policy documents related to digital development. Overall, the objectives and high-level program goals are generally consistent with international good practice and envisage partnerships between the Government and private sector at multiple levels. The Rectangular Strategy Phase IV 2019-2023 highlights the need to accelerate the transition towards becoming a digital economy. The inclusion of digital economy goals in the RSIV echoes the efforts made in previous years to provide the Government with a robust vision (e.g. the approval in 2014 of the Cambodia ICT Master Plan 2020, of the Telecoms and ICT Policy in 2016, among others. Numerous institutions across the Government are tasked with implementing these policies and strategies. A working committee on Digital Economy has also been established and several ministries have developed together ambitious plans for “Digital SMEs”.

The CTISU 2019-2023 contains 12 chapters, grouped in three pillars

Pillar I offers an overview of progress made on key cross-cutting affecting Cambodia’s trade development agenda since the previous CTISU (2014).

Chapter 1 on Trade Policy and Regional Integration describes how Cambodia has been privileged to be eligible for preferential access to many important markets. The trading regime that results from preferences, however, is going to be substantially reduced in the coming years. There have been a series of warning signs that have already conspicuously highlighted the fragility of a trade policy relying almost exclusively on unilateral trade preferences. The chapter reviews how Cambodia has been able to benefit -or not, from preferential market access and looks at how it could maximize its participation in those. This chapter outlines a series of trade policy options to reformulate Cambodia’s trade agenda in a proactive manner. Given the announced government policy to graduation from LDC status, exclusive reliance on unilateral trade preferences does not seem to be an option any longer. Cambodia needs to

quickly assess and mature the option of entering into an FTA with the EU and/ or join the CP-TPP and assess the value added of RCEP in addition to the existing trading arrangements that Cambodia already has with RCEP countries. Last but not least, It is urgent that measures are taken to mitigate the potential negative impacts of EBA suspension.

Chapter 2 on LDC Graduation, Trade Competitiveness, Quality of Growth and SDGs, reviews progress made by Cambodia in the path towards graduation from the UN-LDC classification and to fulfilling the Cambodian SDGs. This chapter looks at the country's objectives from the perspective of trade development. Specifically, the chapter looks at key challenges to Cambodia's trade competitiveness that the country needs to address in the next ten to twelve years, as it graduates from UN-LDC. The chapter's intent is to point to reforms that can help Cambodia respond to such challenges in the context of highly dynamic and fast changing global and regional trading systems. Upon graduation, trade preferences will be phased out after a transitional time period or immediately depending on the provisions of the preference giving country. Thus, under any circumstance, it is time for Cambodia to realize that alternative routes have to be designed and actively undertaken to maintain and improve the present export performance. The Chapter offers a snapshot on the importance of women in trade and calls for increased mainstreaming of women empowerment in trade and business development policies.

Chapter 3 on The Challenges of Education and Skills Training for Tomorrow's Labor Market analyses the formidable challenges Cambodia is facing in upgrading and adjusting its workforce for tomorrow's challenges. No country other than Cambodia has faced such a steep challenge, in modern times, rebuilding an entire educational and skills training system from the ground up. In that respect, Cambodia's achievements over the past 40 years have been remarkable. Cambodia is bound to remain an export-driven economy for the foreseeable future. To achieve the Government's objectives and move Cambodia's economy up value chains in key export-oriented sectors will require accelerating the development of a medium and high skilled labor force with STEM-type training and education, including a low-medium skilled labor force. Key sectors under the RSIV, also analyzed in this chapter and report, includes garment and footwear, light industry, agricultural commodity processing, but also ICT-based services, as well as support sectors such as logistics and transport.

Chapter 4 on Trade Facilitation appraises the progress made since 2014 in removing some of the persistent "soft" trade barriers affecting Cambodia's trade. The Government has made significant progress in improving the country's trade facilitation performance in recent years. With significant technical support from the development community, key border management institutions, particularly the General Directorate of Customs and Excise (GDCE), have strengthened their capacity and made progress on implementing a number of international standards and good practices. Cambodia has entered into AEC, ratified the WTO TFA, adhered to the World Customs Organization (WCO) Revised Kyoto Conventions and signed the UNESCAP Cross-border paperless trade agreement for Asia and Pacific. The chapter takes stock of Cambodia's progress under these different legal agreements, what institutional arrangements have been put in place to move towards a national single window, what remains to be done focusing on the "software" while the chapter 5 will focus on "hardware" for better facilitation of cross-border trade. With the threat of EBA suspension and its consequences on the prices of Cambodia's products exported to the EU market, cutting export costs could help mitigate the impact of EBA suspension.

Chapter 5 on Trade Logistics Development describes the current logistics development in the country, with a view to provide insights into its future development and provide policy recommendations from a trade logistics perspective. It reviews how Cambodia has been able to enhance transport connectivity, both domestically and within ASEAN, as a pre-requirement for the country to sustain economic growth and integrate production networks that will enhance intra-regional trade. Cambodia has gradually improved its transport and logistics infrastructure to establish efficient and effective connectivity to facilitate industrial relocations from neighbouring countries and China. Cambodia is geographically well-suited to be an important logistics hub for Southeast Asia as the country is part of existing global supply chains networks that involves various countries in the region through a vast regional transport network already in place.

Chapter 6 on Competitiveness, Business Climate, Trade Finance and Intellectual Property Rights analyzes some of the key areas considered crucial for competitiveness. Since its accession to the World Trade Organization (WTO), Cambodia has undertaken a series of major reforms aimed at improving the country's business and trade enabling environment, as demonstrated by its adoption of major economic reforms in order to secure economic growth as an engine for pro-poor development. The chapter reviews Cambodia's recent economic performance, focusing primarily on domestic economy, international trade, and international investment. It focusses on a particular and critical aspect of business efficiency: access to Trade finance. It examines a specific area inside government efficiency, key in promoting innovation: intellectual property rights, innovation and technological adoption. While government efficiency is significant, it is covered in part by the governance related consideration of the CITSU, examined in this and other chapters.

Chapter 7 on Quality Infrastructure and Standards assesses progress made since 2014 in improving the country's quality infrastructure system (QIS). Infrastructure has an important impact on Cambodia's economic integration with the global economy. Standards, Technical Regulation and Conformity Assessment Procedure, Metrology, Testing and Calibration (TBT measures) including SPS measures can help facilitate Cambodia's exports of commodities, light manufacturing products as well as to cater for higher quality and sustainably produced products. As Cambodia is located within the neighborhood of commodity giants, Malaysia, Thailand, and Vietnam, the country has been strategically working toward quality differentiation (rice, pepper), sustainability premiums ("green"), and improved food safety ("clean"), while advancing agroprocessing (cashews, starch). At the same time, Cambodia aspires to protect domestic and international consumers and ensure their safety from counterfeit and unsafe products. The chapter describes the national quality infrastructure system, identifying areas for improvement and summarizing the key SPS and TBT issues that still affect external trade, especially considering the country's status in the regional and international trade agreements. The recent EU-imposed safeguard measures on rice from Cambodia and Myanmar were a wake-up call for the industry on the importance of strengthening the Cambodia QIS. *Pillar II deepens the analysis of progress made in improving moving up value chains, diversifying products and markets in key agricultural and industry export market. From the 10 products and services analyzed in CTISU 2014, the CTISU 2019 narrowed them to two broad categories, agri-business and light industries.*

Chapter 8 on Agri-Business Value Chains for Export Enhancement examines This chapter examines challenges and opportunities on increased value-added processing and export diversification for four selected agricultural sectors: Cassava, (milled) rice, rubber, and fruits and vegetables. The Rectangular Strategy IV and the Industrial Development Policy 2015-2025 call for the promotion of Cambodia's agro-processing industry through integration into regional and global production chains. The Inter-ministerial Committee decided in August 2018 to focus on processing and new market opportunities for the three largest agro-commodities (rice, cassava, and rubber), and one sub-sector (fruits) where the Government believes there might be opportunities. The chapter focuses on the last two stages: value-added processing and exporting. For each commodity, the chapter proposes a similar structure, i.e. analysis of the global value chain for the commodity, current world demand and supply, Cambodia's production and export supply capacity and a SWOT analysis for the sector, focusing on trade facilitation and access to markets.

Chapter 9 on Light Industries for Export Diversification and Enhancement looks at how light industries have played an important role in Cambodia's recent growth story, primarily led by the export-focused Garments and Footwear sectors, and to a much smaller but high-potential light-manufacturing base comprising of Bicycles, electrical + electronic components assembly and misc. light manufacturing. The overall manufacturing sector has benefited significantly from the openness to investment and trade facilitated through conducive industrial policies, preferential market access to the EU and the ASEAN region, proximity to input-sourcing markets (which has enabled integration in regional value chains and reduced lead times), among other factors. The Cambodian light-industries sector is currently at a critical juncture in its developmental trajectory. For the purpose of this chapter, the following sub-sectors²

² Garments and Footwear sectors have been excluded given that the focus of this chapter is on diversification within light-industries sector. Food-processing is covered under the scope of Chapter XX on Agri-business value chains. Although garments, footwear and food-

performance and potential are analyzed: bicycles, electronic components assembly, packaging and other light manufacturing (Miscellaneous products aimed at businesses as intermediate product or end-consumer use). The business case for the Cambodian economy to develop light-industry sectors as new growth poles in addition to Garments is strong.

Pillar III is an initiative by the CTISU team to help Cambodia capture the benefits derived from trade in services and, in particular ITeS and e-commerce. It also aims to provide an early assessment of Cambodia's readiness and willingness to adopt digital transformation in all aspects of economic and trade development.

Chapter 10 on Services Trade proposes to highlight the contribution of services to Cambodia's GDP and seeks ways and means to increase the Government capacity to take advantage of it. While tourism remains Cambodia's largest services export sector, the value and share of services exports including IT and related, animation, design, entertainment and professional services is not captured by trade data and statistics and is often overlooked by the Government in its trade policy Cambodia's openness. Cambodia's young population and agile work force attracted and continue to attract a flow of foreign capital and foreign skills to invest in and develop the country's fast-growing industries across a range of sectors, including tourism, infrastructure, construction, telecommunication and manufacturing. Within this impressive development services are a new, or newly recognized, source of growth. They are prominently acknowledged as such by the government in its *Rectangular Strategy for Growth, Employment, Equity and Efficiency* that identifies a potential for export diversification through services.

Chapter 11 on e-Commerce is taking stock of recent progress in the e-commerce ecosystem, taking UNCTAD eTrade Readiness Assessment report on Cambodia (2016) as a basis. The potential for e-commerce development is significant in Cambodia, promising to diversify the economy, provide new jobs, and increase financial inclusion, as well as contributing to improved lives and livelihoods. Cambodia is in a stage of development in which e-commerce is becoming visible. Cambodia's ecosystem development has been influenced by commitments taken during multilateral (WTO) and regional (ASEAN, RCEP) trade negotiations. Improvements in the area of regulation, e-commerce logistics, payment solutions and skills development are described in the chapter, with a view to measure how these could benefit FDI in the sector and, in fine, cross-border e-commerce with China and with other AMS.

Chapter 12 on Digital Transformation and Industry 4.0 propose to identify niches for Cambodia to adopt aspects of so-called Industry 4.0 in for its key export products and services. As indicated in the I 2019-2023 Rectangular Strategy Phase IV (RS4), the Royal Government of Cambodia set "readiness for the digital economy and the Fourth Industrial Revolution" to be one of the four priorities for economic diversification and new sources of growth. In order to move forward with digital innovation adoption, Cambodia will need to adapt in the face of the next industrial revolution taking place in the region and beyond, often called "Industry 4.0". Industry 4.0 presents huge opportunities for Cambodia, but the country will need to deal with some challenges, in terms of human capital, access to new technologies training, and, most importantly, a mindset change. While Cambodia is lacking most of the development of Industry 3.0, it nevertheless has an opportunity to leapfrog in stages towards Industry 4.0. There are likely to be two key drivers to this. First, the pattern of demand for products and services led by large investors. Second, is the need to strengthen various hard and soft infrastructures.

processing are not included in the core scope of this chapter, these sectors will certainly benefit from the various interventions and solutions proposed which are wide-ranging and cross-functional in nature.

CHAPTER 1 : TRADE POLICY AND REGIONAL INTEGRATION

1. Introduction

As pointed out in the CTISU 2014 Cambodia is one of few LDCs that has been able to dramatically increase his exports thanks to the combined action of Government and private sector to exploit the trading opportunities arising from trade preferences, especially those provided by the EU under the EBA as well as by Canada, Japan and US under the EBA. More specifically Cambodia has been able to timely draw net gains from the trading opportunities offered by the Reform of EU rules of origin that took place in 2011. Trade statistics shows that in 2011-2013 period not only Cambodia has been able to increase its utilization of the EU preferences but has substantially increased its total exports to the EU.

The US, the second biggest export market of Cambodia, does not cover under its own GSP garments and textiles products. Yet Cambodia has been able to maintain, even if decreasing, its market share. At present prospects for US expansion of product coverage on textiles and clothing are meagre and the Bali text on DFQF for LDCs is rather weak to offer prospects³ in the short term. There is no consensus among LDCs and the WTO LDC group to exert pressure on US to deliver a meaningful commitment on DFQF.

Cambodia also increased exports to Japan in the latest years from 405 million USD in 2012 to 1.314 billion in 2017

Margin of preferences provided in the EU market are sizable by any measurement especially when matched with the exports composition of Cambodia mainly consisting of garments (EU MFN: 12%) and bicycles (EU MFN duty: 14%). In addition, Cambodia as other LDCs is entitled to duty free entry into the EU while other ASEAN countries are only entitled to a reduction of 3.5 percentage points and favourable rules of origin.

Most importantly Cambodia has been able to take its first steps towards diversification of its export basket by becoming one of the largest exporters of bicycles in few years mostly because of the EU reform of rules of origin. At the same time, exports of garments have risen.

The continued eligibility of Cambodia under the EBA due to non-trade related conditionalities is currently an issue conspicuously present in press headlines.⁴

Besides the uncertainty deriving from such not-trade related developments Cambodia should realize that the bonanza is not going to last due to the changing trading environment. Unfortunately, it appears that there has been little progress since then to fully realize that being part of the international trading system means be a part of a framework of right and obligations governed by a rule oriented international economic order. Many of the issues now affecting the export performance of Cambodia have been on agenda for years but attracted little attention in terms of seriously mounting an adequate response. Two glaring examples are the re-imposition of duties on rice following an EU investigation under EBA and the lack of preparation and initiatives for the entry into force of the EU-Vietnam FTA.

There are also a series of ongoing and overlapping negotiations like the Regional Comprehensive Partnership (RCEP) and Comprehensive and Progressive Agreements for Trans-Pacific Partnership (CPTPP) that are offering both prospects and challenges for Cambodia. One of the challenges for Cambodia is to better understand in concrete terms and at sector level what these challenges and opportunities are and to assess a) the value added to be part or accede to these mega regionals and b) the concessions that Cambodia is expected to make under the respective initiatives.

³ *Preferential Rules of Origin for Least developed countries*, WTO Ministerial Decision, 7 December 2013 (WT/MIN(13)/42 or WT/L/917), available at https://www.wto.org/english/thewto_e/minist_e/mc9_e/desci42_e.htm

⁴ See for instance: <https://www.phnompenhpost.com/national-politics/final-day-eu-get-eba-withdrawal-views>

Given the overlapping and concurrent trade preferences and arrangements of which Cambodia is beneficiary, the analysis carried out in this chapter is complex due to the different layers of preferential market access already existing, some deriving from the LDC status of Cambodia like EBA or Duty Free Quota Free (DFQF), others deriving from the FTAs that ASEAN has entered with Australia and New Zealand, China, Japan, ROK and India.

In addition to such market access dimension both RCEP and CPP-TPP are encompassing a number of additional trade disciplines of WTO plus⁵ and WTO extra⁶ nature that need to be assessed. Such topics deserve separate studies on their own.

In terms of market access unilateral trade preferences - a building block of the export performance of Cambodia - are of a unilateral nature. In fact, LDC GSP preferences are depending on the LDC status of Cambodia and the conditionalities that Preference-giving countries are attaching to unilateral preferences. As widely reported the beneficiary status of Cambodia under EBA has been put under scrutiny⁷ and Cambodia is aiming at graduating from LDC status in 2023⁸. This horizon calls by itself on how to best strategize a trade policy softening the loss of unilateral preferences following the graduation from GSP LDC status.

Negotiations of the Regional Economic Comprehensive Partnership Agreement (RCEP) are progressing, however it is still to be proved if any additional market access will be provided in a timely and meaningful manner to Cambodia exports. In any case, as RCEP is involving neither the US nor the EU.

Given the export basket of Cambodia, mainly garments and bicycles, it is unlikely that the RCEP could absorb or become a substitute for exports of garments and bicycle to EU and US markets. To be perfectly clear RCEP partners are rather a net competitor to Cambodia than a possible importer for this kind of goods.

Faced by these formidable challenges, this chapter outlines a series of trade policy options to reformulate Cambodia's trade agenda in a proactive manner. Cambodia needs to quickly assess and mature the option of entering into an FTA with the EU and/or join the CP-TPP and assess the value added of RCEP in addition to the existing trading arrangements that Cambodia already has with RCEP countries. Some of these options would represent a substantial negotiating challenge for Cambodia since FTAs with the EU and CP-TPP are encompassing many more disciplines than simple trade in goods aspects. This holds especially true for the CP-TPP that is including disciplines on trade environment, IPRs, and Investor/ State disciplines that, while debated already in literature, must be related and tailored to the Cambodian case.

Overall and most importantly, Cambodia needs to become an active player in the regional and multilateral negotiating context to adequately represent its trading interests. It has to mature the consciousness that its future lies beyond the LDC status and has to build the necessary confidence and technical skills to represent its trade interest in regional and multilateral scenario.

⁵ 'WTO plus' (WTO+): Commitments building on those already agreed to at the multilateral level, eg a further reduction in tariffs, See *Beyond the WTO? An anatomy of EU and US preferential trade agreements*, by Henrik Horn, Petros C. Mavroidis, and André Sapir.

⁶ 'WTO extra' (WTO-X): Commitments dealing with issues going beyond the current WTO mandate altogether, eg on labour standards. Source: see footnote 7.

⁷ *On Myanmar and Cambodia*, Cecilia Malmström, Innsbruck, Austria, 5 October 2018.

⁸ According to the graduation standard procedure, to be recommended for graduation, Cambodia has to be found eligible at two consecutive triennial reviews in fulfilling at least two of the three criteria. Therefore, if Cambodia meets pre-eligibility criteria in 2021 and again in 2024, the country may qualify for graduation at the 2024 review and effectively graduate from 2027 onwards but trade preferences could be provided up to 5 years after graduation from LDC status. Therefore, the only way to reach the government target would be to request the exclusion of Cambodia from the LDC list, which would be unprecedented in the history of LDCs.

This chapter examines the facts and figures that are underscoring this new vision of Cambodia's trade policy. It provides some initial findings on the following issues:

- a) An analytical review of the trade performance of Cambodia vis-a-vis its ASEAN neighbours including a detailed comparative examination of utilization rates of the EU GSP;
- b) Assessment of the trade effects that may arise from ASEAN-EU FTA using a partial equilibrium model;
- c) An assessment of RCEP tariff concession comparing it with the existing preferential tariff arrangements available to Cambodia under the GSP schemes and ASEAN FTAs with Dialogue partners
- d) An evaluation of the CP-TPP tariff concession comparing it with the existing preferential tariff and rules of origin arrangements available to Cambodia under the GSP schemes and ASEAN FTAs with Dialogue partners
- e) a short review of other components of market access namely SPS measures applicable to Cambodia exports and ways and means to address them.

2. A new trade policy and a positive agenda for Cambodia

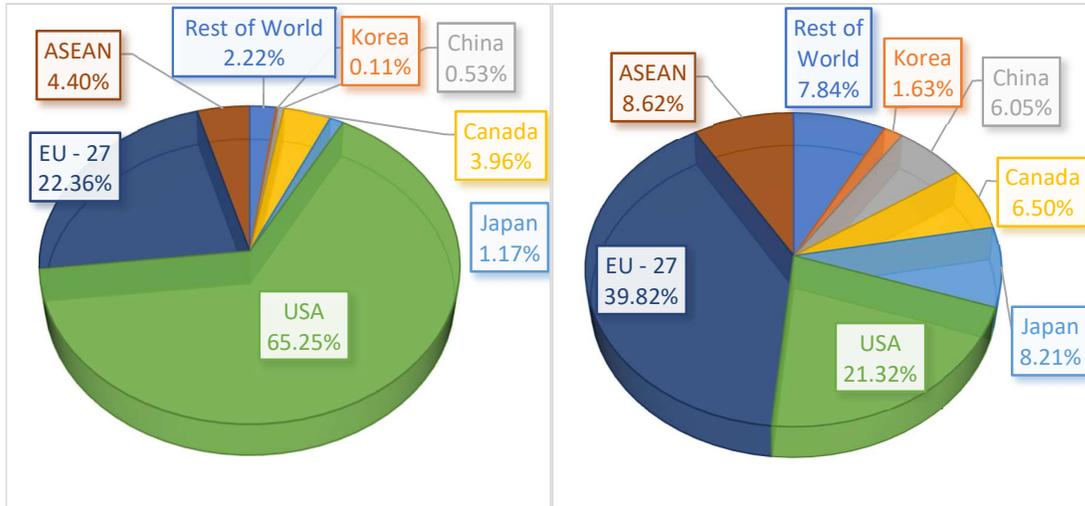
2.1. Overview of Cambodia trade performance and export pattern

As reported in the CTISU 2014, until recently Cambodia's goods exports were highly dependent on the U.S. market, and therefore vulnerable to shifts in that market. Reducing reliance on this market, and more generally diversifying export destinations, has been an important policy goal. According to the CTISU 2014, a specific focus of that goal was to develop export markets in Asian countries, which were seen as more dynamic markets than those in North America and Europe. However, this ambition was not followed up by specific actions during AEC implementation and ongoing negotiations in RECP. The AEC process is largely dominated by a political agenda merely expecting that the ASEAN declarations will deliver the desired trading opportunities in spite of the meagre results of the last decades in terms of trade liberalization.

Figure 1 below shows the change in export shares⁹ on a 10-year time horizon and summarizes a long story in few words. Indeed, the reliance of Cambodia to the EU and US market is evident even if it has marginally decreased over the last decade. From 2006 to 2016 ASEAN markets have increased from 4.4 % to 8.6% still not making a significant difference in overall destination basket. China has significantly increased its market share from less than 1% to 6%.

⁹ Between 2006 and 2012, Cambodia trade statistics recorded important values of exports in HS 490700 in the overall exports of Cambodia (See Appendix Table 10). Since this trade flow appears not directly linked to any industrial activity the figures are netted back from such trade flows to depict a more reliable scenario. Note that in recent years, the values declined almost to zero.

Figure 1: Cambodia Export Destination 2006 (left) and 2016 (right)



Note: Excluding HS 490700

QUAD countries, especially the EU are still the main market destination of Cambodia exports. ASEAN and China also increased their shares. However, the volume of trade flows remains relatively limited.

As reported in the CTISU 2014, export growth to the EU was exceptionally strong. Exports to the EU surged by more than \$500 million between 2010 and 2011 alone, and the EU's share of Cambodian exports rose from 23 percent in 2007 to 30 percent in 2011. This trend continued in the period 2011-2016. Japan and Canada also show increases even if more modest.

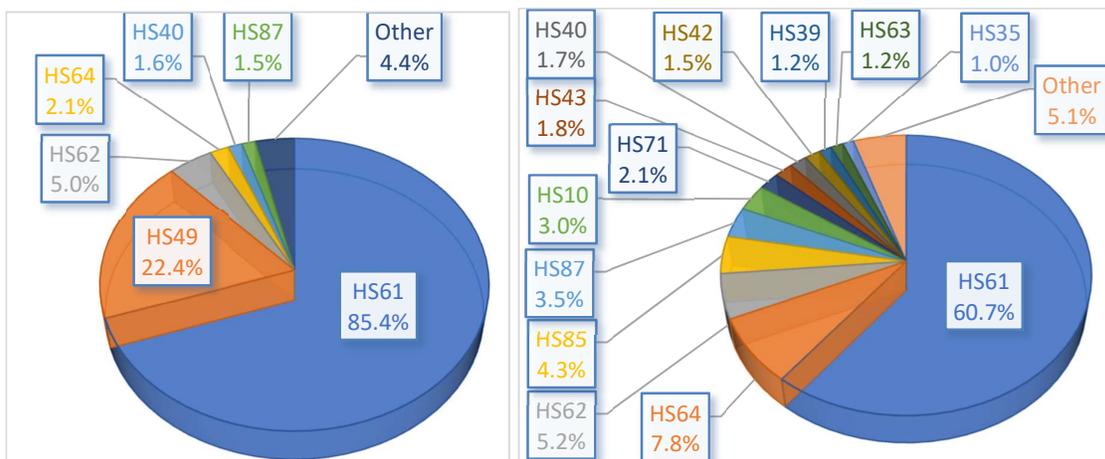
The shares of exports to ASEAN, China and South Korea increased – in the latter three countries from a low base.

Exports of Cambodia to China experienced an increase that is only matched by a parallel increase of ASEAN markets as importer of Cambodian goods. Overall the regional markets do not occupy a strategic position in the Cambodia export destination basket.

2.2. Overview of exports of selected sectors

The product composition of the exports in 2006 and 2016 are depicted in Figure 2 below.

Figure 2: Export share by HS Chapters, 2006 (left), 2016 (right)



Note: Excluding HS 490700

During the period 2006-2016 a certain degree of export diversification can be observed comparing the left and right hand side of Figure 2. First of all, the share of garments of Chapter 61 has diminished from 85% to 61 % while garments of Chapter 62 have slightly increased by 0.2 pp. Bicycles under Chapter 87 have more than doubled in the period under consideration, from 1% to 3,5%. Footwear under Chapter 64 quadrupled from about 2% in 2006 to about 8% in 2016. In addition, exports of rubber under Chapter 40 marginally increased from 1,29% to 1,66%.

Most importantly, multiple newcomers appeared in the export basket even with modest trade flows:

- Chapter 85: Ignition wiring sets of heading 8544¹⁰ and parts of telephones of heading 8517¹¹;
- Chapter 10: Rice of heading 1006;
- Chapter 71: Gold of heading 7108¹² and Diamonds of heading 7102¹³;
- Chapter 43: Tanned or dressed fur skins of heading 4302¹⁴, especially of mink;
- Chapter 39: Builders' ware of plastics of heading 3925¹⁵, packaging material of heading 3923¹⁶ and polymers of heading 3902¹⁷;
- Chapter 63: Bedlinen of heading 6302¹⁸ and packaging sacks and bags of heading 6305¹⁹;
- Chapter 35: Dextrins of heading 3505.²⁰

The strong reduction of exports of garments of Chapter 61 is mainly due to a strong reduction in exports to the United States whose share in Cambodia's exports of that Chapter diminished from 70% in 2006 to 26% in 2016.

2.3. The actual positioning of Cambodia in the international trade scene

This analysis of Cambodian trade flows shows that besides the buoyant export performance of the last years exports remain heavily concentrated in terms of products and destinations. This is a sign of fragility and exposes the country to trade shocks. Changes of market access due to the moving trade environment may induce factories to shift their location.

Cambodia is dependent on EU and US markets and these two countries are presently engaged in a series of negotiations or trade initiatives that are set to profoundly modifying their market access. In addition, the overall dynamism of some ASEAN countries like Vietnam to enter into FTA initiatives may indirectly affect Cambodia as location for FDI.

Deterioration or an erosion of the preferential market access to EU and US could determine a series of business decision by manufacturers currently located in Cambodia. In addition, albeit showing some dynamism, the regional markets, notably ASEAN and China are not a substitute for market access in the EU and US in the short term.

¹⁰ Insulated (including enamelled or anodised) wire, cable (including co-axial cable) and other insulated electric conductors, whether or not fitted with connectors; optical fibre cables, made up of individually sheathed fibres, whether or not assembled with electric conductors or fitted with connectors.

¹¹ Electrical apparatus for line telephony or line telegraphy, including line telephone sets with cordless handsets and telecommunication apparatus for carrier-current line systems or for digital line systems; videophones.

¹² Gold (including gold plated with platinum) unwrought or in semi-manufactured forms, or in powder form.

¹³ Diamonds, whether or not worked, but not mounted or set.

¹⁴ Tanned or dressed furskins (including heads, tails, paws and other pieces or cuttings), unassembled, or assembled (without the addition of other materials) other than those of heading 43.03. (especially whole skins of mink; 430211).

¹⁵ Builders' ware of plastics, not elsewhere specified or included.

¹⁶ Articles for the conveyance or packing of goods, of plastics; stoppers, lids, caps and other closures, of plastics.

¹⁷ Polymers of propylene or of other olefins, in primary forms.

¹⁸ Bed linen, table linen, toilet linen and kitchen linen.

¹⁹ Sacks and bags, of a kind used for the packing of goods.

²⁰ Dextrins and other modified starches (for example, pregelatinised or esterified starches); glues based on starches, or on dextrins or other modified starches.

ASEAN and China are not only competing on the same products exported by Cambodia to EU and US, but the regional market access provided by ASEAN FTAs with dialogue partners is more restricted than the one of the EU in terms of tariff and rules of origin. An early analysis of RCEP texts carried out in Section 4. indicates that RCEP may not be a substitute or improve drastically the existing market access that Cambodia might benefit under the existing ASEAN FTAs in combination with DFQF initiatives.

The CP-TPP has now entered into force and is expected to provide increased market access to the most formidable competitor of Cambodia, this being Vietnam. Albeit constrained by stringent rules of origin demanding a yarn forward triple transformation Vietnam is set to progressively gain increased market access to Canada for garments as well as exploiting the provisions made in CP-TPP for products in short supply.²¹

It is important to realize that the actual trading scenario rapidly taking shape around Cambodia is also valid for the other ASEAN LDCs that have also substantially benefitted for unilateral trade preferences. In fact, both Myanmar and Laos, albeit to a different extent than Cambodia, are showing high utilization rates of EBA and other unilateral trade preferences. The buoyant performances of these two other ASEAN LDCs countries are equally subject to erosion of trade preferences described above for Cambodia. In the case of Myanmar, the EBA trade preferences are also subject to high degree of uncertainty due to non-trade related conditionalities²²

What is most important to underscore is that not only the trade scenario is similar for the ASEAN LDCs but also the trade policy response from the respective Governments. Cambodia, Myanmar and Laos, the ASEAN LDC countries, has been so far equally unable to mature an adequate trade policy strategy and roadmap to respond and counteract a trade scenario that is progressively marginalizing their economies and reducing the market access opportunities that have been a key element to their recent economic growth.

3. Cambodia and the emerging trade challenges – the erosion and loss of preferential market access and rules of origin and the quest for alternatives

3.1. The erosion and/or loss of trade preferences

Tariff preferences have played an important role in determining the growth of Cambodia's exports during the last decade and even more pronouncedly in the recent years. Cambodian exports enjoy duty-free market access under a variety of duty-free quota-free programs that developed and some developing countries have put in place for Least Developed Countries. In addition, Cambodia is also expected to enjoy duty-free access within ASEAN and benefit from the free trade agreements concluded with ASEAN dialogue partners. There are a series of findings²³ indicating that these regional preferences have not been fully utilized due to inherent complexities that are far from being addressed even under the AEC initiative and the ASEAN Trade in Goods Agreement (ATIGA).

The advantage that Cambodia enjoys because of duty free access depends on preferential margin.

This is the difference from the MFN (i.e. non-preferential) import duties in the importing country from the preferential duty rates granted to Cambodia. For those products for which MFN duties are high, the duty-free access provided by these preferential trading arrangements dramatically improves Cambodia's competitive position. In the EU, for example, the average MFN duty on garments is 12 percent, while the MFN duties on bicycles and shoes are 14 and 10²⁴ percent, respectively. These magnitudes are large when compared to profit margins and will increase significantly in some cases doubling the profitability of export oriented production in Cambodia, as compared with export production of the same goods in a

²¹ See CP-TPP appendix 1 to Annex 4-A, Textiles and Apparel product-specific rules of origin

²² see <http://trade.ec.europa.eu/doclib/press/index.cfm?id=1981>

²³ See ASEAN rules of origin Stefano Inama and Edmund Sim, Cambridge University Press 2015

²⁴ Ranging between 3.5 and 17 depending on the tariff line considered.

country that does not enjoy duty-free privileges. This, in turn, provides an important incentive to invest and expand exports in those sectors.

As an exception to the common pattern of providing trade preferences, the United States, the largest export market of Cambodia, does not provide preferences for garments, Cambodia's main export product. Consequently, almost all of Cambodia's exports to the U.S. pay the normal U.S. tariff rate. For bicycles, Cambodia is benefitting from a margin of preference ranging from 11% the highest MFN rate of duty for certain bicycles to 3.7% being the lowest for other kind of bicycles. The US SGP scheme has been retroactively renewed in March 2018 and is set to expire end of 2020. The US GSP scheme is not new to such retroactive renewals and another renewal, eventually retrospective, may be expected to occur at the next time of expiration in 2020. Yet any improvement in the current US GSP in terms of market access is unlikely to take place.

As recognized in the CTISU 2014, the duty-free access that Cambodia enjoys in certain of its export markets under various trade preference arrangements, has been one the key element explaining the rapid growth and changing destinations of Cambodia's manufactured exports. This aspect has to be examined in light of the changing trade scenario as the key determinant of export performance in the period ahead.

A key feature of all preferential schemes are their rules of origin; i.e. the set of rules that must be followed to determine whether or not a product produced in Cambodia is eligible for preferential access to the importing country.

The initiation of the investigation by the European Union in February 2019 that may lead to the suspension of the EBA preferences and the Government's plan to graduate from LDC status in 2023 are indicating a near future where unilateral trade preferences are replaced by contractual trade arrangements namely FTAs not limited to trade preferences but encompassing other WTO plus commitments and/or disciplines.

It clearly emerges from Table 1 below that both China and Eurasia markets are not a substitute for the EU and US markets as far as exports of Cambodia garments and bicycles since the import figures in both China and Eurasia are minimal for garments and bicycles. The table clearly shows China may be a prospective market for rice as further discussed in the sections below.

Table 1: New market prospects for Cambodian most Exported Products – China and Eurasian Customs Union

HS Code	Product Description	KHM exports (\$ '000) and shares (%)							Chinese Import (\$ '000) from					EURASIAN Imports (\$ '000) from						
		to World		to 1 st Dest.		to 2 nd Dest.			World	1 st Supplier		2 nd Supplier		KHM	World	1 st Supplier		2 nd Supplier		KHM
		Value	%	Cum	ISO3	Value	ISO3	Value	10	ISO3	Value	ISO3	Value	15	16	ISO3	Value	ISO3	Value	20	21
610469	Women's or girls' trousers, bib & brace overalls, breeches & shorts (excl. swimwear), KoC, of TM **	1,058,325	10.48	10.48	EU27	516,833	USA	239,392	11,379	TUR	2,087	VNM	1,996	1,010	14,200	CHN	5,234	EU27	2,554	721
610910	T-shirts, singlets & other vests, KoC, of cotton	915,841	9.07	19.55	EU27	427,288	USA	194,651	396,922	BGD	78,859	EU27	73,281	25,519	367,686	BGD	99,104	UZB	76,908	4,175
610349	Men's or boys' trousers, bib & brace overalls, breeches & shorts (excl. swimwear), KoC, of other TM (excl. of 6103.41-6103.43)	733,139	7.26	26.81	EU27	323,619	USA	186,375	5,257	EU27	1,326	IDN	978	13	1,367	TUR	401	EU27	268	3
611090	Jerseys, pullovers, cardigans, waist-coats & similar articles, KoC, of TM other than wool or Kashmir or other fine animal hair *	549,197	5.44	32.25	EU27	291,976	USA	78,901	13,493	EU27	8,055	HKG	447	42	16,312	EU27	5,846	CHN	5,403	59
640320	Footwear, outer soles of leather & upper of leather straps across the instep & around the big toe	477,047	4.72	36.97	EU27	218,320	USA	90,961	4,575	EU27	3,439	USA	928	0	196	TUR	146	IND	5	0
871200	Bicycles & other cycles, not motorised	345,362	3.42	40.39	EU27	291,669	USA	22,370	53,867	EU27	2,177	KHM	1,950	1,950	87,934	CHN	66,018	EU27	7,486	1,187
610990	T-shirts, singlets & other vests, KoC, OTC	330,914	3.28	43.67	EU27	188,777	USA	45,756	194,112	VNM	43,056	LKA	24,167	10,536	136,127	CHN	33,295	EU27	22,400	7,375
100630	Semi-milled or wholly milled rice, whether or not polished or glazed	303,544	3.01	46.68	EU27	179,935	CHN	71,253	1,336,571	VNM	658,296	THA	348,258	73,575	100,644	IND	36,457	PAK	22,582	1,544
610339	Men's or boys' jackets & blazers, KoC, of other TM (excl. of 6103.31-6103.33)	300,177	2.97	49.65	EU27	172,563	USA	53,005	3,241	EU27	1,710	TUR	213	0	342	EU27	120	TUR	63	48
610449	Women's or girls' dresses, KoC, of TM other than artificial fibres **	192,073	1.90	51.55	EU27	88,575	USA	62,376	4,985	EU27	3,186	USA	317	23	3,091	EU27	1,406	CHN	581	19
710812	Gold (incl. gold plated with platinum), unwrought	186,377	1.85	53.4	THA	168,765	SGP	17,612	60,601,572	CHE	31,047,966	HKG	10,128,138	0	34,084	UAE	12,446	CHE	9,107	0
640419	Footwear (excl. waterproof), outer soles of rubber or plastics & uppers of TM (excl. 6404.11)	186,021	1.84	55.24	EU27	103,942	USA	17,858	959,512	VNM	599,110	IDN	196,488	11,568	525,831	CHN	286,483	VNM	102,612	3,002
610839	Women's or girls' nightdresses/pyjamas, KoC, of TM*	177,856	1.76	57	USA	115,942	EU27	31,242	144	EU27	23	TUN	19	0	780	CHN	258	EU27	155	1
610439	Women's or girls' jackets & blazers, KoC, of textile TM**	172,956	1.71	58.71	EU27	93,904	USA	33,915	10,239	EU27	4,858	BGD	992	25	6,317	CHN	3,978	EU27	807	19
430211	Tanned or dressed furskins of mink, whole, with or without head or tail or paws, not assembled	172,064	1.70	60.41	CHN	144,953	HKG	27,111	320,766	KHM	141,431	VNM	100,267	141,431	4,770	EU27	1,315	CHN	128	0
611190	Babies' garments & clothing accessories, of other textile materials, OTC or synthetic fibres, KoC.	153,319	1.52	61.93	USA	105,788	EU27	17,729	1,033	USA	251	EU27	211	0	9,534	CHN	4,480	TUR	3,792	0
400129	Natural rubber other than latex or smoked sheets or technically spec. natural rubber	132,760	1.31	63.24	VNM	87,309	MYS	20,812	353,232	THA	167,438	LAO	78,636	267	1,267	VNM	1,035	IDN	30	0
851770	Parts of telephone sets, incl. telephones for cellular networks or for other wireless networks; other apparatus for the transmission or reception of voice, images or other data [...]	129,410	1.28	64.52	CHN	55,971	HKG	52,242	38,202,552	UNS	19,956,054	KOR	6,796,150	887	731,518	CHN	350,663	EU27	197,086	0
610690	Women's or girls' blouses, shirts/shirt-blouses, KoC, of TM *	123,246	1.22	65.74	EU27	46,972	USA	42,198	1,047	EU27	480	JPN	109	0	2,989	EU27	1,590	CHN	622	0
610590	Men's or boys' shirts, KoC, of other TM *	110,672	1.10	66.84	EU27	55,496	USA	18,977	5,548	EU27	2,958	TUR	1,548	0	3,425	CHN	1,774	EU27	788	9
350510	Dextrins & other modified starches	105,535	1.04	67.88	CHN	51,219	THA	46,758	375,574	THA	137,017	EU27	94,222	50,770	95,769	EU27	77,177	THA	7,287	0

* other than cotton or man-made fibres; ** other than wool or fine animal hair or cotton or synthetic fibres; TM: textile materials; KoC: knitted or crocheted; OTC: other than of cotton

3.2. . The quest for alternatives: which partner for an FTA?

As shown in the following sections there are a number of alternatives and possibilities that Cambodia and ASEAN LDC may pursue in the quest for possible trade partners. In any case Cambodia has to 1) first assess the value added that each initiative may bring to the current market access 2) identify the conditions for acceding to such Agreement as in the case of the CP-TPP or the offers and concessions that Cambodia is making during negotiations like in the case of RCEP and 3) assess what are the costs and benefits to enter into FTAs that are containing WTO plus commitment or new issues such as the CP-TPP.

This is a complex exercise that may not be undertaken in the current chapter but it highly recommended that Cambodia conduct further analysis at sectorial level and expand the skeleton comparison tables below (Table 2; Table 3; Table 4)²⁵.

For ASEAN, ACFTA hasn't reached the expected target both in trade and investment side. There is a gap of benefit experienced by China and ASEAN member states. Thus, on the trade sector, ASEAN needs to strengthen the efforts to create a balanced trade. On the investment sector, ASEAN has to demand an increase of China's investment to ASEAN, specifically to finance the construction of infrastructure in ASEAN²⁶.

According to findings of this preliminary analysis the following sections will examine the major challenges in the most important export markets of Cambodia in conjunction with the evolving trade scenario.

²⁵ The tables provide a tentative comparison of the disciplines included in the various agreement that needs to be further studied and validated. As such, they do not pretend to be exhaustive or updated

²⁶ See ASEAN newsletter of November 2014

Table 2: Market Access and Rules of Origin Provisions – Comparison across FTAs

AEC	ASEAN-China	ASEAN-Japan	ASEAN-India	RCEP	EU-Vietnam	CP-TPP
Market access						
According to ATIGA, DFQF treatment to Cambodia exports to ASEAN countries	Market access in terms of tariff phase out should have been completed by 2015. However, such commitment is subject to reciprocity clauses and exclusions	Market access in terms of tariff phase out would be completed by 2026. There are at least 5 tariff schedule types where tariff lines indicated with “A” shall be eliminated as from the date of entry into force of the agreement. ²⁷	Tariffs on over 4,000 product lines have been eliminated by 2016. Product tariff elimination is subject to two tracks: normal track and Sensitive track. For products under the normal track, their respective applied MFN tariff rates gradually reduced or eliminated in accordance with specified schedules and rates over periods between 2006 to 2011 or 2006 to 2016, depending on the specific country. Product under the Sensitive track have their respective applied MFN tariff rates progressively reduced/eliminated within timeframes to be mutually agreed between the Parties.	RCEP market access offer is summarized in Table 5	Market access in terms of tariff phase out have 7 types of tariff schedule, which has different time period spanning from immediate removal of tariff up to 16 equal annual stages of removing tariff, beginning from the date of entry of the agreement. ²⁸	The tariff cut for the initial six countries to ratify the CP-TPP took place on December 30, 2018. The second tariff cut will be on January 1 2019, except Japan, which is scheduled on April 1 2019. Vietnam has two tariff cuts in terms of Canadian imports but only one for all other countries. Tariff elimination information for the remaining CP-TPP countries (i.e. Brunei, Chile, Malaysia, and Peru) will be made available once those countries ratify the Agreement. ²⁹

²⁷ See <https://www.asean.org/storage/images/archive/agreements/AJCEP/Annex1.pdf> for further details

²⁸ See http://trade.ec.europa.eu/doclib/docs/2018/september/tradoc_157340.pdf for further details.

²⁹ See https://international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/CP-TPP-ptpgp/tariff-elimination-droits_de_douane.aspx?lang=eng for further details.

AEC	ASEAN-China	ASEAN-Japan	ASEAN-India	RCEP	EU-Vietnam	CP-TPP
Rules of origin						
Product specific rules of origin in ATIGA are not administered in a transparent manner and there is no agenda in AEC to review them	Product specific rules of origin are presented in Annex Error! Reference source not found. of this chapter	The main text of Rules of Origin has 11 pages ³⁰ product Specific Rules of Origin contains 63 pages ³¹	The main rules of origin text have 26 pages and the PSRO contains 27 pages. ³²	The main text is 111 pages long and the text of PSROs is even longer	The EU –Vietnam FTA rules of origin are product specific contained in the Annex II of Protocol 1 of the agreement ³³ . The rules of origin for garments of chapter 61 and 62 requires double transformation and rules of origin for bicycles require a value of non-originating material not exceeding 45%. ASEAN cumulations is only for octopus and squid. Extended cumulation with South Korea for fabrics	CP-TPP rules of origin are of a modern type product specific garments PSROs are requiring triple transformation on garments

Table 3: SPS, TBT and Services Provisions – Comparison across FTAs

AEC	ASEAN-China	ASEAN-Japan	ASEAN -India	RCEP	EU-Vietnam	CP-TPP
SPS and TBT						
NO WTO plus in ATIGA apart a mechanism to settle NTM	A protocol has been signed under ACFTA with no evident WTO plus significant provisions	No explicit WTO plus provision on SPS	No provision on SPS in the text	As text of RCEP is not available it is not possible to make an assessment	There are specific provisions and mechanisms	There are specific provisions and mechanisms
Services						
Services are included in AFAS but the effective degree of implementation is unclear	Services are included in ACFTA but the degree of effective trade liberalization is unclear	No schedule for trade liberalization on trade in services	ASEAN-India FTA on trade in services and investment 2012 (not ratified by KHM)	As text of RCEP is not available it is not possible to make an assessment	Services are included in Chapter 8: Liberalization of Investment, Trade in Services and Electronic Commerce	WTO Plus - negative list approach with standstill and ratchet mechanisms to capture future liberalization

³⁰ See Chapter 3 of ASEAN-Japan FTA Comprehensive agreement at <http://ajcep.asean.org/wp-content/uploads/2014/05/Agreement.pdf> for further details.

³¹ See <http://ajcep.asean.org/wp-content/uploads/2014/05/Annex2.pdf> for further details.

³² See <http://www.thailandntr.com/en/goods/roo> for further details.

³³ http://trade.ec.europa.eu/doclib/docs/2018/september/tradoc_157381.pdf

Table 4: Investments, ISDS, Labor and Environment Clauses – Comparison across FTAs

AEC	ASEAN-China	ASEAN-Japan	ASEAN -India	RCEP	EU-Vietnam	CP-TPP
Investment and ISDS						
Investment is included but no ISDS	Investment is included but no ISDS	Not present in the FTA text	ASEAN-India FTA on trade in services and investment 2012 (not ratified by KHM)	Information not available	There is a comprehensive investment protection agreement with 4 chapters and 13 appendixes. Among these chapters, a clear investment protection rights are specified on Chapter 2 while details on dispute settlement mechanisms are detailed in Chapter 15 entitled “Dispute settlement.”	CP-TPP members benefit from a comprehensive set of investment protection provisions, including against expropriation and denial of justice and a mechanism for the resolution of investment disputes.
Labor clauses						
Not present	Not present	Not present in the FTA text	Not present	Information not available	The EU and Vietnam have agreed to implement the core labour standards and Conventions of the International Labour Organization (ILO). Vietnam has so far only ratified 5 of the 8 core ILO conventions; whereas it has not ratified ILO Convention No 87 on Freedom of Association and Protection of the Right to Organise, No 98 on the Right to Organise and Collective Bargaining, or No 105 on the Abolition of Forced Labour. ³⁴	The CP-TPP include a chapter requiring that the basic workers’ rights ³⁵ reflected in law and practice, i.e. the elimination of child labour, forced labour and discrimination, and respect for freedom of association and the right to bargain collectively
Environment clauses						
Not present	Not present	Not present in the FTA text	Not present	Information not available	The EU-Vietnam includes environmental clauses specifically focusing on renewable energy. ³⁶	The CP-TPP Agreement includes provisions to enhance environmental protection in the CP-TPP region and to address global environmental challenges

³⁴ See <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-%2f%2fEP%2f%2fTEXT%2bTA%2bP7-TA-2014-0458%2b0%2bDOC%2bXML%2bV0%2f%2fEN&language=EN> for further details.

³⁵ As contained in the International Labour Organization 1998 Declaration on Fundamental Principles and Rights at Work

³⁶ See http://trade.ec.europa.eu/doclib/docs/2018/september/tradoc_157353.pdf for further details.

3.3. . Building new trade initiative with the EU in view of the EU-ASEAN FTAs

3.3.1. The EU reform of rules of origin: what did it mean for Cambodia?

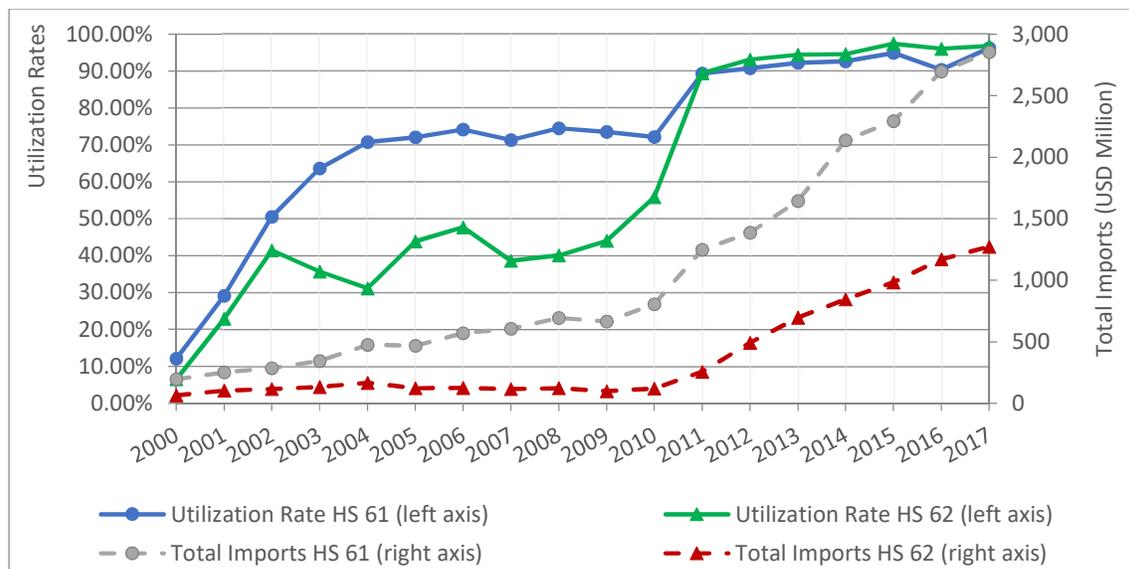
The EU reform on the rules of origin which entered into force in 2011³⁷ contained drastic changes to the EU rules of origin in favour of both, LDCs and developing countries, as follows:

- Introduced a differentiation in favour of LDCs that are benefitting of more lenient rules of origin than Developing countries in certain sectors;
- Allowed a single transformation process in textiles and clothing- a request that the LDCs had been advocating for more than a decade;
- Raised the threshold of the use of non-originating materials from 40 per cent to 70 per cent for LDCs in many sectors;
- Eased the cumulation rules.

The trade effects of this reform for Cambodia have been dramatic. The new rules allowed duty-free entry of a garment that was sewn from two or more pieces using fabric produced anywhere. This meant that, for the first time, garments produced in Cambodia from fabric manufactured in China could secure duty-free access to the EU. This change produced an immediate reaction: Garment exports to the EU under EBA doubled in 2011, and there was a surge of Chinese garment producers (and other producers using Chinese fabric) setting up factories in Cambodia

The utilization rate of Cambodian exports to the EU increased from 57 per cent to 90 per cent. This surge in exports to the EU market between 2010 and 2011 is particularly strong for Cambodian products of chapter HS 62, with a rise in EU imports of 96 per cent (see Figure 3).

**Figure 3: EU imports from Cambodia and GSP utilization rates
Art of apparel & clothing access, HS 61 knitted/ crocheted and HS 62 not knitted/ crocheted**



The rise in utilization rates of knitted or crocheted garments (HS chapter 61) has been moderated as the latter started from a much higher value than in the case of HS chapter 62. Indeed, on average, Cambodian exporters used the GSP preferences with a rate of 74 per cent in 2010 and of 94 per cent 2011. The rise

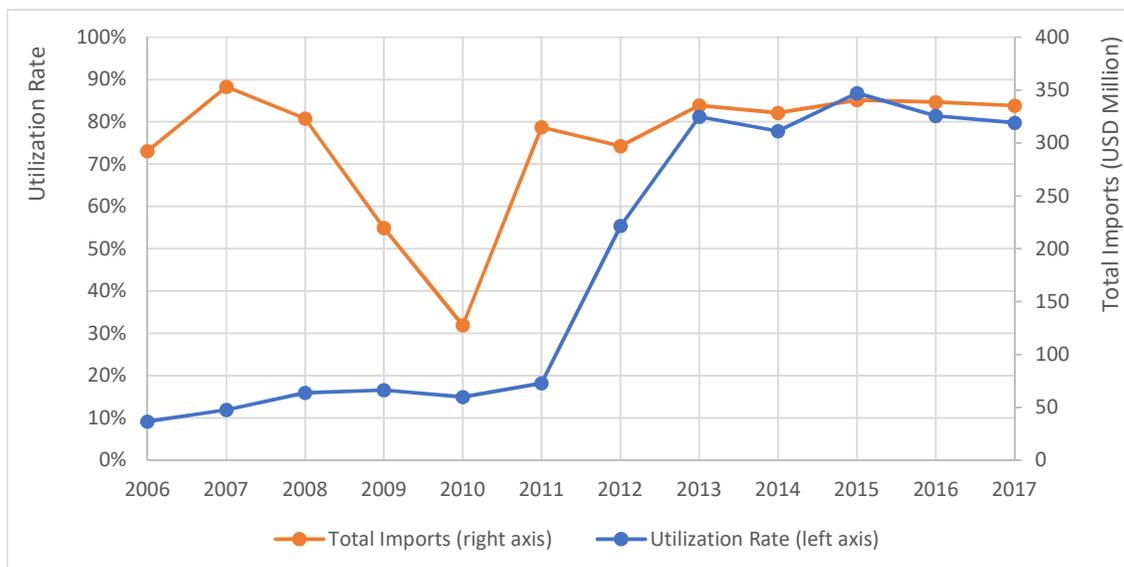
³⁷ See Commission regulation No 1063/2010 of 18 November 2010 amending Regulation (EEC) No. 2454/93 laying down provisions for the implementation of Council Regulation (EEC) No 2913/92 establishing the Community Customs Code See Inama, *Per aspera ad Astra*, the reform of the EU GSP rules of origin, Journal of World Trade, 2011.

in import values was nevertheless significant: US\$2 billion (+33 per cent) for all LDCs and US\$379 million for Cambodia (+56 per cent).

The reform on rules of origin introduced in 2010 and implemented in 2001 by the EU, has produced an impact beyond the traditional garment sector. In fact, the EU reform substantially liberalized the rules of origin not only for clothing but also in a variety of other sectors, allowing up to 70% of non-originating materials for bicycles and easing ASEAN cumulation.

Figure 4 further shows that the utilization rate of bicycles exported to EU by Cambodia has increased in 2011 to around 80 % from the rate of 33% of the previous year. Moreover, between 2010 and 2013, import values have been multiplied by a factor 5.4, increasing from 60 to 325 million US\$ (+442%).

Figure 4: EU imports from Cambodia and GSP utilization rates: Bicycles



A critical liberalizing factor of the reformed EU rules of origin was the changes in cumulation rules. The new cumulation relaxed the value-added principle in the allocation of origin when two or more ASEAN countries are involved in the process of manufacturing.

This new cumulation rule allowed bicycles manufacturers based in Cambodia to use ASEAN parts like bicycle frames made in Vietnam and ‘Shimano’ gears made in Malaysia and these inputs were not to be counted against the 70 % threshold of non-originating materials. Moreover, the origin of the finished bicycle would remain in Cambodia and entitled to duty free treatment in the EU as long as the working or processing in Cambodia goes beyond simple assembly. The combination of the higher allowance threshold of 70 % on the use of non -originating material combined with the new rules on cumulation created a bonanza situation that was exploited by a number of companies moving production in Cambodia from neighbouring countries.

However, in the case of bicycles, it has to be mentioned that the following changes introduced in the EU GSP scheme of 2014, inputs from Singapore and Malaysia (mainly gears), cannot be used by Cambodia for ASEAN cumulation purposes. Similar changes in the Canadian GSP rules of origin raised concerns and caused significant difficulties for the majority of bicycle industries in Cambodia that have been addressed by a new circular.³⁸

The Royal Government of Cambodia requested two derogations to the EU Commission to continue to consider the ASEAN inputs from Malaysia to be eligible for cumulation during a transition period. The requests were finally granted with a quota on the amount of bicycles that can make use of cumulation³⁹

³⁸ Available from <http://www.cbsa-asfc.gc.ca/publications/dm-md/d11/d11-4-4-eng.html>

³⁹ See Commission implementing regulation (EU) No 822/2014 of 28 July 2014 on a derogation from

and a time limitation of three years in the first derogation⁴⁰ and two in the second derogation⁴¹ As reported by bicycles manufacturers located in Cambodia:” *The derogation for Malaysia took much too long to put in place, we missed a whole model year with no Shimano as local content, then when it was granted it took a long time for the Malaysia Government to start to issue form A. Frankly, we will only start to feel the benefit from this model year production which starts in May, and we just have until end of 2016 before it expires. Brands won’t want to change spec half way through a model year in 2016 so for us it’s almost all over from May 2016.*”

The Government of Cambodia applied for a prolongation of this arrangement in June 2017. The European Commission has adopted a regulation in March 2018 prolonging the derogation for another three years, until 31 December 2019, with a lower quota of 100 000 units.⁴²

It is clear from the above that the derogation is a transitional measure that is not going to address the imbalance created by the exclusion from ASEAN cumulation of the ASEAN graduated countries from the GSP (Malaysia and Singapore) and, in the near future, the other ASEAN countries like Vietnam that have signed an FTA with the EU after a transitional period of two years.

The actions undertaken in 2016 and 2017 by the Government of Cambodia to apply for extended cumulation and to bring to the attention of the EU Commission the imbalances and the implications deriving from such policy on ASEAN cumulation have yet to bear any fruits.

A reiterated effort in conjunction and in coordination with other ASEAN LDCs to attract the attention of the EU commission and policy makers should command high priority in the next immediate moves of a positive agenda for Cambodia.

3.3.2. *The EU’s Free Trade Agreements with ASEAN Members: Implications for Cambodia*

Some ASEAN Members, namely Singapore, Thailand, Vietnam, Indonesia, Philippines and Malaysia have started the negotiating process⁴³ or have finalized FTAs with the EU. The EU – Vietnam FTA and EU-Singapore FTAs are expected to be ratified in 2019. When these FTAs are ratified, these ASEAN countries, mostly Vietnam will become direct competitors with Cambodia for investors seeking duty-free access to the European market. In addition, two facts must be taken into account:

- 1) Once the FTAs with the EU are ratified, the ASEAN countries will no longer be eligible under the GSP scheme after a transition period of two years and consequently their inputs may not be longer used by Cambodia under ASEAN cumulation. The impact of the exclusion from ASEAN cumulation of Malaysia has been discussed in the section above. In addition, the exclusion of Vietnam from ASEAN cumulation will surely have an impact on its bicycles industry since such Vietnamese inputs are a key to the viability of such industry; and
- 2) Once the FTAs with the EU are concluded these ASEAN countries will be progressively able to cumulate among themselves while Cambodia and other ASEAN LDCs will not be able to cumulate with them. This is almost the reverse of the present situation where Cambodia has been benefitting substantially from cumulation with ASEAN countries, albeit reduced with the graduation of Malaysia. Ultimately ASEAN cumulation under EBA will be progressively reduced to ASEAN LDCs cumulation with little or no value in terms of availability of intermediate inputs to manufacture finished products for exports to the EU,

Regulation (EEC) No 2454/93 as regards the rules of origin under the scheme of generalised tariff preferences in respect of bicycles produced in Cambodia regarding the use under cumulation of bicycle parts originating in Malaysia.

⁴⁰ The derogation was implemented by Regulation EU 822/2014 of 28 July 2014 to allow Cambodia sufficient time to prepare itself to comply with the rules of origin for bicycles HS heading 8712.

⁴¹ [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=pi_com:C\(2018\)1389](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=pi_com:C(2018)1389)

⁴² Available from: https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2017-5815925_it

⁴³ The EU – Malaysia negotiations are currently on hold; EU – Thailand are continuing; Vietnam and Singapore in the process of ratification. Negotiations with the Philippines are underway.

The cumulation provisions inserted in the EU-FTAs with ASEAN countries are a telling example of what are the prospects for cumulation within ASEAN as far as exports to the EU are concerned. Paragraph 2 of article 3 of protocol 1 to the EU –Singapore FTA, is rather clear in this regard:

Materials originating in an ASEAN country which is applying with the Union a preferential agreement in accordance with Article XXIV of the GATT 1994, shall be considered as materials originating in a Party when incorporated in a product obtained in that Party provided that they have undergone working or processing in that Party which goes beyond the operations referred to in Article 6 (Insufficient Working or Processing).

Similarly, the provisions in the EU – Vietnam FTA, Paragraph 2 of article 3 of protocol 1, state:

Materials listed in Annex III to this Protocol (Materials Referred to in Paragraph 2 of Article 3) originating in an ASEAN country which applies with the Union a preferential trade agreement in accordance with Article XXIV of GATT 1994, shall be considered as materials originating in Viet Nam when further processed or incorporated into one of the products listed in Annex IV to this Protocol (Products Referred to in Paragraph 2 of Article 3).

ASEAN LDCs including Cambodia are performing much better than the remaining ASEAN countries even if the latter have a much greater industrial base. Such higher utilization rate is mainly due to the combination of

1. higher preferential margin under EBA than under EU GSP scheme;
2. more lenient PSRO applicable to LDCs under the EU reform of rules of origin and EBA;
3. ASEAN cumulation and the changes to cumulation introduced in 2011.

As discussed all three factors mentioned above are going to be eroded as follows:

- a) The higher preferential margin will be progressively eroded once ASEAN countries have finalized their FTAs with the EU since the agreed tariff schedule phased out will start to apply;
- b) Concerning the PSRO, it appears that PSRO at least in the clothing sector may not significantly erode at the time of entry into force of the EU-Vietnam FTA since double transformation (weaving and CMT: Cut Make and Trim) will remain the applicable requirement, however cumulation with South Korea fabrics provided under the EU-Vietnam FTA may provide a source of concern and competition for Cambodian producers since thanks to that possibility Vietnam could source originating fabrics from South Korea;
- c) the cumulation advantage of ASEAN LDCs with respect to other ASEAN partners having entered an FTA with the EU will progressively turn into a disadvantage since ASEAN countries having signed an FTA with EU will be able to cumulate among themselves while the ASEAN LDC will be left with the only option of cumulating among themselves leading to further marginalization.

Analysis shows the trade effects of Thailand, Vietnam and Malaysia under the FTA with the EU, Philippines being granted GSP+ and China having been graduated from EU GSP in 2015. ASEAN countries show the biggest export increase in the EU market at the expense of China that is suffering from heavy trade diversion. Cambodia shows moderate trade diversion effects in the large majority of sectors and does not show any significant increase of exports to the EU. The remaining ASEAN countries benefiting from their FTAs with the EU are set to get the lion share at the expense of China.

In a way this table speaks for itself for a rapidly changing trade scenario where Cambodia and ASEAN LDCs should quickly devise a timely trade policy response to seize the challenges deriving from the increased market access opportunities deriving from increased trade pressures of the US Trump administration on China and the fact that ASEAN partners having signed an FTA with EU may gain market access in the EU. Such combined factors may provide incentives to MNEs to move production in such ASEAN members away from ASEAN LDCs.

As stated in the CTISU 2014, the impact that this will have on Cambodia depends largely on a combination of market and rules of origin as well as on other factors laying outside such mere market access issues as contained in other chapters of this CTIS. Both the EU-Singapore, EU-Vietnam, but also the EU-South Korea

FTA do not show significant better PSRO for chapter 61 and 62 and 87.12 (Bicycles). Garments still require a double transformation as under the current GSP rules.

In the case of the EU-Singapore FTA the EU rules of origin for their free trade agreement partners allow a free trade partner to cumulate inputs produced in other free trade partners. To take a concrete example, once the network of EU-ASEAN free trade agreements are in place, a Vietnamese producer of bicycles would be able to count parts imported from Malaysia⁴⁴ as Vietnamese for purposes of determining whether a Vietnamese bicycle meets EU rules of origin. This is in sharp contrast to the situation facing Cambodia where, as described above, cumulation with Malaysia will not be possible when the derogation will expire.

The competitive position of Cambodia and bicycle producers is a telling example on how Cambodia manufacturing sector may be affected by these differences in cumulation possibilities. The EBA rule of origin for bicycles requires that no more than 70 percent of the ex-factory price should consist of inputs that are non-originating, i.e. non-Cambodian. It is unlikely that the PSRO for Vietnam will be comparable. However, by virtue of cumulation a bicycle producer in Vietnam will clearly have more flexibility in sourcing inputs from ASEAN countries and Vietnam may become the preferred investment destination for bicycle manufacturers seeking duty free access to the EU market.

The CTISU of 2014 argued that trade policy, in the near term, must address the loss of cumulation with Malaysia and Singapore. The Government has responded to this challenge by encouraging bicycle producers to engage in a higher level of manufacture and encouraging bicycle parts manufacturers to get established in Cambodia. However, even with the extension of the derogation period, it is unlikely that in the new trading scenario parts of bicycles manufacturers get established in Cambodia.

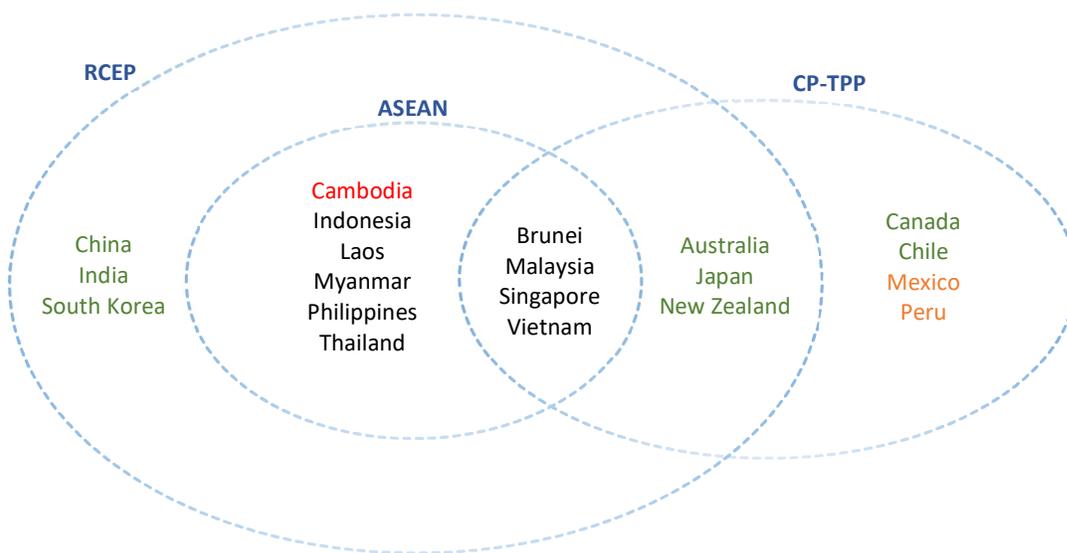
Cambodia's trade strategy for the next period, 2019 – 2023 needs to take into account the loss of the progressive ASEAN cumulation, expiry of derogation and increased competition from Vietnam.

The CTISU 2014 argued that negotiation of free trade agreements between the EU and Malaysia, Thailand, and Vietnam was not likely to affect the competitive position of Cambodian garment or footwear producers. Apart that this statement would need to be revisited this argument took into account only the EU market while countries like Vietnam are currently engaged in FTA on multiple fronts, the EU-Vietnam FTA the CP-TPP, RCEP and a series of bilaterals. It is obvious that the combined effect of progressive duty free market access to these markets thanks to a network of FTAs will be a magnet for producers and investor to relocate in Vietnam in spite of the more stringent rules of origin that Vietnam may face under CP-TPP.

⁴⁴ On the condition that Malaysia has also entered an FTA with the EU

4. RCEP and CP-TPP – Challenges and Opportunities

Figure 5: RCEP, ASEAN, CP-TPP and DFQF preferences: Overlapping memberships



Note: in green are countries providing DFQF market access to LDCs.

As shown in Figure 5 above, CP-TPP and RCEP negotiations are partially overlapping existing trade preferences under DFQF and ASEAN FTA with dialogue partners. More specifically, among CP-TPP member countries, only Mexico and Peru do not have any preferential arrangement with Cambodia at present. Exports to Australia, Japan, New Zealand, Canada, and Chile benefit from DFQF market access while the remaining members are part of ASEAN network of FTA with dialogue partners. In the case of RCEP, all members have already an existing agreement/trade arrangement with Cambodia under ASEAN or DFQF. This overlapping scenario is making the assessment of the value provided by RCEP and CP-TPP difficult and complicated. In fact, the benefits of joining RCEP/CP-TPP will have to be assessed against the preferential margin, utilization rates, and applicable rules of origin under existing preferential arrangements.

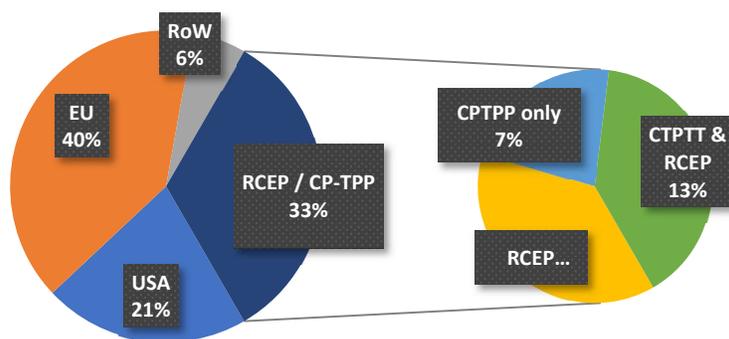
In strict terms the benefits of concluding RCEP and/or joining CP-TPP may be quantified in terms of preferential margins and rules of origin stringency that may be currently gained or lost depending on the respective outcome of this arrangements. In reality and with a broader perspective this chapter is aimed at identifying precisely what are the main products exported by Cambodia to RCEP/CP-TPP partners comparing them with the market access opportunities in terms of tariff concessions and rules of origin under the respective arrangements as well with other non-tariff measures such as SPS that are playing an important element of market access.

Table 5: Overlapping trade preferences available to Cambodia with RCEP and CP-TPP partners
Comparative table on Market Access (MA) and Rules of Origin (RoO)

Cambodia partners	MA scheme	Product Coverage	RoO
ASEAN	ATIGA	All products DFQF	RVC 40% and PSROs
Australia	DFQF	All Products	Last Manufacturing Process performed in LDC; Minimum 50% of total factory cost; Minimum 75% when cumulation is used
	FTA	99% of all products	40% Regional Value Content (RVC); Product Specific Rules of Origin: Requirements vary between criteria wholly obtained, RVC, CTSH with or without exceptions, specific working or processing requirements or alternative rules.
Canada	DFQF	All products except some dairies	80% of non-originating when cumulation is used
Chile	MFN	Include MFN Averages (6%)	Not Applicable
	DFQF	All products except wheat, wheat flour, and sugar Products	Minimum Regional Value Content of 50%
China	DFQF	97% of all products	Minimum 40% of originating materials
	ASEAN China FTA	90% of all products	Minimum RVC of 40% using direct method and maximum value of non-originating material of 60% using indirect method; Product Specific Rules of Origin containing 22 pages.
India	DFQF	95.5% of all products	Minimum 30% of originating materials; Product Specific Rules
	ASEAN India FTA	90% of all products	Minimum RVC of 35%; Product Specific Rules of Origin
Japan	DFQF	All products	Maximum value of non-originating materials of 40%; Product Specific Rules
	FTA	All products except for machine parts and petroleum oil products	Minimum RVC of 40% and product specific rules of origin containing 161 pages.
Mexico	MFN	Include MFN averages (6.9%) from WTO	Not applicable
Peru	MFN	Include MFN averages (2.4%)	Not applicable

In 2016, RCEP and CP-TPP markets represented 33% of Cambodia total exports, with 13% directed to countries that are part of both agreements (Figure 6).

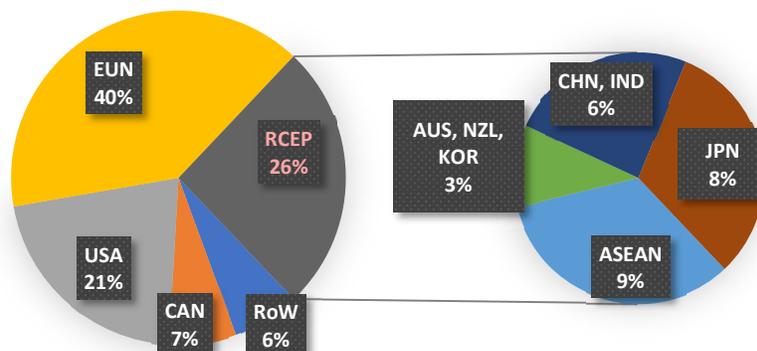
Figure 6: Cambodia Export shares to RCEP/TPP markets and to the rest of the world, 2016



4.1. Assessing the value of RCEP and options to improve market access trade with China

As detailed in Figure 7 below, exports to RCEP markets represented about 26% of total exports in 2016. Out of this amount, 8% were exported to Japan, 6% to China and India, 3% to Australia, New Zealand and Korea, and 9% to ASEAN.

Figure 7: Cambodia Export shares to RCEP markets and to the rest of the world, 2016



Despite that Australia already provides DFQF market access to Cambodia, the average utilization of the scheme by Cambodia exporters amounted to about 72% in 2016, with important variations between products. Pockets of low utilization rates combined with preference margin (PM) above 2 percentage point have been identified. Finally, according to data notified at the WTO, in 2016, Cambodia has not been able to use the DFQF scheme offered by India, with Utilization rate of zero. Therefore, a functioning trade agreement could generate important opportunities for Cambodia.

The RCEP negotiating text has not been made available in the course of this study. Only limited information was made available through other sources. On the basis of the preliminary information and an examination of tariff offers RCEP does not seem to provide substantial improvements with respect to the market access that Cambodia is already being granted as part of the LDC, or ASEAN and ASEAN FTA network with dialogue partners.

The crippling factor of RCEP is the architecture of the tariff offer since the RCEP partners have made a single offer for all the ASEAN countries or towards all RCEP partners. This means that Cambodia is treated in terms of market access as Singapore or Malaysia while there is a clear divide in terms of export capacity and level of development among these countries and Cambodia. This element alone casts serious doubts over the value added of RCEP in terms of market access granted to Cambodia with respect to previous agreement and LDC arrangements that Cambodia is already benefitting.

Added to this the RCEP draft main text on rules of origin is 111 pages long and the excel texts of product specific rules of origin is over 6000 lines. These figures alone provide a glimpse of the complexities of the negotiations. Once again there is no provision for LDCs special and preferential treatment in the area of rules of origin for LDCs.

Unless substantial progress is made in the last round of negotiations the current reading of the RCEP provides little scope for increased market access for Cambodia. The only advantage of RCEP would be to “lock-in” in a contractual agreement some unilateral trade preferences.⁴⁵ Even this assumption would have to be further assessed.

The fact that Cambodia may graduate from LDC status in a foreseeable future should not mean to forfeit in advance its negotiating position as LDC during the current round of negotiations in RCEP

⁴⁵ Like the DFQF and rules of origin granted by Japan and India and Japan but it would have to be assessed if the tariff offers and rules of origin in RCEP are equivalent or better than those granted under the current DFQF granted by these preference giving countries.

4.2. Joining the CP-TPP

The CP-TPP agreement is a modern FTA encompassing a series of WTO-Plus disciplines both in terms of coverage and in depth. The preliminary analysis of the CP-TPP with respect to market access and rules of origin is similar to RCEP in the sense that the CP-TPP may not bring to Cambodia additional market access to what has been already been granted under different arrangements thanks to the current LDC status or as member of the ASEAN FTAs with dialogue partners. The complex rules of origin of the CP-TPP especially in the garment sector does not reflect the present capacity of the Cambodian garment industry.

However, reading a complex agreement such as the CP-TPP through the lenses of market of tariff and rules of origin offers a very limited perspective of the trading opportunities and challenges that the CP-TPP agreements may have for Cambodia. First of all, as in the case of the RCEP, the trade preferences granted under a FTA are not of unilateral nature and are more permanent and stable in nature.

The CP-TPP is based on a series of a rule-based, market-oriented system that offer predictability for investors but also challenges for countries like Cambodia. The situation is further exacerbated by the fact that some of the main competitors of Cambodia, like Vietnam, is on a triple track⁴⁶ scenario since it participates to RCEP, is member of the CP-TPP and has entered a FTA with the EU.

Error! Reference source not found. Error! Reference source not found. reports the main exports from Cambodia to CP-TPP partners in descending order of export value. As can be easily noted from the table the main partners are Canada, Japan and ASEAN countries where Cambodia is benefiting from existing preferences granted under the GSP of Canada and Japan as well as the AJCEP and ATIGA with ASEAN countries. The only partner where Cambodia may gain, at a cursory glance, preferential market access is Mexico for limited export values of shoes. Added to the CP-TPP rules of origin for garments requires triple transformation.

With respect to investment (Chapter 9), the CP-TPP parties agreed to suspend the application of the provisions related to an “investment authorization”, including the submission of ISDS claims (i.e. limiting the submission of claims to the breach of the treaty obligation) and the selection of arbitrators (in part).

Regarding other aspects of CP-TPP Chapter 9 it is noteworthy that the investment chapter includes several reform-oriented elements. For example, it refines definitions of investor and investment; clarifies the meaning of key standards to preserve regulatory space (e.g. clarifying that a government’s failure to respect an investor’s legitimate expectations does not automatically amount to a breach of the minimum standard of the treatment (Article 9.6), clarifying what does and what does not constitute an indirect expropriation (Article 9.8 and Annex 9-B)); contains a clause recognizing that parties should not relax health, safety and environmental standards and reaffirms Corporate Social Responsibility (CSR)-related obligations.

Of particular relevance are issues related to ISDS. Certain CP-TPP Contracting Parties used side letters to bilaterally opt out of ISDS or otherwise modify the ISDS arrangements applicable between them.² For example, bilateral side letters provide that there is no ISDS available between Australia and New Zealand and New Zealand and Peru. In the bilateral relationships between New Zealand and three other parties (Brunei, Malaysia and Viet Nam) ISDS will remain. However, consent to arbitration by the respondent State needs to be given on a case-by-case basis. Moreover, the CP-TPP ISDS provisions allow disputing parties to submit written comments to the tribunal concerning any aspect of the proposed decision or award (CP-TPP Art.9.23) and establish joint bodies with a mandate to issue binding interpretations of treaty provisions (CP-TPP Art. 9.25(3)).

At the same time, many CP-TPP parties remain bound by ISDS provisions found in earlier treaties signed between them in different constellations. Examples include the ASEAN Investment Comprehensive Investment Agreement (2009) (of which Cambodia is a party), the Energy Charter Treaty (1994), other TIPs and BITs signed between the CP-TPP parties.

⁴⁶ See footnote 14.

Some CP-TPP parties opted to terminate and replace some pre-existing IIAs. For example, Australia’s BITs with Mexico, Peru and Viet Nam will be terminated and replaced by the CP-TPP investment chapter, under the terms set out in the relevant side letters. In that respect the CP-TPP offers an opportunity to replace old-generation treaties with a treaty containing more modern clauses.

When considering accession to the CP-TPP investment chapter, Cambodia should make a careful assessment about the pros and cons in light of the acceding country’s investment for sustainable development plan. First and foremost, this includes defining the role of IIAs in a country’s development strategy, this would also include an assessment of the individual investment-related obligations contained in the CP-TPP.

Among others, consideration would have to be given to the extent to which more modern CP-TPP clauses could help modernize (i.e. replace) old-generation clauses in pre-existing IIAs (e.g. Cambodia-Japan, 2007). Importantly, careful decision making would also require a realistic assessment of the extent to which acceding LDCs will be able to avail themselves of side letters, to shape their individual commitments in line with their special development needs

Overall the main challenge of Cambodia is to put more resources on assessing the values of the various options and conducting a series of consultations to assess the terms and condition for acceding to the CP-TPP

Figure 8: Cambodia Export shares to CP-TPP markets and to the rest of the world, 2016

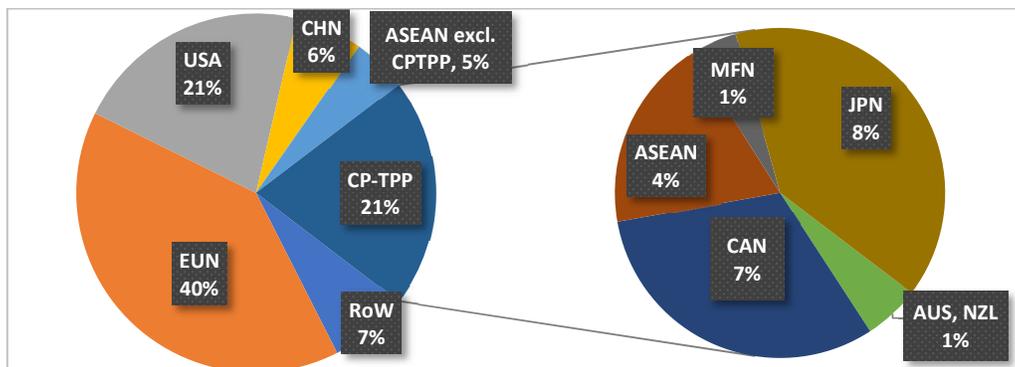


Table 6: Japanese Imports from Cambodia and Utilization Rates under ASEAN and GSP, 2017

(sorted in descending order of MFN Dutiable Imports > 1 million of USD*)

Product		Imports from Partner (\$ 000)							GSP Utilization Rate (%)	ASEAN Utilization Rate (%)
HS2 Code	HS Chapter Description	Total Value	MFN Dutiable	Covered GSP	Covered ASEAN	NOT Receiving pref.	Receiving GSP Pref.	Receiving ASEAN Pref.		
1	2	3	4	5	6	7	8	9	10	11
	TOTALS FOR ALL PRODUCTS	1,313,963	1,196,802	1,156,942	1,173,250	109,605	980,032	107,166	84.71	9.13
62	Art of apparel & clothing access, not knitted/crocheted	490,329	473,308	473,308	473,308	15,427	449,987	7,894	95.07	1.67
61	Art of apparel & clothing access, knitted or crocheted	366,704	366,704	366,704	366,360	35,502	315,364	15,838	86.00	4.32
64	Footwear, gaiters and the like; parts of such articles	203,106	203,106	168,840	188,582	26,997	136,844	39,265	81.05	20.82
42	Articles of leather; saddlery/harness; travel goods etc	59,248	59,248	58,392	58,679	6,788	51,242	1,218	87.76	2.08
63	Other made up textile articles; sets; worn clothing etc	32,006	31,702	31,702	31,702	4,679	4,088	22,935	12.90	72.35
66	Umbrellas, walking-sticks, seat-sticks, whips, etc	17,497	17,497	17,497	17,497	271	9,860	7,366	56.35	42.10
39	Plastics and articles thereof	12,966	11,722	11,722	11,722	1,614	5,664	4,444	48.32	37.91
95	Toys, games & sports equipment; parts & accessories thereof	8,287	3,854	2,400	2,018	1,684	495	1,675	20.63	87.79
96	Miscellaneous manufactured articles	6,521	6,521	6,521	6,521	660	71	5,790	1.09	83.00
94	Furniture; bedding, cushions etc; lamps & lighting fittings nes; illuminated signes; prefabr. buildings	6,154	956	956	956	10	946	0	98.95	0.00
67	Prepared feathers & down & articles thereof; artificial flowers; articles of human hair	4,185	289	289	289	289	0	0	0.00	.
65	Headgear and parts thereof	3,832	3,832	3,832	3,832	948	2,884	0	75.26	0.00
00	Items beyond HS Classification (HS2 = '00')	3,007	3,007	0	0	3,007	0	0	.	.
90	Optical, photogr., cinematogr., measuring, checking, precision, medical/surgical instruments & apparatus; part	2,932	1,961	1,961	1,961	0	1,961	0	100.00	0.00
19	Preparations of cereal, flour, starch/milk; pastrycooks' products	1,731	1,731	1,731	0	1,684	47	0	2.72	.
44	Wood and articles of wood; wood charcoal	1,633	1,342	1,342	1,342	1,303	0	39	0.00	2.91
71	Natural/cultured pearls, precious/semiprecious stones, prec. Metals; imitation jewelry; coins etc	1,465	689	689	689	685	4	0	0.58	0.00
56	Wadding, felt & nonwoven; special yarns; twine, cordage, ropes and cables etc	1,216	1,216	1,216	1,216	790	7	419	0.58	34.46

4.3. Cambodia trade relations with Japan: from GSP to ASEAN FTA and beyond.

Trade relations with Japan are governed by the GSP for LDCs and the ASEAN Dialogue FTA with Japan. Trade figures suggest that the Japan GSP for LDCs is mostly used by Cambodia.

In the context of the GSP preferences Cambodia with other ASEAN LDCs should prepare a document clearly outlining the improvements that Japan may make on the product specific rules of origin and on cumulation. This document should be submitted on 29 April as agreed last November 2018 to the WTO Committee on Rules of Origin (CRO) and discussed during the CRO meeting of 15-16 May. Such action should be followed by an official visit of the ASEAN LDCs to the Ministry of industry and Trade and Ministry of Finance in Tokyo during the fall to secure follow up and commitment in adopting a reform of rules of origin under the Japanese GSP

In a parallel fashion Cambodia and ASEAN LDCs should begin to study the possibility to have a series of bilateral FTAs with Japan that are providing better market access than the present Japanese GSP , the ASEAN FTAs and RCEP. A study should be conducted in this regard to compare the different concessions that Japan has made towards other partners to secure and argue for better preferential margins when negotiating as ASEAN LDCs.

On the basis of the abovementioned findings and analysis the following recommendations are made:

As a matter of priority, Cambodia and other ASEAN LDC with the assistance development partners take advantage of the set agenda of the LDC core group on rules of origin in order to table a document to (i) highlight the changes to be made in the product specific rules of origin of the GSP of Japan, (ii) request to expand the scope of Japan cumulation provision for ASEAN to include Cambodia, (iii) take the opportunity of the CRO to open a dialogue on better rules of origin for ASEAN LDC under the different trade arrangements currently being negotiated like RCEP or Japan-ASEAN FTA.

5. Addressing SPS issues with China and other partners

Market access in terms of tariff reductions is an element of market access that is not sufficient to ensure market entry into a partner. As examined in the sections above the trade policy options to replace the US and the EU as main market for the garments and bicycles are limited in the near future. Conversely the analysis has shown that there are trading opportunities for rice and other agricultural products that may be affected not only by tariffs but also by Sanitary and Phytosanitary measures (SPS).

Indeed, other elements may hamper Cambodian exporters to benefit from market access opportunities. Non-tariff measures (NTM) are widely imposed by Cambodia's trading partners,. Some measures are imposed on a multilateral basis while some other are imposed to specific countries (reported under *Bilateral NTM*). China is the county imposing the maximum number of measures, with 5'700 NTM, including 21 bilateral ones.

At the product level, Rice exports to China are particularly exposed to NTM. Exports of semi-milled or wholly milled rice represent 12% of Cambodia total exports to China and are facing a total of 106 NTM, including 2 bilateral measures. While most of the existing measures are Technical Barriers to Trade (TBT), according to consultations with local stakeholders, we can reasonably expect Sanitary and Phytosanitary measures (SPS) to be the most problematic for Cambodian exporters of agricultural/food products.

Table 7: Total SPS measures imposed by Cambodia's partners by products, 2016

(sorted in descending values of Cambodia's exports, KHM export share > 5%, Total SPS > 2)

Country	HS 6	Description	Bilateral SPS	Multilateral SPS	Total SPS	KHM Exports (\$000), 2016	Share in total trade
CHN	100630	Semi-milled or wholly milled rice	1	47	48	71'253	12%
CHN	350510	Dextrins and other modified starches	0	19	19	51'219	8%
THA	350510	Dextrins and other modified starches	0	7	7	46'758	11%
MYS	100630	Semi-milled or wholly milled rice	0	6	6	25'196	25%
VNM	170199	Cane or beet sugar, in solid form, nes	0	20	20	24'988	11%
BRN	100630	Semi-milled or wholly milled rice	0	6	6	9'600	100%
MYS	151110	Vegetable/palm oils and fractions, crude, not chemically modified	0	7	7	8'449	8%
LKA	220300	Beer; made from malt	0	8	8	4'965	92%
MEX	640320	Sandles, with leather soles and straps (over instep, around big toe)	0	3	3	4'617	8%
ARE	640320	Sandles, with leather soles and straps (over instep, around big toe)	0	6	6	4'037	6%
CHE	151110	Vegetable/palm oils and fractions, crude, not chemically modified	2	16	18	3'526	16%
LAO	010391	Swine; live, other than pure-bred breeding animals, < 50kg	0	3	3	2'315	41%
NZL	100630	Semi-milled or wholly milled rice	0	8	8	571	7%
LAO	010310	Swine; live, pure-bred breeding	0	4	4	447	8%
SAU	100630	Semi-milled or wholly milled rice	0	31	31	148	18%
BFA	300490	Medicaments; consisting of mixed or unmixed products	0	5	5	100	99%
GHA	100630	Semi-milled or wholly milled rice	0	7	7	61	6%
DZA	100630	Semi-milled or wholly milled rice	0	15	15	53	39%
SEN	100630	Semi-milled or wholly milled rice	0	3	3	34	29%
MRT	100630	Semi-milled or wholly milled rice	0	3	3	19	14%

Table 7 above reports only the sectors affected by at least two SPS measures and with export shares above 5%. These are important export sectors for which a reduction of SPS measures could potentially have a significant impact in terms of profitability of exporters. Rice exports is affected by SPS measures not only in China but in Brunei, New Zealand, Saudi Arabia, Ghana, Algeria, Senegal and Mauritania. However, in the latter countries, the measures are imposed at a multilateral level, making more difficult to solve the issue with trade policy instruments such as trade agreement.

SPS measures may also have an impact in sector where we do not observe high trade values. It is likely to be the case if the SPS has a deterrent effect on Cambodian exporters that are not able to penetrate the foreign market. For instance, semi-milled or wholly milled rice are not exported to Indonesia and Japan while the total exports from Cambodia amount to 297 million USD. The absence of exports could be due to the fact that these countries impose 2 bilateral SPS measures on Cambodia combined with respectively 12 and 6 multilateral SPS within the same HS sub-heading.

The analysis of the trade flows carried out in Table 1 clearly shows that China cannot replace the EU and US as market of destination for garments and bicycles. China could be a potential market for Rice exports and exports of agricultural products and processed foodstuff. However, the main obstacle to enter the Chinese market are not only tariffs but also Sanitary and phytosanitary

requirements. In the context of the WTO the SPS committee has been established to provide a forum for discussion and exchange of information. According to the SPS IMS database, WTO members have raised 31 specific trade concerns on the SPS measures applied by China.

Cambodia should make sure that the RCEP provisions on SPS contains WTO-Plus elements that permits an enhanced dialogue with China and where possible equivalence and mutual recognition agreements.

On the basis of the abovementioned findings and analysis, it is recommended that Cambodia continue to discuss bilaterally with China through established channel to address SPS measures applied by China on rice imports and other related agricultural products;

6. Conclusions and way forward

On the basis of the abovementioned findings and analysis the following recommendations are made:

Trade relations with ASEAN

Overall Cambodia should openly discuss and revisit with ASEAN partners its negotiating position to be able to negotiate as an ASEAN LDC in external trade relations and coordinate such stance with other ASEAN LDCs. It should be made clear with ASEAN partners that a new course of action in ASEAN external trade relation should be undertaken.

Trade relations with the EU

Cambodia should take the initiative to enter into a trade policy dialogue with the EU to define a new trade relation that is going beyond EBA. However, a more effective way is to make concerted effort by all ASEAN LDCs to engage the EU as a group.

Cambodia is expected to graduate from LDC status in the near future⁴⁷ and the current market access under EBA that has been a crucial factor in its export performance is going to be progressively eroded by the ASEAN FTAs.

In addition, Cambodia will have to undertake actions at technical level to prepare the ground for extended cumulation with Vietnam and explore possible ways to cumulate with Japan.

Such actions should be undertaken as soon as possible to relay a message to garments and bicycle manufacturers that the Government is actively pursuing a viable trade strategy.

Trade relations with Japan

Trade relations with Japan are governed by the GSP for LDCs and the ASEAN-Japan Comprehensive Economic Partnership⁴⁸ (AJCEP) Agreement or ASEAN-Japan FTA (ASEAN-Japan FTA). Trade figures suggest that the Japan GSP for LDCs is mostly used by Cambodia.

In the context of the GSP preferences, Cambodia with other ASEAN LDCs, at the WTO, should prepare a document clearly outlining the improvements that Japan may make on the product specific rules of origin and on cumulation. This document should be submitted to the WTO Committee on Rules of Origin (CRO) and discussed during the CRO meeting and follow up in relevant fora. Such action should

⁴⁷ See footnote 56 on page 11.

⁴⁸ The AJCEP Agreement was signed in 2008. It has been finalized the First Protocol to amend the AJCEP Agreement to incorporate three additional chapters on Trade in Services, Movement of National Persons, and Investment and signed on 2nd March 2019.

be followed by an official visit to the Ministry of Industry and Trade and Ministry of Finance in Tokyo to secure follow up and commitment in adopting a reform of rules of origin under the Japanese GSP.

In a parallel fashion Cambodia should begin to study the possibility to have a bilateral FTA with Japan that would be providing better market access than the present Japanese GSP, the ASEAN+1 FTA and RCEP. A study should be conducted in this regard to compare the different concessions that Japan has made towards other partners to secure and argue for better preferential margins when negotiating as ASEAN LDCs.

Trade relations with China

The analysis of the trade flows carried out clearly shows that China cannot replace the EU and US as market of destination for garments and bicycles. China could be a potential market for Rice exports and exports of agricultural products and processed foodstuff. However, the main obstacles to enter the Chinese market are not only tariffs but also Sanitary and phytosanitary requirements. In the context of the WTO the SPS committee has been established to provide a forum for discussion and exchange of information. According to the SPS Information Management System (IMS) database, WTO members have raised 31 specific trade concerns on the SPS measures applied by China.

Cambodia should make sure that the RCEP provisions on SPS contains WTO-Plus elements that permits an enhanced dialogue with China and, where possible, equivalence and mutual recognition agreements⁴⁹.

Negotiating RCEP

The RCEP negotiating text has not been made available in the course of this study. Only limited information could be retrieved from other sources. On the basis of the preliminary information and an examination of tariff offers RCEP does not seem to provide substantial improvements with respect to the market access that Cambodia is already being granted as part of the LDC, or ASEAN and ASEAN FTA network with dialogue partners.

The crippling factor of RCEP is the architecture of the tariff offer since the RCEP partners have made a single offer for all the ASEAN countries or towards all RCEP partners. This means that Cambodia is treated in terms of market access as Singapore or Malaysia while there is a clear divide in terms of export capacity and level of development between these countries and Cambodia. This element alone casts serious doubts over the value added of RCEP in terms of market access granted to Cambodia with respect to previous agreement and LDC arrangements that Cambodia is already benefitting.

Added to this, the RCEP draft main text on rules of origin is 111 pages long and the excel texts of product specific rules of origin is over 6000 lines. These figures alone provide a glimpse of the complexities of the negotiations. Once again there is no provision for LDCs special and preferential treatment in the area of rules of origin for LDCs.

Unless substantial progress is made in the last rounds of negotiations the current reading of the RCEP provides little scope for increased market access for Cambodia. The only advantage of RCEP would be to “lock-in” in a contractual agreement unilateral trade preferences⁵⁰. Even this assumption would have to be further assessed.

⁴⁹ For instance the EU-Vietnam SPS provisions contain a number of possible suggestions on how develop some WTO plus disciplines

⁵⁰ These unilateral trade preferences are those granted under DFQF and related rules of origin by Australia, Japan, China, India, South Korea and New Zealand. However, it would have to be assessed if the tariff offers and rules of origin in RCEP are equivalent or better than those granted under the current DFQF granted by these preference giving countries.

The fact that Cambodia may graduate from LDC status in a foreseeable future should not mean to forfeit in advance its negotiating position as LDC during the current round of negotiations in RCEP.

Negotiating CP-TPP accession

The CP-TPP agreement is a modern FTA encompassing a series of WTO-Plus and WTO Extra disciplines both in terms of coverage and in depth. The preliminary analysis of the CP-TPP with respect to market access and rules of origin is similar to RCEP in the sense that the CP-TPP may not bring to Cambodia additional market access to what has been already been granted under different arrangements thanks to the current LDC status or as member of the ASEAN FTAs with dialogue partners. The complex rules of origin of the CP-TPP especially in the garment sector does not reflect the present capacity of the Cambodian garment industry.

However, reading a complex agreement such as the CP-TPP uniquely through the lenses of tariff and rules of origin offers a very limited perspective of the trading opportunities and challenges that the CP-TPP agreements may bring to Cambodia. First of all, as in the case of the RCEP, the trade preferences granted under a FTA are not unilateral and are more permanent and stable in nature.

The CP-TPP is based on a series of a rule-based, market-oriented system that offer predictability for investors but also challenges for countries like Cambodia. The situation is further exacerbated by the fact that some of the main competitors of Cambodia, like Vietnam, is on a triple track⁵¹ scenario since the country a) participates in RCEP, b) is member of the CP-TPP and c) has entered an FTA with the EU. It follows that such multiple track route shared by other ASEAN countries attracts investors to such location since it provides multiple access to markets with respect other locations, such as ASEAN LDCs that are only engaged in RCEP.

Overall the main challenge of Cambodia is to put more resources on assessing the values of the various options and conducting a series of consultations to assess the terms and condition for acceding to the CP-TPP

Negotiating better preferences in Eurasian Customs union.

The analysis of the trade flows carried out in Table 1 clearly shows that the Eurasian customs cannot replace the EU and US as market of destination for garments and bicycles.

Nevertheless, efforts could be made to improve the market access conditions by initiating consultations for better rules of origin in the WTO CRO committee on rules of origin. A document detailing where improvements on the current rules of origin provided by the Eurasian customs union should be prepared and presented at the above-mentioned WTO committee, preferably by ASEAN LDC. Subsequently Cambodia and other ASEAN LDC should launch initiatives to follow up on this matter to obtain better market access and rules of origin.

Also, highly important, as Cambodia is negotiating to accede to the EAEU, is the need for a detailed study on market access, rules of origin and economic impact of the accession to the EAEU that can be used as a guide toward leveraging the advantages of the EAEU.

Preparing for the 12th WTO Ministerial Conference (Kazakhstan, July 2020)

It is highly recommended that Cambodia and ASEAN LDCs make full use of the opportunities offered by the multilateral trading system to flag their issues and undertake parallel initiatives to those undertaken at regional level. Every opportunity to show that Cambodia and ASEAN LDCs are engaged in the multilateral track should be exploited to show to partners that Cambodia is an active player in the international trade.

Research and capacity building

⁵¹ Vietnam is member of 1) CP-TPP, 2) RCEP, 3) is part of the network EU-ASEAN FTAs. In addition, Vietnam has entered a series of bilateral FTAs like the Vietnam-Japan FTA.

It is of paramount importance that Cambodia invests resources in further developing and studying the challenges and trading opportunities that are highlighted in this section and build the necessary capacity in the different ministries and private sector. It is highly regretted that in spite of numerous Aid for Trade initiatives present in the country there are very few resources dedicated to establishing a trained pool of highly capable trade negotiators and researchers. Such recommendations are largely echoing those already made almost three years ago during a workshop organized by Ministry of Commerce and UNCTAD⁵². Such research and capacity building should assist the Government in taking informed decisions on trade policy at large and in carrying out related trade negotiations.

⁵² <https://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=1233>

CHAPTER 2 : LDC GRADUATION, TRADE COMPETITIVENESS, QUALITY OF GROWTH AND SDGS

1. Introduction

The Royal Government of Cambodia has set out ambitious milestones for the country's future social and economic development. These include becoming an upper middle income developing country by 2030 and a high income country by 2050. In July 2016, the World Bank reclassified Cambodia as a lower middle income country to reflect significant improvements in its Gross National Income per capita (superior to \$1,025/capita).⁵³ This has no immediate impact on Cambodia's UN-LDC status which determines Special and Differential Treatments (SDTs) it receives under various trade agreements. So, on its way to achieving its longer term ambitious targets, the country must graduate from its LDC status.

In line with CTIS' focus, this chapter looks at the country's objectives from the perspective of trade development. Specifically, the chapter looks at key challenges to Cambodia's trade competitiveness that the country needs to address in the next ten to twelve years, as it graduates from UN-LDC. The chapter's intent is to point to reforms that can help Cambodia respond to such challenges in the context of highly dynamic and fast changing global and regional trading systems.

The chapter is organized in three main subsections:

1. The UN-LDC graduation process;
2. Key challenges to trade competitiveness; and,
3. The impact of trade development on Quality of Growth and Trade-related SDGs.
4. Gender mainstreaming in Cambodia Trade Strategy

The chapter presents some unique data as well as borrows from analyses developed in various other chapters of CTIS 2019-2023 in order to formulate an overall argument about reform challenges Cambodia must confront over the next ten to twelve years.

UN-LDC graduation (hereafter LDC graduation) will result in the loss of market access preferences. This will affect Cambodia's trade competitiveness. As shown in Chapter 1, Cambodia makes extensive use of LDC market access preferences. However, also as shown in this chapter and Chapter 1, those preferences have begun to erode – irrespective of graduation – because of deep changes resulting from a growing number of bilateral and regional free trade agreements (FTAs) impacting Cambodia. In addition, trade competitiveness must be viewed in a holistic fashion. Market access preferences are not the only determinant of trade competitiveness. Cambodia must also continue to (1) take robust steps to improve the effectiveness of its trade facilitation arrangements, (2) seize on opportunities arising from the deepening of global and regional value chain integration and the growing importance of e-B2B commerce in value chain integration, and (3) improve the business environment for enterprises' productivity and cost competitiveness so as to pursue opportunities for moving up value chains through a focus on new products, new destinations, and product quality. As it does, Cambodia must also understand how improvements in overall trade competitiveness – or lack thereof – may affect positively or negatively the Quality of Growth and trade-related SDGs.

53 <http://blogs.worldbank.org/eastasiapacific/cambodia-is-now-a-lower-middle-income-economy-what-does-this-mean>

2. LDC Graduation Process and Trade Development

2.1. The Process of LDC Graduation

The UN established the category of Least Developing Countries (LDCs) in 1971. LDCs are low-income countries confronted by structural impediments to sustainable human development. They tend to be vulnerable to economic and environmental shocks and have limited human assets. LDCs benefit from special international support measures including market access preferences (typically preferential tariffs and more favourable Rules of Origin) and other special and differential treatment under various trade agreements (including slower scheduling of reforms), financial and technical support to meet the objectives of the Paris Agreement on Climate Change, and others.⁵⁴

To assess LDC status and potential for graduation, the UN Committee for Development Policy (CDP) uses three Indexes. To graduate, LDCs must reach a threshold for two out of three indexes during two consecutive Triennial Reviews:

- The Gross National Income per capita Index (GNI/capita), measured as a three-year average of GNI per capita;
- The Human Assets Index (HAI), measured through four equal components – percentage of population that is malnourished; mortality rate among children aged 5 or under; growing enrolment in secondary school; and, adult literacy rate;
- The Economic Vulnerability Index (EVI) which tracks instability of agricultural production; instability of exports of goods and services; share of forestry and agriculture, manufacturing, and services in GDP; the concentration of merchandise exports; economic smallness; and the percentage of the population displaced by natural disasters.

Minimum thresholds for the first two indexes (country must be above those thresholds) and a maximum threshold for the third one (country must be below that threshold) are adjusted over time as relevant. Whenever a country meets a two-threshold requirement for the first time, it triggers a set of in-depth studies conducted by UNDESA in advance of the next following Triennial Review to better understand possible risks and uncertainties that the country might be facing once it repeats the two-index requirement at the next Review.⁵⁵ Based on findings, CDP recommends that ECOSOC endorses a three-year transition period from LDC to GSP preferences in order to reach full graduation.

Until early 2018, only six countries had graduated from the LDC status – Botswana (1994), Zimbabwe (2006), Cape Verde (2007), Maldives (2011), Samoa (2014), and Equatorial Guinea (2017).⁵⁶ But the overall process of LDC graduation is accelerating. As of May 2018, four new countries had reached the two-index threshold successfully during two consecutive Triennial Reviews (May 2018 and May 2015) – Bhutan, Kiribati, Sao Tome and Principe, and the Solomon Islands. CDP did recommend that ECOSOC endorses a three-year transition period to full graduation for those. In addition, Angola and Vanuatu that had met the criteria for graduation several times in the past but had been held back for full graduation became eligible to graduate in 2021 and 2020 respectively. Two additional countries – Nepal and Timor-Leste – met the two-index-two-consecutive-Triennial-Review requirement in May 2018 but CDP did not recommend them yet for the transition phase due to remaining economic and political uncertainties.

54 Change in country income classification will also alter access to preferential lending from World Bank and other multilateral lending institutions. For now, Cambodia continues to have access to IDA loans. <https://policies.worldbank.org/sites/ppf3/PPFAnnex/b875a7a4-0f49-4632-92e9-d008584caab3Annex2.pdf>

55 There is an alternative to the two Indexes twice-in-a-row requirement for LDC graduation. Countries can graduate if the GNI per capita is twice larger than the required threshold twice in a row. This was the case for Angola.

56 In the past Zimbabwe was classified as an LDC by the CDP but the country never accepted its inclusion in that list. Still following triennial reviews conducted by CDP, Zimbabwe was found to meet criteria for graduation as far back as 2006.

2.2. Cambodia’s Path to LDC Graduation

In May 2018, Bangladesh, Myanmar, and Lao PDR met the two-index threshold criteria for the first time. If they repeat that performance in 2021 they could become eligible for LDC graduation by 2024. Exports from those three countries are competing directly with Cambodian exports.

As of May 2018, Cambodia met only one of the three possible thresholds – namely the measure of its the Human Assets Index above the minimum threshold – which it had done already in 2015. However, with great improvements in the two other Indexes over the recent past, it is very conceivable that Cambodia will meet the two-index requirement by 2021 (see table 8). If Cambodia repeats the same by 2024, Cambodia could achieve full graduation as of 2027 or 2028 at the end of a three-year transition period.

Table 8: Cambodia’s Improvements in Graduation Indexes, 2006-2018

<i>Index</i>	<i>Graduation Thresholds*</i>	<i>Cambodia</i>	<i>Cambodia/Threshold</i>
2006			
GNI/Capita	\$900	\$303.3	33.7%
HAI	64	46	71.9%
EVI	38	52.3	137.6%
2009			
GNI/Capita	\$1086	\$490	45.1%
HAI	66	57.8	87.6%
EVI	38	55.6	146.3%
2012			
GNI/Capita	\$1,190	\$707	59.0%
HAI	66	57.9	87.7%
EVI	32	50.5	157.8%
2015			
GNI/Capita	\$1,242	\$852	68.6%
HAI	66	67.2	target met
EVI	32	38.3	120%
2018			
GNI/Capita	\$1,230	\$1,075	87.4%
HAI	66	68.9	target met
EVI	32	34.8	109%

*Note: GNI/Capita and HAI: Country must reach a level higher than the threshold. EVI: Country must reach a level below the threshold

Source: UNDESA

2.3. Cambodia’s LDC Graduation in the Context of a Rapidly Changing International Environment

The Rectangular Strategy IV (RSIV) adopted by the Government in September 2018 goes to the core of the reforms needed to reach Cambodia’s milestones and its Vision 2050 – not only graduating from LDC, but also reaching its upper middle income and upper income targets. RSIV includes reforms directly pertinent to trade development and the risks associated including “instability of exports of goods and services.” To be sure, the pace at which Cambodia reaches its targets will be determined, in no small part, by the speed at which reforms can be implemented. CTISU 2019-2023 seeks to support RSIV by exploring more fully reform areas that shape directly trade development and, indirectly, the broader socio-economic and environmental development of the country, including the country’s SDGs.

3. Four Key Determinants of Cambodia’s Trade Competitiveness

The simplest way to understand how Cambodia’s Trade Competitiveness is being challenged is to look at changes that are also affecting the country’s direct export competitors and understand how both Cambodia and its competitors are responding to changes. Cambodia’s direct export competitors are countries with very similar export baskets and/or moving towards the kind of higher value exports that Cambodia might be targeting. Many are within the broad Asian region. They include other LDCs such as Myanmar, Bangladesh, and Lao PDR as well as middle income developing countries such as Vietnam, Thailand, or other selected ASEAN countries. Examples presented here focus mostly on those.

On a country-by-country basis, the US is the leading importer of goods from Cambodia, importing 18.5% of Cambodia’s total goods exports. However, on a “market bloc” basis, the EU absorbs nearly 41% of all Cambodian goods exports, followed by NAFTA countries (US, Canada, Mexico) 25%, East Asian and Pacific countries (China, Japan, Korea, Hong Kong, Taiwan, Australia) 17.5%, and ASEAN countries 8%. See table 9. The importance of the EU for Cambodian exports reflects the country’s extensive use of preferences granted under EBA. It also raises serious questions following the launch of an 18-month EU investigation focusing on the possible withdrawal of EBA preferences from Cambodia on political grounds. If such were to happen and Cambodia was forced to enter EU markets either on a GSP or MFN basis, it would precipitate some of Cambodia’s competitiveness challenges discussed in this chapter.

Table 9: Top 10 Importing Countries of Goods Exported from Cambodia, 2017 (Mirror Data)

thousand US dollar

Rank	Importers	2017 Value	% Share of Total
By Country	Total	\$17,213,088	100.00%
1	USA	\$3,176,922	18.46%
2	Germany	\$1,775,847	10.32%
3	United Kingdom	\$1,301,957	7.56%
4	Japan	\$1,262,898	7.34%
5	France	\$1,040,124	6.04%
6	China	\$1,007,582	5.85%
7	Canada	\$996,899	5.79%
8	Thailand	\$904,868	5.26%
9	Spain	\$817,900	4.75%
10	Belgium	\$507,590	2.95%
By Market Blocs			
1	EU	\$7,003,233	40.69%
2	NAFTA	\$4,303,735	25.00%
3	East Asia + Pacific	\$3,022,704	17.56%
4	ASEAN	\$1,359,203	7.90%

East Asia + Pacific: Japan, China, HK, Korea, Australia, Taipei, NZ NAFTA: US, Canada, Mexico

Source: ITC TradeMap

Cambodia’s goods export have grown very rapidly over the past few years, nearly doubling in value between 2013 and 2017 – from approximately \$9 billion to \$17.250 billion (see table 10). While the Top 3 export sectors at HS-2 level (Clothing and Footwear) captures three-fourth of all exports and the Top 10 exports, 90%, newer exports are emerging and growing rapidly as well.

Table 10: Goods Exported by Cambodia (HS-2 digit)

thousand US dollar

Rank	HS 2-digit Code	Product label	2013 Export Value	2017 Export Value	2017 Share of Total Exports	2017 Leading HS 4-digit
	Total	All products	\$9,040,175	\$17,213,288	100.00%	
1	'61	Articles of apparel and clothing accessories, knitted or crocheted	\$4,540,976	\$7,725,175	44.88%	HS-6110 Apparel and Clothing, knitted and crocheted
2	'62	Articles of apparel and clothing accessories, not knitted or crocheted	\$2,293,116	\$3,486,924	20.26%	
3	'64	Footwear, gaiters and the like; parts of such articles	\$692,684	\$1,930,673	11.22%	HS-6403 Footwear with leather uppers
4	'42	Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles ...	\$16,749	\$448,266	2.60%	
5	'85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television ...	\$225,017	\$435,887	2.53%	HS-8544 Insulated wire and electrical cables
6	'87	Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	\$363,050	\$423,346	2.46%	HS-8712 Bicycles
7	'10	Cereals	\$252,730	\$352,407	2.05%	HS-1006 Rice
8	'71	Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad ...	\$7,595	\$343,061	1.99%	
9	'43	Fur skins and artificial fur; manufactures thereof ⁵⁷	\$0	\$292,893	1.70%	
10	'07	Edible vegetables and certain roots and tubers	\$13,077	\$289,484	1.68%	HS-071410 Cassava, fresh tubers and dried chips
		Top 3			76.35%	
		Top 10			91.37%	
11	'40	Rubber and articles thereof	\$173,985	na	na	
12	'39	Plastics and articles thereof	\$21,592	\$156,222	0.91%	
13	63	Other made textile articles; sets; worn clothing and worn textile articles; rags	\$52,401	\$147,966	0.86%	
14	44	wood and articles of wood; charcoal	\$62,926	\$132,635	0.77%	
15	90	Optical, cinematographic, measuring, checking, precision, medical or surgical ..	\$9,088	\$111,630	0.65%	

Source: ITC TradeMap

3.1. Special and Differential Treatment

Market access preferences and other types of special and differential treatment (S&D) will be affected by LDC Graduation. Quite possibly, elimination of market access preferences will most directly impact trade competitiveness at graduation.

⁵⁷ Mostly tanning with nearly all exports to China and Hong Kong

But other preferences will be affected as well – if not fully, at least partially – with a significant impact on other dimensions of economic development. UNDESA 2018 *Summary Report of Impact Assessments* for seven LDCs graduation prospects observes it is unclear how deeply other SDTs – including those relating to the scheduling of reform under such agreements such as TRIMS, TRIPS, TFA etc. – might be affected by graduation. Those will be negotiated with relevant bodies during the transition period. However, even if Cambodia were to negotiate extensions for some of those, in all likelihood others will be eliminated.⁵⁸ Those changes will have an impact on elements of Cambodia’s industrial development policy. Hence Cambodia needs to develop analytical capacity in order to strategize and prepare for negotiations during the transition phase as well as be ready to make possible adjustments to its industrial development policy thereafter.

3.2. Market Access Preferences

To illustrate expected changes resulting from market access preferences, this section focuses on changes in market access preferences for five HS-4 digit sectors and one HS-6 digit sector from among the Top 10 exports. These are listed below:

1. HS-6110 Apparel and Clothing, knitted and crocheted
2. HS-6403 Footwear with leather uppers
3. HS-8544 Insulated wires and cables
4. HS-8712 Bicycles and other Cycles not Motorized
5. HS-1006 Rice and
6. HS-071410 Cassava, fresh tubers and dried chips, HS-110814 Native Starch, and HS-350150 Modified Starch

Detailed analyses of current and post-graduation market access preferences for each of the six sectors are presented in Annex 1. The analyses for the six sub-sectors use (1) ITC Trademap based on Comtrade to identify main importers, main exporters and Cambodia’s direct country competitors in its top export markets, (2) WTO tariff data base, and (3) individual importing countries’ websites for Rules of Origin. One limitation of the ITC Trademap is that the database does not aggregate data for EU as a single market. Hence, wherever EU is a large importer of a particular Cambodia export, we use the EU’s largest importing country to evaluate market access conditions.

HS-6110 Apparel and Clothing, knitted and crocheted

Apparel and clothing, knitted and crocheted (HS-6110) is the largest HS-4 digit export sector under HS-61. The EU and the US are the two largest importers as shown in Table 2.4.

In the EU (example of Germany shown in table 2.4), Cambodia benefits from EBA – DFQF and RoOs including “making up” and regional cumulation – as do Myanmar and Bangladesh. At graduation, tariffs would rise to the 9.6% under the same GSP preference that applies at the present time to Vietnam, India, Pakistan – some of Cambodia’s middle income country competitors. RoOs would change from simply “making up” to double transformation “knitting and making-up” which Cambodia would be challenged to meet, at least at the present time. GSP tariff is slightly lower than the MFN tariffs that apply to China. However, by the time Cambodia graduates, Vietnam will benefit from the elimination of tariffs into the EU under EVFTA. Depending on the 6- or 8-digit HS code, a large number of tariffs will be eliminated at entry into force of the agreement (category A), other within four years through four equal yearly reductions (category B3) or within 6 years through six equal yearly reductions (category B5.)

The US do not provide LDBDC or GSP preferences for HS-61 chapter. Most countries, including China, Cambodia, other ASEAN countries, India, Pakistan, or Bangladesh enter under an MFN tariff range of

58 UNDESA/CDP, Summary of Impact Assessments for Bhutan, Kiribati, Nepal, São Tomé and Príncipe, Solomon Islands and Timor-Leste, February 2018

32% / 0.9%. RoOs are based on tariff line shift. Jordan (under JOFTA) and Honduras, Guatemala, and Salvador (under CAFTA-DR) benefit from zero tariff and some preferential RoOs. At graduation, there will be no change in market access for Cambodia.

HS-6403 Footwear with Leather Uppers

Footwear with leather uppers (HS-6403) is Cambodia's largest exports under HS-64 (Footwear, gaiters and the likes; parts of such articles.) The EU, Japan, and the US are the three largest importers of footwear with leather uppers exported by Cambodia with a share of over 30% for EU, 16.5% for Japan, and 15.5% for the US (Table 2.5.) Table 2.5 also shows Cambodia's main export competitors in the three markets.

Viet Nam and China are very large exporters to the EU (example of Germany shown in table 2.5.) Viet Nam benefits from GSP with a tariff range between 4.5% and 1.5%, with 50% domestic content requirement, and the benefit of regional cumulation for inputs from ASEAN countries (less Singapore and Malaysia.) However, within four to eight years of the entry into force of the EVFTA, tariffs for Viet Nam will be eliminated. China exports enter under MFN (duties between 8.5% and 4.5%.) Tunisia and Morocco both benefit from 0% tariffs under so-called Deep Cooperation FTAs (DCFTAs) signed under the European-Mediterranean Agreement. RoOs: At present Cambodia benefits from DFQF under EBA, 30% domestic content, and regional cumulation. Post-graduation, Cambodia (under GSP) will be in a less favorable position than Viet Nam, Tunisia, or Morocco, due to the FTA in place between the EU and those countries. Domestic content under RoOs would increase from 30% to 50%. Also, Vietnam will be excluded regional cumulation once EVFTA enters into force.

Italy and Viet Nam are the two largest exporters to Japan, followed by China and Cambodia. Italy exports under MFN tariffs ranging from 30.0% down to 21.6% as does China. However, Italy, under the EU-Japan FTA, will see its tariffs reduced to zero in gradual equal installment over a ten-year period (except for tariffs applying to a few HS-8 digit to be reduced over a 15 year period.)⁵⁹ RoOs are based on change in tariff line and a *de minimis* rule. Viet Nam's tariffs range between 30.0% and 2.0% under ASEAN-Japan FTA with RoOs requiring a change in HS-4 digits tariff line or 40% domestic content with regional cumulation possible with other ASEAN countries. Cambodia benefits from DFQF for now with RoOs similar to Viet Nam based on the ASEAN-Japan FTA. Post-graduation, Cambodia would find itself in nearly similar market access condition as Viet Nam – but both with a loss of tariff advantage over Italy within a 10-year period – roughly by 2029. Viet Nam would benefit from wider regional cumulation as EVFTA would allow it to include EU and other content in its domestic content.

Cambodia is only the 11th largest exporter to the US. China, Viet Nam, and Italy are the top 3. The US does not provide GSP or LDBDC advantages in footwear so nearly all countries enter under MFN. MFN tariff ranges from 10.0% to 0%. RoOs calls for change in tariff heading and a 7% *de minimis* rule. Only Mexico (6th largest exporter) under NAFTA and the Dominican Republic (DR) (8th largest exporter) under CAFTA-DR benefit from zero tariff. RoOs for Mexico calls for 60% regional cumulation/domestic content and 55% in the case of DR, or change in tariff line and 10% *de minimis* rule.

HS-8544 Insulated Wires and Cables

Insulated wires and cables (HS-8544) are Cambodia's largest exports under HS-85 (electrical machinery etc.) Thailand and Japan are the two largest importers of insulated wires and cables exported by Cambodia, with nearly 56% and 24% of total Cambodian exports respectively (Table 2.6.) Table 2.6 also shows Cambodia's main export competitors in the two markets and their respective market access conditions.

China (tariff range between 0% and 10%) and Japan (0% duty) are the two largest exporters to Thailand – with China by far the largest. Cambodia is the 4th largest exporter to Thailand and a reasonably sizeable one. Cambodian exports to Thailand have no tariff preference over those offered to other

59 The EU-Japan FTA entered into force February 1, 2019

ASEAN exporters. They all benefit from zero duty under ATIGA. But Japan, under Japan-Thailand FTA, also benefits from zero duty and the same RoOs as ATIGA countries – namely, shift in tariff line or 40% domestic content. LDC graduation will provide no new benefit or loss thereof for Cambodia. If EU and Thailand were to complete their ongoing FTA negotiations successfully, EU producers would likely benefit from the same preferences as already granted to Japan. The difference between ATIGA and FTAs is that countries like Japan, which already has an FTA with Thailand, and EU member states, which might get one, are able to include inputs from any countries with which they have an FTA as part of their domestic content, potentially giving them a greater RoOs advantage over ATIGA countries.

China, Viet Nam, the Philippines, Indonesia, and Thailand are the five largest exporters of insulated wires and cable to Japan. Cambodia's exports to Japan are still quite small. Under AJCEP (ASEAN-Japan FTA), Cambodia benefits from 0% duty with a RoO based on shift in tariff line or 40% domestic content (including regional cumulation of inputs from ASEAN countries.) Graduation from LDC to GSP would not change market access preferences for Cambodia. China is subject to a small tariff ranging from 0% to 4.8%. As Japan, China, and Korea are in the process of negotiating a three-way FTA, that tariff could be reduced to no duty.

HS-8712 Bicycles and other Cycles not Motorized

Bicycles and other Cycles not Motorized (HS-8712) are Cambodia's largest exports under HS-87 (Vehicles other than railway and tramway etc.) EU member states are by far the largest importers of Cambodian bicycles, followed far behind by the US. Cambodia happens to be the largest non-EU exporter to key EU country markets (example of Germany.) The US market remains overwhelmingly dominated by products from China and Taiwan – at least until the US engaged into a tariff war with China.

In the EU, the earlier importance of China was diminished majorly following imposition of a 48.5% antidumping duty starting in 1993 and renewed several time until March 2019. EU is currently reviewing extending the duty for another five years. Under EBA, Cambodia benefits from DFQF and a 30% domestic content RoO. A 2015 EU investigation determined that most bicycles exported from Cambodia did originate from the country and were not transhipped from China (with some small exceptions.) Cambodia also benefits from regional cumulation from ASEAN (except Singapore and Malaysia) for purpose of the required 30% domestic content (some quotas were provided by EU for Cambodia to continue to import parts from Malaysia during a transition period.)⁶⁰ Regional cumulation from Vietnam would be lost once EVFTA enters into force. Bangladesh benefits from similar preferential treatment, with regional cumulation from SAARC. Assuming a normal graduation from EBA to GSP, Cambodia could then find itself with a 10.5% duty and 50% domestic content requirement, potentially a far less competitive position than Viet Nam which, under EVFTA, would benefit from a duty scaling gradually down to zero within eight years as of entry into force of the agreement and with regional cumulation rules in its favor since inputs from countries benefiting from FTA with the EU could also be included in domestic content. The same could happen for Thailand if FTA negotiations with the EU succeed. Philippines could also become a more serious competitor since it benefits from zero duty under GSP+.

The US market is overwhelmingly dominated by Chinese and Taiwanese exporters. Cambodia is the third largest exporter but a small one for now. As an LDC, Cambodia currently benefits from zero tariff and 35% domestic content, with some regional cumulation with other ASEAN countries. Following graduation from LDC to GSP, its tariff would rise to a range of 0% to 11.0% with unchanged RoOs. China and Taiwan are subject to a tariff range from 3.7% to 11.0%. The open question is whether Chinese exports to the US will be affected significantly by the outcome of the current US-China tariff war (possible rise of its tariff to 25%) and whether this may create an opening for Cambodian exports.

60 Parts from Malaysia can be used in a maximum quota of 100,000 units to expire December 31, 2019

HS-1006 Rice and Milled Rice

The EU, China, and Malaysia are the top importing countries for semi-processed, semi-milled, or milled rice from Cambodia as recorded under HS-1006. From January through September 2018, EU imported 193,499 MT out of a total of 389,264 MT exported by Cambodia.⁶¹ Informally, there is a significant quantity of un-recorded export of rice paddy (and possibly even milled rice) to Vietnam and Thailand.

In the EU, Cambodia's competitors such as India, Pakistan, and Thailand are subject to In-Quota-Tariffs (IQTR) of 15% for husked and 0% for semi milled, milled, and Basmati rice with semi-milled and milled Indica rice getting a 100,000MT overall quota and a 10,000 MT Basmati quota (India and Pakistan.) There is an ad-valorem tariff for Out-of-Quota-Tariff (OQTR.) Until January 2019, Cambodia and Myanmar were benefiting from EBA DFQF. The EU launched a safeguard investigation in 2018 at the request of Italy and Spain. The safeguard measures against both countries entered into force January 18, 2019. The EU is introducing three-year ad-valorem tariffs (175euro/MT during year 1; 150euro/MT during years 2 ; and, 125euro/MT during year 3) that will put the two countries at a very significant disadvantage against competitor exporters. Post-graduation, assuming the current safeguards have been lifted, in principle Cambodia and Myanmar would receive the same treatment as Thailand. One issue with the newly imposed safeguards is that most exports of milled rice from Cambodia falls under HS-10063098 which includes milled long grain white rice (Indica) as well as fragrant and premium rice – with the latter not competing with rice produced by Italy and Spain. Specifically, as of 2017, 51% of milled rice exported to EU was fragrant and premium, with a major decrease in quantities of Indica white rice exported to EU from 155,000MT in 2016 down to 78,000MT in 2017.⁶² The shift from white rice exports to fragrant and premium exports reflects, in part, some anticipation by rice millers of possible EU measures but, possibly, even more importantly the understanding that Cambodia is not price competitive against very large producers of white rice – Viet Nam, Thailand, Myanmar, Pakistan, or even Myanmar – combined with the fact that fragrant and premium rice will sell at a range of \$800 to \$1000/MT compared to white rice at \$350 to \$400/MT.

In the Chinese market where Cambodia is the third largest exporter, the country benefits from no preference over its competitors (1% In-Quota-Tariff or IQT.) In 2018, the In-Quota was 200,000MT for Cambodia. In late January 2019, China raised it to 300,000MT for 2019 following the introduction of Safeguards by the EU. In Malaysia, Cambodia benefits from the same ATIGA preferential 20% tariff as do Viet Nam and Thailand.

HS-0714 Cassava, HS-110814 Native Starch, HS-350150 Modified Starch

Cambodia is the world's second largest exporter of fresh and dried chip cassava after Thailand. Viet Nam ranks close to Cambodia. Cambodia benefits from no duty and no quota under ATIGA for its exports to Thailand and Viet Nam. There would be no change at graduation.

There is growing interest from investors to process fresh cassava into native and modified starch in Cambodia.⁶³ Cambodia current exports of native starch to China and the US would not be affected by graduation as both countries apply no quota and no duty – in China, under China-ASEAN FTA; in the US, under MFN. However, Cambodian exports will be affected in its other two export markets – India and the EU. In India, graduation will result in a loss of tariff preference from the current LDC tariff of 0% or 15% (tariff depends on the Indian buyer – direct user vs. trader) to a 50% MFN tariff. In the EU, Cambodia would lose DFQF and would face the same *ad valorem* tariff imposed on Thailand and Viet Nam – with the significant disadvantage that Thailand benefit from a free-quota tariff of 10,000MT and Vietnam of 30,000MT whereas Cambodia would need to compete for a share of an additional tariff-free quota of 10,500MT that applies to any other exporter of cassava starch to the EU. The EU is highly protective of its potato starch industry.

61 MAFF, One Window Service for Rice Export

62 Same source

63 See Chapter 8

Cambodia is not yet an exporter of modified cassava starch, though it is likely to become one in a relatively near future. When Cambodia reaches that stage it is likely not to lose or gain any advantage at graduation since most importing countries charge 0% tariff (or very small tariffs) under MFN or GSP.

In Summary

Table 11: Summarized Impact Analysis of LDC Graduation on Cambodia's

Market Access Preferences in 6 HS-4 Digit Export Sectors

HS-4 digit sector	Importing Markets	Cambodia currently vs. Competitors	Cambodia post-Graduation vs. Competitors
Apparel & Clothing, knitted and crocheted	EU	EBA DFQF: 0%. Tariff advantage over GSP (9.6%) or MFN (12.0% - 10.5%) competitors. RoO: "making up" and regional cumulation.	Same as GSP competitors such as India or Pakistan with 9.6% tariff. Change in RoOs: "Double Transformation" (knitting + making up) and regional cumulation. Viet Nam will see its entry tariffs into the EU eliminated at entry into force of the EVFTA or within 4 or 6 years. Viet Nam access advantage to EU markets will be superior to that of Cambodia.
	US	MFN tariff range 32.0% / 0/9%. No LDBDC, no GSP preferences. RoO: change in tariff heading. Jordan (under JOFTA), Honduras, Guatemala, El Salvador (under CAFTA-DR) have no tariff and regional cumulation	No change
Footwear with Leather Uppers	Japan	LDC DFQF: 0%. Tariff advantage over Italy and Viet Nam. RoO: 40% domestic content or change in tariff heading under ASEAN-Japan FTA (AJCEP)	Same as Viet Nam under AJCEP including 30.0% down to 2.0% tariff range. RoOs: no change. But both countries lose tariff advantage over Italy under EJFTA with tariffs down to zero after 10 years (or 15 years in a few 8-digit lines)
	US	MFN tariff range 10% / 0.0% - No GSP, no LDBDC for HS-6403. RoO: change in tariff heading and <i>de minimis</i> rule. Mexico and Dominican Republic have market access advantage including zero duty, under NAFTA and CAFTA-DR respectively and regional domestic content rule (60% and 55% respectively) or change in tariff heading.	No change for Cambodia. Mexico and DR still zero duty advantage under NAFTA and CAFTA-DR and regional domestic content rule
	EU	0% under EBA DFQF. Tariff advantage. RoO: 30% domestic content and regional cumulation (except Singapore and Malaysia.) Regional cumulation from Vietnam is to be excluded once EVFTA enters into force. But Tunisia and Morocco also benefit from zero duty and regional cumulation under DCFTAs	Under GSP, 4.5% / 1.5% tariff range. RoOs: 50% domestic content and regional cumulation (except Singapore, Malaysia, Vietnam.) Viet Nam's tariffs into EU (currently GSP) eliminated after 4 to 8 years under EVFTA and better regional cumulation rules. Also, no duty for Tunisia and Morocco.
Insulated Wires and Cables	Thailand	No market access advantage over other ASEAN countries under ATIGA. Zero duty, change in HS 4-digit tariff line, and Regional Cumulation. Japan also zero duty under Japan-Thailand FTA (JTCEP)	No change
	Japan	No duty under ASEAN-Japan FTA (AJCEP.) RoOs: change in tariff line or 40% domestic content, regional cumulation	No change
	EU	0% duty under EBA DFQF. Tariff advantage over Taiwan (MFN, 14%), China (anti-	Under GSP Cambodia faces 10.5% duty and loses advantage over Viet Nam

Bicycles and other Cycles not Motorized		dumping, 48.5%), and Thailand and Viet (GSP tariffs, 10.5%) respectively. RoOs: 30% local content and regional cumulation from ASEAN (except Singapore and Malaysia.) Regional cumulation from Vietnam is to be excluded once EVFTA enters into force.	(under EVFTA) with zero tariff within 8 years. Cambodia could also lose advantage over Thailand if ETFTA negotiations succeed, and loses advantage over Philippines (GSP + hence zero tariff). RoO: domestic content and regional cumulation increases from 30% to 40% (except Singapore, Malaysia, Vietnam.)
	US	No duty under LDBDC DFQF. RoOs: 35% domestic content and limited regional ASEAN cumulation.	Under GSP (11% / 0% GSP tariff range), Cambodia has no/very small advantage over other competitors benefiting from GSP or entering under MFN (11% / 3.7% MFN tariff range). No change in RoOs. Current dominant position of China might be challenged if US-China trade war not resolved.
Milled Rice	EU	Until January 2019, no tariff no quota advantage under EBA DFQF. Following introduction of Safeguards by EU, Cambodia's earlier advantage has turned into disadvantage since not eligible to export under reduced in-quota-tariff (IQTR) that apply to competitors. In addition, India and Pakistan have special quota for fragrant rice (Basmati.)	Strong competitive disadvantage under Safeguard (next 3 years minimum.) Under GSP, Cambodia would be competing directly with large exporters India, Pakistan, Thailand with the benefit of special zero duty quotas: 100,000MT for semi-milled and milled. In addition, Pakistan and India have a zero duty on 10,000MT for fragrant rice. Thailand would likely negotiate fragrant rice quota under FTA negotiations with EU.
	China	No advantage. Nearly all imported milled rice irrespective of origin benefits from the same 1.0% IQTR and overall Quota rarely reached. Quota for Cambodia rises from 200,000MT in 2018 to 300,000MT in 2019	No change
	Malaysia	20% preferential tariff for rice imported from within ASEAN under ATIGA. All other, 40% MFN tariff	No change
Cassava, Cassava Native Starch, Cassava Modified Starch	Cassava, Fresh tubers and dried chips	Cambodia main exports are to Thailand, Viet Nam, and China. DFQF under AFTA and China-ASEAN FTA	No change
	Cassava Native Starch	DFQF for Cambodian exports to China under China-ASEAN FTA; LDC tariff advantage for exports to India (0% or 15%); 50% tariff for GSP countries; DFQF under MFN to USA; DFQF under EBA otherwise <i>ad valorem</i> tariff to EU for GSP countries	At graduation, no change in China; no change in USA; Cambodia lose its tariff advantage against Thailand and Viet Nam in India; Cambodia lose advantage against Thailand and Viet Nam in EU as both countries benefit from tariff-free quota and Cambodia would need to negotiate a tariff -free quota
	Cassava Modified Starch	0% in China under China-ASEAN FTA; 0% LDC in Japan; 0% under EBA and GSP in EU; 0% MFN in USA	In general no change at graduation except small tariff in Japan

In short, at graduation from LDC to GSP, in export sectors where Cambodia must compete against exporters that have entered into bilateral or regional FTAs in the same target markets, exporters will typically lose tariff advantage and possibly suffer from weakening of RoOs advantage. That includes even losing market access preferences against high income countries, as in the case of Italy for footwear exports to Japan that will gain advantages under the EUJFTA or Canada for bicycles export to the US that will benefit from an advantage under NAFTA.

This weakening or loss of market access preference may already happen before LDC graduation, depending on how fast FTAs benefiting Cambodian competitors may enter into force. In the EU, the

benefit accrued by Viet Nam under EVFTA will pose challenges for Cambodia in several sectors, as could an EU-Thailand FTA if such materializes.

Inferior market access conditions may already exist when a particular importing country does not provide LDC or GSP preferences for a particular sector and Cambodia is forced to compete on an MFN basis against competitors that receive market access preferences under FTAs. For instance, Cambodian exports of leather footwear must compete in the US market under MFN against Dominican Republic exports granted preferences under CAFTA&DR. Also, in situation where a particular export is already included in the scope of a regional FTA to which Cambodia is a party (e.g. ASEAN-Japan FTA for electrical cable, China-ASEAN FTA and AFTA/Malaysia for rice) Cambodian exports may already have lost preferences and are forced to compete on the same basis as other competitors.

This short review has focused on easily identifiable threats to Cambodia's market access preferences in the present or at graduation through limited examples. This analysis does not exclude other possible threats not discussed here such as emerging competing exporters – e.g. emerging AGOA competitors in US markets targeted by Cambodian exporters – or from the EU withdrawal of EBA benefit to name only two examples.⁶⁴ But it does point clearly to challenges posed to Cambodia by FTAs before or after LDC graduation, including not only challenges to competitiveness, but also to the country's need to build analytical capacity for strategizing about and negotiating FTAs. This opens another set of new challenges: LDC and GSP preferences are asymmetric; FTAs require further market opening to foreign competition.

3.3. Trade Facilitation

Trade Facilitation – the process of moving imported or exported goods through customs – is a significant trade competitiveness factor. From a cost perspective, there are official and “informal” fees associated with meeting documentary and border compliance for both exports and imports. But there are also indirect costs borne by exporters and importers associated with the amount of time their shipments sit idle. Idle inventory costs producers the value of the inventory multiplied by the daily bank lending rate while long processing at customs may create an “opportunity cost” by preventing producers from entering value chains that require short and dependable deliveries – hence restricting up-value opportunities.

For more than 20 years, the IFC/World Bank has published annual country surveys – *Doing Business* – measuring critical determinants of business attractiveness, including the ease/difficulty of “trading across borders.” In addition to cross-country comparisons, the studies allow analyses of historical trends within individual countries. However, to improve the quality of cross-country comparisons, IFC revised its methodology starting with 2016 data. So opportunities for historical comparisons are more limited at the present time. To measure direct time and costs associated with trade facilitation, *Doing Business* now uses “auto parts” shipment for imports in all countries and the dominant export in each country – “garments” in the case of Cambodia

Table 12 compares the ease/difficulty of trade facilitation in Cambodia with other countries in the region and OECD High Income countries. Cambodia does reasonably well in term of the dollar cost associated with documentary and border compliance for both imports and exports when compared to both the ASEAN range and even the average for the larger East Asia and Pacific region. It tends to be on the high-end of the ASEAN range for time (hours) associated with documentary compliance for both imports and exports and low-end of ASEAN range for time associated with border compliance (“green channel” all the way to “visual inspections”). Chapter 4 reviews data for Cambodia over the period 2016-2018. The review may suggest some slight decline in Cambodia's performance.

⁶⁴ The probability of EBA withdrawal from Cambodia by the EU is difficult to assess at this early stage in the review process – though RGC must clearly concerned itself with this possibility.

Table 12: Trading Across Border - Cambodia, ASEAN, East Asia, High Income Countries, 2018 data

	Cambodia	ASEAN Range*	East Asia & Pacific**	Thailand	Vietnam	OECD High Income
Time to Export - Border Compliance (Hours)	48	142-10	54.7	44	55	12.5
Cost to Export - Border Compliance (\$)	\$375	\$456-\$140	\$382	\$223	\$290	\$139
Time to Export - Documentary Compliance (Hours)	132	155-2	57.6	11	50	2.4
Cost to Export - Documentary Compliance (\$)	\$100	\$235-\$35	\$109	\$97	\$139	\$35
Time to Import - Border Compliance (Hours)	8	230-8	69.2	50	56	8.5
Cost to Import - Border Compliance (\$)	\$240	\$580-\$213	\$416	\$233	\$373	\$100
Time to Import - Documentary Compliance (Hours)	132	132-3	57.2	4	76	3.4
Cost to Import - Documentary Compliance (\$)	\$120	\$210-\$40	\$110	\$43	\$183	\$25

* Best and worst hours or costs among ASEAN members

** Includes ASEAN, China, Taipei, HK and most Pacific Islands. Does not include Japan or Korea.

Export: HS-61 Apparel and Clothing, Knitted or Crocheted; via Sihanoukville to US

Import: HS-8708 Auto Parts via Poipet from Thailand

Source: IFC, World Bank Group, *Doing Business 2019*

Importantly, the two goods used to measure border compliance in *Doing Business* – garments for exports and auto parts for imports – benefit from special measures at border posts to accelerate shipments. Based on discussions with industry sources, it would appear that the trade facilitation performance for the two sectors does not extend fully to other imports and exports.

In 2005 the World Bank and the Government launched a *Trade Facilitation and Competitiveness* technical assistance project to improve Customs operations. The project helped Cambodia introduce ASYCUDA and the Single Administrative Declaration and the implementation of the system in 81 customs offices and border crossings. This led to significant reduction in time and cost for border and documentary compliance. DGCE's major current reform effort focuses on the Phase 2 of the introduction of its Cambodia National Single Window (CNSW) to be compliant with the ASEAN NSW requirements. Singapore's cargo Cloud (VCC) has been hired to work with DGCE to develop a CNSW (Cambodia National Single Window) that will integrate seven major Agencies: MEF-GDCE, MoC, CDC, MAF, MoH, MoI&H, and Ports and Airports of Cambodia. CNSW will connect electronically traders to all major permit issuing regulatory authorities. According to GDCE, some of the immediate challenges will be to help Agencies others than GDCE computerize their own processes to issue their respective permits and certificates and incorporate those into the CNSW. Experience from other countries, including high income countries, shows that it often takes strong leadership from the very top of Government to get multiple agencies to operate out of a platform shared by all. In the US, for instance, it took a 2014 Executive Order from President Obama to break through the reluctance of the 50 or more US border agencies to incorporate their procedures into the NSW.⁶⁵

65 Executive Order -- Streamlining the Export/Import Process for America's Businesses, February 19, 2014. Note also that US CBP took a "soft" approach to creating a NSW. CBP opted first to bring under the same electronic window the online processes of individual agencies "as is", and to focus on "re-engineering" of processes once everyone was under the same umbrella.

Eventually the CNSW will need to serve as a basis for developing a risk management (RM) system that fully covers risks of all agencies – not simply those risks that are most pertinent to GDCE. GDCE will need to ensure that this more developed RM system is applied not only in Phnom Penh but at all border points and customs offices. This, in order to cut down further in delays associated with border and document compliance. Developing a more sophisticated RM system will present a number of challenges. First, it assumes that other border agencies already have their own RM systems to track and assess risks pertinent to their responsibilities. To support dialogue between DGCE and the Private Sector, MEF created the CPPM (Customs-Private Sector Partnership Mechanism in 2009 with modification introduced in 2015.⁶⁶ In addition, Private Sector could also raise any issues in Working Group on Export Processing and Trade Facilitation, chaired by Minister of Commerce which would then be referred to Prime Minister for deliberation in the annual G-PSF.

Further down the line, Cambodia will need to expand its existing Customs Compliance Program (currently 13 operators are included in the program) and turn it into a full-fledged Authorized Economic Operator (AEO) program that supports a larger number of exporters and importers through accelerated trade facilitation.⁶⁷ In addition to these developments, Cambodia will need to accelerate the development of special trade facilitation arrangements and facilities for express couriers which are playing a critical role not only in the delivery of e-B2C shipments but equally, if not more importantly in term of volume and value, in the delivery of e-B2B shipments (see discussion below.) In the US, the value of e-B2B shipments handled by express couriers is estimated at \$1 trillion which is twice the value of e-B2C shipments handled by express couriers.⁶⁸ Both an expanded AEO program and improved arrangements for express couriers will require a level of partnership among key actors that does not exist as of yet.

In Summary

Cambodia is making steady progress towards developing and implementing a CNSW that will integrate all regulatory into the export/import documentary processes. Cambodia may need strong leadership from the Prime Minister to ensure the integration process gets a strong buy-in from all Agencies involved. Looking forward, the CNSW should also be the basis for a risk management system that encompasses risks relevant to all agencies and becomes a platform to create a true Authorized Economic Operator system. For the latter to succeed, it will take a deep level of dialogue and trust between Government and the Private Sector. In parallel, Cambodia must take steps to provide appropriate trade facilitation arrangements and customs facilities for the booming international express courier business.

3.4. Deepening Global and Regional Value Chains, e-Business, and Cambodian SMEs

Global and regional value chains are increasingly stretched over multiple country locations with international investors balancing supply chain risks against costs and ease of doing business. Cambodia benefits from the fact that it is located in one of the world's fastest growing region as well as current pressures on international investors to move various investments away from China towards other countries in the region due to rising labor costs and other factors. In addition, in a number of sectors, Cambodia still benefits from market access preferences, at least until many of those disappear following LDC graduation as discussed earlier or under the impact of FTAs as discussed previously.

A significant issue in value chain integration is the growing importance of e-B2B business. Good statistics are hard to come by and whatever is available should likely be viewed with a good deal of

66 MEF Prakas No. 906, 9 October 2009; MEF Prakas No. 320, 26 March 2015

67 See WCO, Compendium of Authorized Economic Operator Programs, 2018, page 122.

68 Source: United Parcel Service (aka UPS)

caution. In addition, data seems to differ based in part on how widely or narrowly e-B2B and e-B2C are defined. Still, according to *Statista* (Germany), Global B2B business grew from \$5.83 trillion sales to \$7.66 trillion sales between 2013 and 2017.⁶⁹ The US is dominant in B2B e-commerce, growing from \$5.34 trillion to approximately \$6 trillion during 2013-2017. Global B2C e-commerce grew from \$1.23 trillion to \$2.55 trillion during 2013-2017. In 2016, China was the largest B2C e-commerce market, with \$975 billion, followed by US with \$647 billion and UK with \$192 billion.

Berkshire Hathaway's *Business Wire* suggests that, by 2016, nearly 63% of all industrial supplies were purchased on-line in the US. Broadly speaking, e-B2B has several significant impacts on supply chain management including, but not limited to, better control of inventory by continuously adjusting supply to demand, better ability to identify "weak links" in a supply chain and take corrective measures, and allowing global or regional value chain producers to cut costs through bypassing "middlemen" (wholesalers) and sourcing directly from producers. The move towards Industry 4.0 will improve further the efficiency of supply chain management and deepen linkages with suppliers via eB2B.⁷⁰ But, as mentioned earlier, the growth of eB2B will also contribute to the expansion of express courier transport, as e-B2B shipments represent a far larger volume than transport of e-B2C shipments.

The deepening expansion of global and regional value chains, throughout the East and South East Asia region and in Cambodia as well through large export-oriented domestic investors (mostly FDI), offer both opportunities and challenges for Cambodian SMEs to increase their engagement with such value chains. Such engagement may come through Cambodian SMEs expanding their role as "indirect exporters" by supplying large domestic exporters (mostly FDI) or by becoming suppliers to large global and regional value chains through their own exports. In both cases, this requires shifting from a "reactive" to a "proactive" business development approach. As is the case in most countries at a similar stage of development, most Cambodian SMEs are "takers" and depend on buyers coming to them and placing orders. To graduate from "reactive" to "proactive", export skills need to be strengthened in the Cambodian SME community beginning with the basics of market research, business plans and export marketing strategy, managing rigorous quality and standards required by large value chain buyers, product and export promotion, use of relevant e-B2B platforms, effective business and brand promotion through e-tools including social media, etc. In the case of direct domestic sales to large export-oriented investors, Cambodia might benefit from analyzing and possibly duplicating the approach used by Vietnam to turn a growing number of Vietnamese SMEs into part suppliers to some of the large FDI producers based in the country.⁷¹ For instance, the Vietnamese Government worked with Samsung (its largest FDI exporter) to increase the number of Vietnamese firms that could supply Samsung operations which until recently had relied almost exclusively on its own network of suppliers. The program has proven quite successful but revealed, at first, that there was great need for Vietnamese producers to improve their capacity to meet the rigorous standards and technical specifications required by Samsung.

In Summary

Cambodia benefits from the fact it is located in one of the most dynamic and fast growing region of the world which remains at the center of the development of global and regional value chains. To deepen the integration of Cambodian SMEs in global and regional value chains by increasing their role as local or export suppliers to large export-oriented businesses, Cambodia will need to put in place a deliberate approach to strengthen their capacity to proactively meet the demand of large global and regional

69 <https://www.statista.com/aboutus/> Statista is a business data firm with offices in key markets around the world that develops business data primarily through business surveys.

70 See Chapter 12 for a discussion of Industry 4.0

71 For instance, "The Participation of Developing Countries in Global Value Chains: Implications for Trade and Trade Policy," OECD Trade Policy Note, April 2015; Claire H. Hollweg, Tanya Smith, and Daria Taglioni, Editors, Vietnam at a Crossroads: Engaging in the Next Generation of Global Value Chains, World Bank, September 2017.

value chain businesses. For Cambodian SMEs, this will include, but not be limited to, learning how to operate their own businesses in a world increasingly driven by e-B2B and to meet production standards that may be far more demanding than those they have been used to meet thus far.

3.5. Productivity, Cost Competitiveness of Businesses, and Moving up Value Chains

To remain competitive as well as move up value chains, Cambodia will need to ensure that factors affecting the productivity and cost competitiveness of individual businesses are addressed in a positive way. This includes, but is not limited to, addressing labor productivity, bridging the skill gaps, tackling and reducing the high costs of energy, trade facilitation, and transport logistics, as well as the loss of market access preferences triggered by LDC graduation and the rapid expansion of bilateral and regional FTAs benefiting its country competitors.

The World Bank's *Cambodia Economic Report 2017* estimates that labor productivity grew by 2.7% in Construction, 1.6% in Farming, 0.7% in Wholesale/Retail, and 0.2% in Garments and Footwear during the period 2007-2014 suggesting that producers in export-oriented industries have been struggling to keep up with the rise in wages. The very large number of public holidays in Cambodia rigorously enforced in industry might not help when compared to farming where those may be more loosely followed. The skill gap is likely another factor, although the RGC is keenly aware of the issue and has strong policies in place to address this challenge.⁷²

By way of comparison, minimum wage in garment and footwear (reset annually after negotiations with employers and unions) was \$170/month in 2018, compared to a range of \$118 to \$170/month in Vietnam. Vietnam uses four geographical zones to set minimum wages and the bulk of its garment and footwear sectors are located in low minimum wage areas. Cambodia has 22 Public Holidays week days scheduled for 2019 excluding week-end days and 26 Public Holidays including Saturdays. Major industrial businesses in Cambodia operate on 46 hour-6 day-a-week schedule. For comparison, Viet Nam has eleven week-day Public Holidays.

Other external factors have a direct impact on the cost competitiveness of individual businesses. Cost of electricity for business was \$0.16/KWH in Cambodia, compared to \$0.055/KWH average in Vietnam (with on-going discussions in Vietnam to raise it to \$0.08/KWH in order to attract new investment in power plants.) In the summer of 2017, Cambodia's Prime Minister pointed to the fact that "informal trade facilitation fees" represented 48% of total trade facilitation costs. In other words, these added a roughly \$410 "informal cost" to the \$475 to \$500 official fees paid by an exporter to clear through Sihanoukville port a fully loaded 40-foot container.⁷³ While the Prime Minister instructed relevant actors to do away with those extra fees, it seems organized efforts to address the issue have yet to be launched.

Transport costs are high as well. Costs of trucking and freight forwarding services for the same 40-foot container moving from factory gate in Phnom Penh to Sihanoukville Port were estimated at approximately \$330 in 2017. To compensate, a significant number of major value chain investors have tended to locate their investments in SEZs nearby the Vietnamese and Thai borders so they can make use of those countries roads and port facilities and, in cases, cheaper electricity from Vietnam.

Such "costs" have an impact not only on the immediate competitiveness of individual investors, but their ability to move-up value chains as suggested by one global value chain investor in the electronics sector. That investor indicated that he would like to produce higher value products in Cambodia but was meeting at least two obstacles. Moving up value would involve bringing more sophisticated machineries, requiring more electricity – unfortunately expensive – and more technical staff – unfortunately lacking.

⁷² See chapter 3

⁷³ The Prime Minister numbers are confirmed by industry sources.

Still, some export-oriented investors in Cambodia are finding ways to move up value chains. In the garment sector, several positive trends seem at work. First, the share of FOB exports compared to CMT has been increasing – with a current level of FOB estimated at about 30%. This is positive in view of the fact that labor costs play a less significant role in total cost competitiveness of firms in FOB than in CMT. Second, they are helped by the emergence of a domestic supply sector to support the growth of FOB. Third, some local CMT subcontractors (mainly Cambodian-owned firms) to the main exporters (primarily FDI) are graduating to becoming direct exporters themselves. Fourth, in discussion with the industry, the Government has asked SNEC to prepare a strategy for the sector. Ultimately, together with these positive developments, there likely is a need for Cambodia to identify niche markets – products and destinations – for its Garment and Textile to specialize.

A look at the transformation of the Textile and Apparel sector in Thailand might be useful to understand how a neighbouring country has re-focused its sector. Between 1998 and 2016 the share of Textile in Thailand's exports of "Garments and Textile" grew from 40% to 60% of the total export value of the sector. Thailand has focused on growing specialty "technical textiles" – such as water-repellent, anti-bacterial, or fire-resistant fabrics, on targeting niche garments such as medical uniforms or sportswear, and on diversifying its export markets away from EU, US, and Japan towards ASEAN (23% of its exports) and "Other" countries (30% of its exports.)⁷⁴

Two other interesting developments are transformations under way in the rice and cassava sectors. In rice, over the past few years of growing milled rice exports, the large millers have determined that Cambodia lacks the scale to be competitive in milled white rice and should focus on Premium and Fragrant Rice or even organic rice. While white rice is sold at somewhere between \$350-\$400/MT, Cambodian Premium and Fragrant Rice can yield between \$800-\$1,000/MT. In 2016, 306,000MT of Premium and Fragrant milled rice were exported out of a total of 540,000MT or 57% of total; and, in 2017, 393,000MT of Premium and Fragrant rice out of a total of 635,000MT or 62%. In addition to a product shift, Cambodian millers have been looking at new markets including China. But getting into new markets (products or destinations) can be tricky. In term of Premium and Fragrant rice, millers remain hindered by the lack of Cambodian image recognition for their products in foreign markets (compared, say, to Thai Jasmine Rice or Indian and Pakistani Basmati rice) due to the slow roll-out of the quality mark for Cambodian premium/fragrant variety by the Cambodian Rice Federation and its branding in destination foreign markets. These efforts need to redouble and accelerate.

In Cassava, the challenge is to get beyond the current dominance of fresh tubers and dried chips as the main export (\$35/MT for fresh tubers; \$150/MT for dried chips) towards exports of native starch (\$350/MT), modified starch (\$700 to \$1,200/MT) or ethanol (price more or less pegged to oil; \$700 to \$900/MT.) Here again, examples from other key country producers from the region can be informative about ways to develop the sector (for instance, Thailand in "Modified" starch.) In this sector as well, diversification of destinations for some main derivatives away from the Chinese market maybe key to success. In all likelihood, in addition to new investment, structuring the sector of cassava derivative producers will be necessary to move away from a buyer-driven market to a seller-driven market.

In Summary

Cambodia is showing capacity to move up value chains with the right kind of entrepreneurship, new investment, sector leadership by some firms, and a supportive targeted policy environment. As it did earlier with the Rice Strategy, the forthcoming Textile and Garment sector strategy should be an opportunity for the Government to support future expansion of the sector towards higher value production. Quite likely, other key export sectors may need similar attention. Overall, the Government

74 See, Thailand Textile Industry, 2018

needs to continue its efforts to bring down a number of critical external costs in order to increase the competitiveness of its business environment.

4. Quality of Growth and SDGs

Because trade is such a critical driver of Cambodia's economic growth, it has a major impact on its SDGs. While it is difficult to provide a detailed analysis of how future trade development may impact Cambodia's SDGs in a few paragraphs, a look at some of the sectors discussed in this chapter help point to some key results and issues. To do so, the chapter updates the matrix of socio-economic and environmental impacts in key export sectors presented in Chapter 1 of CTIS 2013-2017 to identify positive and negative changes between the period 2012-2018 against selected SDGs. Results are shown in Table 2.12 shown in Annex. The table focuses on impacts on six of the 15 SDGs.

SDG #8 Decent Work and Economic Growth

The Cambodian economy has grown vigorously for the past decade following a short slow-down in the aftermath of the 2009 Financial Crisis. Market access preferences under Cambodia's LDC status are under threat from a proliferation of FTAs signed by its competitor countries, and, even more so when it becomes eligible for LDC graduation. This could have a negative impact on growth. However, rapid relocation of lower-wage sectors away from China to ASEAN might be a powerful counteracting factor.

Wage rates in Garments and Footwear are set by Government based on negotiations with the Private Sector and Unions. Those rates have grown vigorously in recent years. Those rates have largely spread to other sectors and the rest of the economy even though other sectors are not mandated to follow. This has been largely the result of growing competition for workers in labor markets. The result has been significant growth in per capita income and a rise in standards of living. In addition, the RGC has been expanding a range of benefits under the National Social Security Fund (NSSF.) NSSF obligations applies to anyone working in a company employing more than eight individuals.

The RGC is placing very high priority on skill upgrading of youth (before start of work life) through in-depth reforms of Primary and Secondary Education, University, and TVET systems. Progress in upskilling the existing labor force are slow coming and, except for construction and farming, labor productivity gains appears to have been slow. The skill gap and rising wages with limited productivity gains in industry are a challenge to Cambodia's competitiveness in those sectors. Skill limitations in the current labor force means that large investors continue to depend heavily on expat technical and professional labor in middle and high level positions.

SDG #5 Gender Equality

The RGC, through the NSSF, has introduced a 3-month maternity leave scheme for women. This important benefit applies to any woman in a firm employing more than eight workers. BFC continues to see as a challenge the reduction in women discrimination in term of access to better jobs in the core industries of Garments and Footwear, but improvements in working conditions along other variables.

SDG #11 Sustainable Cities and Human Settlements

Industrialization is driving out-migration from rural areas and contributes to rapid urbanization. Second-tier cities in Cambodia are growing rapidly (though hard data are hard to come-by to assess the magnitude of change.) Young rural women are moving to industrial and urban areas to take up factory jobs while farming is increasingly becoming a seasonal occupation and rural men move to neighboring countries for other work seasonally, if not for extended periods.

Industrialization contribute to uplifting standards of living but also creates negative externalities that need attention. While manageable for now, residential waste water treatment may become a significant issue in the future. Recycling of solid waste – residential and industrial – needs deepened attention. Effluents from dirty industries – e.g. cassava starch, tanning and dyeing – must be anticipated and mitigated. In rural areas, the Government has a 10-year strategy to make latrines universal and cut down on heavy pollution of drinking water from shallow wells.

In rural areas, the shift from full-time to part-time farming is taking focus away from long term proper maintenance of soil towards short-term output goals with limited concern for possible misuse of chemical fertilizers, herbicides, or pesticides. Some observers have described a new “pioneer” approach to farming especially in cassava where farmers, using a mono-culture approach, move from one deforested area to the next as land productivity starts declining.

SDG #10 Reduce Inequalities

As mentioned previously, discrepancies in income and wage levels between those in Garments and Footwear and those in other parts of the economy have narrowed based in part on the effect of income remittances from urban workers or Cambodian overseas migrant labor to rural areas as well as pressure on domestic labor markets in a fast growing economy.

Geographically, increased urbanization in second-tier cities brings positive externalities to the newer urban resident through better access to markets and services. But urbanization does bring negative externalities as well.

SDG #7 Affordable and Clean Energy; SDG #12 Sustainable Consumption and Production

Cambodia is behind in the introduction of low-impact, sustainable and renewable energy resources – especially solar and wind. The lack of a “feed-in policy” for large and small scale solar and wind electricity production is an issue that retards the development of larger production capacity and could help bring down the cost of electricity – high when compared to neighboring competing exporting countries.

MoE is strengthening its capacity to conduct Environmental Impact Assessments but much remains to be done to enforce findings and regulations.

There is growing interest on the part of producers for recycling solid waste from their business (e.g. garments, cassava starch, rice husk, others) into second-order profitable derivative businesses. In agriculture, there are efforts to counteract negative impacts of current approach to farming with more positive and sustainable approaches including introduction of GAP, GHP, Organic, or SRP (Sustainable Rice Platform) in production, and GMP and HACCP in food processing.

In summary, successful economic growth comes with rapid transformation as well as costs and benefits. The transformation of Cambodia over the past 20 years or so has been remarkable. But it is important for Cambodia to learn early on how best to mitigate the possible costs resulting from its success.

Table 13: SDG Impact in Six Export Sectors

Manufactured Goods	Garments	Footwear	Bicycles and Electrical/ Electronics	Impact on SDGs
Employment Creation				SDG #8 Decent Work and Economic Growth <ul style="list-style-type: none"> On the one hand, growth in exports and employment may slow down as a result of loss of market access preferences at graduation, insufficient productivity growth, skill gap, and difficulties in moving up-value unless RGC respond with policies to counteract those possible challenges On the other hand, relocation of investment in sectors such as garment, footwear, leather accessories, travel goods moving out of China or more advanced ASEAN countries is providing new sources of growth World Bank's <i>Cambodia Economic Report 2017</i> estimates that labor productivity grew by 2.7% in Construction, 1.6% in Farming, 0.7% in Wholesale/Retail, and 0.2% in Garments and Footwear during 2007-2014. This seeming productivity challenge in Industry might be addressed in part through a combination of upskilling of labor force and moving up-value especially in garments (for example, from CMT to FoB.) Large number of annual public holidays has a negative impact on Productivity: 22 Public Holidays week days in 2019 excluding week-end days; 26 including Saturdays (major
<ul style="list-style-type: none"> sector employment 	2012: 370,000 2018: 575,000	2012: 64,200 2018: 120,000	2012: Possibly as many as 10,000 2018: possibly 30,000 Also 2018: approximately 20,000 in travel bags and leather accessories	
<ul style="list-style-type: none"> future sector growth (sector export value) 	2013-2017: 12% annual; Annual growth may increase in short term due to loss of market share by China. Growth likely to slow as a result of loss of EBA (in 18 months if EBA withdrawn or at graduation)	2013-2017: 35% annual; High annual growth rates likely to continue in the future	<u>Electrical equipment</u> grew at 20% annual or more over 2013-2017. High growth likely to continue even after Graduation. <u>Bicycles</u> grew at 8% annual over 2013-2017. Growth likely to accelerate in short term due to sector relocation out of China into ASEAN. Growth might slow at Graduation due to loss of preferences	
<ul style="list-style-type: none"> main indirect impact 	Remittances to provinces	Remittances to provinces	Remittances to provinces	
Wages and Working Hours				
	2012: Monthly Minimum \$80; average monthly take-home \$170 2018: Monthly Minimum \$170; average monthly take-home \$235 Typical week: 46 hours + OT/week.	2012: same Minimum; average monthly take-home \$155 2018: same Minimum; average monthly take-home \$202 Typical week: 46 hours + OT/week.	2012 and 2018: Average wages slightly higher than garments due to skill composition? Typical week: 46 hours + OT/week. Assembly line workers are paid Government stipulated minimum wage in order to compete with Garment and Footwear where minimum wage is mandatory	
Working Conditions				
<ul style="list-style-type: none"> labor representation 	Mostly unionized	Mostly unionized	Some unions	

<ul style="list-style-type: none"> sector monitoring 	<p>Monitored under BFC: 2017 Survey conducted by BFC covering nearly 40% of the factories found that between 2014 and 2017 compliance rate grew from 33% to 44%. Key issues are child labor, forced labor, freedom of association, and women discrimination. Women discrimination remains the most significant issue based on survey.</p>		None	<p>businesses in Cambodia operate on 46 hour-6 day a week schedule). For comparison, the US has 11 week days; Viet Nam 11 week days; Thailand 21 week days; Germany 15 week days; UK 15 week days</p>
<ul style="list-style-type: none"> Other social benefits under NSSF: <p>Social benefits apply to everyone employed in a company with 8 employees or more.</p>	<p>August 2017: (1) liability insurance of 0.6% of wages to a maximum of \$2/worker; (2) Health insurance and two-year access to free public transport. Cost of health insurance previously levied at 1.3% of salary under the 50-50 contribution scheme by National Social Security Fund to become 100% employers' cost; (3) As of end of 2019: national retirement fund for all workers at a rate of 4% of wages to be paid 2% by employer and 2% by workers.</p>	<p>August 2017: (1) liability insurance of 0.6% of wages to a maximum of \$2/worker; (2) Health insurance and two-year access to free public transport. Cost of health insurance previously levied at 1.3% of salary under the 50-50 contribution scheme by National Social Security Fund to become 100% employers' cost; (3) As of end of 2019: national retirement fund for all workers at a rate of 4% of wages to be paid 2% by employer and 2% by workers.</p>	<p>August 2017: (1) liability insurance of 0.6% of wages to a maximum of \$2/worker; (2) Health insurance and two-year access to free public transport. Cost of health insurance previously levied at 1.3% of salary under the 50-50 contribution scheme by National Social Security Fund to become 100% employers' cost; (3) As of end of 2019: national retirement fund for all workers at a rate of 4% of wages to be paid 2% by employer and 2% by workers.</p>	<ul style="list-style-type: none"> Working conditions are improving in the Garment and Footwear sectors that are governed by implementation of the Better Factory Cambodia (BFC) program (A requirement for exporters in those two sectors.) Minimum wage negotiated for Garment and Footwear among Government, Private Sector and Unions are followed by other industrial sectors of the economy in order to compete for labor. They also impact wage rates in non-regulated sectors of the economy (e.g. farm workers, construction workers, etc.) Social benefits managed by NSSF apply to everyone employed in a company with 8 employees or more. They cover: liability insurance, health insurance, and pension
Skills Development				
<ul style="list-style-type: none"> training ops 	<p>2012: OTJ. No TVET. 2018: GMAC has opened its Cambodia Garment Training Institute (CGTI). GMAC and the new CGTI making a major effort to increase life-long-learning training opportunities for employed workers. CGTI launching TVET for high school graduates</p>	<p>2012: Significant OTJ. No TVET 2018: GMAC has opened its CGTI. CGTI not yet focusing on training needs of Footwear sector. Major government effort to strengthen TVET for high school graduates</p>	<p>2012: OTJ. Also off-site training incl. abroad. Very limited TVET 2018: Major Government effort to strengthen TVET for high school graduates</p>	<ul style="list-style-type: none"> The Rectangular Strategy and the RGC's annual budgets place very high priority on upgrading work force skills in schools, through TVET, on-the-job (OTJ) and Life-Long-Learning (LLL.) Extensive reforms under way in primary and secondary education to improve outcomes and in university-level education to improve quality. High quality TVET remains very limited, with some strong emerging private and public programs (e.g.
<ul style="list-style-type: none"> career ops 	<p>2012: limited for line workers. 2018: some improvements for Khmer assembly</p>	<p>2012: limited for line workers. 2018: may be improving as result of improvements</p>	<p>2012-2018: some opportunities for assembly line workers. Major Government effort</p>	

	line workers to move up.	in TVET and life-long-learning opportunities provided by employers	to strengthen TVET for high school graduates	CGTI in Garment, ACAC in Hotel/Restaurant sector, NPIC, NPIA, RUC, RUA, others) <ul style="list-style-type: none"> Quality of life-long-learning provided outside work places is highly variable. Strong OTJ training for new workers in businesses in sector where there is little to no supply of trained young people
Gender Equality				SDG #5 Gender Equality;
	2012: 80%-90% women; under-aged labor is an issue. 2018: sector remains dominated by women Effective January 2018 as part of NSSF coverage: female employees are entitled to a three-month maternity leave with 120% salary, co-shared by 70% from the National Social Security Fund and 50% from employers.	2012: 90% + women; under-aged labor is an issue. Growing share of men 2018: sector remains dominated by women. Effective January 2018 as part of NSSF coverage: female employees are entitled to a three-month maternity leave with 120% salary, co-shared by 70% from the National Social Security Fund and 50% from employers.	2018: mostly women on assembly lines Effective January 2018 as part of NSSF coverage: female employees are entitled to a three-month maternity leave with 120% salary, co-shared by 70% from the National Social Security Fund and 50% from employers	<ul style="list-style-type: none"> Under NSSF, a woman can benefit from a three-month paid maternity leave if employed in firm employing more than 8 workers Based on BFC, women discrimination remains an issue in Garments and Footwear but improving
Living Conditions				SDG #11 Sustainable Cities and Human Settlements
<ul style="list-style-type: none"> access to shelter 	2012: Quality can be poor in urban environment. Some SEZs and SEZ employers provide good shelter for factory workers. 2018: unchanged	2012: Quality can be poor in urban environment. Some SEZs and SEZ employers provide good shelter for factory workers. 2018: unchanged	2012: Some SEZs and SEZ employers provide good shelter for factory workers. Else, access to good shelter varies. 2018: unchanged	<ul style="list-style-type: none"> Industrialization contributes to urbanization which can impact water use, residential sewage, household solid waste, recycling, air pollution, etc. For now, residential waste water (mostly organic matter) is treated "naturally" by pumping waste water in wetlands outside cities. In the future, there will be a need for significant investment in residential waste water treatment but very expensive.
<ul style="list-style-type: none"> sanitation (water/latrines; residential solid waste management) 	2012: Quality can be poor in urban environment 2018: future pressure on residential waste water; latrines usually available	2012: Quality can be poor in urban environment 2018: future pressure on residential waste water ; latrines usually available	2012: Usually good 2018: pressure on water, pressure one sewage treatment; latrines usually available	

				<p>Waste water from garments and other industries not yet a significant issues except some exceptions (cassava starch – see below, leather tanning,...) Some SEZ have water treatment plants. Disposal of urban residential waste and solid waste recycling needs growing attention. Air pollution due to vehicular traffic increasing. Also aggravated by older trucking fleet.</p> <ul style="list-style-type: none"> • Pressure on quantity and quality of urban low-income housing
Regional Impact				<p>SDG #10 Reduce Inequalities</p> <ul style="list-style-type: none"> • Industrial development is moving outward from original focus areas (Phnom Penh, Sihanoukville, Bavet, Poipet....) and expanding geographically including alongside borders with Vietnam and Thailand and in the hinterland • Labor migration from rural to industrial areas (mostly women) and to overseas (mostly men) as well as mechanization of farming are attracting income and people in urban areas leading to significant growth of secondary urban centers • Lack of data makes it difficult to fully measure full impact of rapid urbanization on Cambodia
Environmental Impact of Industrial Development				<p>SDG #7 Affordable and Clean Energy; SDG #12 Sustainable Consumption and Production</p>
<ul style="list-style-type: none"> • energy 	2012-2018: High use of electricity	2012-2018: High use of electricity	2012-2018: High use of electricity	
<ul style="list-style-type: none"> • water, industrial water 	2012-2018: High use for washing and ironing; some use of chemicals.	2012-2018: Tanning and dyes; dyeing chemicals can be an issue	2012-2018: Relatively good water treatment in SEZs. MoE trying to strengthen capacity for Environmental Impact Assessment (EIA)	<ul style="list-style-type: none"> • Cost of electricity is high: approximately \$0.16/KWH (higher in PP area); EDC gets electricity from coal, diesel fuel, hydro. EDC has contracted for the construction of two

<ul style="list-style-type: none"> soil 	2012-2018: Possible negative impact from poor management of industrial waste water	2012-2018: Possible negative impact from poor management of industrial waste water	2012-2018: None known	<p>utility-scale PV farms. EDC still lacks a feed-in policy to encourage PV electricity development among business and residential customers. Potentials for wind and solar electricity vastly under-tapped.</p> <ul style="list-style-type: none"> Industrial water effluents in selected emerging sectors – cassava starch, see below, leather and leather tanning, others Expansion of “dirty” industries (for example, leather tanning) needs to be managed to avoid significant negative environmental impacts. Growing need for management and recycling of solid waste from selected industrial operations MoE strengthening capacity for Environmental Impact Assessment (EIA) but most EIA issued after plants have already been built
<ul style="list-style-type: none"> solid waste 	2012-2018: Fabrics and chemicals. Ongoing work on recycling fabrics	2012-2018: Fabrics, leather, rubber, chemicals. Ongoing work to improve recycling of waste materials	2012-2018: Varies with manufacturing	

Agricultural Goods	Milled Rice	Cassava Processing + Starch	SDGs
Employment Creation			SDG #8 Decent Work and Economic Growth
<ul style="list-style-type: none"> sector employment 	2012: A few thousands in rice mills; 2018: Same as 2012	2018: A few thousands employed in cassava starch. Employment to grow in starch if new investment succeeds	<ul style="list-style-type: none"> On the one hand, increasing migration towards cities is pushing towards decreasing farming population and increasing mechanization as well as possibly higher land productivity. On the other hand, farming is increasingly a part-year occupation and farmers are increasingly relying on seasonal agricultural workers. Farmers focus on short-term output goals and not on long-term good maintenance of soil and
<ul style="list-style-type: none"> future sector growth 	2012: Fast growth. 2018: challenges in the EU market (Safeguards) will affect short-term growth; Exports to China likely to increase but not enough to make up loss of markets in EU	2012: Global demand and prices unstable. Hard to predict 2018: New large scale investment in starch production may push up sector growth as well as cassava farming	
<ul style="list-style-type: none"> main indirect impact 	2012: Millions of farmers grow some rice; 2018: Challenge is to accelerate growth of premium and fragrant varieties in paddy fields in order to increase large	2012: Hundreds of thousands of farmers grow cassava 2018: if investment in starch takes off, could result in more farmers growing starch unless farming mechanization increases productivity	

	mills output for such varieties		<p>water. A “pioneer” farming culture is developing that is promoting expansion of crops such as cassava in recently deforested areas with significant misuse of chemical fertilizers, herbicides, pesticides that tend to drive land productivity down and has serious impact on water and soil</p> <ul style="list-style-type: none"> • Agricultural wages and wages of workers in processing facilities have grown and are pegged more or less to urban industrial wages (\$7 +/- per day i.e. \$160-\$180 per month) • Lack of proper training of and information dissemination among farmers and agricultural workers contribute to weak understanding of long term, positive management of soil and water. Limited capacity of MAFF Extension Services holds back the ability to introduce more environment-friendly agriculture practices. • NSSF benefits apply to all workers employed in firms with more than 8 workers
Wages and Working Hours			
	2012: Around minimum wage. Vary with season. Work hours vary with season 2018: no change. Farm worker wages around \$7/day (close to minimum wage rate.)	2012: Around minimum wage. Vary with season. Work hours vary with season 2018: no change. Farm worker wages around \$7/day (close to minimum wage rate.)	
Working Conditions			
• labor representation	none	none	
• sector monitoring	2012: None	2012: None	
• cleanliness and safety	2012: Modern export-oriented mills relatively clean– but modern rice mills must meet int’l SPS standards 2018: Many large mills have become HACCP and ISO certified	2018: Pressure on processors to meet int’l SPS standards and technical standards for starch supported by international standards and buyer specs.	
Skills Development			
• training ops	2012: Limited OTJ in large establishments. Mostly informal. No TVET. Some RUA training 2018: RUA making major effort to strengthen its post-high school programs. TVET slowly changing but a challenge	2012: Limited OTJ in large establishments. Mostly informal. No TVET. 2018: Starch plants require technical and engineering staff. RUA making major effort to strengthen its post-high school programs. TVET slowly changing but a challenge	
• career ops	2012: Very limited except in a few large mills 2018: Limited until skill gap reduced	2012: Very limited except in a few large establishments 2018: Limited until skill gap reduced	
Gender Equality			
	2012: Majority men in mills 2018: unchanged	2012: Majority men in cassava starch processing plants 2018: unchanged	
Living Conditions			
• access to shelter	2012: Mills provide shelter. Quality limited 2018: good access to shelter	2012: Rural living: Good access to shelter 2018: Good access to shelter	
• sanitation (water/latrines)	2012: Quality of latrines and water: variable 2018: Government target to make latrines universal in rural areas within 10 years	2012: Quality of latrines and water: variable 2018: Government target to make latrines universal in rural areas within 10 years	
SDG #5 Gender Equality			
<ul style="list-style-type: none"> • In theory, women-specific NSSF benefits apply to all women in enterprises employing more than 8 workers 			
SDG #11 Sustainable Cities and Human Settlements			
<ul style="list-style-type: none"> • Government has a goal to make latrines in rural areas universal within a ten year period • Public buildings (e.g. schools, rural clinics) usually lack latrines. However, MoEYS has a major construction program underway to add latrines to all rural public schools with a positive impact on retention of girls in 			

			primary and secondary education
Regional Impact			SDG #10 Reduce Inequalities
<ul style="list-style-type: none"> See above discussion of urban/regional impact 			<ul style="list-style-type: none"> Workers in processing facilities are paid wages that follow minimum wage set in Garments and Footwear. Contributes to increased standards of living in rural areas Farmers income and wages of farm workers has improved and increased standards of living of rural populations Population migration out of rural areas is having impact on increasing urbanization
Environmental Impact of Agricultural Development and Processing			SDG #7 Affordable and Clean Energy; SDG #12 Sustainable Consumption and Production
<ul style="list-style-type: none"> energy 	2012: Electricity dependent. Could use sustainable energy solutions 2018: Still no feed-in policy from EDC but some large mills have installed husk-fed generators	2012: Semi processing needs little electricity 2018: Production of “native” and “modified starch is dependent on electricity. Still no feed-in policy from EDC. Newer plants using part of cassava residues to produce heat for starch drying	<ul style="list-style-type: none"> See above discussion about land productivity and impact of increasing use of chemicals on soil and water Environmentally adequate treatment of waste water in cassava starch is a significant issue Absence of latrines lead to pollution of drinking shallow-well water used by villagers. Likewise, allowing animals in housing compounds. Need to educate villagers to keep animals in separate areas. Deep wells could improve this situation and help reduce arsenic in water
<ul style="list-style-type: none"> water 	2012: None known 2018: no change	2018: Significant need for water treatment from starch production	
<ul style="list-style-type: none"> soil 	2012: None known 2018: no change	2018: Cassava cultivation has negative impact on soil unless mitigated. Significant impact on deforestation	
<ul style="list-style-type: none"> solid waste 	2018: Some plants are using husk for bio-fuel. See energy above	2018: Starch waste can be used for bio-fuel or fertilizer. Bio-fuel can be used by plants o dry starch	

Sources: Interviews with UNDP; BCF/ILO; FAO; HR Inc. Cambodia; Private Sector; selected SEZs; various experts; and desk research.

5. Gender and Cambodia Trade Integration Strategy⁷⁵

The general understanding and knowledge that trade can be a tool of the economic empowerment of women, and ultimately, that gender equality and women’s economic empowerment can be a gateway not only to inclusion, equality and poverty reduction, but a boost to a nation’s economy, is increasing globally. A 2018 McKinsey report⁷⁶, concludes that advancing women’s equality in the countries of Asia

⁷⁵ This section is a contribution by the Ministry of Women Affairs (MoWA), Royal Government of Cambodia to increase the visibility of gender mainstreaming in trade policies and strategies.

⁷⁶ McKinsey & Company. (2018). The Power of Parity: Advancing Women’s Equality in Asia Pacific, p.1

Pacific could add \$4.5 trillion to their collective annual GDP in 2025, a 12 percent increase over the business-as-usual trajectory.

This report also remarks, that “Asia Pacific is today arguably the most dynamic region in the world, a global engine of growth driven by productivity, investment, technology, and innovation. Women can help—and are helping—to power this engine, making vital contributions to sustaining and enhancing Asia’s growth and lifting more people out of poverty. Yet gaps remain large in many countries in the region on gender equality both in work and in society. From an economic perspective, trying to grow without enabling the full potential of women is like fighting with one hand tied behind one’s back. There has been progress towards gender parity in Asia Pacific overall. But there is still much more to do. Now is the time to redouble efforts”.

However, in terms of macro-economic structures and outcomes, that is, of macro-economy in general, there still exists a widespread conception that it is gender neutral. But this understanding can have far reaching implication and consequences. In fact, mounting research and literature suggests that trade and other macroeconomic policies and instruments have an impact on gender outcomes such as employment, income, empowerment and intra-household relations etc. In other words, the effects of trade policies on economic and social activities tend to differ by gender. This is due to a combination of cultural, social and economic factors. Women and men may have different skills, face diverse challenges and have different access to productive resources. Trade liberalization does not have a clear-cut positive effect on women’s economic empowerment and wellbeing. Its impact can be double-edged. Ultimately, as clearly noted by UNCTAD their note on Trade as a Tool for the Economic Empowerment of Women (2016): “Gender-blind trade and other macroeconomic policies tend to exacerbate existing gender inequalities”⁷⁷.

Trade policies do not have equal impacts on all segments of the population, including men and women. Trade liberalization can be a tremendous force for providing new opportunities for women or may inadvertently further entrench or exacerbate existing gender biases and discrimination..

However, the previous Cambodia Trade Integration Strategy (2014-18) in its introduction acknowledged that: “Trade sector competitiveness is critical to growth, and, in turn, to the creation of new and better jobs as well as income which are requirements for poverty-reduction. Yet, connecting trade expansion to poverty-reduction, gender equality, and greater inclusiveness remains a challenge”⁷⁸.

On a similar note, a 2015 study of the ASEAN Secretariat et al. on Projected Gender Impacts of ASEAN Economic Community, which analyzed the mechanisms through which ASEAN economic integration may create opportunities for accelerating gender equality and women’s economic empowerment in the region as well as it identified challenges that may prevent women from taking advantage of these newly created opportunities, concluded: “The impact of the formation of AEC on women in the ASEAN is going to be significant in terms of the volume of jobs that are created. However, in terms of changing the gender pattern of employment and wages, the impact will be small. The main reason why women are not likely to be materially impacted by a boost in trade, investment and skilled labor integration is because for a vast majority of the women, these are not the sectors that affect their lives. There are vast inequalities in women’s labor force participation in the ASEAN Member States that inhibits their ability to take advantage of the opportunities created by the AEC or other demand side shocks in the job market. The supply of women in the workforce is relatively stable and consistently lower than men due to a combination of social, cultural and institutional factors. Therefore, while the number of women

⁷⁷ UNCTAD. (2016). Expert Meeting on Trade as a Tool for the Economic Empowerment of Women: Trade as a Tool for the Economic Empowerment of Women - Note by the UNCTAD Secretariat, p.2

⁷⁸ Cambodia CTIS 2014-2018 Full Report, p. 13

employed may go up, the increase will not necessarily change other employment outcomes: wages, types of jobs and the sectors where women are currently employed.”⁷⁹

Ultimately, this study addresses all ASEAN Member states, when it recommends that “targeted interventions are needed, immediately, to ensure that the benefits from the AEC or any other economic integration are shared by women. Supply and demand side policy interventions are proposed to increase women’s share in paid employment and in their wage levels. These include investments in women’s technical training, fiscal incentives for firms to hire women and greater monitoring of gender commitments at the regional and national levels. At the end of the day, nations and governments have to realize that investing in increasing women’s share in the regional and national trade and national income is a win-win strategy for the society, economy, private businesses and individuals”.⁸⁰

Against this background, and particularly in light of the RGC is at the beginning of the sixth legislature, entering Phase IV of the Rectangular Strategy or Growth, Employment, Equity and Efficiency: Building the Foundation Towards Realizing the Cambodia Vision 2050, as well as the RGC’s process toward embracing a new development framework, namely the 2030 Agenda for Sustainable Development, which is geared towards establishing close links between economic development, environmental sustainability and social justice, the update of the Cambodia Trade Integration Strategy offers great momentum to further address the challenges of connecting trade expansion to poverty-reduction, gender equality, and greater inclusiveness.

In fact, the Cambodia Trade Integration Strategy Update (CTISU 2019-2023) – as it is meant to be mainstreamed through the Rectangular Strategy IV and Vision 2030, to serve as a basis for the design of the New National Strategic Development Plan (2019-23), and to guide the work of the RGC – offers a favorable window of opportunity for the RGC and all stakeholders and partners involved to further promote Gender Equality and Women’s Empowerment, and especially Women’s Economic Empowerment through investing in increasing women’s share in the regional and national trade and national income and thus to embrace this win-win strategy for the society, economy, private businesses and individuals.

In all 3 Pillars of the CTISU 2019-23, gender issues are relevant, albeit not always clearly visible. The nexus between trade and gender is complex and requires a nuanced understanding of economic and social dynamics, as well as of specific local contexts. Thus, although the following snapshot is not exhaustive and can neither replace a profound and well-researched gender-analysis, which ideally complements the assessments of the challenges, risks and benefits etc. of trade and trade integration, nor gender mainstreaming efforts along the new trade integration strategy and its implementation, this snapshot does provide some selected brief insight into gender-related challenges along a chapter of each of the CTISU’s main three pillars, namely:

- a) Pillar I., Chapter 3: Skills, Education and Training for Growth
- b) Pillar II., Chapter 9: Light Industries for Export Diversification and Enhancement
- c) Pillar III., Chapter 11&12: eCommerce & Digital Economy and Industry 4.0

Chapter 3: Skills, Education and Training for Growth

As noted in this chapter of the CTISU 2019-23, “the RGC has identified the ‘skill gap’ in the Cambodian labor force as major obstacle and constraint to further development and diversification of Cambodian export” (p.74).

However, girls and women still tend to be more disadvantaged than boys and men in access to and benefits of skills, education and training for growth. This is exemplified in the following by some gender-related challenges and realities relevant to understand the nexus between trade, gender and Skills,

⁷⁹ ASEAN Secretariat, Friedrich Ebert Stiftung, UN Women, and Australian Aid. (2015). Projected Gender Impacts of ASEAN Economic Community, p. 14-18

⁸⁰ ASEAN Secretariat, Friedrich Ebert Stiftung, UN Women, and Australian Aid. (2015). Projected Gender Impacts of ASEAN Economic Community, p. 14-18

Education and Training for Growth. For example, in the MoWA Cambodian Gender Assessment (2014) finds that:

- Gender parity in education is improving, but gaps remain between region and age groups. Females in rural areas, particularly girls from ethnic minorities, are generally more disadvantaged than others [...].
- Beyond lower secondary girls' access to education is limited and completion is challenging.
- Significant progress in TVET has been made but girls and women still experience lower employment opportunities and wage discrimination.
- While the participation of girls in public TVET has increased, progress remains limited. Training offered to women is often gender-stereotyped, in skills such as weaving, textiles and garments, beautician and hairdressing, and handicrafts.
- Female participation is weak in formal, long-term, high-skilled and high-demand training programs in sectors such as construction and mechanics, where jobs are higher paid and more valued.

And ADB and ILO, in their Addressing the Skill Gap Employment Diagnostic Study on Cambodia (2015) have found, for example, that Female workers have disproportionately lower education levels than male workers. The shares of female workers with vocational education or a university degree are also substantially lower than their male counterparts.

Chapter 9: Light Industries for Export Diversification and Enhancement

As noted in this chapter of CTISU, manufacturing remains a priority activity for Cambodia in Terms of its contribution to the economy, employment and merchandise export. Though to date the sector remains highly concentrated on the garment sector, the RGC is aiming to transform the industrial structure from a labor-intensive industry to a skill-driven one through connecting to regional and global value chains.

Cambodia has not only a fast growing labor force, but also one of the highest women labor force participation rates in the region. It is especially the footwear and garment sector that employs overwhelmingly a female workforce. For example, the garment sector in Cambodia employs approximately 600,000 people and up to 85% of workers are women. However, a high labor force participation rate does not necessarily translate into the empowerment of women.

While a job in the garment sector can potentially be an opportunity for the economic empowerment of women, it is the reality in Cambodia that despite their high rate of participation in the garment industry, women are still not on equal terms to their male colleagues.

In fact, women face a range of gender-related challenges and realities relevant to understand the nexus between trade, gender and Light Industries for Export Diversification and Enhance.

CARE International and Australian Aid in their 2017 Bulletin⁸¹ on Women In Cambodia's Garment Industry: Their Work, Their Safety, for example, note that:

- Women workers earn less on average than their male colleagues.
- Although women occupy 85% of the garment sector's total workforce, women are over-represented in lower status and lower skill roles.
- Nearly 1 in 3 women experience sexual harassment in their workplaces.

Cambodian Gender Assessment on Gender in Education and Vocational Training (2014) by the Ministry

⁸¹ The Bulletin's information is taken from CARE's study, "I know I cannot quit." The Prevalence and Productivity Cost of Sexual Harassment to the Cambodian Garment Industry.

of Women's Affairs, notes:

- Women tend to be employed in lower positions and low-skilled jobs, and seldom in management positions.
- Women are mainly concentrated in a few sectors, usually with less social and economic value.
- Female participation is weak in formal, long-term, high-skilled and high-demand training programs in sectors such as construction and mechanics, which would offer them access to jobs that are higher paid and more valued.

Furthermore, ADB and ILO, in their *Addressing the Skill Gap Employment Diagnostic Study on Cambodia* (2015), which assesses and analyses various national data, have found, for example, that:

- Unemployment is more likely to occur among women than men.
- There are some significant differences between the industries of employment of men and women. Among industries where informal workers were concentrated, the key differences are in apparel manufacturing and in construction.
- Women account for a large majority of informal employment in apparel manufacturing, while very few women work in the construction industry.
- MSMEs have a higher proportion of female workers than non-MSMEs.
- More than half (54%) of the people engaged in MSMEs are female. Additionally, women are less likely than men to be in regular employment in MSMEs. They are overrepresented in vulnerable, non-regular employment in micro-establishment.
- Women manage the majority of MSMEs, at 65% of total establishments, with nearly all being micro-establishments —the majority of which are unregistered/informal.
- Women head very few small or medium-sized establishments.

Chapter 11: eCommerce and Chapter 12: Digital Economy and Industry 4.0

As noted in this chapter 11 of CTISU, the eCommerce ecosystem has boomed over the past few years, thanks to investment in infrastructure, booming FinTech industry fuelling an ICT-savvy young population. However, for Cambodia to not only capitalize on the vast opportunities presented by eCommerce, but in effect, to prepare enabling environments to fuel innovative technologies and ultimately to adapt and respond to the huge transformations stemming from digital economy and Industry 4.0., the country needs to address (as remarked in chapter 11 of CTISU) the physical, regulatory and legal bottlenecks that constrain sector development, as well as it needs to deal (as remarked in chapter 12 of CTISU) with “some challenges in terms of human capital, access to new technologies training, and most importantly, a mindset change”. (p.246)

But to do that, also requires an understanding of gendered socio-economic dynamics and realities in Cambodia, in order to develop policies that promote trade integration as well as catalyze sustainable economic development and poverty reduction while also promoting women's empowerment and gender equality: Because although on some aspects, national data is limited, it can be summarized and generalized, that women in Cambodia are still more disadvantaged than men in access to, for example, ICTs and ICT infrastructure, to e-commerce and other skill development, to new technologies training, to financial services and financing for SMEs, or to innovation and technology in supply chains and cross-border trade etc.

In conclusion, national data, as well as numerous studies and assessments identify and – directly and indirectly – show for above mentioned, and other obstacles and challenges regarding women's economic empowerment in Cambodia. And because the remaining obstacles to women's economic leadership and empowerment in Cambodia are multi-facet, multi-layered and complex, sustainable

changes in effect, require parallel progress and visible responses, not only also to women's social, political and personal empowerment, but particularly to essential national development approaches, such as Cambodia's trade integration.

In conclusion The RGC has long been committed to Gender Equality and Women's Advancement, and particularly to Women's Economic Empowerment. Under their leadership, numerous issues, challenges and obstacles have not only been addressed, but also been improved. Today, the RGC can show for a wide range of responses and gender responsive mechanisms/instruments in several trade-related sectors. However, gender mainstreaming and gender sensitive implementation remains challenging, not the least also because some prevalent social and cultural norms, perceptions and attitudes that inform gender roles, relations and expectations still perpetuate some gender inequalities. To transform these also requires a behavioural and mindset change.

However, the snapshot provided above of gender dynamics and issues that are directly and indirectly related to trade were meant not only to exemplify the diverse and complex nexus between gender and trade, but most importantly, are meant to promote for the visibility and thus integration and consideration of gender issues within trade related instruments and beyond in Cambodia.

Certainly, globally, although the nexus between, gender equality and development is increasingly recognized and acknowledged and a new generation of free trade agreements include trade and gender chapters, these chapters mostly remain a light component. However, such developments should not be overlooked, as they encompass a number of positive outcomes, and it is a right step towards realizing the global community's commitment to a new global development framework that aims at "leaving no one behind" and shifting to an inclusive and sustainable development and growth.

And Cambodia, together with the international community, too, committed to the 2030 Sustainable Development Agenda, which in fact requires to go beyond Business-As-Usual. This is a great window of opportunity: By establishing a close link between economic growth, environmental sustainability and social justice, the 2030 Agenda provides the opportunity to address gender issues in a multidisciplinary, multifaceted manner, linking economic, social and environmental aspects. And contrary to the Millennium Development Goals that sometimes were internationally criticized for providing "short-term fixes" to development problems, the SDGs aim at addressing the power structures and social relations that are the source of poverty and inequality.

The RGC is also at the beginning a new sixth legislature, entering Phase IV of the Rectangular Strategy or Growth, Employment, Equity and Efficiency: Building the Foundation Towards Realizing the Cambodia Vision 2050. In this regards, as the CTISU 2019-23 is meant to be mainstreamed through the Rectangular Strategy IV and Vision 2030, it offers perfect momentum and venture point to address the challenge of identifying entry points for connecting trade expansion to poverty-reduction, gender equality, and greater inclusiveness.

Adopting a gender perspective contributes to a deeper and richer understanding of trade performance. This in turn is essential to inform the design and implementation of gender-sensitive measures and ensure that existing inequalities are not reproduced or exacerbated with shifts in and updates of Cambodia's strategy and directions for trade. This includes two steps: First, a gender-related assessment and analysis along the guiding principles and of the CTISU's pillars/ trade roadmap should be conducted soon; the second is to include gender-related considerations in the CTISU 2019-23 action matrix along the identified entry points for strategic interventions and gender mainstreaming.

This is a collective effort, but it does require strong leadership by the main implementing entity, the Ministry of Commerce of Cambodia. Ideally, all stakeholders and partners jointly commit to the related efforts and a clearly voiced commitment.

6. Conclusions and Recommendations:

A Seven-Point Strategy to Prepare for LDC Graduation and SDGs attainment

- 1. LDC Market Access Preferences and FTAs:** Graduation from LDC to GSP (or MFN) will result in the loss of market access preferences that have played a key role in the rapid growth of Cambodian exports. Cambodia has ten or eleven years to prepare for that – or even less – considering that preferences are already being eroded in key export sectors under the impact of FTAs signed by competitor exporting countries. The RGC needs to build analytical capacity and develop a strategy for FTAs focusing on identifying opportunities for market diversification and moving up-markets through new products, new services, and/or new destination markets (at country level and at business level.) But FTAs create new challenges. Preferences granted under LDC or GSP status are asymmetric (unilateral.) Under FTAs, benefits granted are bilateral. FTAs require a focus not only on export opportunities but also on risks and opportunities of domestic market opening to partners;
- 2. LDC Special and Differential Treatments:** LDC graduation will also result in the loss of or, at best, weakening of other SDTs available under key trade agreements. This will likely force Cambodia to make changes to its industrial development policy. The same might result from the negotiation of FTAs as negotiating parties may demand accelerated changes to some of those SDTs as part of a bilateral or regional agreements. Cambodia must deepen its understanding of those relationships and strategize about how best to respond to such challenge;
- 3. Trade Facilitation and Risk Management:** Trade Facilitation is a core factor in the cost competitiveness of Cambodian exporting enterprises. Risk Management is at the core of successful trade facilitation and a requirement for cutting down time and costs for document and border clearance. Together with a multi-agency Cambodia National Single Window, RM and related reforms must be at the top of Cambodia's trade facilitation reform agenda in order to arrive at an effective AEO program and other key reforms. An advanced RM system can only succeed if based on a deepened Government-Private Sector Partnership based on trust;
- 4. Supply Chain Management, e-B2B, and Cambodian SMEs:** Many Cambodian SMEs lack the skills they need to compete for the business of global and regional value chains, either to become suppliers to large investors operating in Cambodia or by exporting their goods and services to global and regional value chain actors. To succeed, SMEs are in need of a robust capacity building program on export-skills that includes a focus on market research, business and export plans, products and services development that meet demanding standards and specs expected from multinational buyers, sales promotion and branding including through electronic platform, etc.;
- 5. Productivity, Business Costs, and Moving up Value Chains:** Productivity is a key factor in trade competitiveness. Factors holding back productivity are known to the RGC. They include limited labor productivity gains in industrial sectors when compared to wage growth, limitations imposed by skills gaps on the ability of firms to move up value chains, as well as the high costs of electricity, transport logistics, and trade facilitation. The RGC has introduced reform programs to address many of those constraints. Those reforms need to be sustained especially during the ten-year or so transition period to middle income developing country so that competitiveness can be improved in response to other external changes;
- 6. Mitigate Social and Environmental Costs:** Cambodia's robust economic growth over the past 20 or 25 years has improved the standards of living of Cambodians significantly. Cambodia must take resolute steps to mitigate the social and environmental costs of development associated with increased exports, industrialization, and urbanization – including need for water treatment, waste management and recycling, urban congestion and pollution, deforestation so that they do not

overwhelm the gains accrued by Cambodia's society from the remarkable growth of the past 20 or 25 years.

7. **Promoting enhanced participation of women in trade and further mainstreaming gender aspects in trade policies and strategies**, in line with RGC' commitments to gender equality and women's advancement, and particularly to Women's Economic Empowerment. This could take the form of adopting a gender perspective that contributes to a deeper and richer understanding of trade performance. This in turn is essential to inform the design and implementation of gender-sensitive measures and ensure that existing inequalities are not reproduced or exacerbated with shifts in and updates of Cambodia's strategy and directions for trade.

Chapter 2 Annex Tables

Top 10 Importing Markets for HS-6110 Exported by Cambodia (Apparel and Clothing, knitted or crocheted)

In thousand US Dollar

Rank	Importers	2017 Export Value	2017 % Share of Total Exports
	World	\$2,121,824	100.00%
1	USA	\$423,426	19.96%
2	Germany	\$312,921	14.75%
3	United Kingdom	\$195,541	9.22%
4	Canada	\$174,817	8.24%
5	France	\$149,630	7.05%
6	Spain	\$143,204	6.75%
7	Japan	\$115,252	5.43%
8	Poland	\$84,704	3.99%
9	China	\$61,265	2.89%
10	Belgium	\$52,207	2.46%
	Top 10		80.73%

Top 10 Importing Markets for HS-6403 Exported by Cambodia (Footwear with Leather Uppers)

in thousand US Dollar

Rank	Importers	2017 Export Value	2017 % Share of Total Exports
	World	\$748,454	100.00%
1	Japan	\$123,717	16.53%
2	USA	\$115,658	15.45%
3	United Kingdom	\$69,589	9.30%
4	Germany	\$68,549	9.16%
5	Canada	\$67,099	8.97%
6	Netherlands	\$38,858	5.19%
7	France	\$33,851	4.52%
8	Italy	\$30,697	4.10%
9	China	\$19,537	2.61%
10	Korea	\$18,007	2.41%
	Top 10 Importers		78.24%
of which	EU countries in Top10		32.27%

**Top 10 Importing Markets for HS-8544 (Insulated Wires & Cables)
Exported by Cambodia**

thousand US Dollar

Rank	Importers	2016 Export Value	2016 Percent Share of Total Exports
	World	\$145,483	100.00%
1	Thailand	\$81,079	55.73%
2	Japan	\$34,728	23.87%
3	Korea	\$12,455	8.56%
4	Hong Kong	\$9,166	6.30%
5	Singapore	\$3,148	2.16%
6	China	\$1,641	1.13%
7	Slovakia	\$1,449	1.00%
8	Viet Nam	\$816	0.56%
9	Netherlands	\$438	0.30%
10	USA	\$225	0.15%
	Top 5 Importers		96.63%

**Top 8 Importers of Cambodian Bicycles and Other Cycles not Motorized
incl. Delivery Tricycles (HS-8712)**

thousand US Dollar

Rank	Importers	2016 Export Value	2016 Percent Share of Total Exports
	World	\$345,362	100.00%
1	Germany	\$114,804	33.24%
2	United Kingdom	\$81,801	23.69%
3	Belgium	\$51,425	14.89%
4	USA	\$22,370	6.48%
5	Canada	\$14,763	4.27%
6	Netherlands	\$12,953	3.75%
7	Sweden	\$12,035	3.48%
8	Austria	\$8,105	2.35%
	Top 8 Importers		92.15%
	Top 6 EU countries		81.40%

Top 10 Importing Markets for HS-1006 (Rice) Exported by Cambodia
in thousand US Dollar

Rank	Importers	2017 Export Value	2017 % Share of Total Exports
	World	\$339,673	100.00%
1	China	\$101,125	29.77%
2	France	\$57,695	16.99%
3	Germany	\$31,263	9.20%
4	Malaysia	\$25,637	7.55%
5	Netherlands	\$17,810	5.24%
6	United Kingdom	\$12,178	3.59%
7	Poland	\$12,162	
8	Czech Republic	\$10,098	2.97%
9	Italy	\$9,629	2.83%
10	Hong Kong	\$8,923	2.63%
	Top 10 Importers		84.35%
of which	China		29.77%
of which	Malaysia		7.55%
of which	EU countries in Top10		44.41%

Top 3 Importing Markets for HS-071410 Exported by Cambodia
Fresh Cassava and Dried Chips
thousand US\$

Rank	Importers	2017 Export Value	Main Competitors in Importing Country	Market Access applied to Cambodia and Competitors
	World	\$598,036		
1	Viet Nam	\$311,415	Lao PDR	no duty, no quota for ASEAN
2	Thailand	\$285,010	Lao PDR	no duty, no quota for ASEAN
3	China	\$1,610	Thailand, Viet Nam	no duty, no quota for ASEAN
	Top 3 % of world exports	100.00%		

Top 5 Importing Markets for HS-110814 (Cassava Native Starch) Exported by Cambodia
thousand US\$

Rank	Importers	2017 Export Value	Main Competitors in Importing Country	Market Access applied to Cambodia and Competitors
	Total	\$27,381		
1	China	\$15,948	Thailand, Viet Nam, Lao PDR	no duty, no quota for ASEAN
2	India	\$7,698	Viet Nam, Thailand	Cambodia benefits from 0% or 15% import duty in India (based on the Indian buyer); Viet Nam and Thailand have a 50% tariff
3	USA	\$2,164	Thailand, Viet Nam, Brazil	no duty, no quota

4	Italy	\$580	Lao PDR, Thailand, Brazil	Under EBA, DFQF for Cambodia and Laos; 166euro/MT tariff for Thailand and Brazil. 10,000MT tariff free-quota for Thailand; 30,000MT tariff free quota for VN under EVFTA; 10,500MT tariff free quota for all other countries combined.
5	France	\$336		

Top 10 Importing Markets for HS-350510 (Modified Starch)*
thousand US\$

Rank	Importers	2017 Export Value	Main Exporters to Importing Country	Market Access applied to Main Exporters
	Total	\$3,371,399		
1	China	\$335,238	Thailand, USA, EU, Viet Nam	0% duty under FTA with ASEAN; 12% MFN
2	Japan	\$335,030	Thailand, USA, Viet Nam	6.8% MFN; 1.36% GSP; 0% LDC
3	Germany	\$323,150	USA, Thailand (non-EU countries)	0% GSP and EBA; 7.7% MFN
4	USA	\$164,562	Thailand, EU, China	0% MFN
5	United Kingdom	\$129,735	USA, Thailand (non-EU countries)	0% GSP and EBA; 7.7% MFN
6	France	\$127,961	USA, Thailand (non-EU countries)	0% GSP and EBA; 7.7% MFN
7	Indonesia	\$107,546	Thailand, USA, China	0% AFTA; 0% China-ASEAN FTA; 5% MFN
8	Russian Federation	\$98,113	EU, Thailand, USA	0% MFN
9	Korea	\$93,654	Thailand, EU, USA, China	MFN tariff range 8% to 385.7%
10	Canada	\$90,918	USA, Thailand, EU, China	0% LDC; 0% to 3%, GSP; 0% under NAFTA; 0% to 8% under MFN

* include modified starch from all source material, not simply cassava

CHAPTER 3 : THE CHALLENGES OF EDUCATION AND SKILLS TRAINING FOR TOMORROW'S LABOR MARKET

1. Introduction

No country other than Cambodia has faced such a steep challenge, in modern times, rebuilding an entire educational and skills training system from the ground up. In that respect, Cambodia's achievements over the past 40 years have been remarkable.

However, the Cambodian workforce's education and skills training remains limited. In 2017, approximately 8.8 million Cambodians among the 10.4 million individuals of working-age were in the work force. Of the population between the ages of 15 and 64, 12.0% of the workforce had received no formal education; 31.7% had some primary education, but not completed; 26.0% had completed primary education (grades 1 through 6); 15.5% had completed lower secondary education (grades 7 through 9); 8.2% had completed upper secondary education (grades 10 through 12); and, 60.3% had completed post-secondary education.⁸² In short, as of 2017, roughly 575,000. These include young Cambodians with two-year Associate degrees, four-year Bachelor and Engineering degrees, as well as six-year and beyond Master and PhD degrees. Even with those improving numbers, the quantity and quality of individuals with formal "hard" skill training and education remain limited, with the skills provided by individual skill training institutions often out of step with the demands of the labor market.

Confronted with a shortage of STEM-type skills among the Cambodian labor force, especially at medium and high skill level, large investors – foreign and domestic – continue to rely extensively on expatriate employees at the technical, professional, middle- and senior-management levels. Expatriate staff comes primarily from the broad ASEAN and Asian regions to fill technical, professional, and medium level management positions (e.g. Thailand, Vietnam, the Philippines, India, other countries) and from advanced economies for senior management jobs (e.g. Japan, China, Australia, EU, US, other countries.) Dependency on expatriate staff comes at a cost to investors, affecting their competitiveness and ability to move up value chains to the broader benefit of Cambodians. Employers are also concerned with the very low number of assembly line workers in manufacturing or in like positions in other sectors that have a modicum of formal hard skills training at the certificate level (referred to in this chapter as "lower-medium" skills) acquired either during upper high school or through short courses and programs once employed. This has an impact on current overall productivity and represents an additional challenge if key sectors are seeking to move up value chains through the introduction of new, more demanding technology.

Cambodia is bound to remain an export-driven economy for the foreseeable future. To achieve the Government's objectives and move Cambodia's economy up value chains in key export-oriented sectors will require accelerating the development of a medium and high skilled labor force with STEM-type training and education, including a low-medium skilled labor force. Key sectors under the RSIV includes garment and footwear, light industry, agricultural commodity processing, but also ICT-based services and tourism, as well as support sectors such as logistics and transport, construction, and education and training.

To bring about a substantial increase in the quantity and quality of young Cambodians educated and trained in STEM-type occupations at the certificate, associate diploma, bachelor and engineering degree, master and PhD degree levels will require, at a minimum, (1) significant improvements in the quality of STEM education and training at those levels including compliance with stronger quality standards in training materials, teaching, and training practices; (2) implementation and widespread dissemination of best practices among education and training providers; (3) a significant cultural change among young people about the value of technical STEM-type occupations; (4) promoting a culture of life-long learning

⁸² Ministry of Planning, Cambodia Socio-economic Survey 2017.

supported by quality providers of short course programs; and, (5) significant new investment in TVET and University institutions and greater funding to support students.

This chapter looks at:

1. Labor market demand and gaps in the supply of individuals with technical and professional skills, especially STEM-type skills;
2. A mapping of Government, Private, and NGO institutions seeking to respond to shortages and gaps in medium- and high-skilled positions;
3. Challenges to meet the dual objective of preparing the labor force for tomorrow's skills while addressing today's skill shortages.

2. Shortages of Low, Medium, and High Skilled Workers

2.1. NEA's 2018 Occupational Outlook

In the summer of 2018, the National Employment Agency (NEA) published a very interesting *Cambodia Job Outlook 2018* produced with technical support from SIDA's experts.⁸³ NEA surveyed 1,000 establishments for availability or shortages in low, medium, and high skilled labor in 131 occupations organized in eleven occupational areas. The survey's key findings are summarized in table 14.

Table 14: Labor Shortages and Availability in 11 Occupational Areas

	Shortages (High shortage: > 3.2 index on scale; shortage:> 2.8 and <3.2 on scale)*		Availability (< 2.5 on scale)*
Hospitality and Restaurant			
High shortage	Chefs		Hotel receptionists
	Valets		
Shortage	House-keeping		
	Bartenders		
	Hotel managers		
	Cleaners and helpers		
	Cooks		
	Waiters		
	Short-order cooks		
	Restaurant managers		
Administration, Economics, Finance, and Law			
High shortage	Lawyers		General office clerks
	Advertising and public relations managers		Executive secretaries
			Information clerks
			Receptionists
			Office supervisors
			HR assistants
			Accountant associates
			Book keepers
Building and Construction			
High shortage	Glaziers		
	Plumbers and pipe fitters		
	Construction site supervisors		
	Cabinet-makers, mill workers		
Shortage	Carpenters		
	Painters		
	Laborers		
	Concrete workers		

⁸³ <http://www.nea.gov.kh/images/survey/Cambodia%20Job%20Outlook%202018-Final-05282018.pdf>

		Electricians	
		Civil engineering equipment operators	
		Civil engineers	
		Brick layers	
		Building architects	
Computer, IT, and Multimedia			
	High shortage	ICT user-support technicians	
		Software and system developers	
		System analysts and system designers	
		Graphic and multimedia designers	
		ICT operations technicians	
	Shortage	Computer network technicians	
		Database and network professionals	
		Web and multimedia developers	
		Web technicians	
Educational and Training			
	High shortage	Information technology trainers	
	Shortage	Primary and early childhood teachers	
		Vocational education teachers	
		Foreign language teachers	
		Secondary education teachers	
		University and higher education teachers	
Health Care			
	High shortage	Radiography technicians	Nurses aids
			Dental technicians
	Shortage	Medical doctors	Midwives aids
		Pharmacists	
		Midwives	
		Dentists	
Installation, Operation, and Maintenance			
	High shortage	Equipment electricians	
		Process control technicians	
		Equipment mechanics	
	Shortage	Electrical line installers and repairers	
		Air-con and refrigeration mechanics	
		Electrical technicians	
Factory and Production Work			
	High shortage	Steam engine and boiler operators	Production clerks
		Machinery installers	
		Welders	
		Bakers, pastry-cooks, confectionary makers	
	Shortage	Packing, bottling and labeling machine operators	
		Agricultural technicians	
		Manufacturing supervisors	
		Textile, fur, leather products, laundry machine operators	
		Earthmoving equipment operators	
		Electrical and electronic equipment installers	
		Rubber, plastic and paper product machine operators	
Sales, Purchasing, and Marketing			
	High shortage	Freight forwarding agents	Credit and loan officers
			advertising and marketing officers
	Shortage	Property managers and real estate agents	Retail salespersons
		Street food salespersons	Sales demonstrators
		Buyer and procurement officers	ICT salespersons
			Bank tellers and clerks
Technical and Scientific Work			
	High shortage	Telecom engineers	
		Industrial and production engineers	

		Chemical engineers	
		Mechanical engineers	
		Product designers, Garment designers	
		Electronics engineering technicians	
	Shortage	Electrical engineers	
		Chemical engineering technicians	
		Mechanical engineering technicians	
		Electronics engineers	
Transportation and Logistics			
	Shortage	Heavy truck drivers	
		Logistics clerks	
		Taxi, van, and private car drivers	
		Transport laborers	
		Messengers, package deliverers, luggage porters	

Source: NEA, *Cambodia Job Outlook 2018*.

*Note: The NEA survey uses a scale of 1 to 5 to identify great availability of supply (1) all the way to intense supply shortage (5). Once averaged, any occupation scoring above 3.2 rating is considered a “high shortage” occupation, between 3.2 and 2.8 a “shortage” occupation, and under 2.5 an occupation with “significant labor supply”

The eleven occupational areas identified in the NEA survey are all fast growing areas of the Cambodian economy. Areas showing occupations in the far right column are those that experience less pressure on labor supply than others as they are able to fill in relatively easily a significant number of job positions from the labor market. It is the case of (1) Administration, Economics, Finance and Law; (2) Health Care; and, (3) Sales, Purchasing, and Marketing. The other eight areas are not only growing fast but confronting significant shortages especially among medium- and high-skilled individuals, as well as some lower-medium skilled positions. Clearly, labor shortages are not simply the result of lack of individuals with relevant “hard” skills, but also a function of rapid growth in labor demand in individual sectors or regions. However, the eleven occupational areas in the survey are all areas characterized by rapid growth in a fast growing economy, yet an economy that is not operating at full-employment levels. Hence, to a large extent, the survey points primarily to a mismatch between demand and supply reflecting weaknesses in supply of workers with STEM-type skills at many different levels.

In term of “hard” skills, not surprisingly, the greatest shortages are among individuals with a STEM-type technical/vocational and higher professional training background – various engineering fields, machinery installation and operations, ICT installation and network management, and Web-based communications and marketing skills.⁸⁴

Shortages do also involve some “lower-medium” skilled occupations – typically at the equivalent of a Certificate level – especially in Hospitality, Construction, Manufacturing/Assembly as well as in Transportation and Logistics reflecting in part the fact that fast growth may lead to shortages at nearly all occupational levels. (See CGTI’s views on this issue in a later part of the chapter describing.) In addition to the “hard” skills identified in the NEA’s *Job Outlook*, the survey also lists “soft” skills deficiencies identified by employers typically at all skill levels. Specifically and by decreasing order of importance:⁸⁵

1. Foreign language
2. Customer handling
3. Oral communications
4. Problem solving
5. Team work
6. Planning and organization

⁸⁴ An earlier study prepared by NEA and financed by ILO, *Skills Shortages and Skills Gaps in the Cambodian Labor Market: Evidence from Employer Skills Needs Survey*, November 2013, surveyed 500 establishments. There is little evidence of significant changes in skills shortages over time between the more recent study used here and the earlier one – except, possibly, for declining demand pressure in Finance or Sales and Marketing.

⁸⁵ NEA, *Ibid*, From Figure 14 at bottom of page 17. The NEA Figure shows both hard and soft skills. We separated out the soft skills from the hard skills without changing the decreasing order of importance of soft skills.

7. Written communications
8. Numeracy
9. Literacy

2.2. 2023 Occupational Forecast

There does not appear to be any occupational forecast available in the public domain for Cambodia looking at skill demand between today and 2023. However, it is possible to make some educated guesses based on objectives identified in the Rectangular Strategy 4 (RS4.) Under Rectangle 2 “Developing key and new sources of economic growth” and “Readiness for digital economy and industrial revolution 4.0”, RS4 identifies:

- Garment and footwear
- Agro-processing (also mentioned under Rectangle 4)
- Light manufacturing and assembly
- Tourism
- Entertainment services
- ICT services
- Oil and gas

In addition, RS4 identifies a number of key support sector for growth including:

- Teachers for technical education at upper secondary and tertiary education levels (Rectangle 1)
- Logistics and transport
- Construction

Key across most of those sectors – from factories to hotels – are MEP technicians (certificate and associate degrees) and engineers (bachelor and up degrees) both for installation and maintenance.⁸⁶ With increasing automation in production, the demand for control technicians and engineers should also increase very significantly. Agro-processing will require additionally more laboratory technicians and engineers and food safety professionals. A significant demand in tourism is likely to be for kitchen personnel including Chefs, but diversification of the tourism product will also create new demand for skilled and medium-skilled personnel for installation and maintenance of leisure activity-related equipment.

In addition to MEP personnel, Oil and Gas as well as Construction will continue to put pressure on demand for structural and civil engineers, site and project managers, welders and concrete specialists.

The rapid growth of internet-based services will lead to increasing demand for ICT personnel, not simply in traditional areas of network management but also in design of web applications to support the new services. Likewise, in more traditional manufacturing and assembly sectors, the growing importance of internet-based supply chain management tools as well as internet-based sales promotion and development will call for new mid-level management and supervisory skills to ensure Cambodian businesses maximize the benefits of internet-based networking systems.

Increasing investment in more advanced machineries in manufacturing and processing will also put significant pressure on larger numbers of better trained line workers at the lower-medium skill level.

As discussed in the next major section, all of those developments will continue to put pressure on staffing educational and training institutions with teachers and trainers specialized on STEM hard skills.

⁸⁶ Mechanical, Electrical, Plumbing. Mechanical covers HVAC – heat, ventilation, AC.

3. A Mapping of Government, Private, and NGO Education and Training Institutions Seeking to Respond to the Skill Gap

3.1. Primary and Secondary Education

Any effort to address the demand of employers in Cambodia's fast growing economy starts with foundation and soft skills. Primary and secondary educations have a key role to play in building the base for individuals to acquire "hard" skills later in life, be it through education and training through TVET and higher education institutions, on the job training, or life-long-learning opportunities.

In 2017-2018, total enrolment in public schools was 3.143 million students including 205,492 in pre-school, 2,028,694 in primary school (grade 1 through 6), 605,173 in lower secondary school (grade 7 through 9), and 303,893 in upper secondary school (grade 10 through 12.) There were 92,817 teachers (52% women) – 5,146 in pre-school, 46,157 in primary school, and the balance in secondary school. There were slightly over 13,000 primary and secondary public schools in Cambodia in 2017-2018.⁸⁷ Of the young Cambodians enrolled in primary and secondary education around 95% of those are public schools, with the remaining 5% in private schools.

The primary and secondary school system in Cambodia remains plagued by high drop-outs rates. Hence, based on 2016-2017 drop-out rates of 4.1% in primary school, 15.4% in lower secondary, and 18.3% in upper secondary, if we were to follow the same first grade class throughout the twelve years of primary and secondary education we would expect that from an enrolment of 340,000 students in first grade (roughly the number in 2016-2017) only 22.1% would complete twelfth grade. For comparison, 84% of the working age population of OECD countries (18-64 years old) has completed upper high school (grade 12 or equivalent.) And from the 65,000 or so students completing grade 12 roughly 40,000 to 45,000 would move on further and obtain an Associate or higher degree.⁸⁸

The Government is fully aware of the urgent need to strengthen the educational sector as well as lower drop-out rates and increase completion rates. The public education sector has seen its budget grow strongly for the past decade. MoEYS' \$848 million budget in 2017 represented a 25% increase from 2016. It is scheduled to receive \$915 million for 2019, an 8% increase from 2017. Education is the largest recipient of public budget resources.

To improve the educational system, the Ministry of Education, Youth and Sports (MoEYS) has been implementing a series of five-year Education Strategic Plans. The most recent plan, ESP 2014-2018, focused on consolidating the gains from previous plans with three policy goals and five pillars:

- Policy 1: Ensuring equitable access for all to education services
- Policy 2: Enhancing the quality and relevance of education and training
- Policy 3: Ensuring effective leadership and management of education staff at all levels

And:

- Pillar 1: Improving the competencies and quality of teachers
- Pillar 2: Improving the quality of curriculum
- Pillar 3: Strengthening inspection capacity of teachers
- Pillar 4: Strengthening assessment and evaluation, including strengthening grade school exams and the baccalaureate (grade 12)
- Pillar 5: Strengthening higher education at university level, by improving the quality of curriculum and promoting research

To implement those pillars, MoEYS has launched a number of initiatives. To identify just a few:

⁸⁷ MoEYS, Department of Education Management Information System, 2014-2018 Education Statistics and Indicators.

⁸⁸ Meeting with MoEYS, Department of Policy and Planning.

- To strengthen the quality of teachers, MoEYS is stressing the need to make teaching a more attractive profession. The Government has raised teachers salary significantly since 2013 from about \$100/month at that time to \$250/month in 2018. In addition, MoEYS has introduced an additional “motivation fee” of \$25/month to attract teachers in isolated rural areas. Also, today’s teachers are mostly upper high school graduates with two years of additional training. The Ministry is working to increase qualification of teachers at the bachelor level and to strengthen teachers training. MoEYS is also strengthening its inspection capacity of teaching staff and has created five inspection zones to better structure its efforts in this area.
- As part of its effort to strengthen the quality and relevance of curriculum, the Ministry is seeking to recruit 2,000 new teachers in mathematics, physics, chemistry, and biology to strengthen STEM (Science, Technology, Engineering, and Mathematics) education in grades 7 through 12. At the moment, MoEYS operates two Teachers Institutes that produce about 200 new teachers per year with a focus on 10 main topics. Japan is providing technical assistance.
- To strengthen governance, MoEYS is launching a pilot project with the World Bank targeting 100 lower secondary high schools in 25 provinces focusing on “Autonomy, Accessibility, and Assessment.” To do so the project will focus on four principles – leadership; teaching and learning; human resources management; and, financial management. One of the objectives of the project will be to increase community involvement, especially parents, in schools and students development. Following the pilot phase, the goal is to expand the same program to 500 schools within five years.

To repeat, the ultimate objective of the measures rolled out by MoEYS is to improve quality of education, while lowering drop-out rates and increasing completion rates. This is combined with a strong focus on strengthening STEM education with the goal of increasing the share of young people that are ready for Technical/Vocational and Professional education and training in STEM-related occupations and ready to meet the demands of employers as they enter the labor market.

3.2. Technical/Vocational and Professional Education and Training

1.2.1. *The National Technical Vocational Education and Training Policy 2017-2025*

On June 16, 2017, the Council of Ministers approved a *National Technical Vocational Education and Training Policy 2017-2025*. An important overall objective of the policy is “to set up a common framework for all partners to contribute to the development of the workforce based on structure and in an orderly manner towards long-term initiatives and employment.”⁸⁹

The Policy identifies eight bottlenecks:⁹⁰

1. Limited quality of the national technical vocational education and training infrastructure and significant mismatch with labor market demand;
2. Limited value attached by young people to technical vocational education;
3. Insufficient funding to produce high quality TVET education;
4. Weak linkages across different educational and training structures;
5. Limited foundation and soft skills;
6. Limited involvement of all stakeholders to ensure effectiveness of the system;
7. Lack of financial support for young people wanting to enroll in TVET education
8. Weak governance

To respond to those bottlenecks, the policy sets out four major goals:

1. Improving TVET quality to meet national and international market demand

⁸⁹ National Technical Vocational Education and Training Policy 2017-2025, Foreword by the Prime Minister, page iii (unofficial English translation)

⁹⁰ Ibid, pages 3-4

2. Increasing equitable access to TVET
3. Promoting Public-Private Partnerships (PPP) to increase resources and foster the sustainable development of the TVET system
4. Improving the governance of the TVET system

Cambodia's *National TVET Policy 2017-2015*, use the TVET acronym to refer to a broad range of skill training structures and levels from which individuals can benefit at different stages of their work life, including before or after they enter the labor market. For the sake of clarity in the discussion that follows, this chapter uses a more conventional classification that distinguishes among:

- Technical/Vocational Education and Training or TVET at Associate Degree (post-secondary high school) or Technical Baccalaureate and Certificate levels (during upper secondary or through short courses and programs during work life)
- University/Professional Education and Training at Bachelor or Engineering degree levels, Masters and PhDs
- On-the-Job Training also known as OJT
- Short Courses and Programs, which encompass
 - Remedial technical/vocational education and training
 - Life-Long-Learning (LLL) for knowledge upgrading, upskilling, and/or upward mobility

The lack of comprehensive statistics makes it very difficult to arrive at detailed understanding of the enrolment in those different types of “hard” skills training mechanisms. Tables 3.2 and 3.3 provide some very partial illustration. Table 15 is based on data dating back to 2011-2012 and shows total number of graduates at post-secondary level of 46,703 graduates for that academic year. Partial information would tend to suggest that those numbers have not changed dramatically since 2011-2012 if only because of a flattening in the annual cohort of youth population. Table 16 shows enrolment in “hard” skills education and training programs from upper-secondary certificate through to PhD levels in 39 MoLVT public institutes and other training institutions in 2017-2018 academic year. If anything it does show a significant reliance on “short courses” to address skill gaps at entry level especially among low-medium skilled workers (certificate level - see further discussion below.)

Table 15: Number of graduates in higher education level

2011-2012 Number of Graduates at Higher Education Level		
Level	Graduates	% Female
Associate	10,395	37.4%
Bachelor	34,978	41.3%
Master	1,296	28.3%
PhD	34	2.9%
Total	46,703	40.0%

Source: Directorate General of Higher Education, 2014 from Leang Un and Say Sok, *Higher Education Governance in Cambodia*, January 2014

Table 16: Enrolment in MoLVT public institutes, polytechnics and other T-VET institutions

2017-2018 Enrolment in MoLVT Public Institutes, Polytechnics, and other Technical/Vocational Institutions						
# of Institutes	Short Courses	Upper Secondary Certificates	Associates	Bachelors	Masters	PhD
39	27,135	3,215	5,638	8791	27	0

Note: Not included are enrolment statistics in MoLVT registered NGOs and Private Sector Institutions
Source: MoLVT, TVETMIS Office, *Technical and Vocational Education and Training Statistics, 2017-2018*,

4.2.2. Technical/Vocational Education and Training or TVET

In its more conventional use, TVET typically refers to a formal two-year (possibly three-year) course of technical/vocational education and training before entry into the labor market. It can be incorporated into the last two or three years of upper high school and give rise to a Certificate of Completion or a Technical Baccalaureate. Alternatively, it may involve a two-year (possibly slightly longer) course of studies delivered by a specialized TVET institution to individuals that have completed upper high school, leading to an Associate Degree. TVET institutions are registered with 14 different line ministries, though MoLVT has the largest number of registrants.

In its *Brief #73* dated November 2016, ADB suggested there were approximately 325 TVET institutions registered across twelve ministries at that time. Of these, 56 were public institutions and the rest NGOs or small private institutions – with many among the latter that should likely be classified more appropriately as providers of short courses and programs rather than TVET as defined here.⁹¹ At most, the TVET system was estimated to graduate 2,500 individuals per year.

A presentation dated August 2017 by one of the DDGs of NEA quoted slightly different estimates.⁹² DG TVET at that time identifies 704 TVET providers (public, NGOs, and private) including 214 registered with MoLVT. The 39 public institutions registered with MoLVT included nine Polytechnics/Institutes, five Regional Training Centers, and 25 Provincial Training Centers.

Another presentation dated May 2017 by a different DDG of NEA used somewhat different estimates and quoted a total of 55 public TVET institutes, 52 private institutions and 58 NGOs or a total of 165 TVET institutions registered with a line ministry. Of those, there are 39 public, 43 private, and 24 NGO registered with MoLVT.⁹³

The difference in those numbers may seem confusing but quite likely simply reflects differences in definition of TVET as well as difficulties in separating out clearly conventional TVET institutions from other providers of skill training – especially providers of short courses and short programs – on the basis of registration alone.

As mentioned earlier, conventional TVET is not simply provided at the post-upper secondary education and training level but can also be built into a two- or three-year upper secondary high school program leading to a Certificate or Technical Baccalaureate. This type of TVET remains very underdeveloped in Cambodia's secondary education system today and is in great demand today as well. More advanced equipment on production lines will, if anything, increase demand for this level of training. MoEYS indicates that only five high schools offer such programs today covering skills in agriculture, electricity, electronics, and mechanics. MoEYS sees the need to expand those programs, despite constraints from the availability of resources.

4.2.3. University/Professional Education and Training

Cambodia has 121 public and private universities – 48 public and 73 private. Universities are registered with a total of 16 line ministries (see discussion of Accreditation later in the chapter.) There are 73 universities registered with MoEYS (13 public, 60 private) and 25 with MoLVT (12 public, 13 private.)

A significant issue with university education at the moment is the strong preference of students for business management, accounting, and like studies and the low attractiveness of professional training in STEM-related fields. Another issue is the quality of education. Cambodian education tends to stress traditional “rot” learning based on memorization over interactive, problem-solving education. Limited training of teachers, force-of-habits on the part of the teaching staff, lack of appropriate equipment, very limited research focus in universities are among the many factors that explain a relative weak focus on

⁹¹ ADB Brief #73, Policy Priorities for a More Responsive Technical and Vocational Education and Training System in Cambodia, November 2016, page 3

⁹² MoLVT, NEA, presentation by DDG, ACAC as TVET and Long Term Support of MoLVT: Policies and Strategies, August 9, 2017

⁹³ MoLVT, NEA, presentation by DDG, TVET and the STED Experience in Cambodia, May 30-31, 2017

problem-solving soft skills and the uneven quality of university-level education. As part of the \$90 million World Bank loan mentioned earlier, MoEYS is planning to strengthen research capacity in four public universities as a pilot project – RUPP, RUA, University of Battambang, and Svay Rieng University.

4.2.4. *On-the-Job Training (OJT)*

In all likelihood, the vast majority of Cambodians learn their “hard” skills on the job. This is true not only among lower skilled workers but also medium and high skilled workers. Given the limited number of young people completing lower and upper secondary education, the limited number of graduates from TVET or higher education pathways, limited quality and significant mismatch between skills acquired through formal education and training and labor market’s needs, employers must step in and train even those with some higher education and training.

One typical example of mismatch is what is happening in the emerging world of e-services. Slowly, some enterprises are emerging in Cambodia in such areas as electronic marketing and communications, back office processing and applications development, electronic audio visual including movie animation and VFX, and other. For the most part, those companies require post-high school education. There are a few TVET programs such as *Passerelles Numeriques Cambodia* that offer Associate degrees in ICT fields and Public and Private Polytechnics and Institutes that offer Bachelor degrees in those areas.⁹⁴ And yet, while those companies recruit at TVET or Bachelor degree level, most, if not all, need to further train new recruits if only because the existing Education and Training programs are very limited in what they offer in a fast growing and very diverse field.

OJT is typically intense and expensive (3 to 4 months full time), impacting cost competitiveness of businesses, especially if Cambodian businesses compete in export markets with firms from other countries that have access to labor trained by traditional training and educational institutions before entry into the labor market (at no direct cost to the firms.) To be sure, extensive OJT, even following some formal education and training in the skill appropriate for the job, is not unique to e-services field. Even in large and growing sectors where there are greater education and training resources pre-employment – hospitality, construction, mechanics, garment and footwear, others – significant skill building must happen on the job for a large number of new recruits.

4.2.5. *Short Courses and Programs*

In a recent assignment financed by the British Embassy, MangoTango Asia, a Cambodia-based firm specialized in electronic marketing and communications, developed a website and mobile application for MoLVT – www.TVETCambodia.org – trying to provide comprehensive information on TVET and Short Courses/Programs providers in Cambodia. The company identified well over 1,200 providers of various programs running from a few-day short courses all the way through formal TVET.

In addition to OJT, the recourse to short courses serves two main purposes: (1) train workers that have joined the labor force with very limited or no hard skills and (2) provide new training to workers already established in the labor force seeking to upgrade their skills and/or move up their job ladder (Life Long Learning - LLL.) Given the lack of statistics, it is hard to assess the extent to which short course training is used by either group. The use of the short courses to address basic skill gaps in “lower-medium” skills at entry into the labor market seems quite extensive for instance in the training of “lower-medium” skills in many occupations such as automobile mechanics or MEP technicians. But there is also evidence of high demand for short courses and programs that meet LLL needs. For instance, the recently open

⁹⁴ Passerelles Numeriques Cambodia is part of a larger TVET NGO with similar training facilities in Vietnam and the Philippines. The program focuses on training in System and Network Administration and Web Programming. Students receive a Certificate or Associate Degree (based on passing a final exam) accredited by MoEYS. Holder of Associate degrees can continue on to receive a Bachelor degree in universities offering computer science diploma. Since its launch in 2005, more than 1,400 individuals have graduated from the school. <https://www.passerellesnumeriques.org/en/our-actions/cambodia/>

Cambodia Garment Training Institute (CGTI) offers a wide range of short courses aimed at helping employees with work experience develop new skills to move up the job-ladder in the garment sector (see Text Box 3.4).

As noted by GMAC, the limitation of basic hard skill development through short courses offered at entry into the labor market or through OJT is that it tends to be highly task-specific and rarely provides individuals with skills that will help them grow and develop further on a career path. GMAC expectation is that CGTI's offering can help develop a lower-medium skilled labor force for the garment and footwear industry with broader skills that can be further nurtured and developed throughout a career. GMAC estimates that, at this point, only 5% of the sector labor force has benefited from training at certificate level (roughly 30,000 workers out of a 650,000 labor force.) CGTI's goal is to double that number within a few years.

4. Meeting Today's Skill Shortages and Tomorrow's Labor Market Demands: Challenges for Providers of Skill Education and Training

To better understand some of the challenges for improving the outcome of the various systems and institutions that provide skill training in Cambodia, this chapter takes a more detailed look at four case stories of strong Cambodian TVET and higher education institutions plus one significant PPP initiative.

They are respectively:

- The National Polytechnic Institute of Cambodia (NPIC) (Text Box 3.1)
- The Royal University of Agriculture (RUA) (Text Box 3.2)
- The Academy of Culinary Arts – Cambodia (ACAC) (Text Box 3.3)
- The Cambodia Garment Training Institute (GTI) (Text Box 3.3), and
- The Sector Skills Councils (SSCs) – a joint initiative of MoLVT and CAMFEBA

The four TVET and higher education institutions are described briefly in four text boxes (listed above and shown in Annex.) The SSCs initiative launched jointly by CAMFEBA and MoLVT is discussed in detail under the Public-Private-Partnership subsection hereafter.

4.1. Supply Shortages: Quantity and Quality

The challenges of meeting very significant skill shortages and reconstructing a system destroyed by years of conflicts may have contributed to the development and expansion of an educational and training system emphasizing, initially, quantity over quality. It might be tempting to view the two challenges as separate. They are not. The struggle of the current educational and training system in attracting greater numbers of young people towards STEM-related vocational, technical, and professional occupations is linked, in part, to a shortage of institutions offering quality education and training in those fields and a failure to demonstrate that these STEM-type tracks can lead to challenging jobs, in high demand from employers, with potentials for strong earnings at graduation, future earnings growth prospects, and upward mobility. On a positive note, education and training providers that do succeed in providing high quality STEM-related education and attracting students will find employers knocking at their door for graduates. For instance, based on its own tracking survey of graduates, NPIC has an 83% placement ratio of students at graduation and, longer term, an unemployment ratio among graduates of approximately 5%, which is very low for Cambodia. ACAC's first enrolled class is expected to graduate in March 2019 and ACAC's Administration has already received from employers in the hospitality sector more demand for graduates than it will be able to meet.

Quality should be reflected in and enforced through the Accreditation process of educational and training institutions. Universities registered with MoEYS fall under the purview of the Accreditation Committee of Cambodia (ACC.) The ACC uses nine standards: Mission, Governance and Management, Academic

program, Academic Staff, Student and Student Services, Learning Services, Physical Plant, Financial Plan and Financial Management, as well as Dissemination of Information.⁹⁵

National Polytechnics and Institutes, Regional and Provincial Training Centers, and TVET institutions are registered with 14 different line ministries and fall under the purview of the National Training Board (NTB.) The Board is chaired by the Council of Ministers but, operationally speaking, managed by MoLVT. The NTB uses six standards: Management and Governance, Resources, Staff and Teaching Staff, Trainee and Student, Curriculum and Teaching/Learning, as well as Research and Development.⁹⁶

A major standard in the accreditation process is that which applies to standardized and uniform Curriculums. ASEAN members have adopted National Qualifications Frameworks (NQF) – e.g. Cambodia Qualifications Framework (CQF) – that are expected to align with the ASEAN Qualifications Reference Framework (AQRf) which, itself, is aligned with international standards. Thus far, ASEAN has developed AQRf for Hospitality and Construction. NQFs, including CQF, aim at providing standard course curriculums and course materials to be used by all educational institutions as pertinent for all educational and training levels starting from Certificate levels and up to PhDs. In addition to uplifting the quality of curriculums and teaching materials, NQFs are also intended to lead to standardized Course Credits to facilitate students' transfer from one institution to another.

The roll-out of CQF has been slow. The enforcement of an effective accreditation process based on an assessment of the resources and delivery capacity of individual education and training institutions remains very weak. Only a few universities, TVET institutions, and Polytechnics have their own Internal Quality Assessment Units (IQAU.) In the context of a weak accreditation structure, the best universities, polytechnics, and TVET institutions tend to rely on accredited foreign universities and academies to benchmark their own teaching curriculums. This is reflected in the experience of the four institutions reviewed in the Text Boxes. For instance, CGTI's curriculum and teachers certification is developed and managed by Textile and Fashion Industry Training Centre (TaF.tc), a training institution accredited in Singapore; ACAC relies on SHL-Luzern, a 100-year old hospitality school accredited in Switzerland; NPIC has relied extensively on partnerships with universities in Korea and Thailand; and RUA also continues to rely on its network of foreign academic partners to develop new courses and further train its own teaching staff. In short, partnerships with foreign academic, educational, and training institutions is an important way for those institutions to develop quality curriculum and teaching staff. But this practice may not be easy to expand to smaller and less-connected TVET and higher education institutions. For now, in the absence of solid accreditation processes and enforcement of compliance, accreditation, for most institutions, adds up to little more than registering with the relevant line ministry.

4.2. Public Private Partnerships

A critical component of any delivery of quality skills training is the partnership between training providers and employers. Employers are directly confronted with technological changes and market demand shifts in their industry and usually better positioned to identify technical, vocational, and professional skills and changes in skills needs. They can provide assistance in determining which equipment is most appropriate for training. In some cases, they may even provide equipment to training institutions at reduced or no cost or at least access to equipment that a training institution could not afford. In addition, they can provide internship positions to be incorporated in students' training curriculum and employment opportunities at graduation. Internship is a critical component of any education and training especially for medium and high skilled STEM-type occupations. Each of the four training institutions featured in the four text boxes rely extensively on partnerships with the private sector for any or all of the benefits suggested above. Half of the education and training of ACAC student is spent in internships with employers; two-third of the time to complete CGTI Associate Degrees' education and training is based on internships; the last year of RUA's bachelor degree is dedicated to internships, in some case for as

⁹⁵ See Accreditation Committee of Cambodia, Minimum Standards of Accreditation of Higher Education Institutions, 2010

⁹⁶ See Cambodia Profile in Promoting Skills Development and Job Creation in East Asia, Korea-World Bank Partnership Facility, 2015

long as 12 months; likewise, NPIC relies extensively on internships as part of the students' curriculum. Successful internship does require senior staff in participating companies with some training skills as well as an interest in "mentoring" young people.

Successful public-private partnership demands a change in mind-set on all sides – government, training providers, employers, and other stakeholders. It assumes a willingness to trust and value each other's contribution to addressing and solving jointly a specific need, namely prepare young people to be ready to enter the world of work with the skills that make them attractive to employers and contribute to each individual's own welfare.

To support the development of PPPs to address skill gaps and mismatches, CAMFEBA and MoLVT are launching a joint initiative that targets major occupational areas through the creation of *Sector Skills Councils (SSCs)*⁹⁷. The initial SSCs focus on four major occupational sectors: automotive, construction, electricity, and manufacturing. The purpose of the SSCs is to create a platform for multi-stakeholder partnership to identify and analyze skill needs in the four sectors and develop practical responses.⁹⁸ Specifically:

- Identify priority occupations within the Sector and develop competency-based training (CBT) packages to be used by training and education providers organized around competency standards, curriculum, learning materials, and assessment tools for each following CQF;
- Encourage industry experts from among SSCs member enterprises to participate in working groups responsible for developing CBT packages;
- Ensure that the competency standards developed by the working groups focusing on individual occupations are endorsed by the larger SSCs before submission to the NTB for approval and adoption as a national standard;
- Identify industry experts from the business sector that can be trained and certified as competency assessors to be engaged by MoLVT's DG-TVET to conduct independent assessment and certification of TVET graduates and workers;
- Support the development of the TVET Centers of Excellence (COEs) in the priority sectors, including identify and implement soft skills required in individual sectors, strengthen training of TVET teaching staff, and strengthen internship programs for public TVET provider institutions;
- Review and evaluate proposals for new TVET training for funding under the *Skills Development Fund (SDF)*;⁹⁹ and,
- Consult with SSCs members and enterprises through workshops and develop annual work plans.

The membership of SSCs will include enterprises, industry associations, training providers, social development partners, organized labor, and government authorities responsible for TVET and employment. The expectation is that the SSCs mechanism will encourage a much more widespread engagement of the private sector in strengthening the broader TVET system in Cambodia, above and beyond ongoing support to individual enterprises to individual TVET providers.

4.3. Branding and Marketing of Technical, Vocational, and Professional Occupations

TVET-level and Polytechnics/Institute University-level education and training focusing on STEM skills suffer from a poor image owing in part to its quality combined with the lack of understanding of the opportunities that STEM-type technical and professional skills can offer individuals. There is a need for government as well as the educational and business communities to challenge deliberately and directly the misunderstandings and lack of knowledge of young people. For instance, few young people are aware that quality diplomas in those areas can command, at graduation, salaries that compare with those

⁹⁷ The creation of SSCs is based on the MoU between MoLVT and CAMFEBA date June 11, 2018 and the Prakas issued by MoLVT on July 10, 2018. The SSCs Secretariat is receiving some support from ADB under the Bank's ongoing support to TVET reform in Cambodia.

⁹⁸ See, CAMFEBA and MoLVT, *Sector Skills Councils Operating Guidelines*, undated Fall 2018

⁹⁹ The SDF is a \$5 million grant fund created by the RGC and managed by MEF

in fields such as business or accounting – \$200 to \$250 for Associates, \$300 to \$350 for Bachelors, between \$400 and \$500 for Masters and above \$500 for PhDs for starters.

To promote enrolment in those fields, TVET- and University-level providers use various tools. Many organize field visits to high-schools jointly with NEA. Some organize open door visits of their facilities for interested high schools students. For instance, NPIC invite high school students to come and visit its campus and to discuss with NPIC students. ACAC selects small groups of students periodically and invite them to spend one week at the school as observers to discover first-hand what their enrolment might mean. They are expected to sit in classroom sessions and to witness kitchen practices. They are even given a Chef uniform while visiting, like enrolled students and teaching staff, as part of their exposure to the unique culture and community of kitchen personnel.

Newspaper and conventional TV and radio media are another way to reach out to potential students. However in the internet world, mobile apps and social media are increasingly more effective in getting young people’s attention – even in rural areas.

Dissemination of success stories can also be a very effective way to change inaccurate perceptions. They can focus on the experience of current students themselves – from a team of engineering students building a drone or an electrical car, to electrical students developing lighting for a show, or culinary students preparing a new menu for a restaurant or an airline carrier – or they can highlight successful contemporary Cambodian technicians and professionals that have reached high levels in their profession including famous Cambodian Chefs, distinguished architects or designers, etc. Videos distributed via social media, YouTube channels, and TV are the most effective ways of disseminating this message.

4.4. Life-Long-Learning and Soft Skills

Cambodians, like anyone else in the world, are living in a world of very rapid technological, informational, and cultural changes. The ability not simply to cope with change, but also to become an actor of change and benefit from it, is anchored deeply in the capacity and interest of each individual for life-long-learning developed starting at an early stage of education. Life-long-learning requires curiosity about change as well as acquiring a set of specific soft skills through education and training including the capacity to identify and define a problem and the capacity to search and find tools that can help solve the problem. In addition, problem identification and problem solving in the world of work is often the result of team work rather than individual work.

These qualifications are challenging for Cambodian youths partly because of weaknesses in the “soft” skills developed in those areas during primary, secondary, and tertiary education. Cambodia inherited an educational systems that used to stress memorization (“rot” learning”) over creativity and problem-solving. Teaching problem-solving requires a very different pedagogical approach and the transition requires also that teachers retrain themselves and change teaching methods. As observed in the NEA *Employment Outlook* study discussed at the beginning of this chapter, weaknesses in problem-solving, team work, and related other soft skills is a repeated complaint heard from employers.

Increasingly, life-long-learning comes in two ways: formal face-to-face short courses or internet-based courses, demonstration videos, manuals, etc. There are a large number of institutions offering short courses in Cambodia, unfortunately all too many with limited quality. CGTI is a strong example of a provider offering a large menu of high quality short courses through a robust professional organization including strong experts, teachers, and curriculums to those employed in the industry who can access such learning either to learn about new technologies or to improve their skills in order to move upward in their profession. Increasingly some of those can be from internet-based courses. While these may open a much wider set of learning opportunities, they also challenge individuals in knowing which may be most appropriate to meet their needs.

In licensed professions in the Anglo-Saxon part of the world, licensed individuals such as doctors, nurses, teachers, architects, engineers, etc. are required to accumulate a number of short course credits each year in order to remain up-to-date on new procedures, new techniques, new technologies, new products, new materials, etc. and maintain their license.

4.5. The Cost of Quality Technical, Vocational, and Professional Education and Training

Quality technical, vocational, and professional education is expensive. The costs of facilities – including labs and R&D facilities – are high, the need to upgrade equipment to keep up with technology is costly, and operating costs (materials and supplies, electricity, others) add up. Stronger partnerships between educational institutions and employers can help defray some of those costs especially if employers are willing to subsidize some equipment upgrading or offer opportunities for internships that provide work experience in a real-world setting to students during their formative years. Otherwise government or students or both are left to pay for the cost of education.

Another issue is the impact of limited quality technical, vocational, and professional education resources currently available on SMEs. In the absence of such resources resulting in a limited number of young people joining labor markets with appropriate hard skills, large companies have greater resources to deploy alternative OJT than SMEs do, putting the latter at a further competitive disadvantage.

5. Six Recommendations

MoEYS through its five-year *Education Strategic Plans* and MoLVT through the *National Technical and Vocational Education and Training Policy 2017-2025* have well defined objectives and strategies to respond to the needs of the education and skill training sector. The focus of the recommendations presented here is not to repeat what MoEYS Plans and the Policy have already identified or are already implementing with financial support from the Government and/or Technical Assistance support from selected Development Partners, but simply contribute possible practical ideas to implement pragmatic solutions to some of the needs identified in those policies and strategies. With the exception of Recommendation #1 which will take some time to implement, all other recommendations in this section should be implemented within three- to five-year timelines.

1) Improving the Accreditation processes to foster quality among training providers:

The Government need to accelerate the development of CQF at pertinent levels of education and training and for occupations that are critical to current and future leading sectors of the economy. Improving quality also mean implementing an accreditation process among educational and training institutions that value and stresses compliance with quality standards. Introduction and use of CQFs is an important part of such a process, as is the dissemination of quality best practices among education and training providers.

2) Disseminate quality best practices developed in Cambodia and the region and support adoption among training providers:

MoLVT, MoEYS, employers' associations such as CAMFEBA and other need to focus on disseminating Best Practices developed by stronger Cambodian and ASEAN TVET and higher education and training institutions and support implementation of those Best Practices among the broader community of a TVET and higher education institutions. This role might be taken up as an activity of the MoLVT-CAMFEBA's SSCs initiative or by the planned Centers of Excellence (CoE) However, this effort should not be limited to the more limited sector focus planned at this moment for SSCs and CoEs.

At a minimum, such effort could include annual or bi-annual workshops focusing on one or two dimensions of Best Practices – including presentations of individual Best Practices developed by individual institutions in Cambodia or the region and discussions among participants about challenges encountered by institutions wanting to replicate those. This dissemination effort could be accompanied by the design of a support program intended to assist weaker TVET and higher institutions in implementing best practices in order to lift their standards and quality. Resources of the SDF could be used to fund such a support program.

3) Target key skill levels and occupational areas for current and future leading sectors:

Earlier discussions in the chapter have identified two main occupational areas where hard skill development is most needed:

- “Medium and high” skills (Associate degree and higher) in STEM-related occupational areas where shortages of such skilled labor is a significant constraint to the ability of the Cambodian economy to attract new investment and move up value chains. In particular, this chapter identified occupational areas at technicians and engineers/scientists levels such as MEP, food science and food safety, control technicians and engineers, skilled personnel in development of new internet-based services, e-based supply chain management, e-marketing, cooking Chefs, and a few others;
- “Lower-medium” skills (certificate level) in key production areas including garments, footwear, light manufacturing assembly with a view to strengthen not only new labor force but also current low-skilled labor force already employed in some of the economy’s leading sectors. More advanced technology in the work place will put increasing pressure on filling this skill gap. Development of the second group of “lower-medium” skilled workers will require a significant expansion of technical curriculums in upper secondary high schools under the management of MoEYS.

4) Launch nationwide marketing campaign for technical, vocational and professional “STEM” occupations:

In parallel to the efforts of individual TVET and higher education institutions focusing on STEM-related occupations, the RGC should launch a national marketing campaign focusing on attracting young people to those occupations. Such campaign should be developed by communications professionals and make extensive use of social media. It should focus on presenting “success stories” of young people engaged in exciting projects during their studies and of successful Cambodian technical and professional individuals that have been engaged in known successful projects and may have gained national and global recognition as a result.

Barring other resources from the Government, including from the budgets of MoEYS or MoLVT, some limited resources from the SDF could be used to finance such a campaign.

5) Promote a culture of Life-Long-Learning and improve employees productivity:

Short of implementing a demanding full-fledge professional requirement for a minimum amount of annual upgrade training in order to maintain one’s technical or professional license (which could be quite burdensome and costly in the current Cambodian environment), RGC might want to look into some form of social benefit via NSSF whereby, every few years, semi-skilled and skilled individuals working in a firm with eight or more employees would be eligible for a technology upscaling/updating short course or short program delivered face-to-face or online by a relevant, specialized training providers. As with other NSSF benefits, the cost for such could be borne 50/50 by employers and employees.

6) Addressing the high costs of STEM-type TVET and Higher Education training:

In recent years, RGC has made a major budgetary commitment to MoEYS to strengthen the quality and outcome results of primary and secondary education – including improving the quality of teaching staff, reducing drop-out rates, encouraging greater retention, etc.

Strengthening the quality of STEM-type education and training intended to prepare young people to current and future demands of the labor market as well as narrow the mismatch between current labor force and current labor markets – be they provided by public institutions under the aegis of MoEYS, MoLVT, or other line ministries as well as private and NGO providers – will require significant resources, quite likely above and beyond the current resources of the SDF. RGC should accelerate the use of current SDF resources to pilot various initiatives that could provide directions for future larger-scale interventions aimed at strengthening the entire education and training network of providers supported by a larger financial effort.

Parallel to public resources to strengthen the network of providers, RGC needs to look at ways to strengthen access to financial support for students at the upper secondary and post high school levels to facilitate increase rates of students seeking training at those levels.

Chapter 3 Text Boxes

Box 3.1: National Polytechnic Institute of Cambodia (NPIC)¹⁰⁰

A Large Campus with Advanced Equipment and a Diverse Faculty

NPIC opened its doors to student in 2005 with a 10ha campus financed by a \$23 million loan from Korea. NPIC reports primarily to the Ministry of Labor and Vocational Training (MoLVT) and Ministry of Economy and Finance (MEF.) Its Board of Directors includes representatives from 13 ministries. To keep its equipment up-to-date in the face of rapid technological development, NPIC has developed an extensive network of partners in the private sector that provides it with new equipment when needed. Partnerships with a German and Chinese Technology Institutes in late 2018 helped NPIC acquire nearly \$2 million worth of new equipment in telecommunications, mechatronic (including a CNC milling machine), and electricity.

NPIC has eight faculties and 20 departments including:

1. The Faculty of Social Science and Foundation Year
2. The Faculty of Civil Engineering and Architecture
 - a. Civil Engineering
 - b. Architecture
3. The Faculty of Electricity
 - a. Distribution and Transmission
 - b. Electrical Control Systems
 - c. Energy Technology
4. The Faculty of Electronics
 - a. Electronic Engineering
 - b. Telecommunications
5. The Faculty of Mechanics
 - a. Mechanics
 - b. Air Conditioning
6. The Faculty of Automotive Mechanics
 - a. Electricity and Electronics
 - b. Automotive Engine
 - c. Chassis & Body
7. The Faculty of Computer Science
8. The Faculty of Tourism and Hospitality

In addition, NPIC has an R&D Center and a Department of Optical Science. The latter provides one- or two-year degrees to train optometrists. The R&D Center has a \$20,000 annual fund to finance small student projects. Teachers are encouraged to pursue research through overseas scholarships financed by NPIC foreign partners.

At present, the eight Faculties are staffed with 212 teachers: 26 PhDs, 101 Masters, 90 Engineer-Bachelors and 43 Bachelors (e.g. Khmer language, chemistry, physics, etc.) As a Cambodian University focusing on STEM, NPIC is registered with MoLVT and accredited under the National Training Board (NTB.)

When NPIC opened, it had difficulties finding qualified teachers. It relied on experts from Thailand and Korea to train teachers in Cambodia and sent teachers overseas for skill upgrading. From one partnership with a Korean University in 2005, NPIC has expanded its network to 168 partnerships with educational institutions and private companies in 19 countries. Today it has strong partnerships with universities in Korea, Indonesia, and Japan. NPIC sends 10 to 12 students to Indonesia each year (see below) and receives approximately 30 Indonesian students.

Several Levels of Training and Education for Technical and Engineering Professions

NPIC's first enrolled Class in 2005-2006 included 248 students. The 2018-2019 Class enrolment was approximately 1,100 students. As of 2018, NPIC had a total of 3,400 students – 11% women – enrolled in:

¹⁰⁰ <http://www.npic.edu.kh/>

- A two-year Master Program (post completion of a bachelor degree) available in Civil Engineering and Electricity
- A four-year Engineer/Bachelor Program available from all 8 Faculties
- A two-year Associate Degree available at completion of Upper High School (whether or not they completed successfully their baccalaureate.) Holders of an Associate Degree from NPIC or another Technology Institute can pursue a full engineering bachelor with NPIC by enrolling in a five-semester additional course of studies

In addition:

- The Faculty of Computer Science offers a joint degree with Polytechnic Institute, Indonesia including one of the four year of studies spent in Indonesia
- Students that completed upper high school can enroll in a Certificate Degree to be trained as a Technician. The program is based on partnerships with private sector companies and includes 700 hours of training – 300 hours classroom training and 400 hours on-the-job training
- Through the Hyundai-Koica Dream Center, NPIC offers a one-year or two-year Certificate degrees in auto mechanics for individuals that dropped out of high-school at grade 9. Students from the Center are able to get internships with local companies and receive placement support at completion from NPIC

NPIC is largely self-funded through student tuitions and fees and partnerships. Tuitions for the Associate Degree are \$400/year; for Engineer/Bachelor Degree, \$600; and, for Master Degree, \$1,200. Classroom size ranges between 15 and 30 students. Laboratories are designed with 31 stations – a maximum of 30 students plus one teacher.

In addition to technical skills, NPIC focuses on developing students' soft skills: communication, problem solving, time management, team work, work behavior, planning and budget management, importance of life-long learning among others.

As of 2018, NPIC achieved 83% placement of students at graduation. NPIC uses its extensive network of partnerships to place students. There is very high demand from the Cambodia-based private sector to recruit well-educated and trained from TVET and University programs to fill their internal skill gap.

NPIC surveys its students at three months and one year after graduation to assess their satisfaction and pay grade. In addition, NPIC surveys employers to understand skill needs. Starting earnings level in 2018 was approximately \$200/month at the Associate level and \$350/month at the Engineer level. At Master level and PhD level (overseas PhD) graduates can get \$400 to \$500/month as starting salary.

Approximately 35% of the students originate from Phnom Penh and its suburbs; 65% from other provinces. To attract new students, NPIC sends small groups of teachers and students to high schools to promote engineering education. It also advertises yearly via TV, radio and the press. Since 2017, NPIC has reduced its marketing effort because, as NPIC has established its reputation, "word-of-mouth" among young people is sufficient to generate enrolment. Key demand from student is for the field of Civil Engineering, Electricity, and Automotive Mechanics. There is more limited demand for Mechanical Engineering and Computer Science.

Box 3.2: Royal University of Agriculture (RUA)¹⁰¹

The Leading Agricultural University in Cambodia

RUA was founded in 1964 as the Royal University of Agronomy Sciences (RUAS – Université Royale des Sciences Agronomiques.) Approximately 200 students graduated between 1965 and 1975. The University reopened in 1984 with Russian sponsorship as the Institute of Agricultural Education (IAE.) The focus then was on short term courses. Russian sponsorship ended in 1994 and the University was rename The Royal University of Agriculture. In 2000, it was the first university in Cambodia to introduce the course credit system for its bachelor degree. Its Master programs started in 2002.

Today, RUA's student body includes approximately 3,500 students in four different program level: two-year Associate degree; four-year Bachelor degree; two-year Master degree; and PhD. In 2016-2017, there were 153

¹⁰¹ <http://www.rua.edu.kh/>

students enrolled in the Associate degree; 3,347 in the Bachelor degree; 111 in the master degree; and 24 in the PhD degree. Of the total, 1,187 or nearly one-third of the student body was female – a very significant increase from earlier years: between 1989 and 2016, 9,527 students graduated from RUA (previously IAE) but only 1,856 or 19.5% were women.

The University reports primarily to the Ministry of Agriculture, Forestry and Fisheries (MAFF) and Ministry of Education, Youth and Sports (MoEYS.) RUA is accredited by MoEYS under the Accreditation Committee of Cambodia.

Ten Faculties and Twelve Centers to Support Education and Research

The University's educational and research mission is organized around ten Faculties:

1. Agronomy
2. Rubber Science
3. Animal Science
4. Veterinary Medicine
5. Forestry
6. Agricultural Engineering
7. Fisheries
8. Agro-Industry
9. Agricultural Economics and Rural Development
10. Land Management and Land Administration

....As well as twelve Centers:

1. Documentation
2. Language
3. Information Technology
4. Agricultural and Environmental Studies
5. Livestock Development Studies
6. Food Research and Development
7. Ecosystem Services and Land Use Research
8. Nutrition and Welfare
9. Agri-Water
10. Potato Research
11. Excellence on Sustainable Agricultural Intensification and Nutrition
12. Biogas Technology and Information

The great majority of students are enrolled in the Bachelor program (3,347 out of 3,645 in 2016-2017 – 92% of the student population.) The largest groups are in Agronomy, Veterinary Medicine, Agro-Industry, and Agricultural Economics and Rural Development. The remaining 8% are divided nearly equally between the Associate Degree (153 students) and the Master Degree (111 students), with a small number of students in the PhD program (24 students.) The Bachelor program includes a common core during Year 1 followed by a specialized program during the next three years based on student preferences. The main focus of the Associate Degree is on Food-Processing, Agronomy, and Extension Services. The Associate Degree seeks to enroll students that have completed Upper High School – including students that have failed the baccalaureate.

RUA's 2017-2026 Strategic Plan

RUA's Ten-Year Strategic Plan is organized around three main goals:

- Improving the quality and quantity of academic, research, and technology transfer programs to contribute to economic development (including the objectives of the Government's IDP)
- Developing human resources and infrastructure for high standards of education and research
- Promoting good governance and improving fund generation and management

To achieve these results, RUA works closely with its approximate 120 Cambodian and foreign educational and research partners as well as its own Teaching and Support staff including nearly 500 individuals. It relies on partners – including foreign partners – for its internship program during the last year of its Bachelor degree. For instance, at present 210 students are enrolled in an eleven-month internship program in Israel to learn about advanced agricultural production technology and RUA has signed an MoU with Japan for similar internship support. Because farming in Japan is a half year activity, the internship program will focus on three-month student exchanges. The University also has a goal to encourage student to start new Agro-and-food processing

businesses to support the Government' objective for Cambodia to move up the value chain in agriculture. At present, 7% of the students go into business at graduation; RUA's objective is raise the number to 12%.

RUA is also engaging into new support from development partners to strengthen its mission. For instance:

- Starting in 2016, with a \$2.5 million grant from USAID, RUA is working with Kansas State University on strengthening research, extension service, and staff capacity. The CESIAN program is developing five agricultural technology park – a “mother park” in Phnom Penh, and four dissemination parks in Battambang, Siem Reap, Kampong Thom, and Kampong Cham to disseminate new technology among farmers using extension service officers;
- RUA is expecting some support funding from a new program being launched by the World Bank to MoEYS;
- RUA received support from the Asian Development Bank as part of its Cambodia program on SPS to develop new curriculum for SPS in agronomy, animal science, veterinary medicine, and agro-industry. The program concluded in 2018 but included funding for a new micro-biology laboratory.

Marketing and Student Enrolment

While agriculture is an area in great need of skilled Cambodian, innovation and new technology, the University finds it difficult to attract student into the field. Particularly difficult is to attract young people into Extension Services which are critical to disseminate new farming practices and technologies. This is the case even though a 2014 survey of 481 graduates from 2009-2013 suggested earnings roughly in-line with those of other graduates of STEM professions – \$316/month for Bachelors and \$496/month for Masters. The same study also suggested very low unemployment among graduates – about 5%.

Box 3.3: The Academy of Culinary Arts – Cambodia (ACAC)¹⁰²

A Two-Year Associate Degree in a New, Top-of-the-line Facility

ACAC opened its doors to its first Class of students in March 2017. ACAC offers a two-year associate degree post-upper-high school in culinary arts. ACAC's curriculum follows ASEAN teaching and training standards for the Hospitality industry. Most students have a baccalaureate degree, and a few a bachelor degree. ACAC is the first institution in its field in Cambodia to offer an internationally recognized diploma to train Chefs. Graduates receive a degree from ACAC recognized by the Swiss Hotel Management School (SHL) of Luzerne which serves as the Academy's technical training partner. SHL has 100 years of teaching experience in hospitality. ACAC degree meets ASEAN standards for the field. ACAC is registered with the Ministry of Tourism and falls under the aegis of MoLVT's National Training Board (NTB) for Accreditation.

ACAC was established as a public private partnership by the Prime Minister. Its Board includes representatives from the Ministry of Tourism, the Ministry of Commerce, the Ministry of the Economy and Finance, the Ministry of Education, Youth and Sports, the Cambodia Hotel Association, the Cambodia Restaurant Association, the Cambodia Chefs Association, the philanthropic owner of the building, and Shift 360 – the NGO that developed the project, manages day-to-day operations of the school, and leads fund-raising activities. The facility is brand new and established in a building provided by a philanthropic owner. Initial financing came from WTO-EIF and Swedish Sida. The classrooms and kitchen equipment are top-of-the-line, with much of the cooking equipment originating from Europe. The roof has a renewable energy roof providing hot water through passive solar panels and electricity through a photo-voltaic plant.

A Rigorous Course of TVET Education and Training Provided by a Highly Qualified Staff

Studies are organized around a first semester on-campus teaching and training followed by a second semester on-the-job industry internship during Year One with a repeat of a similar sequence during Year Two. New student Classes enter every six months. The fifth Class of students is set to enter in April 2019 at which time the first Class will graduate. At present, 164 students are enrolled – with 23 drop-outs from the initial 187 students enrolment in the first four Classes. The size of each new Class has been growing steadily and will reach its full capacity (between 60 and 65 students) with the new incoming Class. For that matter, it is quite possible that the Academy will be unable to admit all that apply in the incoming Class due to limitations in the size of its facilities. From the original 187 admissions, 96 students are women and 91 men.

For industry internships, the school relies on its extensive partnership with local hotels and restaurants including Himawari, Hyatt Siem Reap, Naga World, Raffles, Sokha Hotel, Sofitel, Gate Gourmet and many others. In addition, ACAC has established a partnership with Emirates. The company already recruits interns for some of its overseas facilities. Thus far four interns are in Dubai, two in Japan, one in Hong Kong and one in Bangkok. Demand from local hotels and restaurants to recruit students as they graduate already far surpasses supply.

Current Academy staffing includes the Dean, nine faculties, four administrative staff, and three marketing staff. In addition, ACAC operates a laundry and has a small housekeeping, engineering, and service team.

Most students pay tuitions – slightly under \$1,000/semester on average for Cambodians; \$1,600/semester on average for international students. ACAC offers scholarships to deserving Cambodian students – thus far, 19 scholarships have been granted. There are nine foreign students among the 164 students currently registered. There will be two more among the fifth Class to start in April 2019.

Consulting Activities

ACAC provides consulting services based on demand from individual clients and partners. For instance, ACAC has been requested to develop menus for all of Emirates East Asia flights. In addition, ACAC has a management contract with a restaurant in Phnom Penh which it uses for internships for some of its students.

Marketing and Student Enrolment

To attract students, ACAC has a very active presence on Facebook and other social media and has an MoU with the National Employment Agency (NEA.) ACAC is very focused on promoting "success stories" of famous Chefs, including Cambodian Chefs, and current students to re-brand Culinary Arts as a profession with opportunities for individual job progression as well as professional and financial success.

¹⁰² <http://acac.edu.kh/about-acac/>

Text Box 3.4: Cambodia Garment Training Institute (CGTI)¹⁰³

A New Training Institute to Address Skill Needs of Cambodia's Garment Sector

CGTI opened its doors August 23, 2017. It follows into the foot path established previously by GMAC to provide training supports to the Cambodian sector's development and upscaling. But GTCI's new staffing and the new facility, located in Phnom Penh Special Economic Zone, provide a far more adequate setting to expand, deepen, and diversify such support. The new building was constructed with a loan from AFD and provides multiple classrooms with modern equipment ranging from video displays to garment manufacturing equipment as well as a library of fabrics, a canteen, and meeting rooms.

TaF.tc International, a Singapore training center established in 1983, serves as CGTI's training partner. TaF.tc is accredited by the Committee for Private Education of the EduTrust Accreditation Board of Singapore's Ministry of Education and appointed CET by SkillsFuture of Singapore of the Ministry of Manpower. TaF.tc provides support for curriculum development, teaching, and quality control. The curriculum follows Singapore and international standards. TaF.tc certifies local trainers and contribute trainers from its own pool (from Singapore, India, Canada, Japan, Korea, and China.) CGTI is accredited by the NTB.

Diploma Certificates for Young People Wanting to Enter the Industry and Short Courses for Upskilling and Life-Long Learning of Established Industry Workers

CGTI offers two types of training:

- Short courses focusing on upskilling of Garment factory employees in a wide range of technical areas as well soft skills (team work, leadership, lean thinking, etc.). The course are designed in such a way that they can contribute to skill building among individuals that may have a limited degree of literacy. Short courses may range from one to five days depending on the topic and depth of training.
- Diploma certificates targeting young people already employed in the industry or wanting to enter the sector. Individuals must have graduated from high school, an associate degree program, or university. At a minimum individuals must have completed high school. Typically, Diploma certificates are designed to include a four-month intensive on-campus training followed by a one-year paid internship with one of GMAC's partner.

For 2019, CGTI is offering a schedule of nearly 200 short courses. Trainers are either locals or expats. Typically, classroom size is limited to 15 to 20 trainees. During 2017, CGTI estimates it trained approximately 700 individuals through short courses and in 2018 approximately 1,000. Tuition for short courses range from \$100 for a one-day course to \$330 for a five-day course. Many attendees are sent by their employers. Employers that are partners of GMAC and contribute to its financing are charged only 50% of the tuitions.

At the present time, the current Diploma Certificates focuses on three areas:

- Apparel Design and Product Development;
- Apparel Merchandising; and,
- Industrial Engineering, Quality and Production.

There were 15 students in Diploma Certificates in 2017 and 16 in 2018. Thus far, 10 students have already graduated. Tuitions for the four-month on-campus intensive training in 2018 ranged around \$800. Approximately half of the students paid and the other half was financed through scholarships (there is a total of 60 scholarships available at the present time.) During the four-month on campus training, the student receives a \$150 monthly living allowance. During the following twelve-month paid internship, the student receives a \$250 monthly allowance.

In addition to its Diploma Certificates, CGTI has a partnership agreement with a Chinese University for a four-year training on design. One limitation of the partnership is that candidates must speak Chinese. CGTI also provides in-factory training requested by clients and some consulting services.

Marketing and Student Recruitment

To attract new student in the Diploma Certificates, CGTI has an MoU with NEA and conduct joint visits to high schools. In addition, CGTI organizes open house visit to its facility.

¹⁰³ <https://www.cgti-cambodia.org/>

CHAPTER 4 : TRADE FACILITATION

1. Introduction

Cambodia has had an open and liberal market economy since the middle of the 1990s. Development partners and international organizations has played an important role in the development of liberalised trade policies. The Cambodia Industrial Development Policy (CIDP) launched in 2015 has the aim to move from labour intensive industries to skill driven industries by 2025. The CIDP is composed of four main strategies:

1. Mobilise and attract foreign and private domestic investments by focusing on large industries, expanding markets and enhancing more technology transfer.
2. Develop and modernise SMEs.
3. Revisit the regulatory environment in order to strengthen the country's competitiveness.
4. Coordinate supporting policies.

The World Trade Organization (WTO) and the Association of South East Asian Nations (ASEAN) are the two main multilateral institutions helping Cambodia expand its export market. Cambodia's trade policy focuses very much on enforcing commitments made under the WTO and ASEAN. The Cambodian Trade Integration Strategy (CTIS) 2014-2018 stressed the importance of trade and market diversification, trade facilitation, transport logistics, sanitary and phyto-sanitary measures, technical standards, investment environment for export-related activities, and intellectual property rights. In the CTIS, other strategies have been proposed to promote trade through productivity, competitiveness and human resources enhancement.

2. Current trade facilitation environment

Trade facilitation refers to the expedition of movement, clearance, and release of goods, including goods in transit. In order to facilitate trade, effective cooperation between customs, other line agencies, appropriate authorities on trade facilitation and customs compliance issues needs to be promoted. In terms of trade facilitation measures, Cambodia has introduced many measures to facilitate areas such as customs automation, national single window, one stop border posts, customs risk measures, E-permit and customs, phytosanitary certificates, certificates of Cambodian origin, and trade registration.

However, these improvements do not seem to be reflected in the annual doing business reports. In fact the ranking of Cambodia in the trading across border has gone down over these past few year as illustrated in Table 17 hereunder. One may disputes these findings and even the methodology behind the findings but it is a fact that these ranking and numbers are published every year and are used as reference on a global basis.

Table 17: Cambodia' trading across borders performance (2014-2018)

	2014	2015	2016	2017	2018
Trading across borders (rank)	114	124	98	102	108
DTF score for trading across borders (0–100)	N/A	65.92	67.63	67.28	67.28
Time to export					
Documentary compliance (hours)	N/A	N/A	132	132	132
Border compliance (hours)	N/A	N/A	45	48	48
Domestic transport (hours)	N/A	N/A	6	NA.	NA.
Cost to export					
Documentary compliance (US\$)	N/A	N/A	100	100	100
Border compliance (US\$)	N/A	N/A	375	375	375
Domestic transport (US\$)	N/A	N/A	200	NA.	NA.
Time to import					
Documentary compliance (hours)	N/A	N/A	132	132	132
Border compliance (hours)	N/A	N/A	4	8	8
Domestic transport (hours)	N/A	N/A	11	NA.	NA.
Cost to import					
Documentary compliance (US\$)	N/A	N/A	120	120	120
Border compliance (US\$)	N/A	N/A	240	240	240
Domestic transport (US\$)	N/A	N/A	1,125	NA.	NA.

Source: adapted from www.doingbusiness.org

As seen in Table 17, there has been a change in the presentation of the trading across border data. Table 18 hereunder shows the details for the year 2014 and 2015. There was less details before 2016.

Table 18: Performance for 2014 and 2015

	2014	2015
Documents to export (number)	8	8
Time to export (days)	22	22
Cost to export (US\$ per container)	795	795
Documents to import (number)	9	9
Time to import (days)	24	24
Cost to import (US\$ per container)	930	930

Source: adapted from www.doingbusiness.org

The data shown in Table 17 are more detailed and provide a clearer picture of the performance of Cambodia. These indicators are often used as proxy for trade facilitation efforts but many Governments still dispute its findings. Nonetheless, they are still used as reference. In the case of Cambodia, it can be seen that after an impressive improvement in the ranking in 2016, the tendency is for the ranking to drop. The trading across borders index of Cambodia is not at all that worrying when it comes to costs to export and import. However, in terms of time to export and import, there seems to be a significant difficulty with the time necessary to go through documentary compliance. This somehow reflects a lack of inter-agency cooperation and the absence of a meaningful, efficient and well-functioning National Ingle Window.

2.1. Current issues

Trade facilitation is not just about Customs issues but Customs do play a critical role in facilitating trade. This is why it is important to look first at Customs reforms: the General Department of Customs and Excise (GDCE) introduced the Single Administration Document (SAD), with the support of the World Bank. It also introduced the automated customs processing system called Automated System on Customs Data (ASYCUDA) in 2009 in order to facilitate export, import, and goods in transit. The ASYCUDA WORLD system has now been implemented at 81 major customs branches and offices and covers all Single Administrative Declarations (SAD) and trade volume data. However, ASYCUDA is not a single window (NSW) system and this is clearly missing in Cambodia.

In 2018, Japan proposed a replacement to ASYCUDA, with the Japan-made NACCS (the Nippon Automated Cargo Clearance System). The Cambodian government requested Japan to conduct a feasibility and suitability study of introducing NACCS in Cambodia¹⁰⁴. The NACCS, a system dedicated to electronic processing of air/sea cargo will theoretically enable faster and more efficient customs clearance and movement of freight¹⁰⁵. However, the NACCS system is still not a full national single system (NSW) as requested by GDCE and therefore the actual benefits of migrating from ASYCUDA to NACCS remain to be seen.

The National Single Window (NSW) development, is under the purview of GDCE. The objective is to allow parties involved in trade, transport and logistics to lodge standardised information and documents with a single entry point to fulfil all import, export, and transit-related regulatory requirements. The purpose of the NSW is to strengthen government-to-government; government-to-business; and business-to-business inter-relationships. Significant steps have been taken to implement NSW including the Cambodia NSW (CNSW) Blueprint developed with financial support of the World Bank. The CNSW incorporates technical and functional specifications for the system, a governance and operational model, procurement strategy and a project implementation plan. The completion of a Legal Gap Analysis was carried out under the ASEAN Single Window – ASEAN Connectivity through Trade and Investment (ASW-ACTI) project¹⁰⁶. The feasibility study to be conducted by Japan is probably the first step but more is needed in terms of system coverage in order to actually have a real NSW.

In addition, the Customs-Private Sector Partnership Mechanism (CPPM), established in 2009 and launched in 2010 to encourage participation from the private sector in promoting compliance with law and regulations as well as to enhance the effectiveness of trade facilitation. The CPPM is responsible for coordinating, cooperating and mutual understanding between Customs Administration and the Private Sector. The CPPM has a duty of resolving all customs related matters at the greatest possible extend before moving to other dispute settlement bodies, or to the Government-Private Sector Forum¹⁰⁷. Currently, it seems to be the only functioning dialogue forum between Customs and the private sector with almost monthly meetings or when there is a specific issue that needs to be resolved.

The Government-Private Sector Forum (GPSF) was established in 1999 by the Cambodian government with the support of the International Finance Corporation (IFC) in order to address trade and investment climate issues and to institutionalize inputs, complaints, and recommendations from the private sector into policy making, legal and regulatory reforms, and operational aspects of implementation. The GPSF is facilitated by a Secretariat under the Council for the Development of Cambodia (CDC). Under the framework, different working groups were created including the Working Group for Export Processing and Trade Facilitation with a function to highlight and prioritize problems and propose solutions to government counterparts on issues related to trade and transit facilitation¹⁰⁸. After many years of Forum not being held, G-PSF was reactivated in 2019 where the Prime Minister chaired the GPSF on March 29,

¹⁰⁴ May Kunmakara, Japan puts new customs system on the table, Khmer Times, 19 June 2018, <https://www.khmertimeskh.com/50502235/japan-puts-new-customs-system-on-the-table/>

¹⁰⁵ Nippon Automated Cargo and Port Consolidated System, <http://www.naccs.jp/e/>

¹⁰⁶ General Department of Customs and Excise (GDCE), <http://www.customs.gov.kh/trade-facilitation/national-single-window/>

¹⁰⁷ General Department of Customs and Excise (GDCE), <http://www.customs.gov.kh/trade-facilitation/customs-automation/>

¹⁰⁸ USAID (2016) Facilitating Cambodia's Trade Integration: A roadmap to implementing the WTO Trade Facilitation Agreement, p. 35.

2019. Regardless, the current the establishment of the National Trade Facilitation Council (NTFC) remained critical to support trade facilitation policies in the country.

According to the Cambodia Chamber of Commerce, the GPSF was a very good initiative but many issues remain unresolved until the GPSF meetings were restored in March 2019. It is difficult to simplify complex processes as the more complicated the process, the more risk of rent seeking activities by agencies involved. Transparency and reliability of trade related processes is a key issue that needs to be addressed if trade facilitation efforts are to be successful. Collected fees need to also be transparent and supported by the elimination of unnecessary documents. This will further accelerate trade facilitation in the country and is supported by the private sector.

It is also observed that there exists a gap between what the Cambodian Government is doing and the information received by the private sector. As an example, the knowledge related to the existence of the national trade repository, located at the Ministry of Economy and Finance (MEF) is still limited even though it has been established for quite some time.

The Ministry of Commerce has played a leading role with regards to trade facilitation. Today, ASEAN Form D can be provided in 5 border provinces to help Cambodian traders obtain privileges from the ASEAN Economic Community (AEC). Self-certification also exist as the programme started in August 2015 but strangely enough there are only 2 firms that has joined this specific programme. The Ministry of Commerce would like more exporters to join this program and more efforts are needed to publicise the benefits of self-certification.

2.2. Additional Trade Facilitation Reforms

A regulatory framework for Customs brokers is in place in Cambodia. The General Department of Customs and Excise (GDCE) is tasked to administer the registration and licensing of brokers. Customs brokers play an important role in the efficiency of international logistics in Cambodia.

On February 15, 2008 the Ministry of Economy and Finance issued Regulation No. 115 MEF.BK on the Establishment and Functioning of Customs Brokers. This Regulation state that qualified persons to fulfil customs formalities are:

1. The importer, exporter, owners of goods or their authorized representatives, which are allowed to declare goods only for themselves; and;
2. Persons authorized to act as qualified customs brokers by the Ministry of Economy and Finance, which may declare goods to customs on behalf of others. Any person wishing to carry out the business of customs broker must obtain a customs broker license from the Ministry of Economy and Finance.

An individual will be considered as a qualified customs broker if the person is a citizen or resident of Cambodia; is at least eighteen years of age; possesses a minimum of a high school certificate level; provides a “certificate of non-conviction issues by the competent judicial authority; has sufficient financial resources to conduct the business; has a good record of fiscal compliance; and has successfully passed the Customs Broker Qualification Examination administered by the Customs and Excise Department.

A legal person will be considered as qualified customs broker if the company is incorporated in Cambodia and has a Commercial Registration Certificate issued by the Ministry of Commerce; has sufficient financial resources to conduct its business; has a good record of fiscal compliance; and has a Value-Added Tax Registration Certificate issued by the Tax Department. All members of the board of directors of the company need to have both a certificate of non-conviction issued by the competent judicial authority as well as a good record of fiscal compliance. The majority of the board of directors must be citizens or residents of Cambodia. Finally, at least one employee of the company must be a qualified customs broker.

Article 7 of Regulation No. 115 stipulates that “the Customs and Excise Department shall define the minimum specialized subjects relevant to customs broker profession and may organize training courses for persons who intend to take the Customs Broker Qualification Examination”. The Customs and Excise

Department have the legal obligation to organize at least once every year a Customs Broker Qualification Examination.

In Article 8 it is stated that customs broker licenses shall be issued on an individual basis to persons who are determined to be qualified customs broker. A legal person shall only be licensed as a customs broker if at least one employee of the company is a qualified person. The customs broker license also specifies the customs offices where the customs broker is licensed to operate. The license shall be granted for a fixed period of two years. All licensed customs brokers must pay an annual license fee of 2,000,000 Riels to the Customs and Excise Department. A licensed customs broker must deposit security with the Customs and Excise Department sufficient to cover duty, taxes and fees to be paid at any for its customs clearance operations before commencing operations. The form and amount of security shall be established by the Director of Customs.

However, even after the introduction of Regulation No. 115, customs brokers' service quality remains relatively poor. There are numerous complaints that their service quality is not professional enough due to many mistakes in the documentation needed for the clearance of goods. Traders and manufacturers are then subject to time losses resulting in unnecessary financial costs. According to the many reports consulted, additional training of customs brokers should be provided to professionalize and improve their service skills in supporting international trade logistics.

The Law on Customs and the Regulation No. 115 provide Customs all the tools to establish and enforce minimum standards of training for the customs broker by organizing training programmes and examinations for customs brokers. The challenge, however, is that laws, regulations and practices are changing rapidly and the use of ICT systems and on-line applications is increasing every day and licensed customs brokers have to accompany these processes and apply new methods and techniques in their field of work. Therefore, it is recommended to organize obligatory short refresher courses, for instance once every four years or more often if necessary.

The General Department of Customs and Excise (GDCE) of Cambodia has been during the last ten years very proactive in facilitating trade and assisting the importers, exporters, logistics operators and customs brokers by publications about rules and regulations including applications on import, export, customs clearing, etc. GDCE published the Handbook on Customs Clearance in October 2015, which is very useful for the business community in Cambodia. The basic information on customs clearance is easily accessible for everyone. GDCE could play an even more active role in organizing mandatory refresher courses and examining the Customs brokers with more rigour. The establishment of a Customs Brokers' Association would also be helpful in developing a reputable interface.

GDCE has fully implemented Advance Rulings but there is partial implementation of Post Clearance Audit, Risk Management and Automated Systems in their 1st phase of Customs reforms. The scope of Customs regime is still limited but at least Customs valuation has now been decentralised to land border posts and airports. The focus is mostly on 3 high value products on the Customs watch list as duty needs to be pre-evaluated such as for the import of telecoms equipment or vehicles.

Customs reform is now in its 2nd phase with implementation of the NSW as a key theme. The Customs update for 2019-2023 will focus on:

1. Revenue Mobilisation
2. Enforcement Compliance
3. Automation
4. Cooperation and;
5. Capacity building.

However, the issue of Authorised Economic Operators (AEO) still need to be properly dealt with and more work is needed by GDCE. Customs only have developed a "best trader" programme and hope to be able to have AEOs by 2021. Licences would be issued by the MEF with an AEO code of conduct by 2019. In the NSW phase 1, linkages were made related to the issuance of certificate of Origins (Form D) and in the NSW 2nd phase Customs hope to establish connectivity with other related agencies such as MoH, MoA,

Ministry of Industry and Handicrafts (MoIH), Port Authorities and Cambodia Development Council. It is hoped that this 2nd phase will be completed by the end of 2019.

According to the EUROCHAM 2017 White Paper¹⁰⁹, the GDCE has recognized in its Strategy and Work Program on Reform and Modernization 2014-2018, there is opportunity to realize further time and cost savings through expanding the use of electronic transactions. The existing capabilities for GDCE to receive and accept documents electronically are limited and in many cases there is still a need for a representative of the owner of the cargo to be physically present at an ASYCUDA centre in order to answer queries from customs officials or provide additional documentation in hard copy.

This is the case across multiple types of transportation mode:

- Within the shipping sector, Customs clearance procedures require documentation to be provided for the cargo of each container. Shipping lines are required to consolidate documents obtained from each of their clients and to provide both hard copies (in person) and soft copies (manually uploaded) to Customs. The vessel number included on the documents is already known when the cargo is inspected by Customs at the warehouse and, if the necessary systems were in place, Customs should be able to access these documents through ASYCUDA. This would remove the need for shipping lines to upload the documents manually, a duplicative procedure which represents an administrative burden.
- Within air cargo, Customs require carriers to provide the necessary clearance authorization papers in hard copy and there is no system of electronic Air Waybills, which is becoming increasingly common across Customs authorities worldwide and is supported by a number of airlines currently active in Cambodia. Annex D of the revised Recommended Practice 1670 (IATA RP1670) describes how electronic Air Waybills can help to simplify the interface between shippers and carriers even among signatories to the Warsaw Convention (including Cambodia), which requires paper documentation.
- More generally, where additional documentation such as revisions to Master Lists needs to be submitted to Customs, such documents would be quicker to provide electronically rather than in person.
- Furthermore, where customs service fees are due, there is currently no system through which payments can be made electronically. A secure online payment system would again reduce the need for representatives to make themselves physically present.

Camcontrol is also an important agency related to trade facilitation that focuses on high risk products and is the CODEX¹¹⁰ focal point. As part of trade facilitation reform, the Prime Minister had since January 29, 2019, signed a Sub-decree 27 which officially ends the role of the Camcontrol at the country's border crossings. Capacity of Camcontrol has expanded with 3 main laboratory for food testing and petroleum related products which will be used for ensuring in-country food safety, consumer protection and fair competition practices, as part of a new institution restructuring. There are also 3 mini-laboratory at Sihanoukville, Poi Pet and Svay Rieng but testing equipment is still insufficient. In the case of fresh produce which would normally require a permit from the Ministry of Agriculture and Fisheries (MAFF), there is no need for a MAFF officer to be present at the border as there exist an MoU between Ministries related to Mutual recognition of documents.

Reform mentioned above will put more impetus on GDCE Camcontrol to act on behalf of partner government agencies Camcontrol and in collaboration with those partner agencies so that their specific knowledge of their domain can be brought to bear, for maximum success rates in detection and enforcement.

In this way, relatively larger agencies, such as GDCE and Camcontrol, which have stronger enforcement competencies and experience of cross-border regulatory offences, are able to provide support to other agencies for undertaking seizures and carrying out enforcement on suspicious shipments detected.

¹⁰⁹ <https://drive.google.com/file/d/1oOT-MjnmPn2hhxtyrVb68UUO1LP2n9AU/view>

¹¹⁰ <http://www.fao.org/fao-who-codexalimentarius/en/>

Consequently, all agencies work together to achieve the synergies necessary to meet their respective regulatory mandates, and contribute to the prosperity and security of the country.

3. Compliance with international trade facilitation commitments

The Ministry of Commerce (MoC) has an important role to play as a facilitator in advancing the trade facilitation agenda in Cambodia, especially for those commitments that have been agreed to under regional and multilateral agreements.

3.1. Compliance with the ASEAN Economic Community (AEC)

The requirements under ASEAN are more stringent than those of the World Trade Organization Trade Facilitation Agreement (WTO TFA). This is understandable as the objective of the AEC is to establish a single market and production base for the region. Sanitary and Phyto-Sanitary (SPS) issues are under the Ministry of Agriculture (MoA) and the Ministry of Health (MoH) and are outside the control of the MoC. This is why the facilitator role of the MoC is critical for the success of improving trade facilitation in the country.

The ASEAN Seamless Trade Facilitation Indicators (ASTFI) Baseline Study, will enhance the monitoring of the implementation of trade facilitation measures in the region. The objectives of the ASTFI will enable ASEAN to determine the potential contribution of ASEAN trade facilitation initiatives in achieving the target of 10% reduction in trade transactions cost by 2020 and striving to double intra-ASEAN trade by 2025. Cambodia is committed but the challenge is still there for Cambodia to achieve these targets.

The key agreement within the AEC is the ASEAN Trade in Goods Agreement or ATIGA. ATIGA has a number of chapters that deals directly with trade facilitation. Chapter 5 of ASEAN Trade in Goods Agreement (ATIGA) covers trade facilitation:

1. Article 45 of ATIGA indicates that Member States shall implement a comprehensive ASEAN Trade Facilitation Work Program, as an integral part of ATIGA. The Work Program is very comprehensive and covers actions to be taken by Cambodia related to Customs; Trade Procedures; Standards and Conformance; Sanitary and Phyto-sanitary Measures; and ASEAN Single Window.

As stated previously, the Cambodian Government has already established a number of measures to further facilitate trade but the perceived reality is somewhat different with no improvement in the doing business ranking for trading across borders.

2. Article 49 of ATIGA say that Member States should establish a National Single Window “in accordance with the Provisions of the Agreement to Establish and Implement the ASEAN Single Window and the Protocol to Establish and Implement the ASEAN Single Window”.

In order for the ASEAN Single Window (ASW) to become operational, all ASEAN member countries need to have their respective NSW. This is not the case yet for Cambodia.

3. Article 47 of ATIGA lists the ASEAN guiding principles on trade facilitation, namely: transparency; communications and consultation; simplification, practicability and efficiency; non-discrimination; consistency and predictability; harmonization, standardization and recognition; modernization and use of new technology; due process and co-operation.

The MoC is aware of these guiding principles but implementation is still a challenge as currently there is no baseline in terms of actual trade facilitation performance. Having guiding principles is not sufficient as trade facilitation needs to be implemented and operationalized. A monitoring and evaluation framework is therefore needed in Cambodia in order to assess and follow the implementation of trade facilitation measures as per the country’s commitments.

Chapter 6 of ATIGA fixes a comprehensive list of obligations for Member States. Commitments in this area and are related to:

- Pre-Arrival Documentation (Article 55),
- Risk Management (Article 56);
- Customs Valuation (Article 57);
- Application of Information Technology (Article 58);
- Authorized Economic Operators (Art.59);
- Repayment, Drawback and Security (art.60);
- Post Clearance Audit (Art.61); Advance Ruling (Art. 62); Temporary Admission (Art.63);
- Customs Co-operation (Art. 64);
- Transparency (Art. 65);
- Enquiry Points (Art.66);
- Consultation (Art.67);
- Confidentiality (Art.68);
- Review and Appeal (Art.69).

These obligations are complemented by those described in the “Strategic Plan for Customs Development (SPCD) 2011-2015” and the ASEAN Customs Agreement, signed in 2012.

3.2. Compliance with the WTO Trade Facilitation Agreement

In 2014, the WTO adopted the Trade Facilitation Agreement with the aim to expedite the movement, release and clearance of goods, including goods in transit. At present, importers and exporters around the world do incur significant costs due to inefficient control and clearance procedures at customs and other border authorities, unnecessary border formalities and documentation requirements and opaque administrative fees and charges, all of which add significant dead-weight economic cost to international trade¹¹¹.

Cambodia ratified the WTO TFA in February 2016 and later in the year completed an assessment of its trade facilitation framework in the light of TFA requirements and developed a road map to implement the Agreement. According to the OECD, in their trade policy note¹¹², if Cambodia is able to fully implement the WTO TFA then there is a potential reduction in trade cost by 18.2%.

In August 2017, Cambodia submitted to WTO its category A, B and C notifications, as well as the indicative dates for the implementation of the various provisions of the TFA. As of November 2018, Cambodia had notified 60.9 percent under Category A, 19.3 percent under Category B, and 19.7 percent under Category C. Cambodia has requested assistance and support for capacity building for nine measures including:

1. Information available through internet,
2. Notification,
3. Pre-arrival processing,
4. Electronic payment,
5. Authorized operators,
6. Perishable goods,
7. Border agency cooperation,
8. Single window, and;
9. Transit.

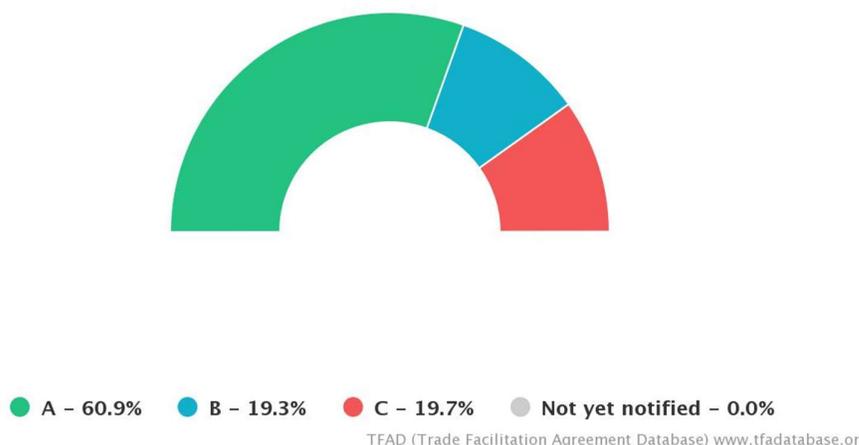
¹¹¹ World Trade Organization (WTO), Implementing the Trade Facilitation Agreement, https://www.wto.org/english/res_e/booksp_e/aid4trade15_chap4_e.pdf

¹¹² <https://www.oecd.org/tad/policynotes/oecd-trade-facilitation-indicators-asean.pdf>

Figure 9: Categories submitted to WTO

Share of Categories A, B, C

Based on % of all notifiable items



Category A contains provisions that a developing country Member or a least-developed country Member designates for implementation upon entry into force of this Agreement, or in the case of a least-developed country Member within one year after entry into force.

Category B contains provisions that a developing country Member or a least-developed country Member designates for implementation on a date after a transitional period of time following the entry into force of the Agreement.

Category C contains provisions that a developing country Member or a least-developed country Member designates for implementation on a date after a transitional period of time following the entry into force of this Agreement and requiring the acquisition of implementation capacity through the provision of assistance and support for capacity building.

- Cambodia ratified the WTO TFA on February 12, 2016
- Category B implementation commitments from December 2018 to December 2020
- Category C implementation commitments from December 2018 to December 2022 upon receipt of capacity building support
- Category B and C notification of definitive dates for implementation have not yet specified
- Type of technical assistance required has not yet specified

Concerning Article 1.1 related to “Publication”, the Ministry of Economy and Finance created the National Trade Repository¹¹³ in 2015 to share regulatory information relating to trade and business registration. In compliance with TFA, the trade portal has information related to procedures for export, import, and transit, forms and documents, rates of duty and taxes, rules of classifications, rules for valuations, rules of origin laws, regulations, and administrative rulings, transit restrictions, penalties, appeal procedures, trade agreements, tariff quotas, import, export, and transit documents, SPS requirements and documents, prohibition and restrictions, practical guides covering import, export, transit and appeal procedures, relevant trade laws, enquiry contact information. However, the Cambodia’s trade portal still lacks some updated information and does not have appeal procedures.

With regards to Article 5.3 related to “Test Procedures”, Camcontrol (Cambodia Import-Export Inspection and Fraud Repression Directorate-General) is the main agency overseeing inspections, testing, and

¹¹³ <https://www.cambodiantr.gov.kh/> (accessed January 6, 2019)

market surveillance for exports and imports. Camcontrol has four Departments (Department of Consumer Protection and Fraud Repression, Department of Technical Affairs and Public Relation, Department of General Policy and Dispute Resolution and Department of Laboratory) and it also has 27 branches nationwide. However, there is still some overlapping role with the Ministry of Agriculture, Forestry, and Fisheries (MAFF) which inspects agricultural shipments and the Ministry of Health that inspects medical shipments. Therefore, Camcontrol and other related ministries need to collaborate related to these test procedures.

It has been suggested that a multi-agency group be created to consider primacy for testing operations, holistic testing or sampling requirements, locations of facilities, processes and procedures for testing based on multi-agency cooperation, alignment with regional and international standards, and appeals or re-testing or re-exporting procedures aligned with TFA¹¹⁴.

In Article 7.4 related to Risk Management, Cambodia does not have a formal multi-agency cooperation on risk management. Only GDCE and other agencies connected to the ASYCUDA recognize risk management¹¹⁵. In 2006, the Sub-Degree on the Facilitation of Trade Through Risk Management was issued. The Sub-Decree advises creating inter-agency coordination group which includes representatives from the Customs and Excise Department, Camcontrol, Ministry of Commerce, Ministry of Agriculture, Forestry and Fisheries, Ministry of Industry, Mines and Energy, Special Economic Zone Committee, and any other relevant agencies specified by Sub-Decree. In 2010, a Risk Management Unit was established within the Camcontrol to guide and facilitate the introduction of a risk-based approach¹¹⁶. Due to limited capacity and effective inter-agency coordination, there is a need to develop risk management procedures and training, and build capacity for the officials from all related agencies.

In Article 8.1 related to “Border Agency Cooperation” (Domestic), inter-governmental coordination, particularly between GDCE and Camcontrol, is still an issue due to a lack of digital infrastructure connectivity and a lack of understanding of each other’s terms of reference and operating procedures. There is a lack of clarity and duplication in responsibilities between Customs and Camcontrol, and other trade-related agencies¹¹⁷. In relation to Article 8.2 “Border Agency Cooperation” (External), Cambodia has formally submitted to the WTO. However, this issue is being solved started with the reform on Camcontrol.¹¹⁸

Table 19: Categories submitted to the WTO

Article 1: Publication & Availability of Information	Category
1.1 Publication	B
1.2 Information Available through Internet	C
1.3 Enquiry Points	A
1.4 Notification	C
Article 2: Opportunity to Comment, Information Before Entry into Force and Consultation	
2.1 Opportunity to Comment and Information Before Entry into Force	B
2.2 Consultations	A
Article 3: Advance Rulings	A
Article 4: Procedures for Appeal of Review	
Article 5: Other Measures to Enhance Impartiality, Non-discrimination and Transparency	
5.1 Notification for Enhanced Controls or Inspections	A

¹¹⁴ USAID (2016) Facilitating Cambodia’s Trade Integration: A roadmap to implementing the WTO Trade Facilitation Agreement, pp. 23-24.

¹¹⁵ USAID (2016) Facilitating Cambodia’s Trade Integration: A roadmap to implementing the WTO Trade Facilitation Agreement, pp. 26.

¹¹⁶ Camcontrol, <https://www.camcontrol.gov.kh/index.php>

¹¹⁷ USAID (2016) Facilitating Cambodia’s Trade Integration: A roadmap to implementing the WTO Trade Facilitation Agreement, p.31.

¹¹⁸ Since January 29, 2019, Camcontrol is longer stationed as one of the border agencies.

5.2 Detentions	A
5.3 test Procedures	B
Article 6: Disciplines on Fees and Charges Imposed on or in Connection with Importation and Exportation and Penalties	
6.1 General Disciplines on Fees and Charges Imposed on or in Connection with Importation and Exportation	A
6.2 Specific Disciplines on Fees and Charges for Customs Processing Imposed on or in Connection with Importation and Exportation	A
6.3 Penalty discipline	A
Article 7: Release and Clearance of Goods	
7.1 Pre-arrival Processing	C
7.2 Electronic Payment	C
7.3 Separation of Release from Final Determination of Customs Duties, Taxes, Fee and Charges	A
7.4 Risk Management	B
7.5 Post Clearance Audit	A
7.6 Establishment & Publication of Average Release Time	A
7.7 Trade Facilitation measures for Authorised Operators	C
7.8 Expedited Shipment	B
7.9 Perishable Goods	C
Article 8: Border Agency Cooperation	A/C
Article 9: Movement of Goods intended for Import under Customs Control	A
Article 10: Formalities Connected with Importation, Exportation and Transit	
10.1 Formalities and Documentation Requirements	B
10.2 Acceptance of Copies	A
10.3 Use of International Standards	A
10.4 Single Window	C
10.5 Pre-shipment Inspection	A
10.6 Use of Customs Brokers	A
10.7 Common Border procedures and Uniform Documentation Requirement	A
10.8 Rejected Goods	A
10.9 Temporary Admission of Goods and Inward and Outward Processing	A
Article 11: Freedom of Transit	A
Article 12: Customs Cooperation	A

In a move to further facilitate trade and reduce costs for businesses, the Government issued a sub-decree that puts an end to the presence of Camcontrol at border checkpoints. Sub-decree 27, signed by Prime Minister Hun Sen on January 29, 2019 officially ends the role of the Cambodia Import-Export Inspection and Fraud Repression Directorate General or Camcontrol at the country's border crossings. The General Department of Customs and Excise (GDCE) now becomes the only institution authorised to carry out inspections of goods at border gates, seaports, and special economic zones, according to the sub-decree.

The government also decided to reduce by half the scanning fee for exported and imported containers, a decision that will come into effect April 1, 2019. The decision to half the fee was announced in a Jan 29 letter to GDCE signed by Aun Pornmoniroth, the Deputy Prime Minister and the Minister of Economy and Finance¹¹⁹. The removal of the Kampuchea Shipping Agency and Brokers (Kamsab), a state agency established in 1979 to facilitate trading by ship officers from ports, was made on January 30, 2019. The Prime Minister stated the actions were taken to reduce the difficulties and complexities in doing business and to facilitate the import and export of Cambodian goods to international markets¹²⁰.

The establishment of the National Trade Facilitation Committee (NTFC) is currently underway with support from development partners such as the World Bank. However, more time is needed to

¹¹⁹ <https://www.khmertimeskh.com/50574979/camcontrol-removed-from-borders/> (accessed March 17, 2019)

¹²⁰ <https://www.phnompenhpost.com/business/kamsab-removed-ports-kingdom-braces-loss-preferential-trade-access>

institutionalise the NTFC, define its scope and responsibility, consensus on its membership and which agency will function as the Secretariat. This is an urgent priority as existing public and private dialogue mechanism related to trade facilitation has been in limbo for quite some time. It must be noted that there is a risk that a number of trade facilitation issues may overlap with existing institutional jurisdictions such as the National Transport Facilitation Committee at MPWT, National Logistics Committee chaired by the Deputy Prime Minister for economic affairs and the National Single Window Committee at Ministry of Economy and Finance. The MoC would need to stock-take the jurisdiction of the various related institutional bodies when the NTFC is established.

4. Proposed policies to further enhance trade facilitation

Economic reforms and trade facilitation strategy in Cambodia have been faced with intertwined political and institutional issues. Khieng (2009) stated that “there is a need for better coordination, consultation and involvement of key stakeholders, increased mobilization of resources and investment in local capacity building programmes, promotion of public awareness, improve roles of related development partners and donor agencies in the management and implementation of trade facilitation initiatives”¹²¹. According to the study report on facilitating Cambodia’s trade integration prepared by the United States Agency for International Development (USAID), it shows that the main issues in trade facilitation in Cambodia are high unofficial fees, complex, non-transparent, and burdensome procedures, risk management, valuation methods, direct trader input and use of ICT, port congestion, supply chain security, and private-sector trade capacity¹²². The list is certainly long and not exhaustive.

There are four main structural constraints related to trade facilitation in Cambodia:

1. Lack of effective platform to effectively deliver results-based reforms especially at the ministerial level.
2. Lack of policy coordination and cross-sectoral collaborations in trade-related activities.
3. The competitiveness of the private sector remains low. Furthermore, outdated infrastructure, uncompetitive practices, and regulatory uncertainty undermine competitiveness of the private sector.
4. Human resources and digital infrastructure are limited. Lack of clarity and multitude of state agencies are other key constraints in trade facilitation.

International development partners need to continue to provide technical support to strengthen the institutional capacity and leadership of trade-related agencies, particularly in Customs reforms. Diagnostic trade integration study and knowledge sharing of best practices from different parts of the world should be expanded. Public-private dialogue on trade facilitation needs to be encouraged in order to better develop policy reforms and design inclusive and holistic solutions.

Cambodia has worked closely with development partners such as the World Bank, ADB, UNCTAD, WTO, GIZ and JICA to improve the capacity of trade-related government agencies. Trade liberalization and facilitation have been the key areas of focus. In terms of implementing WTO TFA, as of November 2018, Cambodia has notified 60.9 percent under Category A, 19.3 percent under Category B, and 19.7 percent under Category C. Cambodia has requested assistance and support for capacity building for nine measures including (1) information available through internet, (2) notification, (3) pre-arrival processing, (4) electronic payment, (5) authorized operators, (6) perishable goods, (7) border agency cooperation, (8) single window, and (9) transit. These nine measures are the areas that Cambodia need international assistance for capacity building and institutional reforms.

Cambodia is already the beneficiary of technical assistance and support from different donors. One of the latest flagship project is the ARISE+ project, which will focus on trade facilitation issues under the

¹²¹Sothy Khieng (2009), Country Paper-Cambodia, The Regional Trade Policy Forum on Trade Facilitation and SMEs in Times of Crisis, 20-22 May 2009, Beijing, China, p.4, https://artnet.unescap.org/tid/artnet/mtg/tf_sme_cam.pdf

¹²² USAID (2016) Facilitating Cambodia’s Trade Integration: A roadmap to implementing the WTO Trade Facilitation Agreement.

WTO TFA and Cambodia’s ASEAN commitments with the aim to strengthen intra-ASEAN trade and investment. The project has started in January 2019 and will run until June 2023. The ARISE+ project has identified work streams under three components as shown in Table 20:

Table 20: ARISE+ Work Streams

1: Improving Customs, Trade Facilitation and Standards	2: Strengthening Institutional Capacities and Improving Regulatory Practices	3: Enhancing Private Sector Engagement, Notably of SMEs, and Better Preparedness for AEC
1.1. Cambodia National Single Window (CNSW)	2.1. Capacity Building / Institutional Strengthening	3.1 SME Export Development
1.2. Authorised Economic Operators	2.2. Trade and Investment Statistics	3.2 Trade Information
1.3. Pre-arrival processing	2.3 Coordination of Trade Facilitation Implementation	3.3 Trade Advocacy
1.4. Product Risk Management in Camcontrol	2.4. Transparency and Clarity of Legislation and Policies	

Source: GIZ

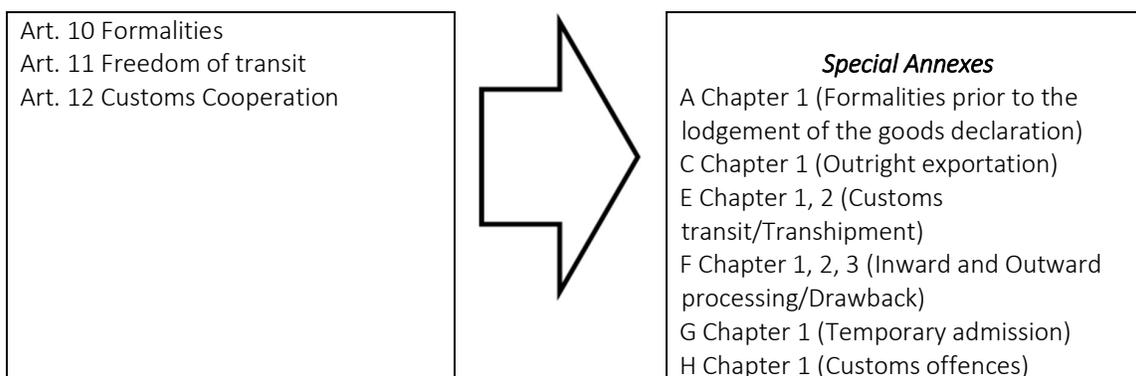
Cambodia needs to overcome these 4 structural constraints in order to implement trade facilitation more effectively. Some specific policy recommendations include to accelerate the establishment of the National Committee on Trade Facilitation in order to coordinate trade-related policy, facilitate intra- and inter-agency collaborations, enhance accountability and transparency of trade-related government agencies, strengthen capacity of both public sector and private sector on trade-related issue, develop feedback system especially to receive complains and record obstacles, and monitor and improve the trading environment.

In order to monitor the implementation of the WTO TFA and all trade facilitation efforts, it is proposed that the soon to be established NTFC and/or the relevant agency at the Ministry of Commerce develop a Monitoring and Evaluation (M&E) framework for the implementation of the WTO TFA. This is something that can be done very quickly and used to assess progress made in terms of trade facilitation.

The foundation for this M&E framework is based upon the Wold Customs Organisation Revised Kyoto Convention (WCO RKC) Convention which is also known as The International Convention on the Simplification and Harmonization of Customs procedures. Figure 10 hereunder provides the linkages between the WTO TFA and the WCO RKC.

Figure 10: WTO TFA linkages with WCO RKC

WTO TFA	WCO RKC
<p>Section I</p> <p>Art. 1 Publication and availability of information</p> <p>Art. 2 Consultation</p> <p>Art. 3 Advance ruling</p> <p>Art. 4 Procedures for appeal or review</p> <p>Art. 5 Other measures for transparency</p> <p>Art. 6 Disciplines on fees and charges penalties</p> <p>Art. 7 Release and Clearance of Goods</p> <p>Art. 8 Border agency cooperation</p> <p>Art. 9 Movement of goods intended for import</p>	<p>General Annex</p> <p>Chapter 1 General Principles</p> <p>Chapter 3 Clearance and Other Customs Formalities</p> <p>Chapter 4 Duties and Taxes</p> <p>Chapter 5 Security</p> <p>Chapter 6 Customs Control</p> <p>Chapter 7 Application of Information Technology</p> <p>Chapter 8 Relationship between the Customs and Third Parties</p> <p>Chapter 9 Information, Decision and Rulings Supplies by the Customs</p> <p>Chapter 10 Appeals in Customs matters</p>



Source: The Author

The WCO RKC has introduced a number of qualitative and quantitative key performance indicators (KPIs) that are used in monitoring the implementation of this international convention. KPIs currently do not exist for the monitoring of the WTO TFA and using the one proposed in the WCO RKC will enable harmonisation, standardisation and simplification of the M&E framework for trade facilitation. Table 21 hereunder provides a comprehensive list of indicators needed to measure the successful implementation of the WTO TFA in Cambodia and results should be collected on a yearly basis for public dissemination.

This should be seen as a short term high ranking priority that could immediately be implemented with minimal resources. The benefit of using this M&E framework will support related agencies in the implementation of their respective trade facilitation action plans.

Table 21: Proposed indicators for WTO TFA implementation monitoring

WTO TFA	Performance Indicator
Article 1: Publication (to promptly publish information regarding Customs procedures and fees and charges, in a non-discriminatory and easily accessible manner)	<u>Yes/No Question</u> <ul style="list-style-type: none"> • Do you publish Customs Laws regulations, procedures (including all associated regulatory documents), fee and charges imposed prior to implementation? <u>Quantitative indicators</u> <ul style="list-style-type: none"> • % of information stipulated in Article 1.1 of TFA publicly available • No. of visits to the Webpage
Information Available Through Internet	<u>Yes/No Question</u> <ul style="list-style-type: none"> • Do you make available on the internet information on importation, exportation, transit and appeal procedures (including all associated regulatory documents), fees and charges? <u>Quantitative indicators</u> <ul style="list-style-type: none"> • % of information stipulated in Article 1.1 of the TFA publicly available on the internet • No. of visits to the Webpage
Enquiry Points (establish or maintain one or more enquiry points to provide answers, forms and document in a reasonable time period)	<u>Yes/No Question</u> <ul style="list-style-type: none"> • Do you have one or more enquiry points to answer enquiries of interested parties? <u>Quantitative indicators</u> <ul style="list-style-type: none"> • Average times between receipt of enquires and issuance of answers • No. of answers issued per year

<p>Notification (of the official place(s) where information has been published. The URLs of websites publishing information)</p>	<p>-</p>
<p>Article 2 2.1 Opportunity to Comment and Information before Entry into Force</p>	<p><u>Yes/No Question</u></p> <ul style="list-style-type: none"> Do you provide opportunities and reasonable time periods to traders to comment on the introduction or amendment of laws and regulations? <p><u>Quantitative indicators</u></p> <ul style="list-style-type: none"> Time periods for traders to make comments on laws and regulations No. of cases involving the introduction or amendment of laws and regulations which were subject to prior consultation with traders No. of comments received per year
<p>Article 2 2.2 Consultations</p>	<p><u>Yes/No Question</u></p> <ul style="list-style-type: none"> Do you have a formal consultative committee/meeting with business? <p><u>Quantitative indicators</u></p> <ul style="list-style-type: none"> No. of formal consultative meetings with business per year
<p>Article 3 : Advance Rulings</p>	<p>1. Classifications <u>Yes/No Question</u></p> <ul style="list-style-type: none"> Do you have an advance ruling system on tariff classification? <p><u>Quantitative indicators</u></p> <ul style="list-style-type: none"> No. of written advance rulings issued per year <p>2. Non-preferential Rules of Origin <u>Yes/No Question</u></p> <ul style="list-style-type: none"> Do you have an advance ruling system on non-preferential rules of origin? <p><u>Quantitative indicators</u></p> <ul style="list-style-type: none"> No. of written advance rulings issued per year <p>3. Valuation <u>Yes/No Question</u></p> <ul style="list-style-type: none"> Do you have an advance ruling system on Customs valuation? <p><u>Quantitative indicators</u></p> <ul style="list-style-type: none"> No. of written advance rulings issued per year
<p>Article 4: Procedures for appeal or review</p>	<p><u>Yes/No Question</u></p> <ul style="list-style-type: none"> Do you have administrative appeal or review procedures, before judicial procedures are used? <p><u>Quantitative indicators</u></p> <ul style="list-style-type: none"> No. of administrative appeals or reviews filed per year
<p>Article 5: 5.1 notification for enhanced control or inspections</p>	<p><u>Yes/No Question</u></p> <ul style="list-style-type: none"> Do you have a system of issuing notifications or guidance for enhancing the level of controls at the border? <p><u>Quantitative indicators</u></p> <ul style="list-style-type: none"> No. of notifications or guidance issued per year

5.2 Detention	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you inform the carrier or importer of the detention of goods declared for importation? <u>Quantitative indicators</u> <ul style="list-style-type: none"> Average times between detentions and notifications
5.3 Test Procedures	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you grant an opportunity for a second test? <u>Quantitative indicators</u> <ul style="list-style-type: none"> No. of second tests conducted per year
Article 6: 6.1 General Disciplines on Fees and Charges imposed on or in connection with importation and Exportation	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you review fees and charges periodically? <u>Quantitative indicators</u> <ul style="list-style-type: none"> Average cycle of the review
6.2 Specific Disciplines on Fees and Charges imposed on or in connection with importation and Exportation	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you limit fees and charges to the approximate cost of services rendered? <u>Quantitative indicators</u> <ul style="list-style-type: none"> No. of kinds of fees and charges limited to the cost of services rendered, which are collected by the Customs administration
6.3 Penalty Disciplines	<u>Yes/No Question</u> <ul style="list-style-type: none"> Does your Customs administration have the legal authority to impose penalties for a breach of Customs laws and regulations? Do you have legislation that encourages voluntary disclosure? <u>Quantitative indicators</u> <ul style="list-style-type: none"> No. of cases involving penalties imposed by the Customs administration per year No. of cases involving voluntary disclosure per year
Article 7: 7.1 Pre-arrival Processing	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you allow the submission of Customs import declarations prior to the arrival of goods? <u>Quantitative indicators</u> <ul style="list-style-type: none"> % of pre-arrival declarations relative to all Customs import declarations
7.2 Electronic Payment	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you have a system and procedures to allow the electronic payment of duties? <u>Quantitative indicators</u> <ul style="list-style-type: none"> % of electronic payment relative to the total amount of duties collected
7.3 Separation of Release from Final Determination of Customs Duties, Taxes, Fees and Charges	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you adopt or maintain procedures allowing the release of goods prior to the payment of duties? <u>Quantitative indicators</u> <ul style="list-style-type: none"> % of Customs import declarations permitted for release of goods prior to the payment of duties, relative to all Customs import declarations

7.4 Risk Management	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you adopt or maintain a risk management system for Customs control? <u>Quantitative indicators</u> <ul style="list-style-type: none"> % of Customs import declarations directed for documentary examination % of Customs import declarations directed for physical inspections
7.5 Post-clearance Audit	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you have a post-clearance audit system? <u>Quantitative indicators</u> <ul style="list-style-type: none"> No. of post-clearance audits conducted per year
7.6 Establishment and Publication of Average Release Times	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you conduct Time Release Studies (TRS)? <u>Quantitative indicators</u> <ul style="list-style-type: none"> Average Customs clearance time for import/export/transit
7.7 Trade Facilitation Measures for Authorized Operators	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you adopt or maintain an AEO programme/compliance programmes? <u>Quantitative indicators</u> <ul style="list-style-type: none"> No. of companies joining your AEO programme/compliance programme
7.8 Expedited Shipments	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you adopt or maintain procedures allowing for expedited release of goods under Article 8.2 of the ATF¹²³? <u>Quantitative indicators</u> <ul style="list-style-type: none"> No. of Customs import declarations subject to respective procedures under Article 8.2 of the ATF per year
7.9 Perishable Goods	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you give priority to perishable goods when scheduling examinations? <u>Quantitative indicators</u> <ul style="list-style-type: none"> No. of Customs import declarations of perishable goods prioritized in examinations
Article 8: Border agency cooperation	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you have regular meetings with CBRAs (Cross-Border Regulatory Agencies) to coordinate their activities to facilitate trade? <u>Quantitative indicators</u> <ul style="list-style-type: none"> % of CBRAs involved in the joint meetings
Article 9: Movement of goods intended for import under customs control	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you allow goods intended for import to be moved under Customs control from a Customs office of entry to another Customs office? <u>Quantitative indicators</u> <ul style="list-style-type: none"> No. of cases involving the movement of goods under Customs control intended for import, per year

¹²³ Agreement on Trade Facilitation i.e. WTO TFA

<p>Article 10: 10.1 Formalities and Documentation Requirements</p>	<p><u>Yes/No Question</u></p> <ul style="list-style-type: none"> Do you review formalities and documentation requirements regularly? <p><u>Quantitative indicators</u></p> <ul style="list-style-type: none"> Average cycle of the review No. of formalities and documentation requirements
<p>10.2 Acceptance of Copies</p>	<p><u>Yes/No Question</u></p> <ul style="list-style-type: none"> Do you accept electronic copies of supporting documents? <p><u>Quantitative indicators</u></p> <ul style="list-style-type: none"> % of kinds of supporting documents that can be submitted by electronic means in terms of total kinds of supporting documents
<p>10.3 Use of International Standards</p>	<p><u>Yes/No Question</u></p> <ul style="list-style-type: none"> Do you use the WCO Data Model for identifying and describing information required in Customs import/export/transit declarations? <p><u>Quantitative indicators</u></p> <ul style="list-style-type: none"> % of data elements in Customs import/export/transit declarations conforming to the WCO Data Model
<p>10.4 Single Window</p>	<p><u>Yes/No Question</u></p> <ul style="list-style-type: none"> Do you have a Single Window system? <p><u>Quantitative indicators</u></p> <ul style="list-style-type: none"> No. of business processes or services involved in your Single Window system
<p>10.5 Pre-shipment Inspection</p>	<p><u>Yes/No Question</u></p> <ul style="list-style-type: none"> Do you require the use of pre-shipment inspection in relation to tariff classification and customs valuation? <p><u>Quantitative indicators</u></p> <ul style="list-style-type: none"> No. of Customs import declarations subject to pre-shipment inspection per year
<p>10.6 Use of Customs Brokers</p>	<p><u>Yes/No Question</u></p> <ul style="list-style-type: none"> Does your Customs legislation allow any persons having the right to dispose of the goods to lodge Customs declarations? <p><u>Quantitative indicators</u></p> <ul style="list-style-type: none"> % of Customs import declarations lodged by persons other than Customs brokers
<p>10.7 Common Border Procedures and Uniform Documentation Requirements</p>	<p><u>Yes/No Question</u></p> <ul style="list-style-type: none"> Do you apply common Customs procedures and uniform documentation requirements throughout your Customs territory?
<p>10.8 Rejected Goods</p>	<p><u>Yes/No Question</u></p> <ul style="list-style-type: none"> Do you allow the importer to return the rejected goods to the exporter or another person designated by the exporter? <p><u>Quantitative indicators</u></p> <ul style="list-style-type: none"> No. of cases involving returns to the exporter or another person designated by the exporter per year
<p>10.9.1 Temporary Admission of Goods</p>	<p><u>Yes/No Question</u></p> <ul style="list-style-type: none"> Do you allow goods which are intended for re-exportation within a specific period to be brought into your Customs territory without requiring the payment of duties? <p><u>Quantitative indicators</u></p> <ul style="list-style-type: none"> No. of temporary admission procedures per year

10.9.2 Inward and Outward Processing	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you allow inward and outward processing? <u>Quantitative indicators</u> <ul style="list-style-type: none"> No. of cases involving inward and outward processing per year
Article 11: Freedom of transit	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you have transit procedures which allow the movement of goods within your Customs territory without requiring the payment of duties? <u>Quantitative indicators</u> <ul style="list-style-type: none"> No. of transit entry declarations per year
Article 12: Customs Cooperation	<u>Yes/No Question</u> <ul style="list-style-type: none"> Do you have legislation to allow your Customs administration to provide information on import or export declarations to foreign Customs administrations? Do you have legislation to protect information provided by foreign Customs administrations? <u>Quantitative indicators</u> <ul style="list-style-type: none"> No. of cases involving provision of information on request from foreign Customs administrations per year No. of cases involving the use of information provided by foreign Customs administrations at judicial or criminal proceedings per year

Source: Adapted by Author

There is a need to establish an initial baseline based on Table 21. The result from the baseline can be used to identify gaps in the implementation of the WTO TFA as it will highlight articles where no actions have been taken. It can also help further crystalize the Category C which requires technical assistance from development partners. This baseline will also enable the confirmation of the various category A submitted to WTO that they are already in place and fully functioning. An annual survey based on this Table 21 would initially be sufficient to help support the monitoring of trade facilitation efforts in Cambodia.

CHAPTER 5 : TRADE LOGISTICS DEVELOPMENT

1. Introduction

Enhanced transport connectivity, inside Cambodia and within ASEAN, is required for the country to sustain economic growth and integrate production networks that will enhance intra-regional trade. It is therefore necessary to upgrade the country's transport and logistics infrastructure. Improved transport and logistics infrastructure will strengthen the overland linkages with neighbouring countries and enhance the mobility of people, goods and services within the country.

Logistics development is a key policy issue that contributes to the country's growth through productivity improvement and the competitiveness of its logistics sector. The establishment of the ASEAN Economic Community (AEC) has enhanced regional connectivity through increased trade, investment, and tourism with the establishment of a single market and production base in the region.

Cambodia has gradually improved its transport and logistics infrastructure to establish efficient and effective connectivity to facilitate industrial relocations from neighbouring countries and China. Cambodia is geographically well-suited to be an important logistics hub for Southeast Asia as the country is part of existing global supply chains networks that involves various countries in the region through a vast regional transport network already in place.

There is a need to first define trade logistics as logistics does not fall under the jurisdiction of any specific agency as it is a cross-agency issue. According to the Global Facilitation Partnership for Transportation and Trade (GFPTT), trade logistics¹²⁴ are those actions that can be taken by countries to change the import/export process and optimize supply chains without a significant commitment of additional government human and financial resources. In order to optimise the logistics of supply chains, governments will need to address the transparency of rules and regulations, efficiency of the document and clearance process, and predictability in the application of those rules and regulations by the appropriate authorities and intermediaries in line with trade facilitation principles. Many of these points can be implemented by using government officials to institute policy changes without financial outlays. Some recommendations do require funding but can be covered by user fees, savings from those policy changes, or re-allocation of existing resources.

Logistics is difficult to define because it is a constantly evolving concept. Logistics no longer concerns only the handling of materials or transportation of materials; it has grown in scope to encompass a set of activities that facilitate economic transactions associated with production and trade. These include customer service and support; demand forecasting and planning; facilities site selection, warehousing, and storage; inventory management; logistics communication and order processing; material handling and packaging; reverse logistics, sourcing; and transportation.

Logistics play a key role in national and regional economies in two ways. First, it is one of the major expenditures for businesses, thereby affecting and being affected by other economic activities. Second, it supports the movement of a multitude of economic transactions; it is an important aspect of facilitating the sale of all goods and services.

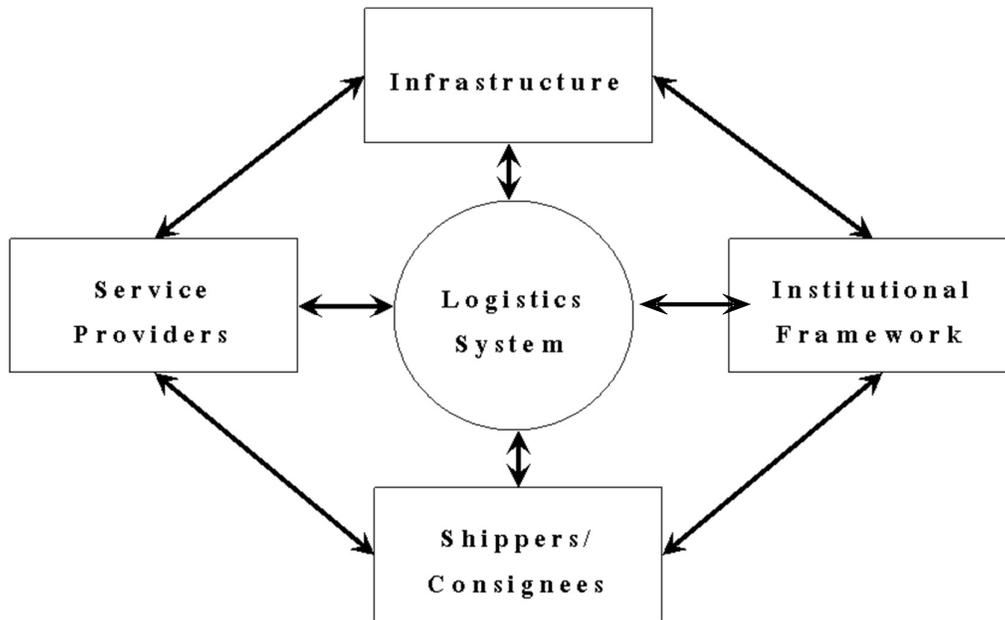
Logistics is not just confined within national borders or markets because within each country or region there are export and import firms that face specific logistics attributes that may be different from those experienced in the domestic market. In an international logistics system, many state agencies and in particular customs agencies play a very important role in the efficiency of the international logistics system. There is also a heavy reliance on specialized service providers, such as freight forwarders or customs brokers that can facilitate the flows of goods across borders. The main difference between domestic and international logistics is the environment in which the logistics system operates. Trade logistics from a policy perspective is much more than just transport infrastructure development. A holistic

¹²⁴ <https://gfptt.org/node/79> (accessed January 6, 2019)

approach that addresses the requirements of traders' needs, service providers' expertise, infrastructure capacity, and institutional framework is needed in order to develop trade logistics policies.

A national or a regional logistics system is composed of (1) shippers, traders, and consignees; (2) public, private sector logistics service providers; (3) provincial and national institutions, policies, and rules; and (4) transport and communications infrastructure. Figure 11 shows how these four components combine to determine the performance of each part of the macro-logistics system in terms of cost efficiency, responsiveness, reliability, and security. These 3 performance indicators reflect both on the level of integration of the logistics system and logistics services capability within a country. The sum of these factors determines the competitiveness of Cambodia's logistics system.

Figure 11: Logistics System Components



Source: The Author

This chapter describes the current logistics development in the country, with a view to provide insights into its future development and provide policy recommendations from a trade logistics perspective. The current logistics development section will provide an overview of the existing logistics related infrastructure.

2. Current logistics related infrastructure¹²⁵

Road network development in Cambodia has contributed to the growth of the national transport sector and has provided the country with linkages to neighbouring countries as well as improved national distribution. Efforts to rehabilitate and upgrade the road network started in the 1990s with various international donors contributing to its development. Presently, both national highways and secondary roads has undergone major repairs and substantial improvements.

Maritime and inland waterway networks have been developed over time at significant cost and currently offer relatively good connectivity to regional markets. Sihanoukville Port and Phnom Penh Port function well and expansion projects are planned as warranted by expected increases in demand. The railway

¹²⁵ This section is adapted from the Cambodian Transport and Logistics Master Plan prepared under the supervision of the General Department of Logistics, Ministry of Public Works and Transport (MPWT).

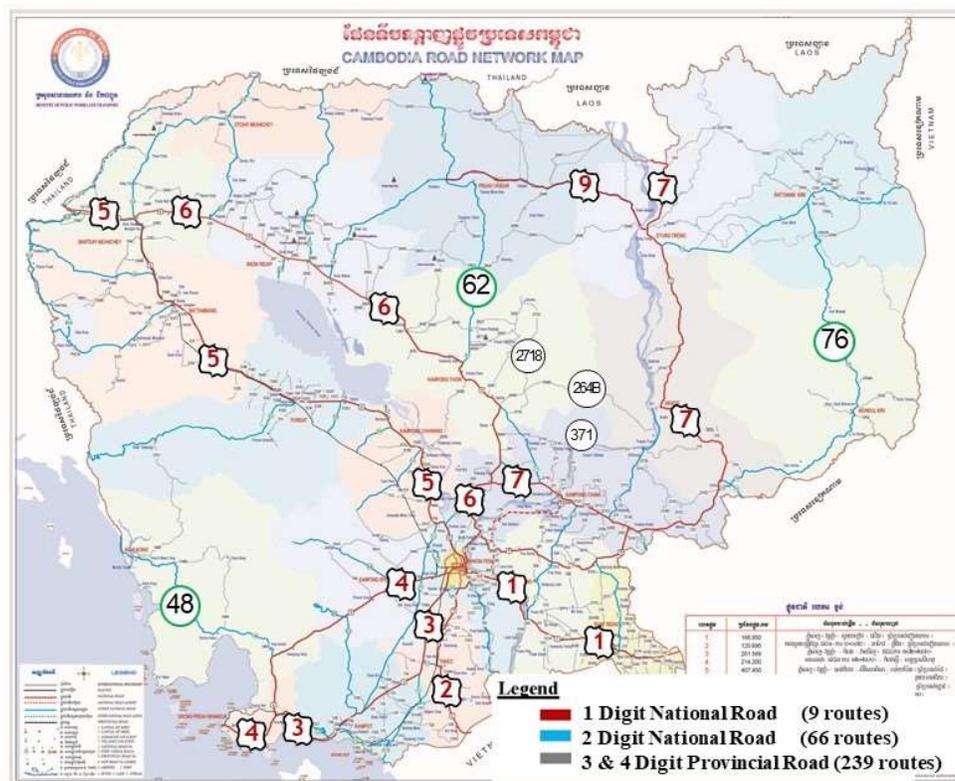
network, consisting of only two lines, is partially operational for the Southern lane, with a gradual increase in capacity.

2.1. Road Network Development

Cambodia’s road network covers almost 40,000 km of paved and unpaved roads, consisting of just over 5,000 km of national and international roads (both 1-Digit and 2-Digits). There is under 6,200 km of provincial roads and approximately 28,000 km of rural or tertiary roads¹²⁶. The Ministry of Public Works and Transport (MPWT) has developed a country-driven action road maintenance and operation programme to protect its road assets. Priority maintenance works are comprised of routine, periodic and emergency maintenance.

Cambodia’s road network development is based on connecting major growth centres nationwide with a radial road network system. Cambodia has selected 6 regions (Phnom Penh, Sihanoukville, Battambang, Siem Reap, Stung Treng, and Kampong Cham) as the major hubs for economic growth. Phnom Penh, as the capital, is the centre of this network and is connected through arterial road axes (NR 1 to NR 7). Isolated provinces are connected to arterial axes with sub-axes to facilitate balanced development. Figure 12 provides an overview of the road network in Cambodia.

Figure 12: Road Infrastructure



Source: After Effective and Sustainable Road and Bridge Maintenance, Road Related Infrastructure Sub-Technical Working Group, 27 July 2017.

The major arterial road network includes the Greater Mekong Sub-region’s (GMS) Southern Corridor, the GMS Interlink Sub-corridor (including the Phnom Penh-Sihanoukville corridor), and the GMS Southern

¹²⁶ According to the government agency responsible for the construction and maintenance, administrative road classification is categorized into National Road (1-Digit Road & 2-Digit Road), Provincial Road (3 and 4-Digit Road) and Rural/Tertiary.

Coastal Sub-corridor. Notable progress has been made on the ASEAN Highway Network (AHN), which aims to establish efficient, integrated, and safe regional land transport corridors linking all ASEAN Member States and neighbouring countries. The Neak Loeng Bridge was inaugurated and operationalised since April 2015.

The newly built ring-road around Phnom Penh is in relatively good conditions, well maintained and is expected to support logistic in the country as freight trucks are permitted to use the road during daytime with other types of vehicles no longer needing to pass through Phnom Penh to move to other regions. This will relieve the overall traffic congestion in Phnom Penh.

The overall conditions of the 1-Digit roads are considered fair¹²⁷. NR1, which connects Phnom Penh to Vietnam, is currently under expansion to respond to higher levels of passenger traffic and freight logistics demand. The conditions of NR2 and NR3, which serve as primary roads linking Kandal and Takeo provinces to Phnom Penh, are also good. These routes are primarily populated by passenger bus transportation. NR5, connects Phnom Penh to Thailand's frontier region of Battambang and Banteay Meanchey provinces, which handles most of the freight logistics between Thailand and Cambodia through heavy usage of trucks and containers.

2.2. Railroad

Cambodia's railway system consists of two main single-track lines which is about 640 km long. The Northern line is 386km and the Southern line is 264km, but currently only the Southern line is now in operation. The Northern line connects Cambodia's capital city of Phnom Penh and Thailand's Aranyaprathet, consisting of a recently repaired railroad portion of 48 km between Sisophon and Poipet. The Northern line's suffers from approximately 200 km in damages and currently most of the existing facilities have stopped operating due to either physical damages o lack of maintenance. The government is currently allocating budget and seeking new funding in order to restart the railroad operations on the Northern lane.

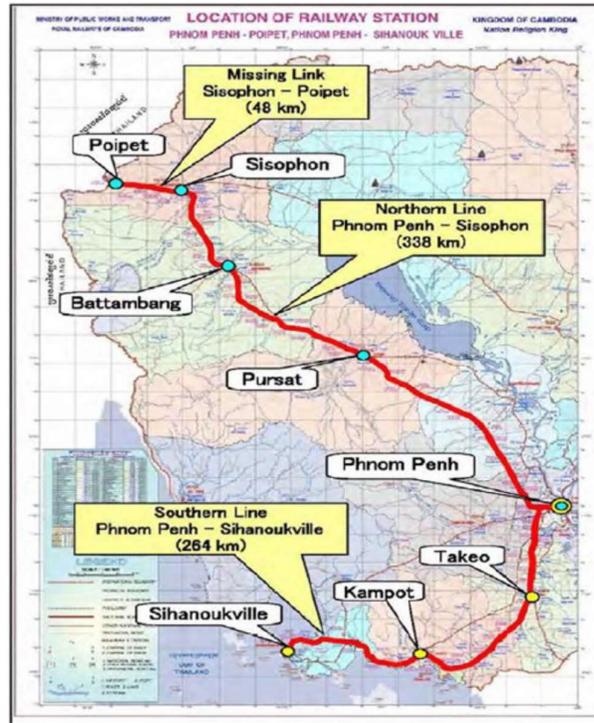
The Southern line connects Phnom Penh and Cambodia's International port, Sihanoukville. Basic rehabilitation of the Southern Line has been completed and it is currently in operation, but it is not operating at an efficient level as supporting infrastructure is still missing such as automatic signals, electric level crossings, and additional sidings/stations, etc. Containers and the railroad terminal of Sihanoukville have been rebuilt and the bulk processing facilities at Sihanoukville has been renovated as well. Although there are several daily trains, the volumes by rail are still low, around 3,000-4,000 containers per month are transported to and from the seaport, and the market share is less than 20% along that corridor. The majority of freight transport still goes by truck, this is the case for containers, but also for other cargo like fuel.

The railway is operated by the Royal Railways of Cambodia ("RRC"). In June 2009, the Government made a major step to restructure this organisation with a view to making it more responsive to the demand of a competitive transport market. A Cambodia Railroad Development Plan was prepared in 2013 to promote integrated national development and balanced development among regions, comprising of 8 local routes, a high-speed route, an industrial railroad, and a lead-in railroad¹²⁸. This is illustrated in Figure 13 and 14.

¹²⁷ 5 types of roads based on the width and pavement type of the road: 1) Primary: Separated from motorcycle roads / Asphalt or concrete pavement; 2) Class I: Highway of over 4 lanes/Asphalt or concrete pavement; 3) Class II: Roads consisting of more than 2 lanes/Asphalt or concrete pavement; and 4) Class III: Narrow road of 2 lanes/DBST pavement.

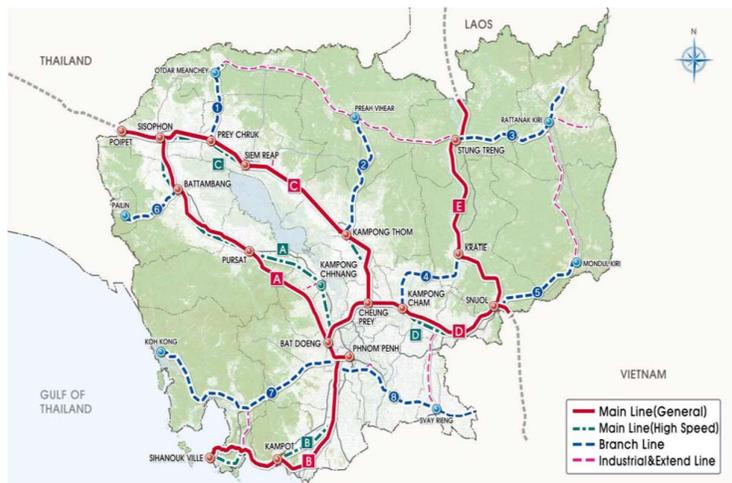
¹²⁸ The Cambodia Railroad Development Plan was prepared with the assistance of KOICA.

Figure 13: Map of the Northern and Southern Railway Lines



Sources: (i) Railway Department, Ministry of Public Works and Transport, *The Current Situation and Future Development Plan of Railway Network in Cambodia*, March 2017

Figure 14: Longer-term Railway Plan



Source: Railways Department, Ministry of Public Works and Transport, *presentation to Land Transport Sub-TWG Meeting*, 28 July 2017

2.3. Inland Waterways and Ports

Domestic river transport in Cambodia is still relatively limited, with passengers having the most important share. River transport along the Mekong River in Cambodia involves both inland barge traffic and seagoing shipping. The main traffic is dedicated to inland shipping for the domestic market and cross-border trade with Vietnam. Domestic river transport is expected to increase in the future with rice

exports steadily rising. Because of the bilateral navigation agreement between Vietnam and Cambodia, the introduction of foreign barges into each other's territories is set to increase.

Inland waterways in Cambodia is estimated to be 1,750 km long but vessels can only operate on 580 km of existing inland waterways. The Mekong River makes up 30% and is the main inland waterway. The Tonle Sap River and the Bassac River makes up 15% and 5% respectively, and all other rivers handle the remaining 50% of the traffic. In the 102km stretch of the inland waterway between Phnom Penh and the border of Cambodia and Vietnam, vessels that are longer than 110 metres are not permitted to pass. Certain sections of inland waterways in Cambodia have limited draft depths which restrict vessels' size. The Mekong River can only be used during the daytime due to the absence of navigational lights. Vessels larger than 20 DWT cannot operate on the Kratie and Stung Treng sections which are very shallow. The rest of the inland waterway network are limited to ships that weigh equal to or less than 100 DWT. There are 7 inland ports in Cambodia, Kampon Chhnang, Kampon Cham, Stung Treng, Kratie, Battambang, Siem Reap, and Phnom Penh.

2.3.1. River Port: Phnom Penh Port

The Phnom Penh Autonomous Port ("PPAP") is the country's main river port, accessible to vessels from the South China Sea through Vietnam. The port is located on the Tonle Sap River about three to four km from its junction with the Mekong, some 348 km from the mouth of the Mekong of which 102 km is in Cambodia and the rest in Vietnam. The throughput of PPAP is currently about 1 million tons, of which about 60% is accounted for by fuel imports and about 40% by containerised general cargo. Due to the increase in freight volume, the Government has established a New Container Terminal with an initial capacity of 120,000 TEU and an expected total capacity of 300,000 TEUs per year located 25km downstream from Phnom Penh. The first stage of the port was completed in December of 2012. There is a total of 3 construction stages and the port is currently continuing its development.

2.3.2. Sea Port: Sihanoukville Port

At present, among the ports in Cambodia, only Sihanoukville Autonomous Port ("PAS") and Phnom Penh Port handle about 85% of international container traffic. Other smaller coastal or river ports are crucial to the growth of regional trade, such as Koh Kong port, Sre Ambel Port, Steung Hav Port and Kampot Port but their volume is still limited.

Because of draft restrictions and the relatively low cargo volume, PAS caters to feeder ships from Singapore. Import and export cargo is shipped through PAS using smaller feeder vessels that haul cargo to Singapore, Malaysia, and Hong Kong for transshipment to final destination. It also handles oil tankers and other general cargo vessels from Thailand, Malaysia, and around the region. The biggest traffic types by tonnage are containers (45%), cement (32%), and oil products (18%). The throughput capacity of PAS, in its present condition, is estimated at about 3 million tons per year, excluding oil and gas which has separate facilities. PAS can accommodate up to 20,000 DWT vessels. Sihanoukville Port has also established a Special Economic Zone to support hinterland economic activities.

3. Institutional framework for logistics¹²⁹

This section assesses the legal and regulatory framework for the logistics in Cambodia and makes some recommendations for improvement. The initial assessment is that Cambodia's regulatory regime for logistics needs to be modernized and to close large and inconsistent gaps in laws and regulations by adopting international good practices and standards.

¹²⁹ This section has been adapted from the draft Assessment of Legal and Regulatory Framework for the Logistics Sector in Cambodia : Background Paper on Review, Diagnosis and Priorities for Reform by the World Bank (2018)

Logistics and transport services in Cambodia currently operate under numerous decrees, sub-decrees and regulations, orders and guidelines but not all activities in the sector are covered. Cambodia does not have a law on land transport but it has partial coverage of some aspects of road transport mainly under a road law and land traffic law. Other transport modes, railway, port and maritime transport and inland waterway are presently not covered by any primary legislation. However, the Government has drafted laws for these sectors though they are still to be enacted. In fact, the process of enacting new legislation seems to face long delays in part due to limited capacity of the lead agencies as well as a seemingly convoluted bureaucratic process. That said, the Government is keen to make progress and is actively driving the process of enacting the new legislations.

In addition to incomplete coverage, Cambodia's regulatory framework for logistics does not fully conform to regional commitments and is inconsistent with international good practices. Regional, international conventions and agreements on transport and logistics are partially translated into national laws and regulations. Some of the international conventions that can help fill the regulatory gaps relate to safety and handling of hazardous materials.

Cambodia is a signatory to the 2005 ASEAN Framework Agreement on Multimodal Transport but has not yet transposed this Agreement into its national legal framework, which means that the country is still not compliant with the Agreement. Currently, Cambodia does not have a system to authorize and recognize operators registered in other ASEAN member states, its multimodal transport operators are also not recognized by other member countries. Implementation of this Agreement is important as it will strengthen the legal status of Cambodian multimodal transport operators. In addition, even though Cambodia ratified the GMS Cross Border Transport Agreement (CBTA), it has not implemented all the annexes and protocols to the Agreement. This has constrained the full implementation of the Agreement.

Cambodia does not have land transport law but has it in preparation like many other laws related to transport and logistics. Some general transport issues are being regulated in the existing road law and land traffic law. These include registration for obtaining an operator's license and overloading of trucks as they directly affect road infrastructure and traffic safety. Access to the road transport market and access to the profession of road transport operator as well as truck or bus driver is not really regulated in Cambodia. Often registration and fulfilling the administrative requirements are sufficient to obtain an operator's license for carrying out road transport services. Professional drivers only need a driver's license and are often able to obtain such license without driving lessons and examination.

Railway transport in Cambodia operates under a regulatory regime from some secondary legislations which often lack important provisions, especially those relating to safety. The only railway operator, the Royal Railway Company, has to deal with several government agencies among them the Port Authority, Customs and Camcontrol¹³⁰ and to follow and comply with their guidelines and regulations on different aspects of its operations. In the field of international railway transport, the transport of dangerous goods is mostly regulated under Regulation for the International Carriage of Dangerous Goods by Rail (RID), under the guidance of OTIF (International Organization for International Carriage by Rail). Although rail traffic in Cambodia is purely domestic, and OTIF and RID relate to international carriage, in many countries RID also applies to national traffic. This is also recommended for Cambodia.

Cambodia has drafted but not yet finalized important basic laws that govern port, maritime transport and inland waterway transport. Currently, these transport modes and facilities are being guided by secondary legislations such as royal decrees, sub-decree, ministerial regulations, standards and procedures. By recognizing the requirement of basic primary legislations that should conform and be compliant with international conventions and that serve as a framework for transport and logistics development, three draft laws were prepared and are pending to be proposed for finalization and adoption. These include (i) Draft Port Law, (ii) Draft Law on Maritime Transport; and (iii) Draft Law on Inland Waterway Transport. These draft laws were reviewed and their contents appear to include basic conformity and principles of international conventions, good practices and standards.

¹³⁰ Prior to January 29, 2019

The Draft Port Law contains provisions that conform to international good practice and standard. It defines four classes of port categories (international, bilateral, domestic, and special ports such as for a specific commodity and for a specific user), and the port zone. The responsibilities of the port management body are described, these include amongst others port facilities and channels, harbour master function, port development and implementation plan, and the supervision and/or the conduct of port operations. The last one leaves room for third party and private sector involvement. It specifies the principles of port dues and charges and the requirement for publication of those, and the possibilities of the MPWT to set these limits. The Draft Port Law has a chapter on safety and environment such as for ship generated waste, spill contingency plan, and port facility security requirements, all in line with IMO regulations, and chapters on pilotage, and navigation channels. Details are supposed to be included in follow up sub-decrees. The Port Authorities are in discussion with the MPWT on the Draft, but argue that the main points for them in the Draft Law relate to trade facilitation and safety issues.

The Draft Law on Maritime Transport provides the legal and institutional framework for administration and management of maritime transport and defines general principles on the governance structure for development, administration and management of maritime affairs. Each chapter in the law addresses key international conventions such as SOLAS¹³¹ and MARPOL¹³². The general provisions describe the objectives, among other the safety of ships, the environment, maritime operations and commerce, development of the sector, labour force, followed by marine area and exclusive economic zone of the Kingdom of Cambodia. Respective chapters deal with ship registration, business licenses for shipping companies (to be issued by MPWT), crew requirements, safety of ships, safety and environment, navigation and entry permits, inspection and control of vessels, investigations in case of incidents, shipyards and repairs, and finally enforcement and penalties. The provisions are of a general nature, and not all details are included. Some of the details will need to be further elaborated in secondary legislation.

The Draft Law on Inland Waterway Transport mainly focuses on cabotage in inland waterway transport operations. The main purpose of the Draft Law is to maintain order, security and safety of inland waterway transport, to protect human and wildlife and environment of the inland waterways. It also draws some contents to prevent adverse effects to human health and damage of public and private property, and encourage development of the inland waterway sector. This Draft Law is applicable to ships, crew, ship owners and shipping companies, with the construction of waterways and other activities related to navigation. The Draft Law only relates to Cambodian waters, it does not include border crossing in international transport. The Draft Law covers mainly those activities that are not regulated under the Draft Law on Maritime Transport. The intersection between maritime transport regulations and inland waterway transport can at times be confusing unless the scope of respective regulations are clearly defined. In particular, Cambodia seeks to regulate carriage of cargo between two points in the national waterways including coastal sea water within the country by vessels registered in Cambodia and in another country. Like most countries, Cambodia still highly restricts the permission of foreign vessels to engage in cabotage.

Cambodia does not have a national legal framework for multimodal transport though it has signed the ASEAN Framework Agreement on Multimodal Transport. A national legal framework for multimodal transport should normally cover carriage of goods by national and international multimodal transport contracts, which also include provisions concerning the liability of multimodal transport operators. Cambodia and other ASEAN Member States signed the ASEAN Framework Agreement on Multimodal Transport on 17 November 2005. In the Agreement “international multimodal transport” is defined as the carriage of goods by at least two different modes of transport on the basis of a multimodal transport contract from a place in one country at which the goods are taken in charge by the multimodal transport operator to a place designated for delivery situated in a different country. An important element in this Agreement is the registration of multimodal transport operators. For inclusion in the register of multimodal transport operators, the juristic person concerned shall submit an application to the

¹³¹ International Convention for the Safety of Life at Sea (SOLAS); Adoption: 1 November 1974; Entry into force: 25 May 1980

¹³² International Convention for the Prevention of Pollution from Ships (MARPOL); Adoption: 1973 (Convention), 1978 (1978 Protocol), 1997 (Protocol - Annex VI); Entry into force: 2 October 1983 (Annexes I and II).

respective competent national body and establish that he fulfils all requirements as prescribed by national law. Lack of a national legal framework for multimodal transport in Cambodia has constrained its compliance with this Agreement. This puts serious bottlenecks for the international and national operation of Cambodian multimodal transport operators. While Cambodia does not have a system to authorize and recognize operators registered in other member states, its operators are also not recognized by any of other Member Countries. Having a national legal framework for multimodal transport operators would help address this constraint.

Cambodia does not currently regulate freight forwarding while it regulates its customs brokers. This is quite common across the world as most countries do not have a specific legal and regulatory framework for freight forwarding other than having freight forwarding businesses registered as enterprises. Some countries impose business operating license issued by public work and transport agencies but such imposition often brings about administrative frustrations rather than facilitating the establishment of the freight forwarding industry. It may not be necessary for Cambodia to have a national legislation to regulate the freight forwarding business. Rather, if Cambodia drafts a law on multimodal transport then that should cover freight forwarding activities without the need for a specific law. Customs brokers are regulated under the Law on Customs and related customs regulations. However, the capacity of customs brokers needs substantial upgrade if they are to have a significant impact on the logistics performance of Cambodia.

Cambodia faces capacity challenges not only in coordinating across ministries to process and adopt new laws but also in implementing and enforcing existing laws and regulations of the transport and logistics services. In November 2017, Cambodia established a national logistics steering committee and a national logistics council that aim at improving coordination between line ministries and to act as a consultative and decision-making forum to deal with transport and logistics issues. While there has been some progress, key challenges remain important in terms of the capacity of the MPWT to develop and enforce laws and regulations. Cambodia has a lengthy process to develop primary legislation with a few reaching final stage of approval. There have also been limited stakeholder consultations in drafting legislations and regulations to which important feedbacks and opinions of the private sector were reported to be excluded from the final legal text of laws and regulations. The MPWT still needs to improve its capacity to monitor the implementation of laws and regulations and their impact.

The challenge is that logistics is not under the jurisdiction of one ministry and more consultations and coordination are needed to clarify the institutional environment for logistics in the country. The risk of overlaps, especially with trade facilitation issues, are always present as there can be no trade without logistics. The MoC has an interest in logistics matters but currently the establishment of the General Department of Logistics (GDL) has given MPWT a leading role in logistics development in Cambodia with the formulation of a logistics master plan for the country.

4. Current logistics performance of Cambodia¹³³

Cambodia faces serious challenges in logistics performance with indications that costs are higher and the quality of its logistics services lower than other regional peers. Establishing an accurate picture of the logistics performance is hampered by a lack of a readily data to monitor logistics in the country. Cambodia has leveraged integration into the global marketplace with continuous growth in trade volumes, there is a much stronger need for establishing a proper monitoring and evaluation system to support transport and logistics strategic planning, evidence-based policy making, and the implementation of policies related to logistics. Monitoring and evaluation are integral parts of policy development within logistics. Monitoring focuses on the activities and outputs, evaluation focuses on the outcome and goals through a set of appropriate indicators.

¹³³ The World Bank prepared three background studies as inputs for the Cambodia Logistics Master Plan development led by the Royal Government of Cambodia (RGC) in 2017-2018. This section is derived from the Monitoring and Evaluation Framework background study.

Based on the available data, Cambodia has made some progress in improving logistics performance. For instance, data from the 2017-2018 World Economic Forum Report point to improvements in the quality of road transport infrastructure (scored at 3.2 in a scale from 1 to 7), port infrastructure and air transport infrastructure (3.7/7) but also little improvement in the quality of railroad transport (1.6/7). The performance of institutional and policy dimension remains relatively poor, especially in terms of a legal framework for resolving disputes (2.9/7) and accessibility of regulations (2.8/7). Efficiency and effectiveness of policy and rules implementation also lag regional averages. Irregular payments and informal fees remain a serious issue in obtaining permits, certification and inspections for industry traders and service providers. Despite huge investments in customs modernization and automation, the burden of customs procedures remains high for traders and services providers.

There is limited data available to monitor the performance of logistics service providers, shippers and consignees. In general, the logistics system of Cambodia is perceived as archaic, inefficient, ineffective and costly to users. The available macro-level data are not detailed enough allow the assessment of the actual logistics services of a country. There is therefore need to establish a baseline on the logistics performance of manufacturing firms and service operators in Cambodian.

Measuring the performance of a logistics system from the user perspective offers valuable insights. The users of logistics in a country are the exporters, the importers, the manufacturers and the traders. A monitoring framework with key performance indicators (KPIs) is designed to keep track of the actual logistics performance in the country. These KPIs focus on the actual logistics capability of both users of logistics services and logistics service providers covering three performance dimensions: logistics cost, time and reliability. However, obtaining data on these parameters of performance often requires surveys, (i) of manufacturers and other generators of demand and (ii) of freight forwarder and logistics service providers.

The results of a survey conducted for the background study on the Monitoring and Evaluation (M&E) framework in 2017 confirmed that Cambodia suffers from significantly higher logistics cost over sales when compared to Vietnam and Thailand. Cambodia's logistics cost over sales is estimated at 20.52 percent, higher than Thailand (11.1 percent) and Vietnam (16.3 percent). In ASEAN, Thailand has the lowest logistics cost over sales while the Philippines has the highest logistics cost at more than 27 percent. It is possible that the archipelagic nature of the Philippines negatively impact logistics cost as logistics activities tend to be more expensive in islands countries. Logistics cost over sales is defined to have four components: (i) transport cost over sales, (ii) warehousing cost over sales, (iii) inventory carrying cost over sales, (iv) logistics administration cost over sales. In 2017, the value of logistics cost in Cambodia was be estimated at US\$1.96 billions of its total exports.

Transport costs are the highest component of logistics costs followed by inventory carrying cost. Transport and warehousing cost in Cambodia is even higher than in Indonesia. This means that reducing logistics cost in the Cambodia is not just an issue of reducing transport cost. The high cost of inventory is a by-product of limited reliability in the logistics system in Cambodia. Another key issue is that logistics cost is driven by the sector in which the responding firm operates. Firms that operate in high-value sectors will often have lower logistics cost/sales when compared with firms in lower value sectors.

The survey also confirmed that informal charges levied by government agencies remain significant. Informal charges were estimated at about 48 percent of the logistics administration cost or represent about 4.38 percent of total annual logistics costs in 2017. A decomposition of these informal charges has been attempted to improve understanding of informal payments as a burden to the trading community. These informal charges were confirmed by industry stakeholders and logistic services providers and operators. Based on this estimate, the informal charges in Cambodia was therefore estimated at US\$ 85,720,800 per year.

Among others, trucking costs are competitive when compared to neighbouring countries. Local freight-forwarders, however, have allegedly consolidated opaque practices whereby they produce formal invoices to cover the informal costs incurred when clearing goods at the border. The informal costs are often hidden in lump-sum service contracts between industry and services operators to which services operators would absorb all informal payments in their final prices presented in the service contracts.

Reliability is the most important concern for export-oriented manufacturers in Cambodia. Among time, cost and reliability, 38% of manufacturers identified reliability as their primary concern. Limited reliability in a national logistics system negatively impacts the overall performance of logistics of the country. Poor reliability forces manufacturers, producers and traders in the country to carry more inventory. The higher the inventory level, the higher the tied-up capital cost thus affecting the overall logistics cost in the country. As such, reliability has to be given priority when policies are designed to improve logistics performance. If reliability is not improved, then cost issues cannot yet be given priority in the country. At the end of the day, high costs tend to be further transferred back to either customers or suppliers. In improving logistics, cost is still an important dimension but the level of cost will be highly affected by the obtained reliability.

Cambodia is performing relatively well in cash conversion cycle (C2C) and delivery in full on time (DIFOT). A comparison of these KPIs against selected ASEAN countries shows that Cambodia's cash conversion cycle (C2C) is shorter when compared to other countries. It is possible that because the country is still a cash economy where payment is often made upon delivery of goods and services thus shortening cash flows. The country's DIFOT capability is slightly better than Indonesia. However, it is still one of the key weakness of the Cambodian logistics system. The DIFOT level for automotive is the highest in Cambodia. This is probably due to the nature of the automotive industry where just-in-time practices are the norm. It is also interesting to notice that the textile and garment sector has a relatively low DIFOT level when compared with Indonesia and Thailand but higher than Vietnam. This is interesting as this sector is still relatively competitive when compared to Vietnam even though there is not much difference in terms logistics costs/sales.

5. Cambodia logistics master plan

Consistent with the vision of the Royal Government of Cambodia to become an upper-middle-income country in 2030 and a high- income country by 2050, Cambodia is envisioned as connected and integrated in the ASEAN Economic Community. Development of the country's industrial development can generate sustainable and inclusive high economic growth by way of economic diversification, strengthening competitiveness and promoting productivity. This will need a common vision with a long-term and sustainable approach to transform and modernize Cambodia's transport and logistics from a high cost, slow and inefficient sector to an affordable, speedy and efficient industry by 2025, taking into consideration the need to link with global value chains and supporting industrial development, promote local economic and social development, mitigating environmental impacts, and complement national connectivity with regional connectivity. The developed national logistics vision will need to address the policy options, the funding mechanisms, and implementation arrangements.

5.1. Goals

The goals of the National Transport and Logistics Master Plan are consistent with Royal Government's overall economic policies and strategies, which include the eradication of poverty, liberalisation of the economy, and decentralisation of public sector responsibilities. More specifically they are aimed:

- (i) To transform the inadequate transport system in Cambodia into a comprehensive, fully-developed and sustainable national transport system to accommodate population and employment growth for all by 2030;
- (ii) To enhance regional integration in the global supply chain through seamless transport and high connectivity in the Greater Mekong Sub-region;
- (iii) To enhance industrial competitiveness through stronger production networks, optimum transport under efficient network and hubs, and modal-mix;
- (iv) To enhance competition in logistics through high quality, diversified and efficient logistics services to respond various demands; and

- (v) To contribute to poverty reduction and contribution to the achievements of the Sustainable Development Goals by facilitating movement of people, goods and services, by fostering domestic markets, and promoting tourism and rural development.
- (vi) To enhance the well-being and livelihood of Cambodian peoples through improved connectivity to economic centres within the country and mobility for all modes of transportation.

5.2. Objectives

To achieve the goals, the Master Plan need to set out the following objectives:

Transport Connectivity

- (i) To identify the priority transport projects which shall be implemented within the short, medium to long term, and to identify necessary activities to properly maintain and manage the transport network in Cambodia.
- (ii) To give high priority to the upgrading of provincial and rural roads network connecting to all parts of the country and with neighbouring countries and to accord high priority to their maintenance;
- (iii) To develop, maintain and manage well-functioning intermodal transport networks, followed by a regular system of monitoring and evaluation;
- (iv) To place emphasis on traffic safety and strict measures against transport offences including over loaded carriers;
- (v) To put in place policies, strategies, legal and regulatory framework for an efficient management of the transport infrastructure.

Logistics

- (vi) To create a comprehensive, cost effective logistics system capable of responding to the current and future economic demands;
- (vii) To drive the structural-change in the current logistics system in three important phases: 1) debottlenecking current logistics obstacles in the short-term; 2) reaching global standards in the medium term, and 3) activating logistics business regional hubs in the long term.

Operationalization of the Master Plan

- (viii) To establish a permanent high-quality long-term transport and logistics planning capability within MPWT, equipped to monitor performance of the Master Plan, and prepare subsequent periodically Master Plan updates.
- (ix) To establish the principles of funding, recommend appropriate funding mechanisms and provide an estimate of the required funding to implement the projects identified in the Master Plan;
- (x) To stimulate innovative win-win partnerships among the public sector, the private sector and the development partners community;
- (xi) To enhance the role of private sector in the implementation of the Master Plan initiatives, in particular by increasing private sector participation through bidding processes in routine and periodic road maintenance.
- (xii) To draw up specific timetables for realising the goals of the Master Plan, taking into account the different financing requirements; and
- (xiii) To prepare capacity building programmes.

5.3. Key principles

The Master Plan is premised on the following key principles:

- (i) Serve to accelerate the completion of existing transport and logistics infrastructure projects;
- (ii) Ensure coherence of various sectoral transport and logistics strategies, plans, and studies developed by MPWT and development partners;

- (iii) Strive for balance between national transport and logistics needs and Greater Mekong sub-regional and ASEAN Economic Community interests;
- (iv) Feasible in practice with clear financial mobilisation models, including the involvement of private sector;
- (v) Ensure public intervention for logistics improvement needs based on: (i) Expansion and more variety of transport modes; (ii) Reduction of time and cost of logistics; and (iii) Functioning competition in logistics service providers to fully utilize the truck transport, water-based transport and rail transport.

5.4. Caveat related to the master plan

The proposed master plan need to stress the need for inter-agency coordination as logistics issues are not solely under the jurisdiction of the MPWT. The MoC is also involved in the status and role of logistics services firms. Since trade logistics focuses more on international logistics issues, trade facilitation and trade logistics will need to be combined as logistics is a derived demand of trade.

The foundation for this Master Plan is from the Industrial Development Plan (IDP), which emphasizes the transformation of the industrial structure from labour-intensive industries to technology-driven industries. To realize such transformation, the IPD emphasized four key policy measures: 1) strengthening connectivity with the global supply chain; 2) integration with the industrial network in the Mekong region; 3) formation of industrial clusters that would enhance competitiveness and productivity; and 4) development of policies focusing on initiatives towards technology-driven, and knowledge-driven industries.

Currently Cambodia is still dependent on light industries, like garments and footwear, which rely totally on low production costs and trade preferences with developed countries. Although the shift of industrial structure towards more value-added and skilled oriented has begun, it may take several more years before the transition is fully completed. As such, the light industry will continue to take a leading role in the employment generation and exports during this transition period.

As economic growth pulls up labour costs, the official minimum wage level has risen up commensurately over the years, eroding to some extent the country's competitiveness vis-à-vis other lower wages countries like Bangladesh, Myanmar, and even in some regions in Vietnam. To counter that effect, reducing logistics costs and increasing logistics reliability is indispensable for the survival of the light industry in Cambodia.

As such, logistics development and industrial development are an inseparable pair for ensuring inclusion in the global value chain. The logistics sector should provide with the following values to the new manufacturing industry:

1. Lower cost and reliable time for cross-border transport to maintain investment value of Cambodia;
2. Competition between transport modes; and;
3. More choices in value-added logistics services.

6. Conclusions & policy recommendations

Economic growth is projected to navigate between 6-7% depending on expansion of future exports and FDI. Initial diversification from garments into new sectors such as electronics and bicycles is helping Cambodia to climb up the value chain. This trend can only be supported if effective policy measures are devised and implemented to address the two main bottlenecks: high electricity and logistics costs. Moreover, labour skills will also have to be developed to sustain the growth of the manufacturing sector.

Logistics soft and hard infrastructure will have to be adequate to support this substantial growth. Easing logistics bottlenecks are important for Cambodia to sustain its competitiveness in the international market. Lowering logistics costs, increasing service reliability and reducing delays is key to keep

Cambodia's growth story in the next 15 years. For Cambodia to remain cost-competitive and diversify into more sophisticated manufacturing segments, it is critical to implement reforms aiming to reduce trade logistics costs and improving trade logistics transparency and reliability.

Cambodia falls behind the region in most logistics indicators. High logistics cost, based on market conditions in Cambodia only is not justifiable. Trucking costs in fact are very competitive when they are compared to neighbouring countries. Informal costs are often hidden in lump sum service contracts between industry and services operators to which services operators would absorb all informal payments in their final prices presented in the service contracts.

The design and implementation of a strong border trade policy is an essential element to reduce logistics costs and support export expansion.

In the short term, Cambodia needs to reduce trade logistics costs to remain competitive. Since informal costs appear to be included in the current value of logistics costs, it is urgent for the government to design and adopt a comprehensive integrity strategy considering international good practices for border management operations and to implement modern automation systems for border management and port operations by digitalizing/automating processes entailing cross-border trade to the extent technologically feasible will reduce face-to-face interaction and remove informal payments.

The automation of border procedures beyond Customs can also help to improve logistics indicators, reducing time and increasing predictability, hence reducing cost to import-export goods. Investment in improving logistics soft and hard infrastructure would have to be commensurate with Cambodia's growth ambitions.

Logistics costs in Cambodia are higher as compared to other ASEAN countries such as Vietnam, and Thailand. However, it needs to be understood that logistics costs depend very highly on the sector under study. Medium to high-value sectors tend to have lower logistics cost as it is not surprising to find within the same sector a range of different logistics cost/sales due to the value-added included in the production of the goods. It is true that the logistics cost in Cambodia is overall higher than those of other countries but the context of each country is also different.

This high logistics cost are not only a by-product of the country's geography but are also due to logistics reliability issues. Low levels of logistics reliability indirectly affect the level of logistics cost as it forces manufacturers to have higher levels of inventory. Uncertainties in the national logistics system negatively impacts the overall performance of logistics in the country. This forces manufacturers, producers and traders in the country to carry more inventory. The higher the inventory level, the higher the inventory carrying costs thus affecting the overall logistics cost in the country.

There are variations in sectors in terms of logistics performance and cost. This is not surprising as different sectors have different requirements related to logistics performance. There is also a need to better understand the commodity flows to and from origins and destinations in the country in order to improve not only logistics but also to reduce the cost of access. A reliable domestic logistics network is a first step in the right direction.

From the perspective of users of the country's logistics system, reliability is the dominant logistics performance issues. Low level of reliability directly affects logistics capability. This forces the users to rely more on inventory and warehouses. Relying on inventory and larger warehouses to keep the goods directly increase logistics cost for the users. Manufacturers in Cambodia require that logistics should be reliable in order to be able to plan efficiently and rely on a more consistent logistics system.

The focus of logistics outsourcing is still on traditional logistics activities whereas the outsourcing of value-added activities is not widespread in the country. This is probably because most respondents are not familiar with the types of value-added services that are offered by LSPs in the country. Logistics outsourcing can be expanded but this needs to be supported with LSP quality assurance scheme.

The logistics performance of the country, based on the same methodology as the World Bank's LPI, is perceived to be higher than the WB's LPI score and ranking. This result is valid for both international and domestic logistics. The rationale behind the higher score is because respondents who are directly dealing

with logistics issues in the country are much more familiar of the logistics context in Cambodia than those who are answering the WB's LPI from outside the country. There is a need to harmonize the domestic's logistics with international logistic standards in order to enable seamless connectivity between domestic and international logistics.

There is a need to further explore and understand supply chain issues in both the best and worst performing sectors. Lessons can be learned and best practices transferred to other less performing sectors. This is part of the peer" group methodology approach that enables logistics knowledge transfer. The studies of domestic logistics corridors would also be necessary in order to identify waste in the system.

The focus in terms of trade logistics improvement therefore needs to be on assuring the reliability and the removal of uncertainties in the logistics system in Cambodia. If reliability of logistics improves in the country, then local manufacturers and LSPs can design and plan more optimized logistics systems and consequently become more competitive. This will also mean that logistics costs of key sectors in the country can be reduced. Focus can then move to time-based competition in order to sustain the country's competitiveness.

CHAPTER 6 : COMPETITIVENESS, BUSINESS CLIMATE, TRADE FINANCE AND INTELLECTUAL PROPERTY RIGHTS

1. Taking Stock of Cambodia's Competitiveness

Since its accession to the World Trade Organization (WTO), Cambodia has undertaken a series of major reforms aimed at improving the country's business and trade enabling environment, as demonstrated by its adoption of major economic reforms in order to secure economic growth as an engine for pro-poor development. Some of these reforms include the reduction of Cambodia's tariff ceilings at the WTO, lower applied average tariffs, adherence to key multilateral trade agreements, such as the Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary (SPS) Agreements, increased integration with its partners in the Association of South East Asian Nations (ASEAN) which has moved towards an ASEAN Economic Community, trade agreements with ASEAN+ partners¹³⁴, investment law reforms and easing of doing business licensing and regulatory requirements. The main objective of those reforms has been to improve the country's competitiveness and integrate into global production networks.¹³⁵

While Porter defined a country's competitive advantage as "*its capacity to attract businesses, both local and foreign, to use the country as a platform from which to conduct business*",¹³⁶ the concept of "competitiveness" is relative and comparative in nature, referring to structural characteristics, such as productivity, innovation, skills, and/or dynamic aspects, such as prices, macro-economy and exchange rates.¹³⁷

Porter highlights four main areas that determine the competitive strengths and weaknesses of countries and their major sectors:

- **Factor conditions:** The efficiency, quality and specialization of inputs available to firms - e.g. natural, human and capital resources and research and development, or R&D, infrastructure.
- **Related and supporting industries** - e.g. access to reliable suppliers.
- **Demand conditions** - e.g. size and sophistication.
- **Context** for firm strategy and rivalry - e.g. local context and rules, competition.

However, this is certainly not the only way to measure competitiveness. The IMD World Competitiveness Yearbook, for example, provides pragmatic approach to measuring competitiveness by dividing the national environment into four main Competitiveness Factors: Economic Performance, Government Efficiency, Business Efficiency and Infrastructure. Each of these four factors has been broken down into five sub-factors, each highlighting different facets of competitiveness, as reflected in Table 1.

Table 22 - IMD's World Competitiveness Yearbook - Factors

Competitiveness Factors	Sub-Factors
Economic Performance	Macro-economic evaluation of the domestic economy: Domestic Economy, International Trade, International Investment, Employment and Prices.
Government Efficiency	Extent to which government policies are conducive to competitiveness: Public Finance, Fiscal Policy, Institutional Framework, Business Legislation and Societal Framework.
Business Efficiency	Extent to which the national environment encourages enterprises to perform in an innovative, profitable and responsible manner: Productivity and

¹³⁴ These include Australia and New Zealand, China, India, Japan and Republic of Korea.

¹³⁵ This chapter also uses, extensively, information and data from reports published by international organizations for the purpose of comparison only but it does not, in any ways or forms, imply the Government's agreement with the reports inter alia analysis, findings, recommendations etc. from those reports.

¹³⁶ Porter, M. E. (1990). *The Competitive Advantage of Nations*. Free Press Edition, New York.

¹³⁷ UNDP (2009). *Cambodia Country Competitiveness: Driving Economic Growth and Poverty Reduction*. Discussion Paper No. 7, Insights for Action, United Nations Development Programme.

	Efficiency, Labor Market, Finance, Management Practices and Attitudes and Values.
Infrastructure	Extent to which basic, technological, scientific and human resources meet the needs of business: Basic Infrastructure, Technological Infrastructure, Scientific Infrastructure, Health and Environment and Education.

Source: IMD

The World Bank also provides a helpful framework for analyzing country competitiveness through the prism of three pillars, namely of a macroeconomic nature, supporting services and infrastructure, and policy support by reduction of market failures¹³⁸.

Figure 15 - World Bank suggested competitiveness Diagnostic Framework



Source: World Bank (2012)

In this chapter, we adopt the IMD's approach and analyze some of the key areas considered crucial for competitiveness. Section 6.1.1 considers Cambodia's Economic Performance, focusing primarily on Domestic Economy, International Trade, and International Investment. Section 6.1.2 focusses on a particular and critical aspect of Business Efficiency, Access to Trade Finance. Section 6.1.3 examines a specific area inside Government Efficiency, key in promoting innovation: Intellectual Property Rights, innovation and technological adoption. While government efficiency is significant, it is covered in part by the governance related consideration of the CITSU, examined in this and other chapters.

1.1. Cambodia's Overall Competitiveness (Macroeconomic) Environment

Cambodia is a highly integrated and open economy, with trade representing 125% of its Gross Domestic Product in 2017, making it the third most open economy within the Association of South East Asian Nations (ASEAN). In terms of GDP growth, in the last decade the country has experienced a stable average high growth rate, ranging between 6.9 and 7.3 percent annually. This growth level is slightly higher to those experienced in the region by the country's peers, such as Viet Nam and Myanmar, which in 2017 grew by 6.8 and 6.7 percent, respectively. Such sustained growth is mainly driven by domestic consumption and exports, mainly in the services, construction and garment industries.

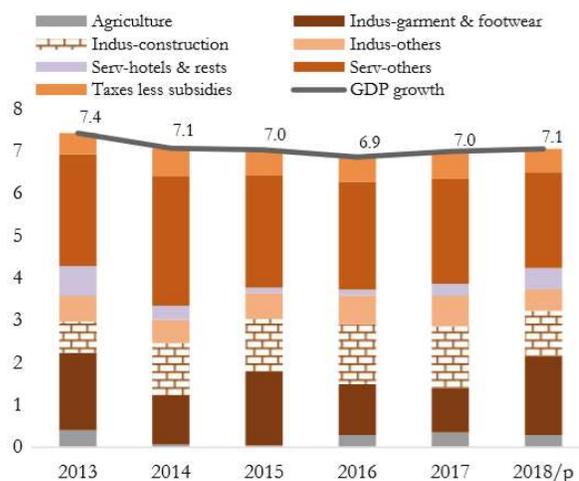
¹³⁸ Reis, J. G. & T. Farole (2012) Trade Competitiveness Diagnostic Toolkit. World Bank: Washington DC.

Box 1 - Identifying Cambodia's sources of growth

The boom in Cambodia's garment sector, which produces 84 percent of all value added in manufactured exports, and the boom in tourism, were a major source of foreign exchange to the country. In addition, official development assistance has supported progress in many public services such as trade logistics, SEZs, road, sea and utilities infrastructure, health, and education. Overall, the growth was largely driven by attracting foreign financial resources in various ways. Foreign investors continuously confirm that low labour costs, high tax incentives and tariff preferences, and preferential access to export markets are the key reasons for their investments in Cambodia.

Source: WB (2018)

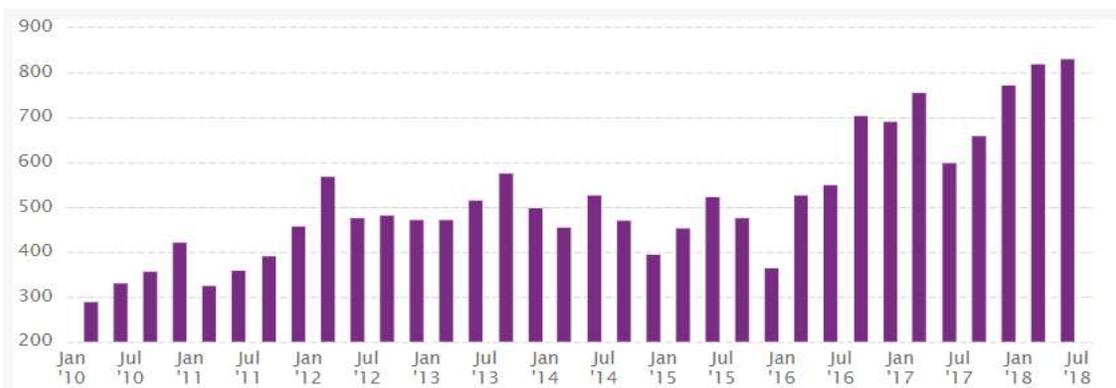
Figure 16 - Cambodian sector's contribution to GDP growth



Source: WB (2018)

Nevertheless, such impressive economic growth and poverty reduction efforts have been dependent on selected economic sectors. A few sectors stand out in terms of their contribution to GDP growth, such as garments and footwear, construction and other service sectors, including transport, tourism and ICT services. Many of these sectors have seen growth underpinned by foreign investor. As highlighted by the OECD (2018), foreign investment in the country has been buoyant since the country's accession to the WTO. Since 2015, annual inflows of over USD 1 billion have been witnessed. As a share of GDP, the stock of FDI in the country, which stood at 93 percent in 2017, is the one of the highest in the ASEAN region, second only to Singapore.¹³⁹ According to the World Bank, gross fixed capital formation reached 21.9 percent of GDP in 2017, while FDI represented 12.6 percent of GDP in that same year.¹⁴⁰

Figure 17 - Cambodia's FDI inflows, USD million, 2010-2018, quarterly.



Source: Census and Economic Information Center

¹³⁹ OECD (2018). Investment Policy Reviews: Cambodia 2018. Organisation for Economic Co-Operation and Development, Paris.

¹⁴⁰ World Bank <https://datacatalog.worldbank.org/dataset/world-development-indicators>

The country, however, experiences a concentration of FDI inflows on a limited number of sectors, with manufacturing, in particular garments, attracting most of the inflows, followed by agriculture, accommodation, finance and electricity. Similarly, domestic investment has been growing, although it represents one of the smallest levels in the region, such that Cambodia remains with a significant savings-investment gap that increases exposure to fiscal indebtedness and repayment mismatches.

Box 2 - Improving Cambodia's Competitiveness: Addressing informality

An important element hampering the country's competitiveness is the dominance of the informal sector in its national economy. Such informality not only creates unfair competition to those operating in the formal sector, but also frustrates traceability in supply chain management. Particularly, almost one third of companies operating in Cambodia identify the practices of competitors in the informal sector as a major business environment constraint.¹⁴¹

Similarly, different international rankings have identified Cambodia as a challenging place to do business, particularly in regards to establishing a new business. Thus, the country ranks 185th in the WB's DB 2019 Indicators, over 190 countries¹⁴². In this sense, Cambodia requires nine procedures for an investor to open a company, taking about 99 days to complete all procedures, and representing a cost equivalent to approx. 47 percent of the country's GNI per capita, significantly more than the country's regional peers.

Table 23 - Doing Business Indicators: Starting a Business, 2019

Country	Procedure (time)	Cost (% of GNI)	Ranking (over 190)
Cambodia	99 days	47.4	185
Average East & Asia Pacific	25.9 days	17.8	-
Thailand	4.5 days	3.1	39
Myanmar	12 days	24.8	152
Philippines	31 days	20	166

Source: WB Doing Business (2019)

In this context, Cambodia has started to address such challenges through reforms on the country's Investment Law, the automation of governmental procedures and a more efficient law enforcement. One of the key steps in reducing informal payments and inefficiency has been seen in the launch of an online registration service for companies.¹⁴³ Prior to 2016, company registration was done manually, taking five working days to process the documentation and issue a Registration Certificate. In addition to reducing the number of steps required to obtain the Certificate, the user can now submit all the documentation and pay the processing fee on-line. Once completed, the documentation is reviewed by a business registration official. The approval or refusal of the application occurs within three to five working days after the upload of the documents. If approved, the company will be immediately registered and a certificate of registration will be issued. If a new company is registering as a private or public limited company, it is automatically incorporated.¹⁴⁴ Additionally, the MoC has initiated an interface and connection system, integrating MoC's business registration with the tax system and the Cambodia National Single Window (CNSW).

Also, the Council for the Development of Cambodia (CDC) provides unofficial translations of the main investment regulations to foreign investors.¹⁴⁵

¹⁴¹ WB (2016). Enterprise Surveys: Cambodia. The World Bank Group. Available from: <http://www.enterprisesurveys.org/data/exploreeconomies/2016/cambodia#informality>

¹⁴² There has been some criticism of these results from the Doing Business Rankings, not just by Government officials but also from foreign direct investors that believes the situation is more positive than is portrayed in such rankings.

¹⁴³ See MOC's Online Business Registration: <https://www.businessregistration.moc.gov.kh/guest/>

¹⁴⁴ See WTO (2017). Trade Policy Review of Cambodia – Report by Cambodia. World Trade Organization, WT/TPR/G/364, October, para. 4.39.

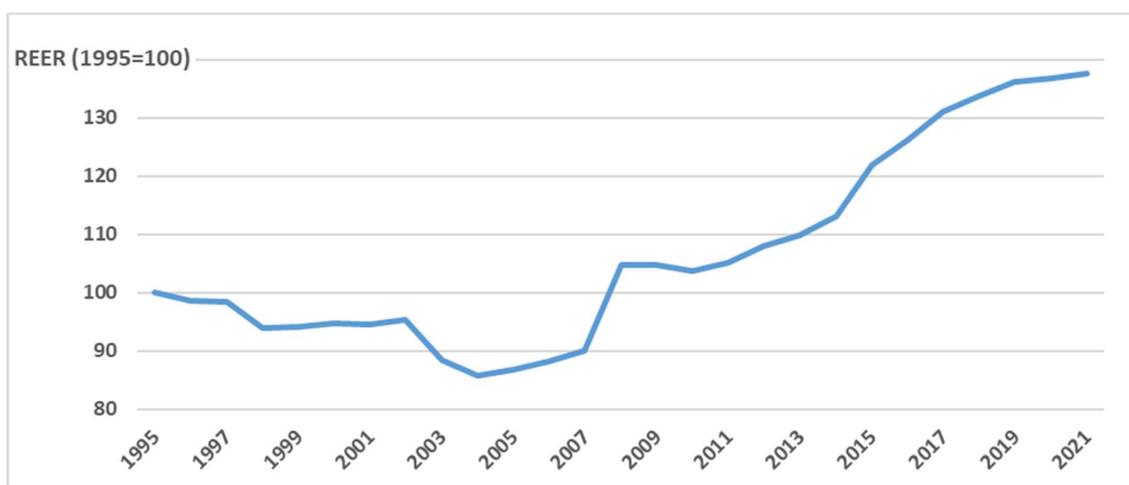
¹⁴⁵ See OECD (2018). OECD Investment Policy Reviews: Cambodia 2018. Organisation for Economic Co-Operation and Development, Paris.

Additionally, the overall external competitiveness of Cambodia is reflected through its real effective exchange rate (REER), which is its nominal exchange rate against trading partners, adjusted for differences in price inflation.

Cambodia’s REER has risen quite sharply since 2008 and is forecasted to continue rising up to 2021. An increase in REER implies that exports become more expensive and imports become cheaper.¹⁴⁶ The loss of external competitiveness is explained by the fact that prices in Cambodia have risen faster than in its partner markets, while the nominal exchange rate has failed to depreciate to account for such price differentials. Therefore, an unsupervised increase indicates a loss in trade competitiveness, which might lead to a future decrease in exports, as domestically produced goods become less attractive to international costumers.

In terms of trade, Cambodia has made significant efforts to modernize and reform customs operations and to improve trade facilitation. In 2014, a Best Traders programme was implemented to incentivize larger traders that adhere to good practices to avoid verifications related to rules of origin, customs valuation and security provisions. In 2015, the Ministry of Commerce introduced an on-line system for obtaining automated certificate of origins. In July 2007, the Senate ratified the Law on Customs, which was promulgated by the King on 20 July. In January 2019, the control of shipments at the border was streamlined.^{147,148} The reduction in tariffs, and introduction of simplified procedures for trade, has facilitated trade and enabled Cambodia to tap into regional and global production networks.

Figure 18 - Cambodia's Real Effective Exchange Rate



Source: EIU

The country’s efforts in this area have had an impact on the country’s total exports to the world, which between 2014 and 2017 moved from USD 6.9 billion to USD 18.4 billion. Particularly, the country has become significant more competitive in the exports of Machinery (HS 84-85-87), as demonstrated by the surge in exports, which moved from USD 84.7 million in 2014 to USD 973.8 million in 2017, representing a Compound Annual Growth Rate (CAGR) of 125.7 percent during that period.

¹⁴⁶ IMF, see <http://datahelp.imf.org/knowledgebase/articles/537472-what-is-real-effective-exchange-rate-reer>

¹⁴⁷ See Chan, S. (2019). Camcontrol removed from borders. Khmer Times, February 4. Available from: <https://www.khmertimeskh.com/50574979/camcontrol-removed-from-borders/>

¹⁴⁸ For additional trade facilitation and trade logistics measures, please see Chapters 4 and 5 of the CTISU

Box 3 - Supporting Cambodia's Exports of Machinery

The machinery sector is one of Cambodia's newest sectors, which, if successfully supported, will enable Cambodia to further integrate into regional value chains with horizontal division of labour. Strengthened regional integration arising from the full implementation of the ASEAN Economic Community, might enable Cambodia to move up the value chain, adapting its production from nondurable consumer goods (clothing and footwear) to durable consumer goods (electrical machinery, machinery, and vehicle parts) and then to capital goods industries.

Source: WB (2017). Cambodia Economic Update: Cambodia Climbing Up the Manufacturing Value Chains. The World Bank Group, October.

Such a boost in exports is explained by Cambodia's competitive gains, understood as "*the percentage change in competitiveness of a country's exports in the world market for the selected sector in the period under review*", competitiveness that is understood in the gains (or losses) of a country's market share that would occur if changes were only due to variations in country's market share in import markets.¹⁴⁹

An analysis of the decomposition of export growth shows that the majority of the trade created between 2013 and 2017 comes from old markets. It is possible to decomposing the source of export growth according to (i) Competitive gains/losses made by Cambodia¹⁵⁰, (ii) the initial specialisation of Cambodia in being positioned on dynamic markets¹⁵¹, (iii) initial sectoral specialization of domestic supply on products characterized by dynamic demand¹⁵², and (iv) the ability of Cambodia to adjust export supply to growing or declining import markets.¹⁵³ This analysis highlights that Cambodia had derived much of its growth from competitiveness effects and adaptation of export supply to dynamic markets in the electronic components industry, while the apparel sector is almost exclusively deriving its growth in exports from competitiveness effects.

¹⁴⁹ See ITC methodology at <https://tradecompetitivenessmap.intracen.org/Documents/TradeCompMap-Trade%20Performance%20Index-Technical%20Notes-EN.pdf>

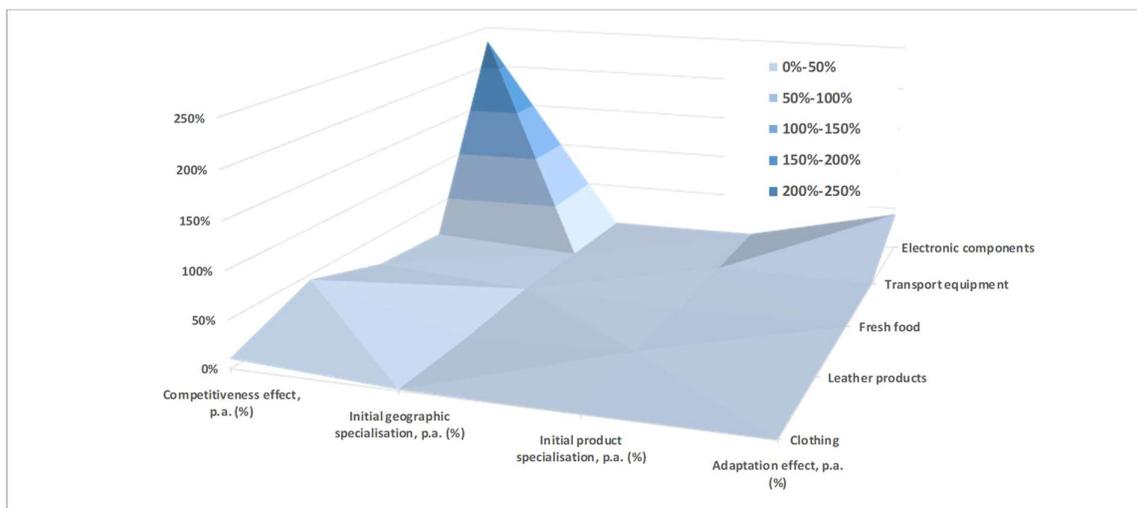
¹⁵⁰ The competitiveness effect in fact shows the percentage change in competitiveness of a country's exports in the world market for the selected sector in the period under review. Positive values indicating a gain in market due to increased competitiveness of a selected country sector on the world market.

¹⁵¹ The initial geographic specialisation index represents a quota of the "relative change of world market share". This index shows the benefits associated with the initial specialisation of domestic exporters on dynamic markets. The overall effect (the weighted average of the variation in the share of partner countries in world imports) is positive if the country is well positioned on dynamic destination markets in the beginning of the time period.

¹⁵² The initial product specialisation index represents a quota of the "relative change of world market share". This index shows the gains or losses associated with the initial sectoral specialisation of domestic supply on products characterised by dynamic demand. The effect is positive if both factors go in the same direction, i.e. if the share of an import market in world imports increases (declines) and the sector is over (under)-represented in the country's exports to its partner and vice-versa. The overall effect is positive if the country is well positioned on dynamic products in the beginning of the time period.

¹⁵³ See ITC methodology at <https://tradecompetitivenessmap.intracen.org/Documents/TradeCompMap-Trade%20Performance%20Index-Technical%20Notes-EN.pdf>

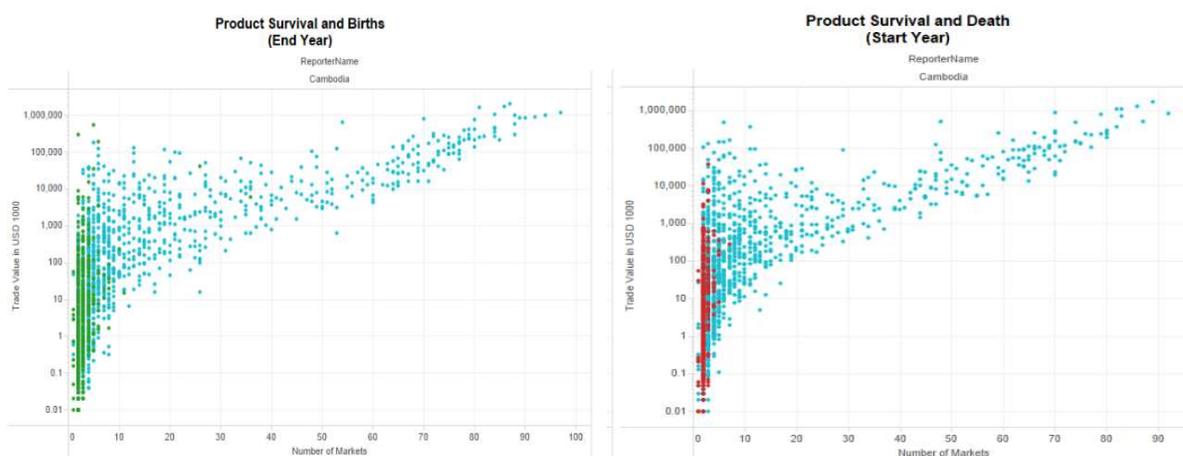
Figure 19 - Competitiveness drivers of top 5 export sectors in Cambodia, 2013-2017



Source: ITC Trade Competitiveness Map

In terms of product survival, Cambodia’s exported products show high rates of survival rates, with exports reaching approximately 10 countries in the first year of existence¹⁵⁴. The successful product survival rates is partly explained by the availability of regional markets, and the possibility to access international markets, through preferences, such as the EU. This advantage is a lever to insulate from major switching of buyers. It has also been a reason for attracting investment into export sectors, as investors seek to capitalise on the market access provided to Cambodia. In this context of FDI and export competitiveness, the services and manufacturing sectors are the driving forces of the economy in terms of value addition, mainly due to the formidable growth of export processing zones (that have propelled apparel industries in particular), and expansion of tourism, real estate and construction activities.

Figure 20 - Cambodia’s export survival, births (LHS) and deaths (RHS) 2013-17¹⁵⁵



Source: World Bank WITS

¹⁵⁴ Economic development is generally accompanied by the introduction of new products, and the ability of a country to sustain trade relationships is a sign of economic maturity. This indicator reports the birth, survival, and death of products, as well as their trade values and number of markets to which they are exported in user-selected start and end years. A high death rate among products dispersed across industries may indicate economic volatility; concentrated in a sector, it may indicate evolutions in domestic production. See <http://wits.worldbank.org/WITS/docs/TradeOutcomes-UserManual.pdf>

¹⁵⁵ The chart provides two graphs, each with number of destination markets on the horizontal axis and value in thousands of USD on the vertical axis. The first graph illustrates product survival and births. Surviving products are in blue, and new products

Particularly, it is worth highlighting that the manufacturing sector has been driven by an increase in the country's exports, although these are mainly concentrated in two main areas: garments and wood processed products, although this last sector has lost importance in the face of emerging sectors, such as the production of electrical machinery (HS 85). These different exporting sectors have been mainly supported by tariff preferences, granted under the European Union's Everything-But-Arms (EBA) scheme (see Chapter 1). Nevertheless, these preferences are currently under threat due to the temporary suspension of EBA owing to the investigation carried out by the European Commission based on Human Rights concerns in Cambodia. The suspension of EBA does not necessarily imply a withdrawal of preferences, something which is to be decided in six months' time.¹⁵⁶

Box 4 - Expanding Cambodia's Competitiveness: ASEAN's Economic Community

During the 12th ASEAN Summit in January 2007, the ASEAN leaders affirmed their strong commitment to accelerate the establishment of an ASEAN Economic Community (AEC) by 2015. Under the AEC, ASEAN countries joined forces as a single market and production base, making the region more dynamic and competitive by introducing new mechanisms and measures to strengthen the implementation of existing economic initiatives, such as:

- Accelerating regional integration in priority sectors;
- Facilitating movement of business persons, skilled labour and talents; and
- Strengthening the institutional mechanisms of ASEAN Member States.

The ASEAN Community as a whole will remain outward looking, and the AEC foresees: (i) a single market and production base; (ii) a highly competitive economic region; (iii) a region of equitable economic development; and (iv) a region fully integrated into the global economy.

Source: Aring, M. (2015)

1.2. Cambodia's Intellectual Property Rights Landscape

Since the publication of Cambodia's Diagnostic Trade Integration Strategy (CTISU) 2014-18, the country has strengthened its efforts to establish a sound and robust Intellectual Property Right (IPR) legal and regulatory framework, anchored on international standards. The main changes involve the adoption of the Law on Geographical Indications in 2014, and the country's accession to the Protocol Relating to the Madrid Agreement Concerning the International Registration of Marks in 2015, the Patent Cooperation Treaty in 2016, and The Hague Agreement concerning the International Registration of Industrial Designs in February 2017.

There are strong linkages between Intellectual Property Rights (IPRs) protection and innovation. Investment in R&D and firms' incentives to innovate is influenced by the degree of protection of IPRs in a country. Meanwhile, technological innovations are instrumental in opening new markets and new industrial branches for a new product.. In this context, national intellectual property systems play a crucial role in supporting a business to gain and retain its innovation-based advantage.¹⁵⁷

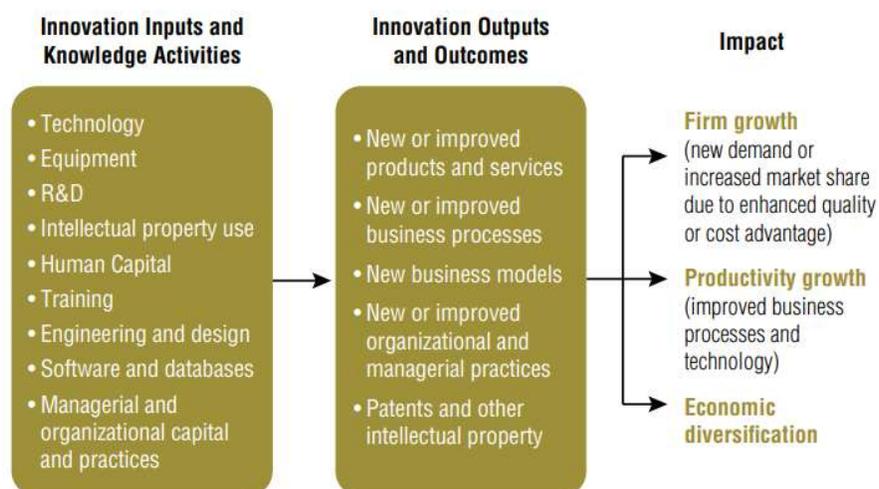
However, the concept of innovation is broad, and includes the attempts made by firms to develop new and/or improved products or processes, or experiment with alternate ways to do things. Innovation, in itself, is also a process, requiring *"a broad set of tangible and intangible assets with embedded knowledge, ranging from basic human and organizational capital to R&D, need to be accumulated and combined to yield innovation outcomes in the form of new or improved products and services, production and delivery*

are in green. The second graph illustrates product survival and death. Surviving products are in blue, and product deaths are in red.

¹⁵⁶ European Commission, *ibid*

processes, business organization, and patented intellectual property”.¹⁵⁸ In turn, the combination of those elements can lead to greater productivity, better jobs, increased firm growth rate, and diversification (see Figure 21).

Figure 21 - The Innovation Paradox



Source: Cirera & Maloney (2017).

Box 5 – What are Intellectual Property Rights?

The grant of a property right by the government, albeit generally for a limited period of time, over useful intangible intellectual output provides the owner of such legal property rights the right to exclude all others from commercially benefiting from it. In other words, the legal rights prohibit all others from using the underlying IP asset for commercial purposes without the prior consent of the IP right holder. The different types of IP rights include trade secrets, utility models, patents, trademarks, geographical indications, industrial designs, layout designs of integrated circuits, copyright and related rights, and new varieties of plants.

Source: Kalanje, C. M.

The need to adopt a robust National Innovation System (NIS) is important in order to strengthen the role of innovation across the country. However, innovation cannot be supply driven: there must be demand from firms that have the capabilities to innovate and the incentives to do so. The NIS must address the existing barriers hampering accumulation, such as credit; entry and exit barriers to industries; business and regulatory climate, rule of law, etc... This is crucial both because physical capital is a complement to innovation and because the accumulation of knowledge capital is subject to all the same accumulation barriers as physical capital—capital markets, business climate, or ability to diversify risk.¹⁵⁹

The NIS needs to have a broad scope to reflect the fact that innovation policy cannot consist of simply offsetting innovation-related market failures. It must also ensure that a broader set of complementary factors, necessary for firms to receive the potentially high rates of return from technological adoption, are present.

¹⁵⁸ Cirera, X. & Maloney, W. F. (2017). The Innovation Paradox: Developing-Country Capabilities and the Unrealized Promise of Technological Catch-Up. The World Bank Group, Washington D.C.,

¹⁵⁹ Cirera & Maloney (2017), *ibid.*

Table 24 : WEF Global Competitiveness Report 2018 - Innovation

2018		
Innovation Capability	Ranking	Value
State of cluster development	45	4.1
International co-inventions	107	0.02
Multi-stakeholder collaboration	69	3.6
Scientific publications	101	87.7
Patent applications	113	0.02
R&D expenditure	105	0.1
Quality of research institutions	112	0
Buyer sophistication	47	3.7
Trademark applications	107	83.05

Source: WEF (2018)

In the international sphere, Cambodia ranks high in terms of property rights and its protection. In 2018, the country ranked 82 in terms of property rights available and 62 in terms of protection of IPRs. This represents a significant improvement in comparison to the previous year, when the country ranked 102 with regards to property rights and 130 on the protection of IPRs.¹⁶⁰

Nevertheless, such improvement has not been reflected on the side of innovation, which has stagnated. Nevertheless, there are certain areas where Cambodia stands out, such as the state of cluster development,

buyer sophistication and multi-stakeholder collaboration.

In this context, the country is currently receiving technical assistance from the World Intellectual Property Organization (WIPO) to facilitate the country's application for membership to a series of international treaties and conventions, such as:

- WIPO Copyright Treaty (WCT)
- WIPO Performances and Phonograms Treaty (WPPT),
- The Berne Convention for the Protection of Literary and Artistic Works related to Copyrights and Related Rights,
- The Patent Cooperation Treaty
- The International Convention for the Protection of New Varieties of Plants (UPOV),
- The Geneva Phonogram Convention, and
- The Brussels Satellite Convention.

The current national framework governing Intellectual Property Rights is dispersed, with a multitude of ministries addressing specific areas IPRs:

- The Ministry of Commerce (MoC) is responsible for trademarks, geographical indications, and trade secrets;
- The Ministry of Industry and Handicrafts (MIH) for patents, industrial designs, utility models, integrated circuits, as well as plant breeder rights;
- the Ministry of Culture and Fine Arts (MoCFA) for copyright and related rights;
- the Ministry of Information for broadcasting; and
- the Ministry of Posts and Telecommunications (MoPT) for internet domain names.

There are currently three main IP Offices:

- the Department of IPRs (within the MoC),
- the Department of Industrial Property (within MIH), and
- the Department of Copyright and Related Rights (within the MoCFA).

In order to ensure coordination across the different agents, the Council of Ministers created the National Committee for Intellectual Property Management in 2008. The committee is responsible for developing national policy on intellectual property, strengthening inter-agency cooperation, preparing and disseminating new laws and regulations, and acting as a clearinghouse for technical assistance relating to the intellectual property sector. This National Committee has been instrumental in promulgating the numerous new laws adopted in the field of IP over the last decade.

¹⁶⁰ Schwab, K. (2017) The Global Competitiveness Report 2017-2018, World Economic Forum; and Schwab, K. (2018) The Global Competitiveness Report 2018, World Economic Forum;

One of the main changes experienced in this area since the drafting of the previous CTISU has been the adoption of the Law on Geographical Indications in 2014. The Law foresees four main sectors that can be protected by a Geographical Indications (GI): agricultural goods, foodstuffs, handicraft goods, or any other goods produced in the geographical area or transformed in Cambodia. So far, the country has registered the following geographical indications: Kampot Pepper, Kampong Speu Palm Sugar, Kep flower of salt, Kratie pomelo, Phnom Srok silk, Battambang fragrant rice, Battambang oranges, Siem Reap prahok, and Kampot durian.¹⁶¹

The Law allows the registration of both local and foreign geographical indications. In the case of the foreign ones, these shall be registered as long as the foreign geographical indication is registered in accordance with the local provision in its country of origin.

Box 6 – In what cases does the Law prohibit the use GIs?

The Law foresees four situations where geographical indication cannot be validly registered:

- If it is contrary to laws and regulations, morality, religion, good custom or public order;
- If it is likely to mislead or confuse the public with respect to the characteristics, the nature, the quality, the place of origin, the production process of the goods and/or its use;
- If it is used as a name of a plant variety or animal breed; or
- If it is a generic term

As mentioned above, the country has also acceded to a number of international treaties and conventions:

In 2015, Cambodia accessed the Protocol Relating to the Madrid Agreement Concerning the International Registration of Marks, commonly known as the Madrid System. The Madrid System makes it possible for an applicant to apply for a trademark in a large number of countries by filing a single international application at a national IP office. Thus, the System simplifies the process of multinational trademark registration by eliminating the requirement to file individual applications at the IP office in each country in which protection is sought.¹⁶²

Cambodia also became a member of the Patent Cooperation Treaty (PCT) in 2016. The PCT provides a unified procedure for filing patent applications to protect inventions in each of the PCT's contracting States. A single filing of a PCT application is made with a Receiving Office, which is followed by a search carried out by an International Searching Authority (ISA) and a written opinion regarding the patentability of the invention. This novelty has a double benefit:

- On one hand, foreign applicants applying for patent protection in Cambodia may use such international reports instead of domestically-produced ones, therefore ensuring the affordability of the process.
- On another hand, Cambodia's patent office will also benefit greatly from this added capacity, as it will reduce the administrative burden on search and examination processes, including formality checks and patentability assessments.¹⁶³

The relevant national or regional authorities administer matters related to the examination of the application, if foreseen by national law, and the issuance of a patent. It is worth highlighting that a PCT application might not itself result in the grant of a patent, as this is a prerogative of each national authority.¹⁶⁴ The PCT procedure essentially leads to a standard national or regional patent application,

¹⁶¹ See Abacus IP (2019). Guide to Geographical Indication Law in Cambodia. Abacus IP, January 25. Available from: <http://www.abacus-ip.com/guide-to-geographical-indication-law-in-cambodia/>

¹⁶² WIPO (2015). Cambodia Joins the Madrid System. World Intellectual Property Organization, March 5. Available from: https://www.wipo.int/madrid/en/news/2015/news_0002.html

¹⁶³ Mirandah, G. & Yee, T. Y. (2016). Cambodia Accedes to PCT and Fosters IP Development. HG.org, November 6. Available from : <https://www.hg.org/legal-articles/cambodia-accedes-to-pct-and-fosters-ip-development-06-11-2016-40807>

¹⁶⁴ As highlighted by the WTO TPR of Cambodia, this implies that a PCT application, which establishes a filing date in all contracting states, must be followed up with the step of entering into national or regional phases to proceed towards the grant of one or more patents.

which may be granted or rejected according to the applicable law in each jurisdiction in which a patent is desired.¹⁶⁵ In the specific case of Cambodia, the applicable law is the 2003 Law on Patents, Utility Model Certificates and Industrial Designs, which provides a procedure for registering foreign applications in Cambodia. Under this law, patent rights can be subject to revocation and abridgement by the Government, as the Ministry has the right to exploit a patented invention itself, or allow a third party to do so to promote the public interest.

In 2017, Cambodia also became a member to The Hague Agreement concerning the International Registration of Industrial Designs. The Hague Agreement provides a mechanism for acquiring, maintaining and managing design rights in countries and intergovernmental organizations that are members of The Hague Union through a single international application filed with the International Bureau of the World Intellectual Property Organization (WIPO).¹⁶⁶ Thus, this is a cost-effective mechanism enabling the applicants to easily acquire design protection in multiple countries, as a single international application replaces a whole series of individual national applications. Similar to the PCT procedure, upon publication of the application, National Offices then carry out a substantive examination, analyzing whether the industrial design fulfils the substantive conditions of protection provided for by its domestic legislation. In the specific case of Cambodia, the applicable law is the 2003 Law on Patents, Utility Model Certificates and Industrial Designs.

Finally, in 2018 the Government passed the Law on Compulsory License for Public Health, which allows Cambodia to benefit from the 2017 Amendments to the WTO's TRIPS Agreement dealing with public health. The main purpose of this amendment is to allow pharmaceutical products made under compulsory licenses granted under the terms of the amendment to be exported to countries lacking production capacity.

Having an appropriate set of IPRs allow investors to reduce the risk associated with the development of the product, ensuring that these are able to reap acceptable returns for their participation in the process. Therefore, IPRs play an important role in facilitating the process of taking innovative technology to the market place, improving, at the same time, the competitiveness of technology-based enterprises, whether such enterprises are commercializing new or improved products or providing service on the basis of a new or improved technology.¹⁶⁷

1.3. Cambodia's Trade Finance landscape

Improving access to trade finance is key for continuing to expand a competitive external trade sector. Cambodia's financial landscape has evolved significantly in recent years, allowing for the expansion in the scope and spectrum of financial services available. Since the establishment of the first privately-owned commercial bank more than 20 years ago, the country has developed a financial system consisting, *inter alia*, of 38 commercial banks, 15 specialized banks, 7 micro-finance deposit-taking institutions, 65 microfinance institutions, 178 registered microfinance operators, 7 representative offices of foreign banks, and 12 financial lease companies. The sector is undergoing a shift from cash to digital, and from corporate to retail and real estate lending. Notwithstanding the substantial progress towards the supply of financial intermediaries, access to finance and trade finance instruments in particular remain a challenge, particularly for SMEs.

In this context, the relatively large presence of foreign-owned banks enhanced lending capacity and raised services quality has contributed to enhancing access to trade finance for many enterprises, including SMEs. In recent years, the main banks have been diversifying services, notably for corporate customers, with payroll management services, overdraft facilities, working capital, financial leasing, international payments (including foreign exchange services) and trade finance.

¹⁶⁵ WTO (2018). Trade Policy Review of Cambodia – Report by the Secretariat. World Trade Organization, WT/TPR/S/364/Rev.1, March, para. 3.127.

¹⁶⁶ WIPO (2017). The Hague System for the International Registration of Industrial Designs: Main Features and Advantages. World Intellectual Property Organization.

¹⁶⁷ Kalanje, *ibid.*

Nevertheless, and despite the rising financial penetration, access to finance for most firms and households remains low. While in principle lending facilities are open to SMEs, very high collateral requirements apply. Long tenors for lending are hardly offered in Cambodia. Banks focus on overdraft and short-term lending (including working capital), to the extent that client can display sufficient land or building collateral. The relatively large number of banks (38) masks the fact that the market is dominated by a handful of institutions. The largest foreign-owned banks focus on the corporate sector and aim mainly at supporting local operations of home countries corporates operating in Cambodia. Others provide wholesale funding to local markets for large corporate transactions. The gradual integration of Basel II and III rules, as an on-going process, may trigger a consolidation of banks.

Similarly, and whilst trade finance products are available, these are distributed very selectively. In effect, whilst bank institutions may discount, buy and sell bills of exchange and bills of lading, issue all kinds of trade-related guarantees (shipping, money retention, bid and advance payment), import and export loans, issue and endorse letters of credit, discount invoices, the reality shows that few of these products are actually used. Only a few large companies or conglomerates are in a position to display the financial statements, "hard title" bills and documentation for collateral in order to benefit from mostly trade-related lending. Even with the required financial statements and hard collateral such as buildings and land, the "banked" entities are generally supplied with relatively simple, albeit expensive (interest rates typically over 10%) loans and working capital facilities.

Box 7 - Impacts of the Cap on Interest Rates

With the aim to "protect consumers from excessive interest charged by [micro-finance institutions (MFIs)] and to effectively promote the use of affordable loans"¹⁶⁸, in March 2017 the National Bank of Cambodia (NBC) imposed an interest rate ceiling of 18 percent annually for loans of any maturity extended by microfinance institutions.

Following the implementation of the cap, nominal lending rates of both MFIs and banks decreased, moving from the initial 34.5 and 20.5 percent, respectively, to around 18 percent in both cases. Another impact has been the reduction by 2.5 percent (around 45,000) in the number of borrowers between January and August 2017. Over the same period the average loan size increased by 39 percent, moving from USD 1,795 to USD 2,497, suggesting that fewer small loans were disbursed and MFIs tried to reduce costs and increase the efficiency of their lending operations.

Source: Ferrari, A., Masetti, O. & Ren, J. (2018). Interest Rate Caps: The Theory and The Practice, Policy Research Working Paper 8398, Finance, Competitiveness and Innovation Global Practice, The World Bank Group, April, Washington D.C.

The trade finance market is biased towards lending. Microfinance institutions may also provide working capital collateralized by land. Given that the export sector of Cambodia is dominated by SMEs, notably in the garment and in light manufactures sector, the need for working capital facilities is high. However, with most of companies having weak accounts, a short credit history and little market power over partners in the supply chain (suppliers and buyers), SMEs are cash-strapped in Cambodia. Although official statistics are not available, 90% of imports, including industrial inputs, are paid cash-in-advance (prepaid). One foreign bank source considered that only 8% of its portfolio toward buyers (Cambodian companies) is made of letters of credit. In this context, it is not surprising that the World Economic Forum, in its 2016 "Global Enabling Trade Report", had ranked lack of access to trade finance 8th in the 10 export constraints of Cambodia.

¹⁶⁸ NBC (2017). Prakas on Interest Rate Ceiling on Loan. National Bank of Cambodia, Number B7-017-109-PK.

Box 8 – Conditions of letters of credit in Cambodia

The conditions and documentation for letters of credit issuance and approval are well codified by the International Chamber of Commerce, and subject to international arbitration. Countries with same import/export characteristics of Cambodia (textile imports, garment exports) are some of the heaviest users of letters of credit, such as Bangladesh and Pakistan. Fees of letters of credit are reasonable since the guarantee of payment is rarely called. Merchandises are the only collateral involved in most of the world, and most can be resold easily in other markets in case of default. Letters of credit can be opened for values as low as \$5,000 or 10,000.

Currently, the high cost of finance met by importers and exporters reduce the competitiveness of producing in Cambodia. The current system, which has supported the economy until now, it is likely to be unsustainable if Cambodia was to expand its trade sector. A system based on working capital lending at high rates is not well fitted for high volume imports and exports, which could require instead supply chain finance arrangements and guarantees, instead of outright lending. High volume imports and exports of goods require high volume-low margin finance.

Box 9 – Explaining the under-utilization of trade finance instruments

In Cambodia, trade finance is mainly used as a form of working capital, which represents its most expensive form. This is due to a variety of factors, from both supply and demand side. On the supply side, local and foreign banks argue that:

- The corporate sector has invested too little in financial management and transparency, which prevent setting lending limits.
- Audited accounts are rare.
- Widespread lack of trust in the bank-client relationship, reflecting insufficient documentation, recent registration of companies, and the recent character of the national credit bureau.
- Companies are not aware of the different trade financing instruments, and therefore only request working capital.
- Insufficient in-house accounting services.

As a result of the above, the “default” becomes a secured-related lending market for trade. The collateral remains mainly land, if not buildings. In Cambodia it is not possible yet to lend against movable assets, such as machinery and other company equipment.

On the demand side, corporations argue that:

- the lending system is heavily biased against landless, cash-less outward-processing firms such as those in processed foods, garments, and light manufactured business.
- The lending tenors are imposed and do not fit the production cycles of certain commodities and goods.
- Interest rates are very high relative to risk despite the fact that dollar-based lending is frequent and the financial system is relatively liquid.

Successful integrators in international trade are also those countries having reduced the financial costs of importing and exporting, resorting to letters of credit, supply chain finance, factoring, forfeiting, credit insurance, all of which carry smaller fees and are under-utilized in Cambodia. Many of these products are based on guarantees, mitigation of payment risks between the buyer and the seller and other non-lending facilities. The current system based on collateralized lending is not efficient, draws excessively on banks’ balance sheets relative to payment guarantee and mitigation systems, and does not recognize the low-risk character of trade finance.

Alternatives to this problem exist, such as factoring or forfeiting. As highlighted by the IFC, “36% of interviewees are interested in factoring, which would enable them to acquire money to boost their cash flows. Since factoring is unknown to many SMEs, it actually requires some marketing to ensure that

entrepreneurs understand the benefits regarding cash flows, saving time on collections, and reducing the risk of robbery.”¹⁶⁹

Credit insurance is a popular non-bank intermediated trade finance. Whilst inter-company lending exists in Cambodia, cash-constrained companies have no interest or expertise to be bankers for their partner companies. Therefore, they insure their risk. This is commonly taking place in trade finance markets. About \$557 million in of short-term credit insurance flows were recorded in Cambodia in 2018, according to the Berne Union, the association of export credit agencies and private insurers. Open account financing can be insured for small fees, given the low default rate on trade finance. At the present moment, there is local credit insurance industry in Cambodia, although foreign banks have shown an interest in supplying it in an international trade context if requested by customers.

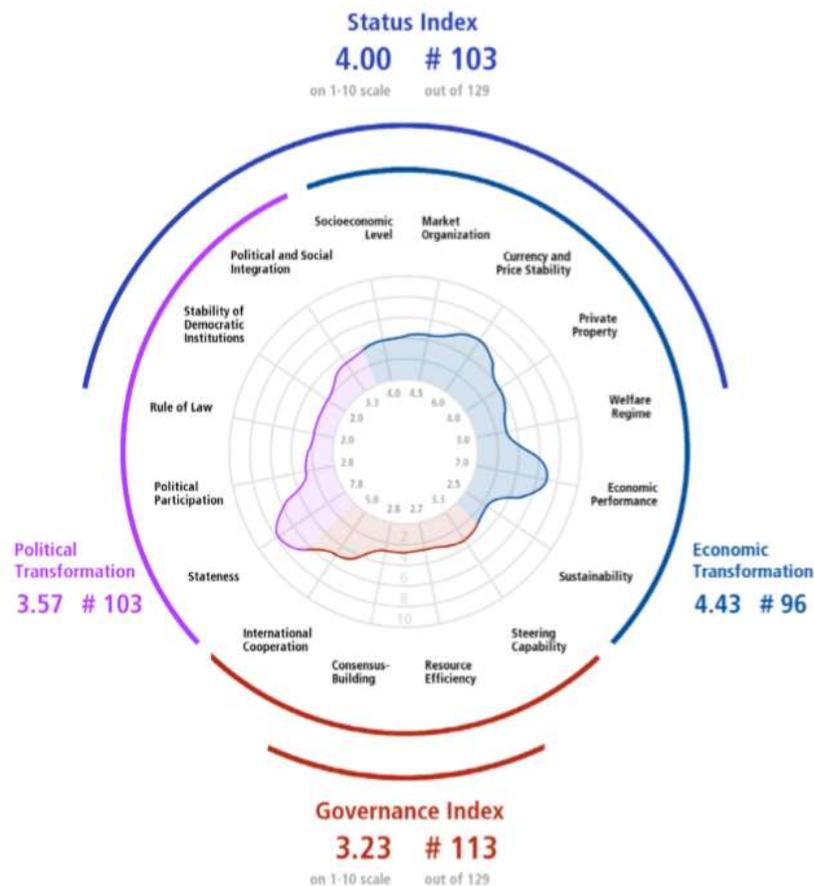
Access to the appropriate trade finance instruments will be crucial to not only expand the country’s competitiveness and ensure a sound and stable business environment, but also to promote the country’s efforts to diversify trade. Thus, any cluster of products would need to carefully take into account the trade financing elements to integrate it: seeds, fertilizer and other input finance, storage and warehousing financing, pre-shipment finance – all of which are relatively commonly supplied forms of finance in the international trade of commodity. International banks or trading houses provide for such forms of finance. Multilateral financial institutions such as the Asian Development Bank and the International Financial Corporation, as part of their trade finance programs, have either supply chain facilities, warehousing facilities, or letters of credit guarantee facilities which could showcase such processes.

¹⁶⁹ IFC (2009). Understanding Cambodian SME needs for financial services and products. International Finance Corporation, The World Bank Group.

2. Challenges facing Cambodia's competitiveness

As highlighted in section 6.1, there are a number of ways for viewing competitiveness. The best approaches tend to be multidimensional and compared across countries in order to benchmark against Cambodia's peers. Much like the World Economic Forum, The World Bank, the IMD and others, the Bertelsmann Stiftung's Transformation Index (BTI) is a helpful comparator of country performance in the global economy. It focuses on three pillars for building competitiveness, namely economic and political transformation, and governance performance. Cambodia's rankings in the different dimensions vary quite significantly, with sustainability and welfare indicators performing worse with respect to economic transformation. The rule of law, political participation and stability of democratic institutions are considered very weak for the political transformation pillar, whereas efficiency in the use of public sector resources and consensus building are considered very low in the governance index.

Figure 22 - The BTI for Cambodia in 2018



Note: The BTI covers the period from February 1, 2015 to January 31, 2017. The BTI assesses the transformation toward democracy and a market economy as well as the quality of political management in 129 countries. More on the BTI at <http://www.bti-project.org>.

Source: Bertelsmann Stiftung, BTI 2018 Country Report — Cambodia. Gütersloh: Bertelsmann Stiftung, 2018.

According to the World Bank, and despite a number of achievements made in reforms at the border, as well behind the border, major bottlenecks to the business and trade-enabling environment remain. These include high logistics and infrastructure costs, unpredictable application of regulations, a weak private sector, amongst others. This situation is reflected by the fact that the country is ranked as 138th overall in the World Bank's Doing Business 2019 (DB) Indicators, behind the regional average, and only ahead of Lao PDR and Myanmar in ASEAN.

The following table highlights the country's Strengths, Weaknesses, Opportunities and Threats (SWOT), and is based on the literature review of SWOTs conducted by international organisations for Cambodia in the last 5 years, and based on stakeholder feedback. The weaknesses and threats are quite substantial. The weaknesses include eroding competitiveness due to weak productivity, and low levels of human capital, significant costs embedded in doing business and trading across borders, low levels of innovation, lack of access to finance, and governance challenges. The threats include an uncertain outlook for the global economy, the transmission of a slowdown to the Cambodian economy, preferential erosion, and most importantly, the possible revocation of EBA for Cambodia.

Box 10 - Defining Productivity

In general, productivity is defined as the ratio of output over input, i.e. how efficiently input resources - capital and labour are used to produce outputs. Productivity is mainly driven by four interrelated components:

- Innovation, including the creation of new technologies;
- Education to spread such new technologies and develop the capacity of the workforce;
- Efficiency to promote the effective and flexible allocation of resources for production in various sectors; and
- Infrastructure, both physical and intangible.

A top priority for Cambodia will be to stay competitive by enhancing labour productivity - compensating for the rising private sector wages. This can be achieved by improving the quality of basic education and promote vocational and technical skills. Reducing energy costs will also be crucial to attract and compete in high value-added and sophisticated manufacturing.

Source: Kim, Y. E., Loayza, N. & Meza-Cuadra, C. (2016). Productivity as the Key to Economic Growth and Development. Research & Policy Briefs from the World Bank Malaysia Hub, The World Bank, Washington D.C., August; World Bank (2017). Cambodia Economic Update: Staying Competitive Through Improving Productivity. Investing in Public Infrastructure and Services. The World Bank Group, Washington D.C., April.

The strengths include Cambodia's integration in the most dynamic regions of the world, continuing efforts to promote foreign direct investment, its open economy, and current preferential market access. Its opportunities include deepening further its linkages in regional and global production networks, FDI expectation remain positive, and continuing policy reforms are being pursued energetically by the Government of Cambodia.

Table 26 - SWOT Analysis of Cambodia's International Competitiveness

Strengths	Weaknesses
<ul style="list-style-type: none"> • Relatively low wages. • Existing Economic Openness. • Low import duties, enhancing the ease to access quality inputs. • Existing Tariff Preferences. • Integration into Regional Value Chains. • Capacity to attract FDI. • High degree of regional integration. • Access to some of the most dynamic markets of the world • Positive progress in ASEAN for building competitiveness and integration 	<ul style="list-style-type: none"> • Low productivity rates. • Low levels of human capital (i.e. low literacy rates and levels of education). • High rate of informality across the whole economy. • High cost of starting a business. • High trade costs. • Low sophistication of the economy. • Lack of supply chain linkages between FDI and Cambodian firms. • Weak regulatory enforcement. • Existing IPRs infringement. • Insufficient access to finance. • Low utilization of trade finance instruments.
Opportunities	Threats
<ul style="list-style-type: none"> • Possibility for further integration into production value-chain. • Proactive Government and business-friendly policy. 	<ul style="list-style-type: none"> • Increase in productivity is not keeping up with rising wage, thereby eroding competitiveness. • Possible removal of EU GSP (EBA) eligibility. • High dollarization of the economy.

- Strong outlook for foreign investors (foreigners' expectations).
- Impact of trade wars.
- Potential disruption of trade with the UK due to Brexit.
- Emergence of competitive countries in the region.
- Preference erosion will wipe out the current buffer Cambodia enjoys with competitiveness through tariff preferences
- Global slowdown in trade will likely impact on Cambodia.

Source: Authors

- 1) **Cambodia remains a low productivity country, despite rising wages.** Cambodia's rising wages might risk its position as hub for the production of lower-value added garments, especially in a sector where margins are squeezed and there is an increase in competition from neighbouring economies, such as Myanmar. This, linked to a low productivity ratio, might put in risk an industry mostly owned by foreign investors. Therefore, maintaining labour cost competitiveness will be crucial, making sure that the minimum wage does not consistently exceed productivity growth.¹⁷⁰

Table 27 - Productivity Indices (2016)

	Cambodia	LAO PDR	Malaysia	Vietnam	Sri Lanka
Total Factor Productivity	1.0	1.4	1.2	1.0	1.2
Labor Productivity (Hours Worked) ¹⁷¹	1.9	2.3	1.5	2.3	2.2
Labor Productivity (Number of Employment)	2.0	2.3	1.5	2.1	2.1
Capital Productivity	0.7	1.2	1.1	0.7	0.9

Source: APO. Note: Base year 2000=1

Table 28 Minimum wages in ASEAN (USD)

	Minimum monthly wage (USD)
Cambodia	182
Indonesia	102.74 to 257.73
Lao PDR	139
Malaysia	363.50
Myanmar	98.88
The Philippines	144.14 to 288.30
Thailand	276.3
Vietnam	126 to 180

Source: Dezan, Shira & Associates. Available from: <https://www.aseanbriefing.com/news/wp-content/uploads/2013/04/ASEAN-minimum-wage.jpg>.

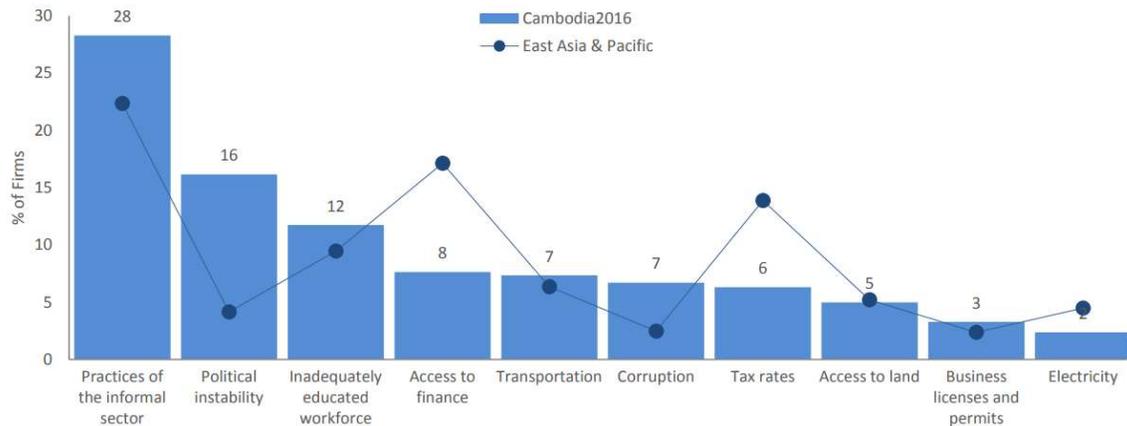
- 2) **Cambodia's education and human capital lag behind most countries in the region.** This creates major constraints on harnessing the opportunities from the ASEAN Economic Community (AEC). The country has one of the lowest literacy rates in the world (73.9 percent in 2012), and its Human Development Index is one of the lowest in ASEAN. The current labour market faces skills mismatches and skills gaps largely due to lack of motivation, staff turnover, and insufficient education and training.

¹⁷⁰ See OECD (2018). *Ibid*.

¹⁷¹ Labor productivity is the value of goods and services produced in a period of time, divided by the hours of labor used to produce them. Labor productivity measures output produced per unit of labor, usually reported as output per hour worked or output per employed person. This means that an increase in productivity plays a major role in the prosperity of nations, corporations, and individuals.

- 3) **The high level of informality and the high cost of starting a business tampers the local company expansion.** Additionally, Small and Medium-sized Enterprises (SMEs) in Cambodia face several major challenges to integrate into the regional market, including being faced with a weak legal framework and heavy bureaucracy, difficulties in accessing finance, and low productivity, very limited participation in regional integration.

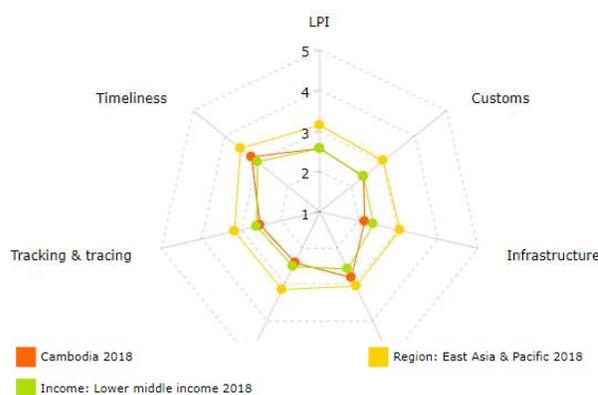
Figure 23 - Top ten business environment constraints in Cambodia



Source: WB (2016)

- 4) **The current cost of doing business in Cambodia does not encourage sufficient domestic investment and entrepreneurship.** The existing barriers to doing business provoke that many entrepreneurs do not register their business and therefore avoid paying taxes. Informality, by default, makes participating in trade or linking to FDI firms more difficult, which has severe consequences for business' prospects—and for the competitiveness of the economy.¹⁷²

Figure 24 - Cambodia's LPI Score, 2018



- 5) **Existing trade costs reduce the country's attractiveness as sourcing destination.** The contribution of transport and logistics to the total exported value added from Cambodia reached 14 percent, representing almost double that in Thailand and three and a half times that in Malaysia or Vietnam. Implementing additional trade facilitation measures will enhance the country's competitiveness of existing exporters, but will also help attract more sophisticated FDI into the country. A drop in the price of container fees, from USD 32 to USD 16, for forty feet containers, is a step in the right direction¹⁷³.

- 6) **The low sophistication of the economy impedes the country to move up in the value chain.** The existing level of sophistication of

Cambodia's economy, which ranks 119th over 125 countries in the Economic Complexity

¹⁷² World Bank (2018). Recent Economic Developments and Outlook. Selected Issue: Can Cambodia become an upper middle-income economy by 2030 and a high-income country by 2050? Cambodia Economic Update. Washington DC. October.

¹⁷³ <https://www.khmertimeskh.com/50574616/container-fee-to-fall/>

Index¹⁷⁴, linked to the high trade costs, hamper Cambodia's ability to participate in regional and global value chains (GVCs).

Currently, Cambodia is specialized in low quality, low-sophistication, and highly substitutable segments, lacking of capabilities to move up in the value chain and tap into final and intermediate GVC product manufacturing. In this context, Cambodia lags behind its regional peers with regards to trade facilitation in monetary and time terms, which also have increased in relative terms.

- 7) **The quality and intensity of supply chain linkages between FDI and Cambodian firms is low, limiting the availability to transfer know-how.** Such connections are a crucial channel through which domestic firms can absorb and technology, knowhow, and management practices from foreign firms, therefore improving their productivity as suppliers. Additionally, such linkages can be instrumental in accessing new international markets and GVCs. Nevertheless, the current situation shows that foreign firms producing in Cambodia import more than 90 percent of their manufacturing inputs, using Cambodia as a platform for low-cost, low-productivity activities with limited value added, therefore having a limited potential and capacity for absorbing additional capital and knowledge.
- 8) **Infringement of IPRs remains high. Despite the improvements in enforcement and the increase** in seizures and prosecutions, it has been noted that the infringement of IPRs continues to be widespread practice, including elements such as software, music, books, films, and the trading of counterfeit products, such as cigarettes, alcohol, and pharmaceuticals.¹⁷⁵ The US (2018) highlights that although Cambodia is not a major centre for the production and export of pirated compact discs, digital video discs (DVD), or other copyrighted materials, local businesses indicate that Cambodia is growing as a source of pirated material due to weak enforcement.¹⁷⁶ In response, an inter-ministerial committee, named Cambodian Counter Counterfeit Committee, was established to combat piracy and adopt anti-counterfeit enforcement measures. In April 2018, the Cambodia Counter Counterfeit Committee destroyed 60 tons of fake cosmetic products that purported to be made in countries such as Japan and South Korea.¹⁷⁷ Additional major IPR-related issues include parallel imports from neighbouring countries, and backdoor leaking of genuine products from factories. Enforcement of IPRs appear to also be an issue, given that new regulations concerning the procedure for enforcing IP rights have not been adopted and existing IP laws are not consistently implemented by some of the enforcement authorities.
- 9) **Insufficient access to finance.** Only 22 per cent of adults have access to a bank account and 15 percent of private firms borrowed from commercial bank, although numbers rise by the day. While overall domestic credit to the private sector is well performing, as reflected by the fact that it presents 87 percent of GDP in comparison to 130 percent in Vietnam), the financial sector still faces challenges in meeting the demand of a trading sector which is growing at double digit rates and composed of a large share of under-served SMEs.

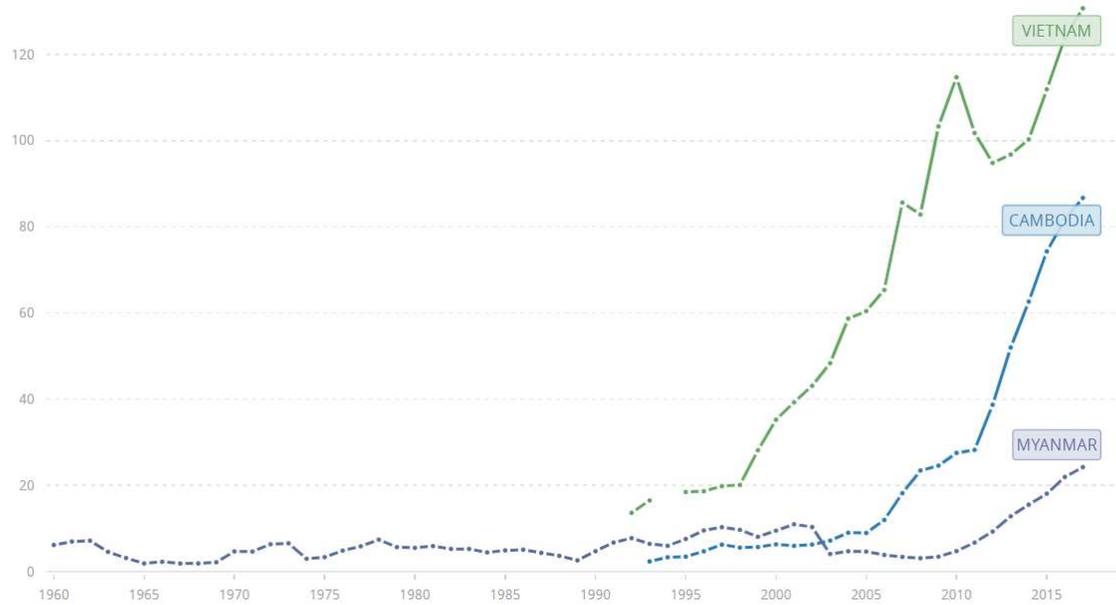
¹⁷⁴ See Observatory of Economic Complexity, available from: <https://atlas.media.mit.edu/en/>

¹⁷⁵ See WTO (2018). Trade Policy Review of Cambodia – Report by the Secretariat. World Trade Organization, WT/TPR/S/364/Rev.1, March.

¹⁷⁶ U.S. Department of State (2018), Investment Climate Statement 2018. Available from: <https://www.state.gov/e/eb/rls/othr/ics/2018/eap/281488.htm>

¹⁷⁷ Ibid.

Figure 25 - Domestic credit to the private sector from banks (% of GDP)



Source: World Bank WDI

Box 11 - Trade finance challenges met by food processors in Cambodia

Food processors must purchase basic commodities from farmers, invest in milling/processing equipment and deliver processed foods to buyers locally and internationally. In the course of the mission, one rice processor provided a real-life example summarizing well the situation of trade finance in Cambodia. Working capital could be obtained at a relatively high interest rate, above 15% per annum, for purchasing rice from farmers. On the export side, foreign buyers would not pay for the order until they could control quality, which is after delivery. The bank would only accept to endorse the letter of credit from the buyer's bank on the condition that they make a deposit in cash on endorsement. The endorsement of the letter of credit would not carry full payment by its bank at shipment – only once the importer has paid. In other words, under such practices, the processor is left with carrying some of the credit risk normally to be borne by the banks; in the same cycle, the processor would have to pay for the high interest rates on its working capital.

- 10) **Low utilization of appropriate trade finance instruments.** Improving the utilization of letters of credit will be crucial to enhance Cambodia's competitiveness. While letters of credits are offered by banks, strong obstacles, formal and informal, prevent their use. Most imports, in Cambodia, are pre-paid. Still, letters of credit are supposed to be available from the main banks. A foreign bank active in Cambodia argued that less than 10% of imports are supported by letters of credit, which is consistent with the fact that most of imports are paid cash-in-advance. There are true obstacles for their use:
- (1) a lack of available documentation to support their issuance, in part due to the prevalence of land transport, generating less documents than sea transport;
 - (2) market power from suppliers originating in larger economies (Thailand, Vietnam, China), which are in imposing pre-payment of their input to Cambodian importers; and perhaps most importantly,
 - (3) perceived uncertainties related to collateral.

3. Medium Term Strategy for promoting greater competitiveness

Cambodia is on the path to graduate from its Least-Developed-Country (LDC) status. However, this chapter has highlighted a series of challenges hampering the country's effort in poverty reduction, such as an under-enabling business environment, weak labour productivity, lack of access to trade finance, low levels of innovation, amongst others. The emergence of competitive regional nations, such as Myanmar, the impact of existing trade wars amongst developed nations and the potential removal of trade preferences by the EU, might force the country to adopt a series of measures to keep its competitive advantage and remain an attractive market for foreign investors.

In this context, a series of recommendations are made in order to ensure that Cambodia maintains and reinforces its competitiveness. These can be divided into four main objectives:

1. Building competitiveness through policy alignment;
2. Improving the business enabling environment;
3. Addressing trade, investment & innovation bottlenecks; and
4. Making trade finance accessible.

The present recommendations are further complemented with the Action Matrix

3.1. Policy alignment to build competitiveness

One of the core overarching objectives of the Rectangular Strategy IV is the "Acceleration of Governance Reforms". In order to achieve this, it will be necessary to establish a strong institutional framework, which will require an alignment of plans under the rectangular strategy phase IV, SNDP, amendments to policies/laws and new ones (such as investment laws, competition & consumer protection, e-commerce), to complete/update and adopt Innovation strategy, productivity masterplan, IDP, etc. In this light, the Rectangular Strategy IV proposes to focus on:

- Institutional reform and capacity building;
- Enhancement of cleanliness and integrity in the public administration;
- Strengthening of work efficiency; and
- Strengthening of private sector governance.

Core activities in this area, aligned to the Rectangular Strategy IV, and related to competitiveness, include:

- **Implementing "Cambodia Industrial Development Policy 2015-2025"**, especially transforming Sihanoukville Province into a multi-purpose Special Economic Zone (MPSEZ) along with the conduct of mid-term evaluation; Formulating and implementing the garment and footwear sector development strategy to improve competitiveness, create value-added, create supporting industries and develop value chain; Further improving the operation of SEZs to attract more investment and create industrial bases that include agro-processing, assembly, furniture manufacturing, and household appliances as well as souvenir products for tourism sector
- **Putting in place the performance-based management system** by using Key Performance Indicators (KPIs), particularly for officials at supervision and management levels
- **Strengthening coordination** between ministries and improve policy delivery framework. Examples from Rectangular Strategy IV include the strengthening information sharing mechanism at all levels of public administration to enhance management effectiveness and respond to the demand of public service users in this rapidly changing national and international context.
- **Improving the M&E system** for policy delivery, and benefits of investment or trade agreement. Examples from Rectangular Strategy IV include putting in place monitoring and evaluation mechanism to help improve performance, implementation measures, strategic directions and inter-ministerial coordination for the preparation and implementation of government policies

3.2. Improving the business enabling environment

The goal of the business enabling environment is “to improve the operating environment for local businesses (especially small and medium-size ones), help countries attract foreign investment, and help draft regulations that make sure this economic activity will promote equality and protect the environment.”¹⁷⁸ In Cambodia, despite the recent improvements made, businesses still have to deal with lengthy, complicated, repetitive, uncertain and unpredictable procedures that continue to be a challenge for business environment.¹⁷⁹ In this context, Cambodia should adopt the following recommendations:

- Speed up the process for establishing and registering a company, and reducing the cost for doing so.
- Adopt measures to reduce informality, such as introducing fiscal incentives, raise awareness campaigns, introduce sanctions, reduce the interaction with officials, promote more risk management of controls, and streamline business processes for licencing.
- Introduce a Committee to oversee an electronic registration portal that facilitates and provide a one-stop entry for registration services, including business registration, tax certificates, business licenses, and other related public services.
- Enhance judicial service establishing a commercial court and strengthen alternative dispute resolution for commercial disputes.
- Promote linkages between SMEs and multinational enterprises.
- Strengthen firms’ absorptive capacity.

3.3. Addressing trade, investment & innovation bottlenecks

Progressive trade liberalization carried out in a strategic manner has been success in promoting trade across the world, by bringing down tariffs and trade barriers, opening new markets to new players. Cambodia has been one of the largest beneficiaries of one of the most generous unilateral preference scheme, the EU’s GSP. However, the competitive advantage granted by tariff preferences can only be realised with the right investment and innovation led-enabling environment.

In this context, Cambodia needs to put in place the necessary structures to enable the emergence of a competitive business and trade environment. Those structures should promote local companies to invest in new technologies and markets, making them more competitive; generate specialized skills, by encouraging the adoption of training schemes; and stimulate innovation and the linkages between academia and private sector.¹⁸⁰

One of the key elements to be competitive at a global scale consists in basing strategic decisions on sound, comprehensive and reliable trade information. Particularly, it will be crucial to enhance the efficiency and coordination of Trade and Investment Support Institutions (TISIs), by:

- **Developing specialized capacity-building programme(s)** for trade and investment support institutions to effectively deliver their services.
- **Aligning capacity-building programmes to the implementation responsibilities assigned by the CTISU.**
- **Establishing a formal network of key trade support institutions** to better coordinate the provision of trade and investment support activities, including but not limited to investment and trade information and export promotion, access to trade information and intelligence, among others.

¹⁷⁸ Bowers, C. (2006). What is the business enabling environment? Private Sector Development – The World Bank Group, May 12. Available from: <http://blogs.worldbank.org/psd/what-is-the-business-enabling-environment>

¹⁷⁹ Royal Government of Cambodia (2018). Rectangular Strategy for Growth, Employment, Equity and Efficiency: Building the foundation toward realizing the Cambodia Vision 2050 – Phase IV of the Royal Government of Cambodia of the Sixth Legislature of the National Assembly. Royal Government of Cambodia, Phnom Penh, September.

¹⁸⁰ Cellich, C. & Burgeous, M. (2012). Trade Promotion Strategies. Business Expert Press, January.

Similarly, Cambodia should strengthen the network of institutions providing trade information and promotion support by:

- **Deploying a comprehensive capacity-building and performance enhancement plan** for establishing a trade promotion agency (or better capacitating the trade promotion department) to provide trade information and promotion services.
- **Expanding and supporting current programs** provided by other public and private sector institutions and provide them specific training on operating a trade information service; selecting relevant trade information sources; and selling business information and related services.
- **Training TISIs in developing in-depth market feasibility studies** that examine the steps exporters of a selected product must take in order to effectively enter target markets. Vital components covered include:
 - Product specific requirements and Rules of Origin: how an exporter can prosper in a value chain world by using preferential trade agreements. Scrutinize the non-tariff measures in a target market and the detailed RoO provisions to maximize the chance the exporter can actually benefit from existing agreements.
 - Buyer and product segmentation: what an exporter needs to consider when crafting their final product in order to ensure good take up rate in target market.
 - Labelling and packaging: absorb the crucial elements that affect customs procedures, transporting and even branding.
 - Voluntary standards: understand if this is necessary for your product, the cost and the process.
 - Product placement or distribution channel: capture and explain the market structure in the target country.
 - Promotion: how to foster and maintain commercial relationships with buyers, sales teams and distributor. Discuss how to attend trade fairs and conferences to realize sales
- **Designing and roll-out a capacity-building programme aimed at trade representatives and diplomats**, at overseas Embassies and trade offices to enable them to provide better advice to SMEs and report on opportunities and feasibilities of exporting a selected product to a target market
- **Putting in place a cooperation framework** to promote the exchange and dissemination of trade information among government agencies, TISIs, media, academia, research organizations and the private sector.

Regarding the role of Intellectual Property and innovation, it is worth highlighting that technological innovations are a critical instrument to improve the country's competitiveness, as these open new markets and new industrial branches for a new product. Thus, an innovative product, either new or improved, that satisfies customer's expectations offers a door into new businesses, new markets without competition as long as it retains its innovative advantage. In this context, national intellectual property systems play a crucial role in helping a business to gain and retain its innovation-based advantage.¹⁸¹ In order to strengthen this area and boost R&D initiatives in the country, Cambodia should:

- **Drive more R&D by establishing innovation parks**, encourage collaboration between research and business, establish incentive schemes for R&D, etc.
- **Address gaps in the intellectual property protection framework**, by expediting the outstanding legislation on protecting trade secrets, integrated circuit protection, and encrypted satellite signals, as required by the World Intellectual Property Organization.
- **Ensure the enforcement of intellectual property rights** and strengthen the fight against counterfeit products.

¹⁸¹ Kalanje, C. M.: Role of Intellectual Property in Innovation and New Product Development. WIPO, Geneva. Available from: https://www.wipo.int/sme/en/documents/ip_innovation_development_fulltext.html

3.4. Making Trade Finance Accessible

Access to trade finance is a financial mechanism essential to bridge the time lag between a product's shipment from one market and its delivery in another. It also acts as leverage for those small firms that would otherwise be considered too risky, enabling them to access global value chains and contribute to the country's employment and productivity growth.¹⁸²

In this context, the Rectangular Strategy IV has highlighted a series of measures aimed to improve, more generally, the financial inclusion of the country's population, by, for example, further implementing the "Financial Sector Development Strategy 2016-2025", further developing payment gateway infrastructure, coordinating the policy and regulatory framework, strengthening institutional capacity and human resources related to financial and banking sector, etc.

One of the main key actions under this area to be undertaken is to **improve the access to letters of credit**. Letters of credit carry no more risk whether they are issued in Asia, Europe or Africa. The delinquency rate on these financial instruments is one of the lowest of the entire financial industry. These obstacles can be overcome if the letter of credit (LC) market was working without excessive requirements. In principle, the main collateral in a letter of credit is the merchandise itself. Despite this, the main banks require "hard" and cash collateral. In doing so, the banks are in effect drying up the markets for LCs, making them very unattractive to use in Cambodia.

Such access could be improved by **allowing movables** (e.g., equipment, inventory) **and intangible asset** (including receivables) **to be permitted as an enforceable security**, enabling secured creditors to enforce such security on the event of insolvency.

One of the different reasons highlighted by financial institutions explaining the low rates of accessibility for trade finance instruments has been the lack of preparation and professionalism of the funding request. In order to tackle this, one of the activities proposed is the **promotion of financial education in SMEs and presentation of financial documentation**, covering topics such as:

- How to apply for a loan and financial products and services available to start-ups, and
- How to pitch to investors and how to search for funding.

Additionally, it will be crucial to increase the awareness of both the financial institutions and the costumers on the different instruments of trade finance, by:

- **Promoting financial education between banks on the setting up of LC, factoring, supply chain finance, and credit insurance facilities;**
- **Promote education on the low-risk character of trade finance products**, based on ICC publicly available documentation
- **Establish a summary of the different trade finance instruments in a brochure and disseminate it among the main industry association.**

It would also be beneficial to **determine, through surveys, what is the demand in Cambodia for each different type of trade finance instrument**. Once demand for one or the other product has been identified, the different actors should be brought together - local and foreign banks, producer associations, the Ministry of Commerce, Ministry of Finance and the Central Bank - to discuss how to develop markets for these products in Cambodia. Multilateral development banks provide education on the use of such instruments, and run trade finance facilitation programs.

¹⁸² Auboin, M. & DiCaprio, A. (2017). Why Trade Finance Gaps Persist: Does it matter for trade and development? ADBI Working Paper Series, No. 702, Asian Development Bank Institute.

CHAPTER 7 : QUALITY INFRASTRUCTURE AND STANDARDS

1. Introduction

The CTIS 2019-2023 includes this new chapter on Quality Infrastructure and Standards in the aim to simplify the presentations on SPS and TBT issues. In the previous CTIS versions, these issues had been covered adequately; however, the related sections did not include a description of the discrete technical functions contributing to the implementation of SPS & TBT measures. As a result, readers might have faced difficulties to get a synthetic view on the capacities of the various departments of the Royal Government of Cambodia in this domain, or to appreciate the interlocked conditions acting as limitations to Cambodia's exports.

Standards and quality infrastructure play a crucial role for the developing or emerging economies eager for more integration in the global economy. Cambodia's productive sectors seek maintaining their competitive position through shifting from trading unprocessed commodities or basic assembled goods, to more processed ones that would allow capturing more value. The lack of certain quality functions or their inefficiency would prevent enterprises to establish and demonstrate quality of their products, and hence would greatly influence Cambodia's export objectives. The present chapter in its first sections aims at describing the national quality infrastructure system and identifying areas for improvement. Subsequent sections summarize the key SPS and TBT issues that still affect external trade, and put in perspective the country's status in the regional and international trade agreements. Finally, the last section recommends the necessary updates in the quality infrastructure, to fill the gaps identified and thereby ensuring Cambodia's better adherence to her international commitments, as well as meeting the requirements of trading partners.

The terms in this chapter adhered to the definitions or meanings adopted by the international fora on standards and quality.

2. Introduction to the quality infrastructure system

2.1. Main components

A quality infrastructure is the system comprising the organizations (public and private) together with the policies, relevant legal and regulatory framework, and practices needed to support and enhance the quality, safety and environmental soundness of goods, services and processes. The Quality Infrastructure System (QIS) is required for the effective operation of domestic markets, and its international recognition is important to enable access to foreign markets. It is a critical element in promoting and sustaining economic development, for enhancing Cambodia's competitiveness as well as environmental and social wellbeing of Cambodians.

In recent years, several international organizations (UNIDO, ISO, IEC, ITC,) and development partners (WB, OECD...) have analyzed the QIS concept and described its components. There is wide recognition that the QIS consists of all the seven functions listed below:

1. Setting and implementing a national quality policy (NQP)
2. Setting and implementing a framework for technical regulations
3. Accreditation
4. Standardization
5. Metrology
6. Conformity assessment: testing, inspection, certification
7. Quality promotion and use

2.2. Organization and Usefulness of the QIS

The QIS aims at setting national quality objectives, agreeing on requirements related to the above functions, and then providing acceptable evidence recognized at the international level that products, services, processes, systems, persons, or bodies conform to such quality requirements.

The QIS is embedded in policy, legal, institutional and regulatory frameworks governing its operation. These frameworks provide supervision and orientation functions, assuring thereby that the QIS effectively produces outcomes, i.e. acceptable evidence of conformity that satisfy the needs of the country (fitness for purpose) on a continual basis.

The QI should operate as a system, meaning the different institutions and components should work in a coherent and synergistic manner in order to deliver services at an optimal cost for the country. Finally, the QIS needs to remain dynamic: regular review is needed in order to evolve as necessary to meet the changing needs of Cambodia.

Defining how the QIS is organized and how the functions are fulfilled should be directly guided by the Government's economic vision and policies. QIS bodies operate under their own legal and institutional mandates, in both the public and private sectors. However, in developing countries, the Government bears a responsibility to ensure that the QIS satisfactorily addresses all the constituent functions listed above in order to fulfil the needs of the country, and that it operates effectively and in accordance with international best practices and requirements.

International experience indicates that the best way to succeed in improving effectiveness of the QIS is to prepare a national quality policy. The policy formulation cycle, comprising of wide-ranging consultations and discussions, results in a document setting the national quality objectives and proposing a platform for action (action plans), which all stakeholders may link to their individual development plans.

2.3 Specific contribution of NQIS to Trade Facilitation

International trade agreements for reducing tariffs have largely been implemented. At present, non-tariff measures consist of the main issue hindering global trade. One of the basic conditions for trade is producing competitive and safe products, which are matching markets requirements documented in standards or technical regulations. Non-tariff measures include technical standards, the use of quality and safety regulations, and the modalities used to assess conformity to requirements. When used in a way that differs from international best practice, these NTM can become barriers to trade.

Therefore, harmonization and recognition between trading partners of standards and conformity assessment results is a way to reduce or eliminate trade barriers. There should be agreement on the methods used for testing, inspection, and certification; the reports and certificates established in one country should be accepted in other countries. While there is a wide use and acceptance of CA results between private trading partners (based on the use of international standards or private standards), there is much less recognition between Governments. Mutual acceptance still tends to be limited in health, safety and environmental sectors; despite some progress noted in regional economic blocs. A well-functioning QIS plays a crucial role in harmonizing CA procedures and in promoting acceptance of CA results at industry and Government levels. If a country's QIS is not aligned with international best practices, trade partners would have little confidence in CA results, and producers may be unable to join international supply chains.

It has been shown that an efficient way to assess and align a national QIS is to produce a National Quality Policy. The NQP describes the current gaps and sets objectives towards better alignment with international practices. It provides an operational strategic framework for QI development and services in support to the demand from private sector, public sector, consumers. The required QI services can be mapped at each stage of the value chains; then technical assistance can be designed to enhance cost-effectiveness of such services.

3. Mapping of Cambodia's quality infrastructure system (QIS)

3.1. The main functions of the QIS.

3.1.3 Quality Policy

Cambodia has no National Quality Policy yet. The Rectangular Strategy-phase 4 includes some useful entries such as Item 4. of side 4 of Rectangular 3. 'Private Sector and Job Development' (p. 37), and Items 3, 5, and 6 of Side 1 of the Rectangle 4. 'Inclusive and Sustainable Development' (p. 38). However, other policy documents or related sector plans include none or very few statements related to the quality and conformity of products. When such themes are included, the contents remain usually at a very general level, without defined targets or with unrealistic targets. In the absence of an overarching frame of reference to quality at the national level, it is uneasy for policy-makers to avoid inaccurate wording or conceptual errors across documents, and to design effective implementation modalities. E.g. Agricultural Sector Strategic Development Plan, 2014-2018, p. 18 "MAFF has ..., and established production standards and laboratory facilities for key fish products such as Prohok, dried snakehead and frozen shrimp. Further investment in food safety and market regulation functions, especially SPS standards, are required." The policy should separate more clearly which area should be regulated (hygiene and contaminants) and which SPS 'standards' are considered.

E.g. Rice Policy¹⁸³, p. 9 "MIME through the Cambodia Standard Institute (CSI) shall cooperate with MoC and MAFF to define grading and standards of Cambodian milled rice and collaborate with the private sector to enforce those standards in the milled rice market." Standard being for voluntary use, in particular for export, the policy should recommend 'promotion' instead of 'enforcement'. If the intention is to adopt mandatory technical regulation, this should be indicated. E.g. Tourism Development Strategic Plan 2012-2020 (unofficial translation), item (181) "Promoting the Movement of Clean City, Clean Resort, Good service andspeeding up the measures leading to Greenness, Cleaning, Sanitation" The Plan should relate to other frameworks for food safety and specific hygiene standards in food establishment, in particular as suggested by Prakas No UATH.BRK 868, Article 20. Similarly, item (185) reads "All tourism product and services must contain national standards and international recognition". The Plan should be more realistic and specify which areas should use standards and how international recognition should be gained (e.g. Code of Practices, Quality Labels, Certification schemes for hotels, etc....)

3.1.4 Framework for Technical Regulations

The framework for regulatory work in Cambodia is currently incomplete. The main basis for regulatory work is the 'Law on the Management of Quality and Safety in Products and Services' (NS/RKM/0600/001). Many ministries have a section in charge of regulatory and/or legal aspects: these sections develop the dispositions needed to enforce the requirements of the Laws when it come to the protection of human and environmental health, competition and fairness in trade, business registration, safety of products, etc. Once drafted at ministry level, a proposed technical regulation must go through a series of screening steps involving the ministry and then interministerial meetings. Yet in each ministry, the process to define and adopt technical regulations appears to be 'ad hoc' and not documented. No ministry would have published a document explaining to interested parties how they consult stakeholders and how they prepare and issue a technical regulation. However, international good regulatory practice suggests that the processes used to assess, prepare and enforce technical regulations are described and available to all interested parties.

In MAFF, the draft law on "Quality and Safety of Agricultural Products" was developed in 2013 with the support of USAID to ensure the right framework was applied through the harmonization of all

¹⁸³ Policy Document on the Promotion of Paddy Rice Production and Export of Milled Rice.

departments roles in food safety of agricultural products, both in the production areas until primary processing plant.

The RGC has required using regulatory impact assessment in a Decision from the Office of Prime Minister (Dec. 2010). With the support of an ADB project¹⁸⁴, the Office for Regulatory Impact Assessment was created. However, the current powers and activity of this Office seem limited, and so does the overall capacity to assess, at ministry level, the need and usefulness of existing and proposed regulations, or to evaluate their cost-to-benefit ratio.

Under the framework of National Law on standards, MIH role includes providing a framework to all ministries concerned to set up technical regulations, when they use or refer to the national standards for products or services affecting health, safety, environment and in case of economic crisis.

Possible consequences of the above shortcoming include the existence of numerous regulations that Authorities fail to enforce effectively due to insufficient capacity, or regulations that could have a low benefit-to-cost ratio, with their enforcement (for Government) and compliance costs (for private sector) possibly higher than to the economic benefit for the Nation.

3.1.5 Accreditation

While previously under the purview of the ISC, the accreditation function has now been entrusted to the Department of Accreditation (DoA) under the Ministry of Industry and Handicraft. The separation allowed solving the issue of possible conflict of interest for ISC supervising both laboratories (NMC and ILCC) and the organization that accredits laboratories.

The DoA functions as an accreditation focal point that provides laboratory accreditation services jointly with their partner accreditation bodies, Bureau of Accreditation of Vietnam and Bureau for Laboratory Accreditation of the Department of Science Services (Min., of Industry, Thailand). As a focal point, DoA's role is to provide information to laboratories, receive their applications for accreditation, and liaise with partners to plan, arrange and carry out joint assessments. The decision for accreditation is made by the Cambodia Accreditation National Council, composed of qualified persons. Successful applicants then receive two accreditation certificates, one from the partner AB (which bears international recognition) and one from DoA (which is nationally recognized). The DoA has enlisted a small number of laboratories (a dozen) and has carried out a limited number of assessments; to date two laboratories¹⁸⁵ have been accredited jointly by DoA and their partner AB.

The Department of Accreditation is seeking international recognition by the Asia Pacific Accreditation Cooperation (APAC, formerly APLAC). International practice formalized in ISO17011 requires that accreditation bodies must demonstrate they can make accreditation decisions with competence and in full independence, as well as having separate arrangements/ mechanism to assess the risks related to their activity. Before DoA could undergo a peer-review from APAC and become a full member of this regional mutual recognition arrangement, they must demonstrate their compliance to ISO17011, carry out a certain number of conformant assessments and implement a full accreditation cycle for two laboratories.

The Department of Agro-Industry (DAI) under MAFF is the accreditation body to ensure the quality and safety of agricultural products for domestic consumption and export (e.g. issue the certificate on the quality and safety of agriculture products in line with CamLAPF). Meanwhile, the CamLAPF has been adapted and now follow the ISO17025 guidelines.

¹⁸⁴ <https://www.adb.org/sites/default/files/linked-documents/38421-02-cam-pam.pdf>

¹⁸⁵ As shown on the DOA website accessed 12 Dec. 2018 at <http://www.da-canc.gov.kh/en>

3.1.4. Standardization

Under the Law on Standards, the Institute of Standards of Cambodia (ISC) is the national standards body responsible for the preparation and publication of Cambodian Standards and guidelines for products, commodities, materials, services and operations. Besides facilitating the preparation of standards under the Standards Department, its functions include promoting standardization and quality (Department of Information), and providing training and consultancy services.

In relation with international linkages, the ISC Department of Information is the TBT national enquiry point for Cambodia, as well as the notification authority. ISC represents Cambodia as a correspondent member in ISO, with involvement in five ISO TC (participant). The ISC is also a member of IEC's affiliate program, and the country leader for the ASEAN Consultative Committee on Standards and Quality (ACCSQ). ISC is part of the joint sectoral committee for electric and electronic equipment, as a signatory to the ASEAN sectoral mutual recognition arrangement for electrical and electronic equipment (ASEAN EEE MRA).

The ISC facilitates the preparation of national standards by the ten Technical Committees (plus one on digital economy). ISC is using the ISO/IEC Guide 21 to prepare and adopt standards and has notified the WTO on Cambodia's acceptance and use of the Code of Good Practice for the Preparation, Adoption and Application of Standards (Annex 3 of the TBT Agreement). However, the work programme posted on the ISC website is not detailed and not updated. Furthermore, the ISC website presents neither the standardization process used nor the composition of the various TCs. The publication of these elements is considered as part of the WTO requirements or good practices to avoid creating obstacles to trade.

Once the standards have been prepared or reviewed, they are approved (or amended or cancelled) by the National Standards Council (NSC - 21 members) chaired by MIH. The NSC mandate includes as well determining voluntary or mandatory standards or standard trademarks, and advising the Minister with regard to standardization priorities and policies. As of end 2018, 895 Cambodian standards have been approved. They deal in majority with the sectors of food (40% of total), test methods (20%), electronics (18%); and also construction, automotive, rubber, and wood. Most of the Cambodian standards are adoption of international standards from ISO, the Codex Alimentarius Commission (WHO-FAO), or other international organizations. According to the list of standards posted on the ISC website¹⁸⁶, only about 30 texts, of which four codes of practice for processing of fisheries products, are not equivalent to international standards. In addition, twenty-one standards have been made 'mandatory' (electronic-electrical products, labelling of food products, PET for bottles, water, ice, and a few food items). This is a notable reduction from the previous list that included until 2015 up to some 151 so-called 'mandatory standards'¹⁸⁷. Finally, the MAFF-DAI has promoted the standard of agricultural products through education and extension service for competing in the markets in line with Cambodian standards and the Codex Alimentarius Commission.

3.1.5. Metrology

Presently, the metrology functions are contained in the National Metrology Center under the supervision of the Ministry of Industry, as mandated in the Law on Metrology. The NMC has a staff of 45 officers organized in four departments: one for legislative affairs and three for scientific, legal, and industrial metrology. The NMC also supervises 25 Metrology Offices in provinces and municipalities, which are in charge of enforcing legal metrology regulations; however, these are only gradually being equipped with basic measurement instruments (support from China).

The NMC has received significant support from UNIDO over the last decade; efforts to build the capacity of the metrologists are continuous with new cooperation projects with Government of China and the PTB

¹⁸⁶ Accessed 15 Dec 2018 at <http://www.isc.gov.kh/en/detail/view/100?ctype=article>

¹⁸⁷ The international usage suggests using instead 'technical regulations'.

of Germany. The NMC is full member of APMP and APLMF, member of OIML, and member of the ASEAN EMG and ACCSQ WG3.

The central office has industrial metrology laboratories¹⁸⁸ (staff of ten) for length, pressure, mass, volume, and temperature (-10°C to +250°C); the three later tests have been accredited by DoA in 2017.

The legal metrology department (staff of 20) responsibilities are 1) to verify measuring instruments used in trade transaction, 2) to verify the production of pre-packages, to develop the system of units of Cambodia. In addition, there is also a legal affairs office and a crime control metrology office. The recent focus of legal metrology activity has been on fuel dispensers and weighting instruments.

Besides the NMC, other entities provide industrial calibration services in country (for surveying instruments) or have a representative office to arrange calibration in the region (e.g. Endress & Hauser, Intertek).

3.1.6. *Conformity assessment*

❖ **Inspection**

Public Inspection Services

Several departments have a mandate to ensure inspection of products and production /trading establishments. This mandatory inspection is required as part of the official controls targeting goods and products bearing a risk for consumers. Mandatory inspection is thus organized at different steps of the supply chain: by MAFF for primary production and post-harvest sites, by MOC for border entry points and up to markets, by MOI and MOH for processing factories and restaurants. At MIH, the Regulatory Department of ISC is on the way of developing the inspection procedures in line with requirements of the standard ISO/IEC 17020.

Private Inspection Bodies

In contrast, private (voluntary) inspection services are used in trade transactions between suppliers and buyers, to ascertain that shipments conform to the quantities and basic characteristics stated in sales documents. Phnom Penh-based local companies, affiliated to international conformity assessment groups, include Control Union, Bureau Veritas, Intertek, and SGS. The main business lines are textiles, consumer goods, wood, and commodities (rice, corn, soybeans...).

❖ **Certification**

Public Certification Services

Mandatory certification is used by the RGC departments to control the circulation of products deemed dangerous for the public.

* The ISC Certification Department administers a Product Certification Scheme based on the ISO/IEC 17065:2012, which provides rules for a third-party certification system of determining conformity with technical regulations (chili sauce, vinegar, water...) through product testing and the assessment of the factory practices. The Scheme requires licensing of operators wishing to use the ISC Certification mark; therefore, ISC provides licenses for products related to health and safety conforming to regulations. Licenses are issued for an initial period of three years and can be extended for subsequent three-year periods provided the obligations under which the license was granted continue to be fulfilled. After the issuance of a license, the concerned products can be affixed with an ISC mark.

In addition to the above Scheme, the ISC provides commercial certification services for management systems (ISO/IEC 9000, ISO22000, ISO14000, HACCP-GMP), following the same set-up (license and use of the Mark) as above. The certification department of ISC has 13 officers, some of them are Lead Auditors for the relevant standards. So far, 15 companies are certified by ISC for their management

¹⁸⁸ See detailed list of capacities in Annex 3

systems. This certification activity is organized according to the standard ISO 17021; however, the Certification department is not yet accredited.

- * The Ministry of Commerce is in charge of providing export or pre-shipment certification.
- * In respect of hygiene, quality and safety of agricultural products, MAFF has the responsibility to issue Health Certificate (animal products incl. fisheries products), Phytosanitary certificates (vegetal products) as well as quality and safety certificates (including raw materials, semi-process and process products).
- * The Ministry of Environment has mandate to certify the absence of GMOs and LMOs in imported goods.

Private certification Bodies

As is the case for inspection, private (voluntary) certification services are used in trade transactions between suppliers and buyers, to ascertain compliance of products, services or management system with clients' requirements or standards. Certification of systems is often used to demonstrate the capacity of an operator to produce regularly goods with a given level of quality (quality management system) or a given level of safety (food safety management systems (e.g. HACCP, ISO 22000). A few private certification bodies are operating in Cambodia; particularly active in the area of agri-food products are Guardian Independent Certification, TUV Rheinland, EcoCert, and Control Union. There are still a limited number of certified enterprises¹⁸⁹ in the food sector (ISO22000 for water, HACCP for fish sauce and chilled crabmeat, cassava starch) or in the manufacturing sector such as construction (ISO/IEC9000), electrical (ANZ product standard), cement (OHS18000), rubber, and human resource and training services (ISO/IEC 9000).

❖ Testing laboratories

Public laboratories

The Camcontrol Testing laboratory (CTL), under the Directorate-General of Import & Export Inspection (MOC), is responsible for testing food samples for physical, chemical and microbiological contaminants in support to Camcontrol's food inspection activities in local markets. The CTL has 44 analysts, most of them with engineer or PhD degrees. In 2018, the CTL has tested 5,361 samples, of which 60% food products, 20% agricultural products, and 20% petroleum. The CTL administers the mobile lab of Camcontrol that has processed about 3,000 food and agricultural samples in 2018. The CTL is working to prepare a QMS and seeking accreditation in the future; at present, they ensure reliability of tests results through quality assurance and quality control plans.

MOC has also a range of nine smaller laboratories in the provinces¹⁹⁰: three are equipped and perform basic food tests (1,200 samples in 2018) and the others are not yet in operation.

The Industrial Laboratory Centre of Cambodia (ILCC), under ISC (MIH), was created in 1998. Its main objective the provision of testing services to support the work of other MIH departments in the areas of food and non-food products, control of regulated goods, and quality control systems. The ILCC also serves other customers in the private sector and the community. ILCC has started since 2016 providing testing services for the control of non-food products; capacity building continues in a new mechanical and electrical and electronics testing lab, which would start operating in 2020.

ILCC has a staff of 31 officers, they receive about 7,500 samples/ year and run on an annual budget of about 275,000\$. The laboratory is accredited for microbiology tests by NATA, and for food and water chemical tests by the Singapore Accreditation Council. The range of tests includes heavy metals and pesticides residues in food matrices (capacity for 31 organochlorine and organophosphate molecules).

The laboratory depends on Government resources allocation and works based on a yearly budget submission; while customers pay the test fees directly to MOC (proceedings go the Treasury). These financial procedures are not optimal: the budget is not always fully allocated and variations are not

¹⁸⁹ See JAS-ANZ Accreditation website, accessed 15 Dec 2018 <http://www.jas-anz.org/our-directory/certified-organisations?combine=&country%5B0%5D=Cambodia&location=&scope=>

¹⁹⁰ In Sihanoukville, Phnom Penh port, Poipet, Svay Rieng, Kompong Cham, Prey Veng, Takeo, Preah Vihear, and Boeung Trakaung.

possible, which limits the capacity of the lab to adapt rapidly to market opportunities or specific needs (PT testing, purchasing of reference materials, reagents...). Another issues for ILCC is the staff turnover. Retaining good staff is difficult while the incentives as Government officials are low and not conducive to deliver high quality work. Another issue is the need for more financial autonomy; ILCC submitted an autonomy plan in 2012, which was not followed on by MOI.

The Laboratory of the Department of Fisheries Post-harvest Technologies and Quality Control and the Aquatic animal health laboratory of fisheries Administration (MAFF) have a limited capacity. The earlier is mainly designed for microbiology in which sufficient and advanced analytical equipment has been provided by RGC and donors but in-adequate space for installation. The laboratory is being used to support microbiology test for official control of food quality and safety of fishery products. Chemical tests and drug residues are either used test kits or outsourced to other laboratories in/out of the country. Capacity building for analysts is on-going under UNIDO technical support. The latter is not able to detect and identify all diseases (OIE and NACA listed): only a few tests for a few species for level I and II tests (excluding histo-pathology, mycology etc.) and none for level III tests.

The National Agricultural Laboratory (NAL) of General Department of Agriculture (GDA-MAFF) includes four sections namely 1), analysis of fertilizers and pesticide products (verification of formulations), 2) elements in soil (fertility) and water, 3) pesticides residues, and 4) biotechnology analysis. This laboratory covers 1,200sq.m., it has 33 officers. Upgraded recently with RGC and Donors support, its equipment includes spectrometers for analysis of metals, HPLC with ECD and Fluo detectors, and a GC-MS for analysis of pesticides residues, the later not fully operational (a.o. Dec. 2018). NAL has yet to develop a management system and quality assurance programs.

Cambodia Laboratory of Agricultural Products and Foods under Department of Agro-Industry of MAFF (CamLAPF-DAI/MAFF): CamLAPF is named by the declaration nr. 204 dated on 20 April, 2018 on the launching of Cambodia Laboratory of Agricultural Products and Foods. Its roles are to provide the testing services of SPS related to food safety of agricultural products, issue the certification of SPS related to food safety, facilitate the trade activities and act as the third party to quarantine the other testing laboratories of agricultural products. Currently, CamLAPF is developing their QMS, quality manual, SOPs, program files and work instructions with the ISO17025 guidelines and seeking towards accreditation. The CamLAPF is built under the supporting from People's Republic of China to support the Royal Government of Cambodia's RS4. In addition, MAFF has indicated DAI as the Inspectorate Agency for food safety of agricultural products through the Prakas 334 MAFF dated on 22 August, 2007.

The National Animal Health and Production Research Institute (NAHPRI), under the General Directorate of Animal Health and Production, monitors animal health by carrying out serology, virology, pathology, and bacteriological and feed analyses. The NAHPRI has 40 analysts, most of them with bachelor or master degrees or PhD. Recently this unit has been is equipped with an Ultra Performance Liquid Chromatograph that enables testing residues of veterinary drugs, pesticides, growth promoters, etc. in products of animal origin and animal tissue, and the quality of veterinary drugs and animal feed. This equipment would be operational once the capacity of the team is developed. The NAHPRI Lab also has capacity to test for some food-borne pathogens such as salmonella spp., E. coli, Staphylococcus aureus, Campylobacter spp. and clostridia. This lab is currently developing its QMS.

The National Food & Drug Quality Control Laboratory has 40 persons. It carries out tests for drugs (assay, uniformity of content, and dissolution); no food tests are performed. They are preparing their QMS and look towards accreditation, yet funding is also an issue.

The National Health Product Quality Control Centre (NHPQCC), under the Ministry of Health performs drug quality control using instrumental analysis. It also plays a role in analyzing samples from poisoning outbreaks.

The Environmental Laboratory of the Department of Environmental Pollution Control, Ministry of Environment has been operating since 1996. The lab is responsible for testing the presence of GMOs and LMOs. However, it has little if any connections with the other SPS-related laboratories.

The National Specific House Laboratory of MAFF is responsible to test rubber and provide grade as per international trading standards. This laboratory has lost its accreditation when it was relocated in 2017.

The MoE laboratory centre for biodiversity analysis is equipped to perform basic biological and chemical tests.

Private Laboratories

There are four major private laboratories in Cambodia, all based in Phnom Penh: Intertek Testing Services lab, Bureau Veritas lab, SGS lab, and TUV Rheinland lab. These local companies are owned by the eponym multinational conformity assessment groups. Under the group supervision, they provides a range of testing and quality-related solutions for industry, where testing mostly comes as a part of the inspection and auditing services. The analytical range includes analyses for textile industry (mechanical and chemical tests) and commodities such as petroleum, chemicals, minerals, and food and agricultural products. In addition, smaller laboratories operate in the area of textiles and cosmetics (e.g. Modern Testing Services). Among the group of private laboratories, the five laboratories mentioned above are accredited.

The Laboratory for Food and Environmental Hygiene (LHAE) of Institut Pasteur du Cambodge (IPC). IPC is a private company maintaining a large laboratory complex with several specialized laboratories. In the past, they were partners of the Ministry of Health in investigations into food-borne diseases. The IPC's Food & Environmental Hygiene laboratory carries out routine services for water testing (microbiology and chemical tests), and microbiology of food and environmental samples (e.g. food preparation surfaces, air, water, etc.)

3.1.7. Quality promotion and use

While the other functions or pillars of the QIS aim at developing and rationalizing the offer of services, this last pillar aims at developing the demand side. The use of standards, conformity assessment services results from the needs of industry (competitiveness and effectiveness), the public sector (efficient official controls) and the public in general and consumer association in particular (value for money, fairness in trade, etc.).

Cambodia has not yet organized the promotion and advocacy for quality in a holistic and comprehensive manner. For example, there is no national quality contest in the industry or agriculture sectors, no apex body in charge of promoting quality and safety issues across the sectors, and no consumer association in Cambodia.

Separate initiatives have been taken, which need to be continued and amplified.

- The Ministry of Health's National Centre for Health Promotion plays a leading role in delivering food safety education to consumers. The Centre is actively involved in health education and food safety for the public and schoolchildren,
- The Fraud and Deceitful Advertising Repression Office, under Camcontrol, has delivered awareness raising campaigns using seminars explaining the provisions of the Law on Management of Quality and Safety of Products and Services; printed materials covering product labelling and food-borne disease; and TV broadcasts.
- ISC Information department has initiated awareness raising program for SMEs and industries on the use and implementation of standards and conformity assessment procedures that relates to quality and safety of industrial products and food and pre-packaged products.
- At Government level, the Prakas 848 and the PMO order on Use of Regulatory Impact Assessment triggered the need for inter-ministerial collaboration for risk management and information; however in the absence of a central operational entity, these dispositions have so far be implemented through ad hoc efforts.

3.2. Achievements, gaps, and perspectives

Accreditation: The concept of national focal point allows Cambodia to deliver joint accreditation services. Cambodia through the Department of Accreditation is not yet a full member of the APAC MRA. Given the small size of the market for conformity assessment services in Cambodia, the justification for a local accreditation body is not in economic terms, rather it is to provide a channel for enhancing the performance and competence of the laboratories (and later of the inspection and certification bodies).

Standards: Good progress over recent years, repeal of obsolete standards and adoption of ASEAN codes and of a hundreds of international texts (Codex, UNECE, ISO); only about 30 Cambodian standards are not aligned with international texts. There is a need to review the older standards (2011-2014) as a normal practice of standardization. The ISC should improve information on the TC composition, work programme and functioning, so those trades partners may be apprised of the country focus and, possibly, provide support to the standardization work.

Technical Regulations is an area where improvement would be possible. The OPM Regulation on RIA has been only superficially implemented. The current process for preparing technical regulations in each Ministry could become more transparent and more inclusive. Finally, very few laws, decrees and technical regulations have been notified to the WTO either as TBT or as SPS measures.

Metrology:

- The NMC has the capacity to ensure traceable calibration services for the industry. However, there is no capacity yet to maintain higher precision standards (E1-E2 class) that will allow traceable calibration of the instruments used for industrial metrology. The NMC capacities should thus be gradually extended to allow traceable calibrations in other fields of measurement, in parallel to gaining the capability to maintain secondary standards in country.
- The legal metrology function, at an early stage of development has started delivering useful services. Upscaling of the LM delivery is depending upon resources (staffs and equipment) that would be allocated.

Inspection:

- The public bodies ensuring inspection are not accredited. Therefore, results of inspection of export products cannot be used by exporters to ascertain the quantity, compliance or value of their shipment by importers abroad.
- For inspection of imported products being placed on the domestic markets, the absence of an accredited management system means that the inspection results may be unfit for purpose or unreliable, especially when the technical departments carrying out inspection have no or poorly written procedural manuals.

Certification:

- The public bodies ensuring certification are not accredited, which means they issue certificates of compliance for products or for management systems that are not recognized outside of Cambodia.
- When public bodies ensure voluntary certification services, they enter in concurrence with existing private certifiers. Since most private certifiers are accredited, the public services should also seek accreditation, lest they become uncompetitive hence unsustainable. In addition, maintaining mandatory and voluntary certification schemes in the same body would require disposition to eliminate the risk on impartiality.
- The co-existence of regulated certification services and adoption of technical regulations in the same organization is not conforming to international best practices. It may lead to situations of conflict of interest or reduced impartiality.

Analytical laboratories:

- There is an abundance of advanced analytical equipment in Cambodia (Phnom Penh); when compared to the number of samples processed. Nevertheless, procuring the instruments necessary to perform advanced tests may be justified by the need to transfer gradually knowledge and practical skills for using these complex instruments.
- The level of investment in hard equipment is however a secondary issue. The crucial issue, which will determine the success (competence) of all the labs, is the availability and interest of qualified officers and analysts. Attracting, training and retaining good analysts is a challenge for public laboratories, since the managers have virtually no say on staffs levels, incentives, and overall on the technical and financial sustainability of their unit.
- In the above context, gaining and maintaining accreditation is another challenge. The lack of accreditation would cast a doubt on the reliability of a laboratory's results¹⁹¹. Unreliable results may lead to inadequate decisions, which may affect either the private sector (export/import denial), the Government (inaccurate valuation), or the consumers (insufficient application of safety measures).

Alignment with ASEAN practices

Until now, ASEAN requirements for SPS or TBT measures were mildly constraining; most of these being agreed under a form of voluntary codes of practices or voluntary regulatory frameworks, at the exception of the ACD for cosmetics and for electrical and electronic goods.

A decade ago, a consensual and open-ended approach to harmonization was certainly necessary for allowing the less advanced member states ("CLMV" then "CLM") to 'catch up' with the emerging economies of the bloc. Nevertheless, with the perspective of creating the ASEAN Economic Community, harmonization of the regulatory frameworks will now become more pressing. The areas where further necessary progress from CLM partners includes agriculture and fisheries, with expected measures covering:

- Full adoption of the ASEAN regulatory guideline, and upgrading of local SPS legal and institutional compliance frameworks (including effective use of risk-based approaches);
- increased demonstration of the effectiveness of official controls, particularly concerning respects of MRL for contaminants (bacteria, aflatoxins, heavy metals, and pesticides residues)
- use of ASEAN GAP standards as basic requisites for free circulation of goods, use of HACCP certified processors),
- Promotion of ASEAN organic standards in national mandatory requirements for the organic sector.

Cambodia seems relatively well positioned to reach the next level of compliance and recognition as a reliable trade partner. The QIS already consists of crucial functions (accreditation, standardization, and metrology) that could be brought to regional level within a few years. Notwithstanding, extension of the current scope of services (metrology and testing), would require to facilitate the industrial diversification and value-addition. The QIS functions serving SPS compliance are also in place; however, Cambodia would benefit from 1) streamlining the regulatory framework (furthering the use of regulatory impact assessment and actually implementing an integrated approach to SPS system), 2) strengthening the risk- and science-based approaches in particular at Camcontrol, 3) developing institutional and individual capacities across the Ministries.

Alignment with RCEP dispositions

There would be no immediate constraints resulting from the RCEP agreement. Firstly, the RCEP process, long and conflict-prone, has so far only reached agreement on customs procedures, trade facilitation, government procurement, economic and technical cooperation, and small businesses. Secondly, as in any candidate Trade Agreement, nothing in the RCEP could be more demanding than the dispositions of the WTO Agreement, which Cambodia is in the process abiding to.

¹⁹¹ Unless the laboratory can demonstrate to any interested party, they maintain a management system compliant with the ISO/IEC17025 standard.

4. SPS issues affecting trade of selected commodities

4.1. Overall situation on SPS measures

Cambodia is increasingly complying with international agricultural safety approaches and requirements recommended by the International Plant Protection Convention (IPPC), World Organization for Animal Health (OIE), the Southeast Asia Fisheries Development and Centre (SEAFDEC), the Association of National Rubber Producing Countries and the International Rubber Development Board, and the Codex Alimentarius Commission (CAC). Similarly, the ASEAN common food control requirements (ACFCR, see Annex 8) are gradually complied with.

In the last five years, Cambodia has made striking progress developing her SPS regime with respect to upgrading and equipping facilities and formulating pertinent regulations. The former include investment in the testing laboratories of competent authorities and academic institutions; establishment of five regional plant quarantine offices across the country to bring SPS inspection and certification services closer to end-users; and preparation of a new Law on Animal Health and Production (2016).

A Food Safety Law is being drafted, which proposes the establishment of a food safety authority and a framework to enhance safety and wholesomeness of food by preventing, controlling and eliminating hazards throughout the food chain. The draft law on Plant Protection and Quarantine, still under review, similarly adopts or refers to international standards and procedures; the draft is under review, as some issues need to be resolved among MAFF, MoC and MEF. Such efforts to update the legislative SPS framework will further align Cambodia's SPS regime to ASEAN's and international benchmarks.

However, the SPS system has yet to reach its full effectiveness. A range of recent technical reports (see Annexes, bibliography) have highlighted persistent problems in the areas of animal health and epidemic zoonoses, bursts of plant pests, and alleged contamination of food and waters by pesticides and heavy metals. The concerned Departments recognize the existence of such issues, and have taken steps to improve performance in the area of plant and animal health (MAFF), food (MOC and MOH), and regulated products (MIH).

4.2. Components of the SPS system

4.2.1. General Dispositions

Table 29 – General dispositions for plant health, animal health and food safety

	Plant Health	Animal Health	Food Safety
Registration	Licensing of pesticides and fertilizers traders	Declaration of farms (MAFF) Licensing of slaughterhouses and processing factories (MAFF)	Products listing (MOH) Licensing of factories for regulated products (MOI) SMEs in Agriculture (DAI/MAFF)
Primary Stages	Farm: Voluntary GAP (GDA) Residue monitoring (GDA-not yet)	Farms Voluntary cert. GAHP GAD Farm Inspection & monitoring (GDAH) Residues monitoring (not yet)	Residue monitoring (MOC, DAI/GDA MAFF) Primary Processing, inspection, Good Hygiene Practices (DAI/MAFF)
Production stage	Factory: FS (export)	Mandatory HACCP certification (fish vessels, landing site) Inspection of processing factories (MOI)	Mandatory syst. cert.(ISC mark) and product cert. for regulated products (MIH) Voluntary system/ product certification

	Plant Health	Animal Health	Food Safety
Transportation	For seed and seedlings? (GDA)	Declaration for transport (GDAH)	--
Cross-Border	<.....Declaration of import/ export & document submission (GDCE).....>		
	<.....Inspection doc+ cargo; sample & tests (Camcontrol).....>		
	Import license for fertilizers, PPP Import license for forestry pdts. Phytosanitary cert. (GDA) Import Certificate for plant quarantine material (GDA)	Import licenses for animals (incl. fish) Animal Health certificate (GDAH)	List of Authorized products (MOH) Food Safety certificate (MOH)
Market Surveillance	Inspection: traders/inputs (GDA) Monitoring of hygiene & residues (MAFF)		Monitoring the residues of agricultural products based on Prakas 204 (DAI/MAFF)
	<.....Markets: monitoring, sampling & testing (Camcontrol).....>		

4.2.2. Animal products and Fisheries Products.

The General Directorate of Animal Health and Production (GDAH) is responsible for the inspection of animals and animal products and for issuing the Animal Health Certificate (OIE) as well as import permits for animals and animal products based on risk assessment. The law on Animal Health and Production 2016 sets standards for imports of livestock and refers to regional standards for exports. This new Law, coupled to joint country assessment/ review of sanitary risk (Transboundary Animal Diseases) should thus accelerate regional integration.

The Fisheries Administration is the national Competent Authority (CA) responsible for managing, controlling and inspecting the safety and quality of fish and fisheries products, in order to ensure public health protection, and fair trade in fisheries products. The CA responsibilities include inspection of imports and exports, the issuing of Health Certificates for export, the licensing of operators, and the development of Good Aquaculture Practices. However, the institutional capacity of the FiA and the CA remain weak; testing capacities in particular are too limited. There are deficiencies in the disease control system (lack of national lists of transboundary diseases, low detection capacity), as well as in the official controls of establishments, vessels, and farms. The EC FVO mission (in 2005) concluded the system of official controls was not effective and could not ensure a level of protection similar to that of the EU. Cambodia was included in the list of non-cooperating countries, due to lack of progress with the national plan of action against IUU fishing.

Recent progress includes:

- Development of a code of Good Animal Husbandry Practices: not fully translated, it will be submitted as a Cambodian Standard;
- Renovation of the NAHPRI laboratory and capacity increased to analyses drug residue with advanced chromatograph system (UPLC);
- Annual trans-boundary animal diseases surveillance program activities were ramped up to establish risk-based surveillance of highly pathogenic avian influenza (HPAI) in Kampong Cham, Kampong Thom, Kampong Thum, Kandal, Monduliri, Phnom Penh, Siem Reap, Svay Rieng, and Takeo, and TADs country wide;
- Border surveillance activities were increased including additional bilateral meetings/ working groups on animal health cooperation with Vietnamese and Thai and Lao counterparts;
- Categorization of animal product import risks and development of risk-based standard operating procedure materials was completed;
- Biosecurity measure activities completed (Dec. 2017) with households level biosecurity demonstrations in Takeo, Prey Veng, Kampong Cham, and Svay Rieng Provinces.

- -The Office of Aquatic Animal Disease and Health Management was officially created under the Department of Aquaculture Development. It endeavors to increase controls for movement and quarantine of aquatic animals.
- The Fisheries Administration (FiA) has set-up a certification scheme 'Quality for Fish and Fishery products, yet with limited coverage at present. Nevertheless, it is set in the coming donor funded project of 5 years to strengthen the official control system of FiA as CA to be recognized by EU.
- FiA is developing the National Monitoring Program for residues of aquaculture medicine and environmental contaminants in Aquaculture products. The initial plan for 2018 has been implemented and now being further developed with five-year donors' fund already promised.
- -Similarly the Department of Post-Harvest Technologies and Quality Control has set-up a certification scheme 'Quality Seal of good aquatic animal products' for aquaculture products, yet with limited coverage at present.

Constraints mentioned

- Border checks of animal/ animal products should be based on updated SPS risk: there is a perception that risk management is carried out without proper data and without coordination with other Ministries.
- In the absence of veterinary/ animal protection officers at border points, checks are done in a way that is not effective or suitable to quarantine or FS purposes.
- Allegedly, imports receive much less attention than exports.

4.2.3. Plant Products

The Plant Protection and Sanitary and Phytosanitary Department (PPSPD) is responsible for control of import/export of plants and plant products, including i) implementing SPS measures for imports, exports and goods in transit, ii) issuing health certificates, iii) carrying out information and extension programmes, and iv) providing support services for developing quality and safety of agricultural produce. The PPSPD has 85 staffs in offices in Phnom Penh Battambang, Siem reap, Sihanoukville, Stung Treng, and Kompong Cham. The PPSPD maintains a small team in the international airports to assist Camcontrol "on-call". The last EU FVO report (MR 2014-7206) indicate that while the phytosanitary export controls have been organized, there were inadequacies in the inspection method and outcomes.

The List of maximum residue limits (MRL) for products of plant origin, based on ASEAN MRLs, has been established with MRLs for 42 pesticides.

Recent achievements include:

- Finalization of National GAP standards for fruits and vegetable, adopted from ASEAN-GAP. GAPs are to be implemented on voluntary basis. GDA has set up plans to train agriculture extension agents, traders, farmers (10,000 persons trained so far); certification of farms by GDA on going with 100 applications to date;
- Initiating the development of a framework for organic production (on going);
- Participation of PPSPD in bilateral working groups with China, Thailand and Viet Nam on plant quarantine;
- Conclusion of cross border phytosanitary protocols with China (banana, corn, cassava, milled and broken rice) and Thailand & Vietnam (banana, mangoes, dragon fruit, 8 more in process). There is no overarching framework to develop such protocols. The dispositions are largely inspired from international and regional texts, with some local requirements.
- Development of E-Phyto, linking the delivery of Phytosanitary certificate to the customs single window and ASYCUDA system (on going);
- Finalization of pest lists on banana and pepper, cassava, citrus and mango, and notification to IPPC of a list of certain pests on milled rice;

- Establishment of a greenhouse for post-entry quarantine testing of imported seeds and planting materials.

Key Constraints mentioned:

- The complete SPS system is not harmonized between Ministries, and data/information is lacking to make science-based decisions. SPS & FS arrangements should derive from the sub-decree 21 (facilitating trade through Risk Management); however more multilateral discussion is needed.
- No plant quarantine/ veterinary officers present at border posts, resulting in imports inadequately checked for pests and diseases.
- The country may face difficulties to control the cassava mosaic disease (outbreak in 2015) and highly invasive species (golden snails, army worm)
- Traders have experienced issues at the Thai border that ‘closes’ administratively (stop processing paperwork) at certain cropping periods
- The situation on pesticides is very complex (presence of fake products, obsolete products, mixing of products, mislabeling and misuse). It will require updating the practices from farmers and involving all stakeholders (farmers, dealers, etc.) in implementation of regulations.

The Department of Agro-Industry (DAI) of MAFF is legally authorized to be responsible for the food safety inspection of Agricultural products according to the Prakas nr. 334 dated on 22 August, 2007, about the food safety inspection of agricultural products. Recently, some programs of DAI is monitoring the safety of fermented processed products and meat product surveillance under the supported from national budget program. However, both national and sub-national level officials have not yet been built strongly capacity enough based on the requirements and guidelines. In addition, the draft of inter-Prakas about the for formal justice official from DAI.

4.2.4. Food Hygiene and Safety¹⁹²

Currently, the organization of official controls for food products is split over two main Ministries. The Ministry of Health (MoH) is responsible for public health and food safety issues as it relates to Public and Environmental Health (NCD, food crises, etc.). The Department of Essential Drugs and Food is responsible for food and drug control and is the focal point on the ASEAN Food Safety Expert Group. The Ministry of Commerce is responsible, under the Law on the Management of Quality and Safety of Products and Services (2000), to ensure the quality and safety and consumer protection for food products. The General Directorate of Export and Import Control (Camcontrol)¹⁹³ has thus a wide-ranging mandate (see Annex 6). The DDF and Camcontrol are members of INFOSAN and ARASFF respectively, thus linking to ASEAN food safety networks.

In addition to the above, ISC (MIH) is responsible for hygiene and safety issues for regulated products at factory level.

➤ **Responsibilities of the Department of Drugs and Food (DDF)**

The DDF includes the Food Safety Bureau (FSB) that has a staff of 20 people (central) and 100 persons (in provinces). DDF also operates a laboratory (35 staffs). The FSB is the focal point within the ASEAN Food Safety Network.

¹⁹² In this section, Food refers to processed good. Fresh and live products are described above in § II and III.

¹⁹³ Although Camcontrol is no longer responsible for inspection at border crossings, it is necessary to analyze the previous roles of Camcontrol in term of food hygiene and safety.

The FSB is responsible for official controls of food products sold in restaurants and control of food establishments (consumer sector). In addition, for import export, MOH requires registration of food products and provides lists of 'authorized' foods to Camcontrol. FSB is also in charge to deliver Food Safety certificate to importers and exporters; however, the inspection of shipments is ensured by Camcontrol.

Achievements

- Establishment of food safety bilateral network and working groups with China Thailand and Vietnam, through DDF and Camcontrol officials.

Issues reported

- Insufficient cooperation between Ministries; MOH is not well associated with risk-based controls of Camcontrol
- Pesticide residues monitoring plan is being developed
- Inspection, which is done in cooperation with provincial authorities could be amplified

➤ **Responsibilities of Camcontrol (MOC)**

Camcontrol with total staff of 570 (of which 370 in provinces), is organized in 5 Departments and 27 branches nationwide.

- Dpt. of Consumer Protection and Fraud Repression,
- Dpt. of Technical Affairs and Public Relation, in charge of inspections
- Dpt. of Laboratory
- Dpt. of General Policy and Dispute Resolution
- Dpt. of Competition, to administer Laws on Competition & on Intellectual Property

Camcontrol is the SPS enquiry point; also is in charge of the National Codex Committee (NCC). MOC chairs the NCC, which includes representatives of the industry and other Department; there are different thematic working groups.

Camcontrol was responsible for ensuring compliance with regulated products both food and non-food both at the border and on the domestic market. Although Camcontrol is no longer stationed at the border, it retained the role for domestic market.. Prior to that, export inspection covers garments, agricultural products, rice, wood and processed food. Import inspection concentrates on food, agricultural chemicals, petroleum, textiles and garments. Domestic market surveillance targets labelling, quality and safety of food and other regulated products, and commercial fraud.

Border inspections are based on risk: Camcontrol has developed a procedure manual and specific sorting criteria, partly based on customs risk profiles, partly based on lists from other countries. Inspection and import/export authorization are based on documentary checks, in certain cases inspectors carry out sampling for further tests. In case of doubt, Camcontrol would request feedback from related Ministries. High-risk products can be downgraded if shipments are found compliant during five consecutive checks.

The Prime Minister's decision (January 2019) to remove Camcontrol Officials form border points will require a re-organization of both exports and imports controls (see § 8.4.3. below)

Camcontrol operates a laboratory in Phnom Penh for testing of food, cereals and petroleum products. Additionally, Camcontrol also has mobile labs for conducting market monitoring and surveillance with regard to chemical food safety hazards and for conducting petroleum quality testing and volume quantity at service stations. Mini-labs facilities are also being introduced at some border entry points such as Sihanouk port, Poi Pet and Bavet. However, as mentioned in § 3.1, none of the tests are accredited.

Recent Progress or Achievements

- In 2015, the Government in collaboration with the FAO drafted a new law on Food Safety that will complement the Law on the Management of Quality and Safety of Products and Services. One of the main dispositions is to create a Food Safety Authority, which would improve

enforcement of existing regulations that fall under the purview of Camcontrol. However, as of end 2018, the draft law is still being negotiated at Inter-Ministerial level.

- Surveillance of food hygiene and safety at restaurants and canteens (with FSB) and on street food stalls including taking of on-the spot samples
- Completion of a surveillance program for food safety in chemical contaminants in domestic markets (Dec 2017).
- DDF and Camcontrol organized a joint study tour on food safety for tourism industry and on market and import surveillance (Vietnam, 2018).
- Operation training for 30 Camcontrol staff members was conducted by ARASFF Thailand

Reported Constraints

There is a need for more inter-ministerial cooperation, bringing each responsible department together.

➤ **Role of the Ministry of Tourism.**

Its main role in food safety is to register, issue permits and inspect food outlets, such as food courts and restaurants, in all of Cambodia's provinces, thereby ensuring that they comply with MoT standards.

4.2.5. Biosafety

Cambodia is a signatory of the Cartagena Protocol on Biosafety (2000). The Ministry of Environment is the competent authority to implement the Law on Biosafety; the Law aims at protecting the environment against the introduction of living modified organisms (LMOs) or genetically modified organisms (GMOs). The Law (chapter 4) regulates all exports of modified organisms by prescribing a list of authorized organisms, written notification in advance to the importing country, and application for an export permit from the appropriate Ministry. Similarly, import of modified organisms requires submission of a risk assessment report from origin country to the National Steering Committee for LMO/GMOs and Technical Working Group for Risk Assessment consisting of officials from relevant Ministries. The Committee issue recommendation to MOE who makes the decision to allow or deny importation.

4.3. Remaining SPS issues and potential improvements

Not all of the issues identified in the previous CTIS are still hindering the SPS regime. The fragmentation of SPS system across Ministries does not prevent the system to function and deliver, if in a sub-optimal way. The overlap in implementation of official controls is not very important. The critical remaining issues are as follows.

- I. Lack of systematic risk-based inspection or monitoring in areas of production and processing, with an impact on product quality and safety;
- II. Public inspection and certification are not organized on the base of recognized management systems, and therefore the results are not necessarily accepted on export markets and are not fully effective for biosecurity and food safety purposes;
- III. Limited capacity of Departments to discharge the responsibilities under respective Laws;
- IV. Due to limited human and financial resources, laboratory-testing capacity is still insufficient to support inspection and certification.

4.4.1. Insufficient use of risk-based approaches

The situation originates from the inter-ministerial Prakas No 868. While this text is effective in organizing the implementation of SPS system and risk management, a single flaw in the text has introduced a general weakness in the framework. The Prakas divided the SPS area by sectors; and this division covers ALL the aspects of risk assessment: risk analysis, risk management, and risk communication. However, most of the important official controls (inspection and monitoring) such as border and market are dominated by Camcontrol. However, most of the official controls (inspection

and monitoring) are entrusted to Camcontrol: in consequence, the other Ministries are deprived from data resulting from monitoring and are hindered in carrying out their responsibilities. Reciprocally, Camcontrol on the one hand has no sufficient capacity to carry out valid risk analysis in each sub-sector (due to lack of expertise in each specialist field), and on the other hand has insufficient resources to organize a valid monitoring for the various criteria (hygiene, contaminants, etc.) mandated by the Law. This results in a situation where Camcontrol is sub-effective in enforcing the risk management procedures, but can generate useful data; and where the other Ministries are limited in their own responsibilities (animal, plant and public health) due to a lack of data and no visibility on the real situation in border areas. In addition, MOC and Camcontrol are ineffective in notifying¹⁹⁴ and circulating SPS information from the regional bodies and trade partners¹⁹⁵ to the concerned Ministries, as well as using such information internally.

By contrast, the international approach consists in organizing the risk analysis across the sectors, thereby requiring effective exchange of information and a systemic approach to the analysis. Once the common risk analysis is complete, risk implementation may take place separately in different Agencies. The data from monitoring and market surveillance is pooled and analyzed in common, which allows fine-tuning the control and monitoring mechanisms. In addition, cumulated data allows for assessing the impact of regulation and modulating their enforcement as necessary.

The Inter-Ministerial Committee Coordinating the Inspection of Quality and Safety of Products and Services seems still relatively inactive. The food safety working group, tasked with improving coordination among concerned departments in the Ministry of Health, also meets infrequently. For the Cambodian SPS system to reach full effectiveness, the Government should re-organize the risk assessment to be carried out as a joint activity across ministries by a dedicated permanent structure. This would allow placing focus on those steps of the food chain where risks are high. This would also improve the risk management, in particular the monitoring of contaminants. The data resulting from risk implementation (inspections and monitoring) in each Ministry should again be transferred for processing to the body in charge of risk analysis; where they would be processed to update review of implementation plans.

Finally, building capacity to test and certify end products is of limited benefit to developing countries like Cambodia if production and processing systems are not geared up to produce quality products. Discovering contamination and non-compliant food once it is at the border or on the markets is inefficient. Improved product inspection and testing should be backed by programmes covering the whole food chain to address the many problems, which are found in upstream segments.

4.4.2. Sub-optimal inspection and certification activities

Besides establishing actual collaborations between Ministries, there is room to improve the management of inspection and certification activities. None of the Department involved is using a documented management system or formal inspection procedures that would be available to the parties inspected. Existing procedures manual are written in very general terms and do not provide for reliable operational instructions.

Ideally, bodies providing inspection and certification services could be accredited, to ascertain their delivery of services is reliable and recognized internationally. Public inspection and certification bodies should systematically adopt management system inspired, and progressively compliant with, the relevant international standards ISO/IEC17020, ISO/IEC17021 and ISO17065. The first steps in that direction would be to document in full the operating process and the criteria used for decision, formalize the qualification of staffs, manage documents and records, and adopt quality control measure for the on-going work.

¹⁹⁴ There is not a single notification of SPS-related measures from Cambodia in the WTO database

¹⁹⁵ Finding of the EC FVO mission report 2014-7206 on plant phytosanitary measures.

4.4.3. Limited capacity for implementing agencies

The Departments in charge of official controls are usually well staffed at national level but less so in the provinces, where monitoring, especially for quarantine, requires covering large areas. Cambodian legislation does not stipulate the training requirements for inspectors; as a result do not have degree-level qualifications and have minimal training in risk-based approaches to food safety. In this context, there would be a need for continuous professional development and qualification of the inspectors, so they may keep abreast of developments of risks and methods to prevent these.

For example, Cambodia does not have an active programme of food-borne illness surveillance and outbreak responses are often limited by the lack of available expertise. Moreover, reports show that there have been hardly any cases of food being recalled from the market. Traceability mechanisms are limited and there is no national reporting database in place. In recent years, several initiatives for exchange of practices and training have taken place (and ASEAN-led and bilateral exchanges). There would be a need to pursue and amplify such individual capacity building in each ministry, including at provincial level.

In addition, the private sector needs to be able to find info on market access quickly and easily. There is no good and clear coverage of Food Safety guidance information available in the country for the operators, specifically identifying most relevant hazards and providing control guidance for each product. There is also reported needs for information on HACCP and for implementation support.

4.4.4. Insufficient laboratory capacity

Several laboratories have been equipped with advanced analytical instruments over the last five years. The capacity to analyse contaminants remain yet limited, due to the high level of qualification and experience necessary to run properly such complex tools. The issue of duplication is not really a problem, considering that different lab test contaminants on different matrices (meat, vegetables, food...) and further, that if several labs in the country are working on the same techniques, this would increase the number of qualified analysts and open possibilities for inter-laboratory comparison. However, the critical issue is to attract, train and retain a sufficient number of capable analysts, who can absorb the capacity building provided by regional experts. In the Government, there is an internal staff rotation policy between departments, which has a direct and negative effect on the delivery of reliable laboratory work. In addition, the human resource issue could become increasingly a challenge for public laboratories, as better-paid jobs are increasingly available with the development of value-adding industries.

5. TBT issues affecting Cambodia trade

5.1. Trade trends

Currently, Cambodia economic output rests on four pillars: garments, rice, tourism, and construction. Cambodia's export structure has not changed much during the last decade: the limited income base exposes the economy to demand disruptions and price shocks, as shown during the global financial crisis that cut into garment production and exports. Moreover, about 80% of merchandise exports go to slow-growing markets in Canada, Europe, and the United States; only 15% of merchandise exports go to Asia. Cambodia faces thus a challenge of diversifying and upgrading productive capabilities to improve economic resilience. The government policy, aimed at transforming the industrial structure to a skill-driven industry and connecting to regional value chains, has initiated recent growth from 18 to 29 % in exports other than garments and tourism, including mainly bicycles, electronic and electrical components, accessories and footwear, natural rubber, milled and paddy rice, cassava, corn, and soybeans.

5.2. Current TBT-related measures

Cambodia would not face many issues in term of potential barriers to trade. Actually, the overall weak national capacity to enforce existing regulations play against Cambodia when it comes to controlling the quality and safety of imports.

Legal framework and notifications

As indicated in § 8.4.2 above, The ISC and Camcontrol are the main agency responsible for controlling compliance of goods with technical requirements.

It is unlikely that any regulatory registration, conformity assessment or labelling procedure passed by the Government would consist of a TBT. However, most of the dispositions falling in this category have not been notified to the WTO.

Standards

The corpus of Cambodian standards has been largely increased since the last CTIS. Most of the added texts deal with agricultural commodities and food products. Among the international standards adopted for industrial products, 150 cover electrical goods (ASEAN harmonized), 18 cover the construction materials, 12 cover chemicals and none yet in the fields related to new industrial products.

ISC's role also consists to supervise and provide technical support to the line ministries to help them develop standards so they can become Cambodian Standards. However, the process of standard setting in other ministries (as technical standards or as a base for their own technical regulation) seems still largely uncoordinated and has resulted in poorly formulated text (e.g. code of practices for fisheries products). Another consequence is the parallel adoption of Codex MRLs as Cambodian Standards, and the referencing of a sub-set of ASEAN MRLs by GDA.

Technical regulations

The main regulatory requirements for external trade consists of twenty-two measures notified to the WTO regarding the labelling of food product (reg. n° 1045 and n° 943), one “mandatory standard” for chili sauce (reg. n° 530), and 14 regulations on parts of vehicles related to the safety of users (based on UNECE standards). There exist additional product technical regulations¹⁹⁶ that do not appear in the WTO database; however, these products are hardly relevant in terms of international trade.

Other mandatory requirements have been adopted by the ISC for the application and use of the ISC Mark, which is meant as a label guaranteeing compliance with the product technical regulations. This label however seems of very limited use, as it offers little value for exporters and has no recognition within the country.

Licenses

As several other countries, Cambodia requires licensing of operators and/or products for certain goods that present a risk for consumers, or specific interest or impact on the environment.

Imports

- pharmaceuticals and medical material (MOH)
- agricultural inputs such as fertilizers and pesticides (MAFF)
- chemical, electrical-electronical products (ISC)
- living modified organisms and genetically modified organisms (MOE)

Exports

- Primary processed rubber
- Processed wood & non-timber products
- Drugs
- Art and cultural products
- Jewelry and uncut precious stones

¹⁹⁶ The list of standards on ISC website mentioned 21 ‘mandatory’ standards including for safety helmets, Portland cement, drinking water, natural mineral water, ice, vinegar, soy and fish sauce, electrical plugs and cables (8 texts), PET bottles used for food, and instant noodles.

Conformity assessment and product certification

Suppliers of products that could harm public health or safety are required to certify that the products comply with the ISC technical regulations. The ISC ensures product certification for enterprises producing regulated goods. The certification process includes if needed inspection and testing; however ISC capacities are insufficient to cover all the analyses. In consequence, some tests are outsourced.

Labelling

Under the Law, labels or marks are not required for all imports; however, products must have their labels certified and registered with relevant ministries before being imported into Cambodia. Labels for different products are regulated and certified by different ministries. Imports of pre-packaged foods must be labelled in accordance with Cambodian standards on food labelling.

Consumer protection

Legislative framework for consumer protection in Cambodia is relatively complete. The specific Consumer Protection Law covers the full scope of consumer protection in Cambodia. The Law on the Management of Quality and Safety of Products and Services (LMQSPS) of 21 June 2000 also provides a legal framework for consumer protection in terms of public health, safety, fraud and deception, including false advertising, for the products and services offered in the country. However, implementation of the law is inefficient due to overlapping institutional roles and lack of coordination among related agencies. The consumer protection issue has gradually gained importance in the policy agenda. Nevertheless, there is still no dedicated consumer organization in Cambodia; no civil society organization is working on general awareness campaigns. Consumers in urban areas, particularly in Phnom Penh, have become increasingly concerned about food safety issues. The issues of pesticides, substandard and defective products, and health risks are not taken up by the Cambodian media. Many people are often unaware, or they prioritize cost of food over quality.

5.3. Progress and Current Limitations

The framework for TBT does not present measures that would be regarded as barriers to trade. There has been progress mostly at technical level, with the adoption of many international standards, the development of capacity for metrology, and the participation in regional and international bodies on standardization and metrology. However, the technical standard framework is still not well aligned with the perspective of diversification of the industry. The following issues could be hindering further growth of the processing industries.

- Insufficient understanding on TBT issues, both at the level of Ministries enforcing regulations and at the level of companies. This translates in a low level of notifications, and a backlog of measures that should be posted.
- Inaccurate wording is used in the definitions for some technical regulations, e.g. the mention of 'mandatory standards' across official documents (incl. the National Trade Repository).
- Missing recognition of the Department of Accreditation with international bodies (APAC), which affect the value of their services. While this is mitigated by partnerships with other countries' AB, the signatory status of the APAC Multilateral Recognition Arrangement should be accelerated.
- ISC combines the roles of setting technical regulations (mandatory specifications for products) and ensuring mandatory conformity assessment: this is not conforming to international best practice. The portfolio of regulated products, except perhaps for water, has little if any value for the country in terms of consumer safety or economic interest.
- Similarly, the confusion of providing in the same body both voluntary system certification and mandatory product certification is confusing for users; it could hinder Certification Department impartiality when for example, one company is holding ISC Mark /certificate for regulated product and applies for MS certification.

Other issues do not consist in barriers but are impediments to trade, or have a potential to become impediments in the future.

- Cambodia is facing protectionist measures¹⁹⁷ from Thailand aiming at limiting the import of rice and cassava; this is a breach to ATIGA dispositions. While authorities have tried to ease such barriers through dialogue within the Cambodian-Thai Joint Trade Committee, the lack of TBT related capacity prevent Cambodia to escalate the issue to ASEAN or to the WTO.
- No significant problems were reported with documentation for exports although the times for acquiring the necessary documentation could be an impediment. Times range from 3-4 days (COO, quantity) to 7 days (phytosanitary certificate) or up to 12 days for test reports.
- The development boom of the garment industry has created a significant waste management problem, which is still unresolved to date. In addition, the manufacturing sector is now developing production of shoes, bags and accessories; linked to these products, the leather processing sub-sector has been growing fast in Cambodia. This kind of industry has a significant environmental footprint (use of water, use of heavy metals and dyes); however, there is no regulation to control the use of specific inputs harmful for the environment and human health (e.g. Azo-dyes and other carcinogenetic dye, chromium...). Maintaining a position on EU and USA export markets may require exporters to demonstrate compliance with environmental standards or the respect of banned substances.

¹⁹⁷ Measures include the imposition of a “quality certificate”, guaranteeing minimum moisture and sand content; a requirement of obtaining a transportation permit for the trucking of Cambodian cassava from the border; and various measures to make it difficult for a third party to purchase Cambodian cassava and ship it through a Thai port.

CHAPTER 8 : AGRI-BUSINESS VALUE CHAINS FOR EXPORT ENHANCEMENT

1. Introduction

This chapter examines challenges and opportunities on increased value-added processing and export diversification for four selected agricultural sectors: Cassava, (milled) rice, rubber, and fruits and vegetables.

The Rectangular Strategy IV and the Industrial Development Policy 2015-2025 call for the promotion of Cambodia's agro-processing industry through integration into regional and global production chains. The Inter-ministerial Committee decided in August 2018 to focus on processing and new market opportunities for the three largest agro-commodities (rice, cassava, and rubber), and one sub-sector (fruits) where the Government believes there might be opportunities.

Compared to a typical value chain analysis —which examines all stages from input provision, production, processing, to exporting— this chapter focuses on the last two stages: value-added processing and exporting. Cultivation in Cambodia is already supported by many initiatives. MAFF has started drafting an Agriculture Sector Master Plan (ASMP), which includes a vision and road map for the agricultural sector in 2030 and will provide the basis to prepare MAFF's five-year Agriculture Sector Strategic Development Plans (ASDPs).

The chapter does not examine in detail important cross-cutting issues that are discussed in other chapters. For example, TBT, SPS and certification issues are discussed in Chapter 7 (on quality infrastructure and standards), skills and training in Chapter 3, and trade logistics in Chapter 5. Internationally-comparable production and trade data are used here, in addition to Cambodian statistics. We tend to use mirror data to assess trade, as there is a significant amount of unrecorded trade in all sectors studied here, and we need internationally-comparable data on import markets for the analysis of market diversification. It is difficult to assess the volume and value of Cambodia's exports because of lack of reliable, official data that are reported in time. While Cambodia does report its trade data to the United Nations Statistics Department, those data are not yet available in ITC's TradeMap for 2017, which uses 2017 as the reference year. ITC's data for Cambodia in 2017 are thus based on so-called mirror statistics —those reported by Cambodia's trade partners— as a second-best solution. Another issue is that official statistics do not take into account informal exports, and thus seriously underestimate Cambodia's exports.

2. Milled rice

Rice is by far the most important agricultural product of Cambodia. The rice sector —production, processing, and marketing— employs about 3 million people, it contributes around 26% of GDP (MAFF, 2017), and is by far Cambodia's most important agricultural export product. Rice is the major staple food; it is cultivated by the large majority of small farmers and is crucial for food security and poverty reduction. A survey in 2011 among 24 Provincial Departments of Commerce revealed that rice is considered among the “Top Ten Products” in 16 Provinces.

Milled rice is considered to have an important potential for future exports. Cambodia's paddy production is more than 10 million tons in 2017, which exceeds domestic consumption by around five million tons. This surplus is exported mainly as paddy rice or as milled rice through informal and formal marketing channels. Milled rice exports through formal channels increased strongly after 2010, when the Royal Government of Cambodia issued a policy on the “Promotion of Paddy Production and Rice Exports”, from about 100,000 metric tons in 2010 to more than 625,000 tons in 2018. The rice sector modernized rapidly and now meets international standards. There are significant opportunities for processing and market diversification for Cambodia's rice sector, though this depends on adequate milling facilities, reduced domestic

transportation and exportation costs, and millers' improved access to finance in order to buy sufficient paddy for operating mills all year.

Table 30. The rice sector at a glance

World (2017)	118 producers (paddy rice)	141 exporters (milled rice)	221 importers (milled rice)
Rank and share in world (%)*	1. China (27.6) 2. India (21.9) 3. Indonesia (10.6) 4. Bangladesh (6.4) 5. Viet Nam (5.6) 6. Thailand (4.3) 7. Myanmar (3.3) 8. Philippines (2.5) 9. Brazil (1.6) 10. Pakistan (1.5) 11. Cambodia (1.3)	1. India (34.0) 2. Thailand (23.0) 3. Viet Nam (10.8) 4. Pakistan (7.7) <i>EU-28 (6.6)</i> 5. United States (5.7) 6. Italy (2.6) 7. China (2.1) 8. Uruguay (1.8) 9. Cambodia (1.7) 10. UAE (1.5)	<i>EU-28 (8.9)</i> 1. China (8.4) 2. Iran (7.0) 3. Saudi Arabia (5.5) 4. UAE (4.3) 5. Bangladesh (4.1) 6. Iraq (4.0) 7. United States (3.8) 8. Cameroon (3.5) 9. Côte d'Ivoire (2.6) 10. South Africa (2.6)
Cambodia	2015	2016	2017
Area (ha)	2,798,449	2,908,564	2,950,852
Production (tons)	9,335,000	9,952,000	10,350,000
Yield (tons/ha)	3.34	3.42	3.51
Paddy surplus (million tons)	5.41	5.60	5.79
Exports of milled rice (tons)	538,396	542,144	635,679
Employment	3 million (estimate).		
Processing capacity	748 tons/hour in 2015 (39 large processors and exporters).		
Main export product	Paddy rice (informally); Milled rice (informally and formally).		
Main export markets	China, France, Germany, Malaysia, Netherlands, Poland, United Kingdom. In total, 58 markets for milled rice in 2017.		
Potential diversification markets for milled rice	<p><i>Large markets:</i> Iran (7% world market share), Bangladesh (4.1%), Iraq (4.0%), Japan (2.0%), Philippines (1.9%), Sri Lanka (1.6%), Yemen (1.5%), Kuwait (1.4%), Peru (1.3%), Madagascar (1.3%), Brazil (1.2%), Guinea (1.1%), and Nepal (1.0%)</p> <p><i>Dynamic markets:</i> Sri Lanka (growth of +28% per year from 2013-17), Nepal (+22%), Peru (+16%), Guinea (+10%), Bangladesh (+8%).</p> <p><i>Large and dynamic markets:</i> Bangladesh, Sri Lanka, Peru, Guinea, Nepal.</p>		
Potential products for processing	Rice-flour products (rice flour, rice noodles, egg-roll wrappers and edible rice paper, rice-flour cakes and dumplings); liquid rice-based products (rice bran oil, rice-based alcoholic beverages, rice vinegar, rice milk, rice syrup); rice-based convenience foods (puffed rice, rice crackers, canned rice products, quick-cooking packaged rice); rice starch and wild rice stems.		

Source: Taken from various tables in this chapter, based on FAO, ITC, World Bank, MAFF.

* World export and import shares are based on value.

2.1. World rice production and trade and Cambodia's position in the world

1.1.1. Main producers of paddy rice

Global annual rice production exceeds 700 million metric tons, and the main rice producing countries are in Asia. By far the largest producers—and consumers—are China (more than 210 million tons in 2017) and India (some 170 million tons). Other important producers are Indonesia, Bangladesh, Vietnam, Thailand, Myanmar, and the Philippines.

Cambodia is the 11th largest rice producers in the world, with 10.4 million tons paddy in 2017 (FAO data). Cambodia is one of the fastest-growing rice producers in the world: Rice production increased by 26% between 2010 and 2017, of which 6% is due to an increase in the area harvested and 18% in the yield. Yields (3.5 tons/ha) are however much lower those of China (6.9 tons/ha), Brazil, Indonesia, and Viet Nam.

1.1.2. Main exporters and importers of milled rice

Only a small part of world production of rice is traded internationally. World trade for rice (HS 1006) amounted to about 41 million tons in 2016, worth about USD 20 billion (Table 31). This is only 5% of total world production (of 770 million tons), partly because the main producing countries are also the main consumers and the world rice market is fairly protected.

There exist thousands of different rice varieties around the world, but a major distinction in international trade statistics is made according to the different processing steps. The Harmonized System (HS), which is an international trade nomenclature covering more than 5,000 product items at the most detailed level (6 digits), distinguishes four items of rice: Paddy rice (HS 100610), brown rice (HS 100620), milled rice (HS 100630), and broken rice (HS 100640).

The following sections concentrate on international trade of milled rice for several reasons. Milled rice (HS 100630) is by far the major internationally traded rice product, accounting for more than 80% of total world rice trade. More importantly, exporting milled rice also creates more value than simply selling raw, unprocessed paddy rice — which is currently the case for Cambodia.

The world export supply of milled rice is concentrated on a few countries. India and Thailand are the world's main milled rice exporters —together accounting for more than half of total world exports in 2017— followed by Viet Nam, Pakistan, and the United States. These five countries together account for more than three quarters of world exports (Table 31).

Cambodia is now among the top ten exporters of milled rice in the world. Cambodia's situation has changed dramatically from just a few years ago, when most of its exports concerned paddy rice. Cambodia's recent rice exports are mainly due to import duty preferences and investments in rice mills and polishing factories.

Concerning imports, China is the largest milled rice importer in the world (almost USD 1.5 billion in 2017), followed by countries in the Middle East —Iran, Saudi Arabia, United Arab Emirates (UAE), and Iraq— as well as Bangladesh. As a region, the European Union (EU), with its 28 member countries, is the largest importer in the world —especially France, Germany, and the United Kingdom. China's imports grew strongly between 2013 and 2017, at about 15% annually. Other fast-growing import markets include Bangladesh and African countries such as Cameroon and Côte d'Ivoire).

Table 31. Top exporters and importers of milled rice (HS 100630), 2017

Exports					Imports				
Main exporters (Share in world exports, %)	Value (USD million)	Quantity (1,000 tons)	Growth value 2013-17 (%/year)	in Growth quantity 2013-17 (%/year)	Main importers (Share in world exports, %)	Value (USD million)	Quantity (1,000 tons)	Growth value 2013-17 (%/year)	in Growth quantity 2013-17 (%/year)
1. India (34%)	6,641	10,721	-7	0	EU-28 (9%)	1,548	1,793	..	..
2. Thailand (23%)	4,499	9,967	0	10	1. China (8%)	1,461	3,016	14	16
3. Viet Nam (11%)	2,111	..	-9	0	2. Iran (7%)	1,214	1,294	-18	-11
4. Pakistan (8%)	1,513	3,139	-6	0	3. Saudi Arabia (5%)	957	1,053	-13	-6
EU-28 (7%)	1,298	1,448	..	..	4. UAE (4%)	754	963	4	9
5. United States (6%)	1,116	1,932	-5	1	5. Bangladesh* (4%)	710	..	8	3
6. Italy (3%)	504	610	-4	-1	6. Iraq* (4%)	703	..	-7	-10
7. China (2%)	419	1,010	17	36	7. United States (4%)	670	715	-2	6
8. Uruguay (2%)	354	721	-6	0	8. Cameroon (3%)	607	1,398	8	14
9. Cambodia* (2%)	326	534	7	13	9. Côte d'Ivoire (3%)	452	1,062	9	17
10. UAE (1%)	292	290	43	40	10. South Africa (3%)	451	944	-7	-5
(...)									
World	19,526	..	-5	4	World	17,412	..	-3	40

Source: ITC's Trade Map.

Trade for countries marked with * is estimated through mirror statistics.

2.2. Cambodia's production, processing, and exports

2.2.1. Rice production in Cambodia

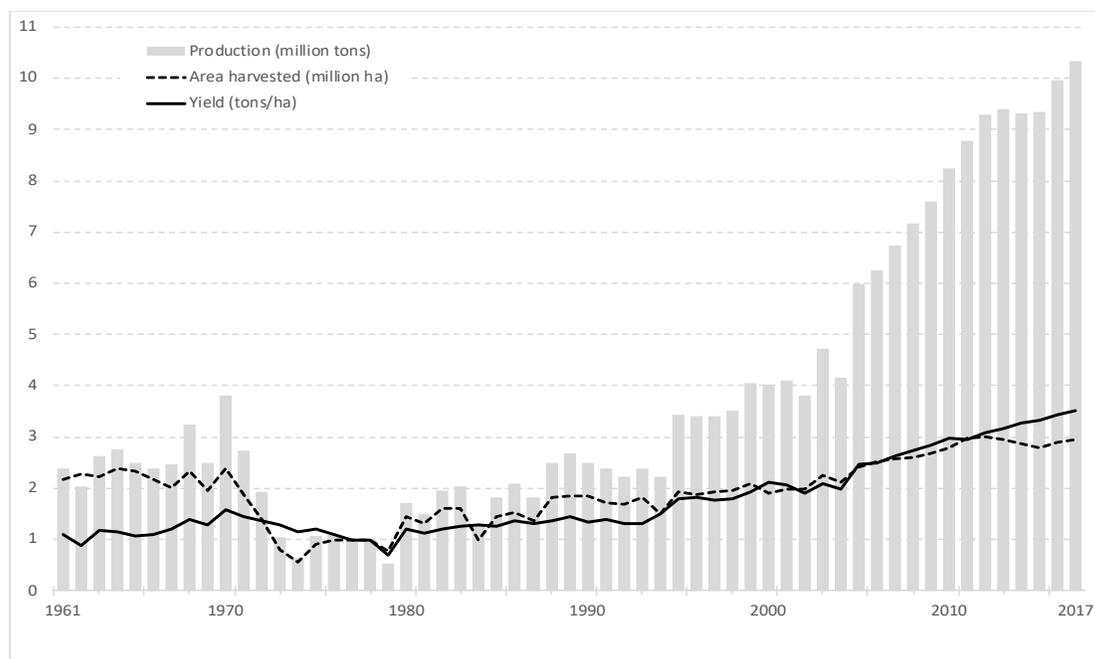
The main actors in Cambodia's rice value chain are farmers, collectors and processors.

- **Farmers:** Rice is a staple food and is cultivated all over the country. Rice farmers tend to be small subsistence producers, though there are also large farms. It is estimated that the rice sector employs in total about 3 million people.
- **Collectors:** The paddy from the farms is either sold directly to Cambodian mills, or sold through a network of collectors, middlemen and traders to domestic mills or mills in Vietnam and Thailand. Collectors may be agents for millers or sell to larger merchants.
- **Rice millers:** Mills used to be small by international standards —with only a handful of mills that were able to mill more than 10 tons of paddy rice per hour,— but over the past years several larger rice mills have considerably up-graded their milling equipments, both in terms of quality of milled rice and output per hour, and substantial new investments has taken place (Table 32).

Rice is grown in all provinces in Cambodia, though there are mainly two corridors producing the majority of rice: in the East along the Vietnamese border (Prey Veng, Takeo, Kampong Cham, and Svay Reang) and the West along the Thai border (Battambang, Banteay Meanchey). The corridors produce different varieties: The Eastern provinces specialize in high yield IR varieties and the Western provinces produce especially aromatic rice.

Cambodian paddy rice production has increased rapidly in the last decade, both due to an extension of the harvest area and improvements in the yield. Cambodia produced 10.4 million tons of paddy rice in 2017, up from 4.0 million tons in 2000 (Figure 26). This increase is both due to an increase in the cultivated land (from 1.9 to 2.9 million ha) and to improved yields (from 2.1 to 3.5 tons/ha). It took Cambodia—who was a major rice supplier to international markets in the 1960s—more than 20 years to return, and then to surpass, production levels of the early 1970s. Since then production continues to grow dramatically.

Figure 26. Rice production in Cambodia, 1961-2017



Source: FAOSTAT.

2.2.2. Rice milling in Cambodia

Cambodia's rice milling sector consists of traditional, small-scale mills that typically use antiquated technologies and modern, large-scale mills that use modern technology. Outdated milling technologies of many Cambodian small-scale rice mills cause high processing costs and output losses. Recovery rates (about 63% of paddy) of Cambodian rice mill are among the lowest in Southeast Asia, and additional output losses are caused through high percentages of broken rice. Furthermore, high energy costs —most rice mills are fueled with diesel— create a further burden on milling costs. In addition, many millers claim that farmers do not store the paddy properly after harvesting, which can lead to poor quality of paddy for milling.

In recent years however Cambodian rice millers, some of them with international partners, made considerable efforts either in improving existing rice mills or investing in new rice mills. The newer rice mills are typically highly automated, computer-controlled facilities with increased capacities, and improved quality management to meet international quality management standards and food safety certifications, such as ISO, HACCP and GMP, according to the Cambodia Rice Federation. Also, a growing number of millers now use rice husk gasifiers which contribute to more economical power generation.

The number and size of new individual rice mills —and the corresponding milling capacity— in Cambodia continues to increase dramatically. Until recently very few rice mills in Cambodia were able to process more than 10 tons per hour, but there are now several processors in Cambodia with a milling capacity of more than 50 ton/hours (Table 32). The combined milling capacity of the 39 rice processors for which information is available from CRF was about 750 tons/hour in 2015, compared to about 320 tons/hour in 2012 (Slayton and Muniroth, 2013). In terms of supply capacity, the largest companies can supply 20,000 tons of milled rice per month, and the total supply capacity of the 39 largest companies exceeded 220,000 tons/month in 2015.

Table 32 compares the 39 rice processors for which information is available in 2015 with export values in 2015 and 2018, using MAFF data. Several of the largest exporters in 2018 were not among the largest rice processors in 2015, which could mean that some of them are only trading but not processing companies, or that they are new companies set up since 2015.

It appears that limited milling capacity is now less of an issue than underused existing milling capacity and inadequate supply chain management, even for modern state-of-the-art mills. While increases in milling capacity due to strong investments in recent years are encouraging for the sector's future export prospects, it now appears the main issue is to address the bottlenecks that prevent millers from fully using the existing capacity. These are related to adequate access to paddy supply, drying and storage capacities, working capital, supply chain management, and energy and logistics costs.

- Paddy supply to millers is irregular in terms of quantity and quality, which is partly linked to poor post-harvest handling and inadequate drying and storage facilities. For areas specialized in photosensitive fragrant varieties such as *Phka Rumduol*, harvesting is concentrated over a period of only a few weeks. As farmers in those areas typically harvest at the same time, they all need to dry at the same time, which means large drying capacity would be necessary for a short time — and be underused for the rest of the year. Given high financial and operating costs, it is quite difficult to imagine profitable investments in drying facilities “close to the farm” in areas where the production is concentrated in time. Fortunately, for more commercial paddy production, a major part of paddy is now mechanically harvested (combine harvesters), and paddy is frequently sold fresh (wet), as rice millers are increasingly equipped with proper dryers.
- Rice millers are often short in working capital (cash flow) and face high credit costs, which restricts their ability to purchase and store sufficient paddy at the main harvest time (November/December) to operate their mill for longer than a few months. Even during harvest period, Cambodian millers enter in competition with foreign paddy buyers (mainly from Vietnam) that are able to offer higher prices.

- Operation costs (electricity, logistics, transportation) are high. For example, the cost of electricity in Cambodia (USD 0.177 per kilowatt hour in 2015) is substantially higher than in Vietnam (USD 0.06), Thailand (USD 0.046) and Myanmar (USD 0.054) — and the recent reduction in the cost of electricity for rice milling to USD 0.166 per kilowatt hour remains high for millers (CAVAC, 2018).
- Many of Cambodia's larger rice mills are of comparable size with those in Thailand — yet the Thai mills usually operate 24 hours per day and six days per week most of the year. In contrast, most of Cambodia's larger mills only work a single 8 to 10 hour shift, which reduces efficiencies and profitability of milling operations. Finally, there is often a lack of skilled labor and professional staff to service and manage milling and polishing operations.

Table 32. Top Cambodian rice processors and exporters in 2015, and top exporters in 2015 and 2018

Companies	Supply capacity (2015) (tons/month)	Milling capacity (2015) (tons/hour)	Export markets (2015)						Exports (tons)	
			Asia	Europe	N. America	Africa	Australia	S. America	2015	2018
39 companies listed in the CRF Compendium	222,900	748	36	36	27	23	22	10	377,208	416,793
B.V.B. (Cambodia) Agr. Dev. Co., Ltd.	20,000	80	x						0	0
Golden Daun Keo Rice Mill Co., Ltd.	20,000	65	x	x	x	x	x	x	17,685*	35,474*
Golden Rice (Cambodia)	20,000	55	x	x	x	x	x	x	47,827*	29,463*
Mega Green Imex Cambodia	20,000	8	x	x		x	x		0	0
Baitang (Kampuchea) PLC	10,000	45	x	x	x	x	x		35,836*	63,742*
Soma Group / Trading Company	10,000	30	x	x					0	300
Apsara Rice Co., Ltd.	10,000	20	x	x	x	x	x		6,850	51,871*
Battambang Rice Investment Co., Ltd.	10,000	10	x						8,056	4,728
Vong Bun Heng Import Export Co., Ltd.	8,000	30	x	x	x	x	x	x	3,328	516
Loran Group Plc.	7,000	30	x	x	x	x			1,318	0
Khmer Foods Group Co., Ltd.	7,000	15		x					58,260*	38,981*
Amru Rice (Cambodia) Co., Ltd.	6,000	16	x	x	x	x			60,861*	44,613*
Angkor Kasekam Roongroeng Co., Ltd.	5,000	30	x	x	x	x	x		4,211	0
CHYN Rice Import Export	5,000	22	x	x	x	x	x	x	144	0
Eang Heang Import Export Co., Ltd.	5,000	20	x		x		x		709	2,831
Phou Poy Dev. Import Export Co., Ltd.	5,000	20	x	x	x	x	x	x	2,100	1,246
Carma Rice Limited	5,000	12	x	x		x			386	0
Mekong Oryza Trading Co., Ltd.	5,000	10	x	x		x			8,395	5,822
Men Sarun Imp. Exp. & Constr. Co., Ltd.	4,000	24	x	x	x	x			0	0
Boost Riche (Cambodia) Co., Ltd.	3,000	18	x	x	x	x	x		2,489	404
Lor Eak Heng Sek Meas Rice Co., Ltd.	3,000	15	x	x	x	x	x		13,312	2,331
Signatures of Asia Co., Ltd.	3,000	15		x	x				13,540	20,327*
Fed Rice Battambang Co., Ltd.	3,000	10	x	x	x	x	x		100	2,062
City Rice Import-Export Co., Ltd.	2,500	12	x	x	x	x	x	x	26,556*	55,581*
Nikoline Investment Co., Ltd.	2,500	12	x	x					13,465	14,468
Hak Se Modern Rice Mill	2,500	8	x	x	x				0	0
Khy Thay Corporation	2,400	10	x	x					6,867	368
Agri Biz Khmer	2,000	16		x	x		x		0	0
White Gold Import Export Co., Ltd.	2,000	14	x	x	x	x	x		17,029	9,480
Domnak Teuk Group Co., Ltd.	2,000	12	x	x	x		x		595	891
Indochina Rice Mill, Ltd.	2,000	12	x	x	x		x		9,176	9,956
MK Agricultural Partnerships Co., Ltd.	2,000	12	x	x	x	x	x	x	0	0
Sok Keo Import Export Co., Ltd.	2,000	10	x	x	x	x	x	x	66	510
Kampong Thom Rice Mill Limited	2,000	8	x	x	x	x	x	x	327	3,674
T.O.T (Trust Our Trade) Co., Ltd.	2,000	..	x	x					17,696*	17,154
QC Rice Company	1,000	6	x	x					0	0
SMCG Rice Co., Ltd.	1,000	4	x	x	x	x	x	x	0	0
Tauch Tepich Import Export	500	12	x	x	x				24	0
HCLP (ABK Rice)	500	..	x	x					0	0
Other top ten exporters in 2015 and/or 2018	..	..	..	..	..	..	..	..	73,958	68,784
International Rice Trading (Cambodia) Co, Ltd.	..	..	..	..	..	..	..	..	25,207*	37,026*
Primalis Corporation Ltd.	..	..	..	..	..	..	..	..	0	31,658*
SSCORP (Cambodia) Co., Ltd.	..	..	..	..	..	..	..	..	17,207*	100
Crystal Rice (Kampuchea) Co., Ltd.	..	..	..	..	..	..	..	..	31,544*	0
Other companies not listed here	..	..	..	..	..	..	..	..	87,230	140,648
Total Cambodia	..	..	..	..	..	..	..	..	538,396	626,225

Source: Adapted from Cambodian Rice Federation (2015), Cambodian Rice — White Gold, Compendium of company profiles of Cambodian rice exporters. Exports values from from MAFF.

* The Top ten exporters in each year are emphasized by an asterisk.

2.2.3. Cambodia's milled rice exports

The rise in Cambodia's rice production translates into a sizeable surplus that can be exported, in the form of paddy rice or milled rice. MAFF estimates that it has an exportable surplus of about five million tons (up from about 650,000 tons in 2004).

A large part of the paddy produced in Cambodia is however exported to Thailand and Vietnam in the form of paddy rice, where it is milled and either locally distributed or further exported to other countries as milled rice. This represents a huge lost opportunity for Cambodian rice millers and traders to add value, export directly, and create employment locally (IFC, 2015). In addition, limited access to services and information contributes to a lack of awareness and understanding of the standards and preferences of the international rice market.

In the past, almost all milled rice produced by Cambodian mills had been marketed locally. The limited milling capacity until recently restricted the country overall ability to cope with the farmers' increasing paddy supply. Even larger mills had been unable to supply international markets, and Angkor Kasekam —which produces high-quality *Neang Malis* rice under a system of contract farming— had been for years Cambodia's only rice mill that constantly supplied international markets (especially France) but with very limited quantities.

The situation has however improved in recent years, and there are now more than 80 licensed exporters that focus on overseas markets. The main markets are Europe —where Cambodia enjoyed tariff-free market access under the Everything-but-Arms Agreement (EBA) from September 2009 to January 2019— and increasingly so China. In 2018, Cambodia exported 626,225 tons of milled rice, mainly fragrant rice (493,597 tons), followed by long grain white rice, and parboiled rice.

There are three options for rice shipments abroad. Exports via Sihanoukville are mainly for rice grown in central Cambodia, but shipment costs remain high though they are improving. Exports via Vietnam (Ho Chi Minh City/Cai Mep) are mainly for rice grown in the Eastern provinces, and transport is typically by river (Phnom Penh and Neang Leung) to the Mekong Delta. Finally, exports via Thailand (Laem Chabang or Bangkok) are mainly for rice grown in the Western provinces, which so far requires road transport, though the 'Western railway line' that connects Phnom Penh and Poipet city at the border with Thailand was completed in 2018 and is to open in April 2019.

Cambodia's exported milled rice to 58 different countries in 2017, mainly to China, France and Germany (Table 34 on page 205). Some of those markets are among the top ten importers in the world (China, Saudi Arabia, United Arab Emirates, United States, Cameroon, Côte d'Ivoire, South Africa), some are dynamic (China, Senegal, Côte d'Ivoire, Cameroon, and Kenya), and most are open —applying zero tariffs for imports from Cambodia— with the exception of China (27.5%) and Malaysia (20%), and the European Union since January 2019.

China has become Cambodia's main destination for milled rice in recent years, with total exports of almost 180,000 tons in 2017, worth USD 100 million. Cambodia's exports to China have shown an impressive growth between 2013 and 2017, growing by more than 50% per year in value and 70% in quantity. China is the largest importing market for milled rice in the world (world market share of 8.4%), and extremely dynamic: its total worldwide imports of milled rice grew by a sound 14% between 2013 and 2017. Cambodia was China's third-largest milled rice supplier in 2017, after Viet Nam and Thailand.

Taken together, the 28 members of the European Union (EU) remain however the largest importer of Cambodian milled rice, in particular France, Germany, the Netherlands, Poland, and the United Kingdom. However, since 18 January 2019, the EU imposes safeguard measures on rice from Cambodia and Myanmar, and re-introduces import duties of €175 per ton, that will be steadily reduced over a period of three years.

Cambodia's major export competitors are Thailand and Vietnam. Thailand is a main competitor for fragrant rice, while Vietnam is the principal competitor for the non-aromatic white rice markets such as the Philippines and Indonesia (Australian Aid and World Bank, 2015).

There are a number of constraints for Cambodia's exporters of milled rice, including:

- The supply-chain management remains inadequate. For example, the practice of mixing varieties both at farm level and during collecting and storage undermines the ability of small-scale millers and exporters to provide consistent quality, which renders difficult to meet international standards on rice specifications and SPS. There are however examples of successful certifications against quality standards (e.g. organic rice), which requires commitment of all involved stakeholders, from farmers to exporters, and a full traceability system. Examples include the Sustainable Rice Platform (SRP), and contract farming agreements of Preah Vihear Meanchey Union of Agricultural Cooperatives with AMRU Rice and Signatures of Asia, which led to organic paddy that is certified against both EU and US organic standards.
- Transportation costs remain high. For example, the price of gasoline is higher in Cambodia (USD 0.90 per litre) than in Vietnam (USD 0.81) and Myanmar (USD 0.51), and even though Thailand's gasoline price are higher (USD 1.04), most trucks in Thailand are equipped with LPG whose price is about half of the gasoline price in Cambodia (Chan and Kim, 2017). Also, the reliance on containerized rice exports is at odds with global practices of trading in break bulk rice.
- Despite improvements, Cambodia's export infrastructure remains inadequate, with complex, lengthy and costly export procedures. The large number of government agencies with overlapping bureaucratic mandates adds to the cost of doing business, reducing export price competitiveness.
- Many millers have limited knowledge on export distribution channels and end markets, and insufficient trading expertise or initiative, while exporter associations are weak, and lack facilities and funding to support knowledge dissemination. In addition, some markets represent logistical challenges (Africa, USA), need significant capital for business development (China, USA), or lack confidence that Cambodian exporters can deliver large volume and high quality over long term (China). Inconsistent quality between different mills prevents them from cooperating to meet large-scale orders that cannot be served by individual mills.

2.3. Opportunities to grow and move up markets

The long-term outlook for the rice world market is favourable . Import demand over the next decade is expected to increase by some of the major consuming countries, including Bangladesh, Indonesia and certain African countries, where demand is increasing due to population growth and/or where is little area for expansion of production.

The Cambodian rice sector offers significant opportunities to grow and add value, despite the many challenges to overcome. These include market and product diversification.

2.3.1. Market diversification

One possibility to add value to Cambodia's rice sector is to diversify its destination markets , by targeting ideally large, dynamic and open markets that are currently not served by Cambodia.

Cambodia enjoys duty-free access in a number of major importing countries, especially until recently in the European Union (EU), the world's largest importer of milled rice . Since September 2009 the EU grants all least developed countries (LDCs) duty-free and quota-free access for rice under the Everything-but-Arms (EBA) Agreement. With high MFN rates of 175 EUR/ton (average of its 72 national tariff lines) —corresponding to an ad valorem equivalent (AVE) tariff of 21.5%— Cambodia and Myanmar enjoyed until recently an advantage of more than 20 percentage points compared to competitors such as India, Thailand, Vietnam, Pakistan, the United States and China (Table 33).

Cambodia's strong exports to EU market can be attributed to EBA, but since 18 January 2019, the EU imposes safeguard measures on long-grain white rice from Cambodia and Myanmar for a period of three years. It reinstates the normal customs duty on this product of EUR 175 per ton in the first year, progressively reducing it to EUR 150 per ton in the second year, and EUR 125 per ton in the third year. An investigation has confirmed that the significant increase of imports of Indica rice at low prices from Cambodia and Myanmar has caused economic damage to European producers, whose market share in Europe dropped substantially. This is why Cambodian rice exporters to Europe now need to focus on fragrant rice, rather than on long-grain white rice.

Cambodian milled rice exporters thus need to diversify their exports to other important markets where they have favourable market access conditions. Cambodia has also duty-free access for milled rice in Saudi Arabia, the United Arab Emirates, and South Africa, where however other exporters also enjoy the same 0% tariff rates. In China, Cambodia and other ASEAN exporters face an AVE tariff of 27.5%, which gives them a tariff advantage of almost 40 percentage points compared to other large exporters (that face a tariff of 65%). Cambodia has also a slight tariff advantage in the United States: its rate is 0.5% compared to 6% for many other exporters.

Table 33. Tariffs for the main exporters of milled rice (HS 100630) on the main import markets

Main exporters (Share in world exports, %)	Main importers (Share in world imports, %)										
	EU-28 (9%)	1. China (8%)	2. Iran (7%)	3. Saudi Arabia (5%)	4. UAE (4%)	5. Bangladesh* (4%)	6. Iraq* (4%)	7. United States (4%)	8. Cameroon (3%)	9. Côte d'Ivoire (3%)	10. South Africa (3%)
1. India (34%)	21.6	65	45	0	0	10	..	0.5	5	10	0
2. Thailand (23%)	21.6	27.5	45	0	0	10	..	0.5	5	10	0
3. Viet Nam (11%)	21.6	27.5	45	0	0	10	..	6.1	5	10	0
4. Pakistan (8%)	21.6	65	45	0	0	10	..	0.5	5	10	0
EU-28 (7%)	0	65	45	0	0	10	..	6.1	5	10	0
5. United States (6%)	21.6	65	45	0	0	10	..	..	5	10	0
7. China (2%)	21.6	65	45	0	0	10	..	6.1	5	10	0
8. Uruguay (2%)	21.6	65	45	0	0	10	..	6.1	5	10	0
9. Cambodia* (2%)	0**	27.5	45	0	0	10	..	0.5	5	10	0
10. UAE (2%)	21.6	65	45	0	0	10	..	6.1	5	10	0
Number of NTLs	72	2	1	1	1	2	..	2	3	2	1

Source: ITC's Market Access Map.

* Trade for countries marked with * is estimated through mirror statistics.

** Since January 18, 2019, the EU imposes safeguard measures on rice from Cambodia and Myanmar for a period of three years. It reinstates the normal customs duty on this product of €175 per ton in the first year, progressively reducing it to €150 per ton in the second year, and €125 per ton in the third year. The ad valorem equivalent tariff for the first year is 21.6%.

NTLs: Tariffs are actually applied at the national tariff lines (NTL) level. NTL codes are country-specific and more detailed than the 6-digit level of the Harmonized System; they can have eight, ten or even more digits. The EU for example has 72 (!) different NTLs for milled rice. The results reported here at the 6-digit level are the average of individual NTLs. For example, China's tariff of 27.5% applied to Cambodia reported here is the average of 50% for 1006301090 "Long grain semi-milled or wholly milled rice, whether or not polished or glazed (out-of-quota)", and 5% for 1006309090 "Other semi-milled or wholly milled rice, whether or not polished or glazed (out-of-quota)". The tariffs (ad valorem equivalents or AVEs) reported here give thus only an indicative picture. If Cambodia exports mainly long grain milled rice to China, the effective tariff rate would be closer to 50%.

Table 34 shows Cambodia's current export destinations of milled rice (HS 100630), as well potential markets for diversification. For each importing market, it also shows the main suppliers, i.e. Cambodia's potential competitors.

Table 34. Cambodia's exports of milled rice (HS 100630), and potential markets for diversification, 2017

Cambodia's exports (mirror data)						Imports by partner				
Market (Rank Cambodia's exports)	Value in (USD 1,000)	Quantity	Unit value (USD/to n	Growth in value 2013-17 (%, p.a.)	Growth in quantity 2013-17 (%, p.a.)	Rank in world imports	Share in world imports (%)	Import growth in value 2013-17 (%, p.a.)	Tariff faced by Cambodia (%)	Main suppliers* (Share in partner's imports, %)
58 current export destination markets										
Total	325,950	534,194	610	7	13	..	100	-3	..	IND (34), THA (23), VNM (11)
1. China	100,538	177,801	565	52	71	1	8.4	14	27.5	VNM (61), THA (26), KHM (7)
2. France	51,521	70,492	731	2	10	13	1.9	-3	0**	ITA (30), ESP (16), KHM (16)
3. Germany	31,038	57,725	538	1	5	17	1.5	-2	0**	ITA (29), BEL (16), NLD (14)
4. Malaysia	25,527	38,738	659	-15	-7	11	2.0	-10	20	VNM (41), THA (35), IND (10)
5. Netherlands	17,092	27,694	617	-10	-5	40	0.6	-2	0**	THA (18), KHM (16) , IND (14)
6. Poland	12,161	26,919	452	-8	-6	61	0.3	-3	0**	KHM (25) , MMR (18), ITA (17)
7. United Kingdom	11,787	21,358	552	15	22	21	1.4	-2	0**	ITA (30), IND (16), ESP (12)
8. Czech Republic	10,060	17,243	583	11	17	63	0.3	-2	0**	ITA (31), KHM (22) , MMR (11)
9. Hong Kong	8,923	14,224	627	69	87	20	1.4	-7	0	THA (69), VNM (12), USA (6)
10. Italy	7,892	12,259	644	9	18	52	0.4	3	0**	IND (23), THA (16), KHM (12)
11. Brunei Dar.	7,250	7,523	964	..	..	94	0.1	-7	0	THA (52), KHM (36) , IND (9)
12. Belgium	5,209	7,307	713	8	9	47	0.4	-4	0**	THA (19), ITA (18), NLD (14)
13. Spain	3,479	6,084	572	-17	-16	58	0.3	-1	0**	THA (34), ITA (19), FRA (10)
14. Singapore	3,384	3,977	851	4	7	27	1.1	-12	0	THA (44), IND (28), VNM (10)
15. Denmark	3,332	4,520	737	75	87	75	0.2	-9	0**	DEU (20), ITA (15), THA (13)
16. Sweden	3,252	4,511	721	6	14	53	0.4	-2	0**	ITA (15), IND (14), BEL (12)
17. Portugal	3,058	4,478	683	2	7	100	0.1	-4	0**	ESP (34), KHM (21) , MMR (8)
18. Russian Fed.	2,681	4,408	608	-18	-9	44	0.5	-13	0	IND (30), THA (25), PAK (14)
19. Greece	1,915	3,502	547	31	39	110	0.1	-12	0**	ITA (22), BEL (19), KHM (16)
20. Bulgaria	1,626	3,385	480	13	11	114	0.1	-6	0**	GRC (32), ESP (25), KHM (15)
21. United States	1,424	1,367	1042	-7	-6	7	3.8	-2	0.5	THA (62), IND (24), PAK (3)
(...)										
31. Senegal	518	700	740	..	..	119	0.1	14	10	THA (76), VNM (10), IND (7)
37. Saudi Arabia	224	340	659	-21	-19	3	5.5	-13	0	IND (75), USA (10), PAK (7)
44. Cameroon	82	96	854	..	..	8	3.5	8	5	THA (85), IND (7), MMR (3)
46. UAE	72	19	3,789	3	-25	4	4.3	4	0	IND (77), PAK (15), THA (3)
47. Kenya	68	150	453	-1	-9	19	1.4	8	35	PAK (61), THA (24), CHN (11)
52. South Africa	16	25	640	-61	-35	10	2.6	-7	0	THA (65), IND (26), UAE (3)
53. Côte d'Ivoire	13	25	520	-36	-60	9	2.6	9	10	IND (26), VNM (24), CHN (23)
Selected potential markets for diversification: Large, dynamic, and/or open markets										
Iran	0	0	..	..	..	2	7.0	-18	45	IND (69), PAK (19), THA (4)
Bangladesh	0	0	..	..	..	5	4.1	8	10	IND (53), THA (30), VNM (15)
Iraq	0	0	..	..	..	6	4.0	-7	..	IND (69), VNM (10), URY (6)
Japan	0	0	..	..	..	12	2.0	-6	170.2	USA (58), THA (40), AUS (1)
Philippines	0	0	..	..	..	14	1.9	5	35	VNM (57), THA (32), PAK (8)
Sri Lanka	0	0	..	..	..	15	1.6	28	52.4	IND (73), MMR (19), PAK (7)
Yemen	0	0	..	..	..	16	1.5	-12	0	IND (62), THA (21), PAK (14)
Kuwait	0	0	..	..	..	18	1.4	0	0	IND (91), THA (3), USA (2)
Peru	0	0	..	..	..	23	1.3	16	0	URY (61), BRA (21), THA (14)
Madagascar	0	0	..	..	..	24	1.3	6	0	PAK (41), IND (25), MMR (22)
Brazil	0	0	..	..	..	25	1.2	-3	11	PRY (51), URY (31), ARG (11)
Guinea	0	0	..	..	..	26	1.1	10	10	IND (89), USA (7), CHN (3)
Nepal	0	0	..	..	..	28	1.1	22	10	IND (100), USA (0), CHN (0)

Source: ITC's Trade Map.

* ARG: Argentina, AUS: Australia, BEL: Belgium, BRA: Brazil, CHN: China, CIV: Côte d'Ivoire, DEU: Germany, ESP: Spain, GRC: Greece, IDN: Indonesia, IND: India, ITA: Italy, KHM: Cambodia, LAO: Lao PDR, LBR: Liberia, MMR: Myanmar, MYS: Malaysia, NLD: Netherlands, PAK: Pakistan, PRY: Paraguay, SGP: Singapore, SVN: Slovenia, THA: Thailand, UAE: United Arab Emirates, URY: Uruguay, USA: United States, VNM: Viet Nam, ZAF: South Africa.

**Since January 18, 2019, the EU imposes safeguard measures on rice from Cambodia and Myanmar for a period of three years. It reinstates the normal customs duty on this product of €175 per ton in the first year, progressively reducing it to €150 per ton in the second year, and €125 per ton in the third year. The ad valorem equivalent tariff for the first year is 21.6%.

Concerning diversification markets, Cambodia is not at all present in several potential markets that are large or dynamic. In terms of size, Iran, Bangladesh, Iraq, Japan, the Philippines, Sri Lanka,

Yemen and Kuwait are among the 20 largest importers in the world. In terms of dynamism, Sri Lanka, Nepal, Peru, Guinea, and Bangladesh grew by at least 8% per year between 2013 and 2017. These markets appear as potential diversification markets for milled rice from Cambodia, though more research needs to be undertaken to better understand the country-specific requirements and distribution channels, and the potential for niche markets.

Many importing countries apply non-tariff measures for rice, particularly sanitary and phytosanitary (SPS) measures. Even in ASEAN, trade in rice is covered by more protective AFTA conditions. For instance, China has placed stringent SPS measures in place, which require regular inspections by MAFF. The complexity of these procedures means that Cambodian exports of rice to China had for some time effectively been suspended, though the situation has changed dramatically over the last years, partly due to investments in milling capacity and upgrading by investors, including from China.

2.3.2. *Product diversification and branding*

There are significant export opportunities for premium fragrant rice, but Cambodian exporters need successfully build internationally-known brands . Global demand for premium fragrant rice continues to be strong, and Cambodia can build on the reputation its premium fragrant rice, which won the title of “World’s Best Rice” in 2012, 2013, 2014 and 2018. The commercial brand name “Malys Angkor” (which includes varieties such as Phka Rumduol, Phka Rumdeng, and Phka Romeat) was registered by CRF with the Department of Intellectual Property in 2018, with the specific intention to improve the reputation of Cambodian rice abroad. Also, the varieties Phka Rumduol, Phka Rumdeng, and Phka Romeat have been DNA-mapped, which means their purity and authenticity can be guaranteed, and this could potentially be extended to other premium aromatic wet-season photo-sensitive rice varieties.

There is also significant potential in the production and export of organic and fair-trade rice . Organic rice can strengthen food security as farmers are enabled to grow their crop without chemical fertilizers. Although still a niche market, traceability “from farm to fork” will require strictly monitored contract farming which is relatively new to Cambodia. The experience of Preah Vihear Meanchey Union of Cooperatives with AMRU Rice suggests that this is feasible. Also, a small portion of organic rice is certified as Fair Trade and commercialized by Ethiquable in France.

Rice by-products during milling, especially husk and bran, represent another opportunity for value addition. Rice husk, the coating on a grain of rice, is generated during the first stage of rice milling. 100 kg of milled white rice results in roughly 28 kg of rice husk, which can be turned among others into solid fuel (e.g. in loose form, briquettes, and pellets) that can be used with rice husk gasifiers to generate power. Rice bran is produced during the second stage of milling (polishing process), when the bran layer is removed from the brown rice kernel. 100 kg of paddy rice will generate 5–10 kg of bran, which has a high nutritive value. The conventional use of rice bran is as ingredient for animal feeds, in particular ruminants and poultry, though advances in stabilization techniques in recent years has led to new uses for bran and its derivatives, most notably bran oil for cooking and waxes for cosmetic products (IRRI Knowledge Bank).

Finally, there are opportunities in exporting derived rice products , some which are already produced in Cambodia. These include rice-flour products (rice flour, rice noodles, egg-roll wrappers and edible rice paper, rice-flour cakes and dumplings); liquid rice-based products (rice bran oil, rice-based alcoholic beverages, rice vinegar, rice milk, rice syrup); rice-based convenience foods (puffed rice, rice crackers, canned rice products, and quick-cooking packaged rice); and other rice products such as rice starch and wild rice stems (Ricepedia.org).

2.4. SWOT analysis of Cambodia's rice sector

Table 35. SWOT analysis of the rice sector in Cambodia

Strengths	Weaknesses
<p>Post-harvesting / Processing</p> <p>Established capacity of modern rice mills with capacity of over 2 million ton/year.</p> <p>Marketing / Export</p> <p>Cambodian fragrant rice is competitive with Thai rice.</p> <p>Geographic proximity to China and Singapore (reducing shipping/freight costs and time).</p> <p>Top ranking in global assessment of rice quality in recent years.</p> <p>Growing international reputation and branding of Cambodian premium fragrant rice, which won the “World’s Best Rice” award in 2012, 2013, 2014, and 2018 (and landing second in 2015, 2016 and 2017).</p> <p>Supporting infrastructure and policy</p> <p>Introduction of Policy on the Promotion of Paddy Production and Rice Export in 2010 has encouraged investors to significantly boost milling capacity.</p> <p>Government support in the form of investments in storage facilities, tax exemptions, and special credit lines to aid processors acquire supplies at harvest time.</p> <p>Increased public expenditures on agriculture, irrigation, R&D, and rural development.</p> <p>Improved railway, port and export infrastructure.</p> <p>International environment</p> <p>Preferential market access in main importing markets (EU, China). Duty-free access by the EU (EBA under the EU GSP) has been a key driver of rapid export growth since 2009, which however has come to an end for a period of three years.</p>	<p>Post-harvesting / Processing</p> <p>Inconsistent paddy quality and poor post-harvest handling.</p> <p>Inadequate advanced drying and storage facilities prevents regular paddy supply to large mills.</p> <p>Lack of skilled labor and professional staff to service and manage milling and polishing operations, and weak supply chain management.</p> <p>Inadequate access to finance forces local millers to compete for paddy rice with buyers from Thailand and Vietnam.</p> <p>Irregular supply of paddy, high operation costs (electricity, logistics, transportation, and sea port access), and insufficient working capital reduce profitability of milling operations.</p> <p>Limited and under-utilized capacity of modern mills reduces the size of exports that can be handled.</p> <p>Marketing / export</p> <p>Practice of mixing varieties undermines the ability of exporters to provide consistent quality, which renders difficult to meet international standards on rice specifications and SPS.</p> <p>Inadequate export infrastructure, with complex, lengthy and costly export procedures. The large number of government agencies with overlapping bureaucratic mandates adds to the cost of doing business, reducing export price competitiveness.</p> <p>Limited knowledge on export distribution channels and end markets, and insufficient trading expertise or initiative.</p> <p>Some markets represent logistical challenges (Africa, USA), need significant capital for business development (China, USA), or lack confidence that Cambodian exporters can deliver large volume and high quality over long term (China).</p> <p>Reliance on containerized rice exports is at odds with global practices of trading in break bulk rice.</p> <p>Lack of Cambodian brand that is internationally well-known.</p> <p>Supporting infrastructure and policy</p> <p>Few cooperatives to help organize farmers, limiting access to extension services (e.g. on good agricultural practices), market information, finance, and reducing bargaining power.</p> <p>Weak exporter and producer associations, and lack of facilities and funding to support knowledge dissemination.</p> <p>Poor market information services, and insufficient technology platforms for data management and knowledge dissemination.</p>
Opportunities	Threats
<p>Post-harvesting / Processing</p> <p>Continued expansion and modernization of Cambodia’s milling sector will increase output and lower costs.</p> <p>Use of alternative, cost-competitive technology (e.g. rice husk as bio-fuel) can lower electricity costs.</p> <p>Processors are willing to delve into different/exotic products.</p> <p>Improved supply chain management to reduce the risk and costs of doing business for producers and millers.</p> <p>Development of providers for postharvest services (warehouse receipts, drying).</p> <p>Marketing / Export</p> <p>Good prospects for increased exports of fragrant rice to China.</p> <p>Large rice importing markets with strong growth outlook are nearby—including Indonesia, the Philippines, and China.</p> <p>Break bulk barging down the Mekong River would significantly improve competitiveness of Cambodian rice exports.</p> <p>Potential to become a leading exporter of high-quality fragrant rice.</p>	<p>Post-harvesting / Processing</p> <p>Increases in electricity costs could place millers under further cost pressure.</p> <p>Marketing / Export</p> <p>Without ability to reliably produce large quantities of uniform milled rice access to international markets will be restricted.</p> <p>Export of fragrant and non-aromatic rice exports will continue to grow only if modern milling capacity continues to expand and rice exporters open new markets beyond their current main targets.</p> <p>International environment</p> <p>Global rice markets are unpredictable and often subjected to significant government intervention. Possible disruption in world markets (e.g. food crisis).</p> <p>Return of India and Thailand as dominant rice exporters likely to weaken global prices.</p> <p>Recent massive government support in Thailand to subsidize rice farms to convert to organic practices (with a target of 150,000 to 200,000 ha).</p> <p>Thailand is a major competitor for aromatic rice exports, and Vietnam for non-aromatic rice exports.</p>

<p>Growing international recognition of Cambodian fragrant rice, building on its “World’s Best Rice” award.</p> <p>Domestic policy support</p> <p>Continued strong government support.</p> <p>Improved export procedures lead to reduced costs and time to export.</p> <p>Increasing value addition through geographical indications.</p> <p>International environment</p> <p>Global trade in milled rice is expected to remain at near record volumes over medium term.</p> <p>Demand by China (a net importer) continues to be strong over the long-term.</p> <p>Increasing global demand for fragrant, brown, and organic rice.</p> <p>Potential to win market share from Thailand, while Vietnamese fragrant rice is not competing with Cambodian fragrant rice.</p> <p>Markets are interested in origin and traceability of products, value GMO-free (Europe) and ‘non-intensive agriculture’ (Europe, USA).</p> <p>Markets in Europe and the USA have an appetite for certified organic rice and for new/exotic brands.</p> <p>Significant ethnic market opportunity.</p> <p>New opportunities for market diversification (Africa, Middle East).</p>	<p>New competition from Myanmar, Suriname, and African low-cost producers due to improved local rice production. Myanmar benefits from similar duty-free preferences.</p> <p>Increased local production of fragrant rice (China, USA), and stronger competition from Vietnam for fragrant rice in China.</p> <p>Market determined by political forces (China).</p> <p>End of preferential access to EU markets (EBA), where sales may have already peaked.</p>
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Source: Based on CTIS (2014), IFC (2015), GIFT (2016), Goletti and Sovith (2016), MAFF and CAVAC (2018), and interviews with stakeholders in December 2018.

3. Rubber

Rubber has long been a major commercial crop and export earner for Cambodia, and the sector has the potential for increased exports and value addition. The natural rubber sector plays a key role in the socio-economic development of Cambodia: it generates about 77,000 jobs, alleviates poverty, and contributes to environmental protection by creating green canopy and preventing soil erosion. Rubber is among the 19 product and service sectors with potential for export diversification (DTIS, 2007). A survey in 2011 among 24 Provincial Departments of Commerce revealed that rubber was among the “Top Ten Products” in five Provinces: Kampong Cham, Kratie, Pailin, Ratanakiri and Stung Treng.

A strong increase in rubber prices on international markets during the past decade has generated considerable interest from both domestic and foreign investors in the sector in Cambodia. However, the rubber business is risky: Rubber has high potential income, but rubber trees yield latex only at least five years after planting, and income is uncertain because prices are very volatile. The outlook for the global natural rubber sector is favorable, and despite the many challenges, there are significant opportunities for processing and market diversification for the rubber sector in Cambodia.

Table 36. The rubber sector at a glance

World (2017)	30 producers	99 exporters	177 importers
Rank and share in world (%)*	1. Thailand (32.3) 2. Indonesia (25.5) 3. Viet Nam (7.7) 4. India (6.8) 5. China (5.7) 6. Malaysia (5.2) 7. Côte d'Ivoire (4.1) 22. Cambodia (0.1)	1. Thailand (36.7) 2. Indonesia (31.1) 3. Malaysia (6.7) 4. Viet Nam (5.7) 5. Côte d'Ivoire (5.1) 6. Lao PDR (1.6) 7. Myanmar (1.3) 8. Cambodia (1.2)	1. China (27.8) 2. United States (11.1) 3. Malaysia (10.0) 4. Japan (7.6) 5. India (4.3) 6. South Korea (4.0) 7. Germany (3.4) 62. Cambodia (0.0)

Cambodia		2015	2016	2017
Total area planted (ha)		388,955	432,735	436,339
Area tapped (mature trees only) (ha)		111,232	126,861	170,230
Production (dry rubber) (tons)		126,861	145,200	193,286
Yield (kg/ha)		1,141	1,143	1,135
Exports (tons)		128,047	145,100	188,832
Price for Malaysian RSS (USD/kg)		1.37	1.38	1.67
Main producing provinces		Kampong Cham, Kratie, Kampong Thom, Ratana Kiri, Mondul Kiri.		
Types of plantations		(1) Rubber Estates (previously State Owned Rubber Plantations and Economic Land Concession) and (2) Rubber Smallholdings		
Plantation size		From about 2 ha (smallholders) to more than 13,000 ha (Chup).		
Employment		About 77,000, of which 49,000 (production) and 18,000 (post-production).		
Number of processors		Up to 2018, 147 processing factories and handicrafts including 41 for TSR, 94 for RSS, 1 for "CL: Concentrated Latex" and 11 for RW: Rubber Wood.		
Processing capacity		About 150,000 tons per year.		
Main processed products		Mainly CSR L and CSR 5, but also CSR 10 and CSR 20 (strong world demand) as well as RSS and CL		
Main export product		"Technically specified natural rubber (TSNR)" (HS 400122).		
Main export markets		Vietnam, Malaysia, and China. In total, 17 export destinations in 2016.		
Potential diversification markets (for TSNR)		<p><i>Large markets:</i> Germany (4.3% world market share), Brazil (2.1%), Turkey (2.1%), France (2.1%), Russian Federation (1.9%), Poland (1.5%), Canada (1.5%), Romania (1.4%), Slovakia (1.4%), Czech Republic (1.3%), Belgium (1.0%).</p> <p><i>Dynamic markets:</i> Philippines (growth of +1,000% per year from 2013-17), Belgium (+63%), Egypt (+40%), Czech Republic (+21%), Pakistan (+18%), Slovakia (+10%).</p> <p><i>Large and dynamic markets:</i> Russian Federation, Slovakia, Czech Republic, Belgium.</p>		
Potential products for processing		Industrial products (conveyor belts, rubber rollers, etc.), automotive products (fan belts, radiator hoses, etc.), latex products (rubber gloves, toys hygienic products, etc.), adhesives, birth control (condoms), medical products (surgical gloves), furniture (rubberwood), foam mattresses, artificial flowers.		

Source: Taken from various tables in this chapter, based on FAO, ITC, World Bank, and annual report of GDR (2017) MAFF.

* World export and import shares are based on value.

3.1. World rubber production and trade and Cambodia's position in the world

3.1.1. Main rubber producers

Asian countries, in particular Thailand and Indonesia, are the leading natural rubber producers in the world. By far the largest producers of natural rubber are Thailand (4.6 million tons in 2017) and Indonesia (3.6 million tons), together producing more than 50% of world output. Other large producers are Viet Nam, India, China, Malaysia, and the Philippines. Côte d'Ivoire and Myanmar are rapidly emerging as significant producers of natural rubber.

Cambodia is among the top natural rubber producers in the world, although its position is not clear, as FAO reports much lower values than MAFF. Cambodia is the 22nd largest natural rubber producer according to FAO, but would be on the 11th place when using data from MAFF's General Directorate of Rubber.

3.1.2. Main rubber exporters and importers

International trade statistics distinguish five types of rubber products depending on their **processing steps**. The Harmonized System (HS), which is an international trade nomenclature covering more than 5,000 product items at the most detailed level (6-digits), distinguishes four items of rubber products: Natural rubber latex, whether or not pre-vulcanised (HS 400110); Smoked sheets of natural rubber (HS 400121), also called "Ribbed smoked sheets (RSS)"; Technically specified natural rubber (TSNR) (HS 400122); and Natural rubber in primary forms or in plates, sheets or strip (HS 400129).

The world market for natural rubber ¹⁹⁸ (HS 4001) represented more than 9 million tons, or USD 11.8 billion in 2016. World exports for technically specified natural rubber (TSNR) is by far the main traded products, with world exports totaling more than 6 million tons, worth USD 8.5 billion, while Smoked sheets of natural rubber (880,000 tons) and Natural rubber latex (1.6 million tons) were each worth about USD 1.4 billion.

Thailand and Indonesia are the main exporters of natural rubber (HS 4001). Thailand and Indonesia are the world's largest exporter of natural rubber, each exporting rubber worth USD 5 to 6 billion in 2017, and together account for more than two thirds of world exports (Table 37). Other main exporters are Malaysia, Viet Nam, and Côte d'Ivoire. While Thailand is the dominant exporter in natural rubber latex (world market share of 75%), natural rubber in smoked sheets (69%), and natural rubber in primary forms or in plates, sheets or strip (27%), Indonesia is by far the world's largest exporter of technically specified natural rubber (TSNR).

Cambodia has emerged as a main player in the world rubber market in recent years. With exports worth USD 299,394,841 in 2017, Cambodia was the 8th largest exporter of natural rubber (HS 4001). Cambodia exports mainly technically specified natural rubber (TSNR) (HS 400122) (USD 154 million, rank 6 in the world) and ribbed smoked sheets-RSS (HS 400121) (USD 24 million, rank 5).

On the import side, China, the United States and Malaysia are the three largest importers of natural rubber (HS 4001) in the world. China's natural rubber imports represented almost USD 5 billion in 2017, corresponding to a world market share of 28%. China's imports are roughly of the same size than the combined imports of the United States, Malaysia and Japan. China imports mainly technically specified natural rubber "TSNR", which is Cambodia's main export rubber product.

Table 37. Main exporters and importers of natural rubber products, 2017

Exports					Imports				
Main exporters (Share in world exports, %)	Value (USD million)	Quantity (1,000 tons)	Growth value 2013-17 (%/year)	Growth in quantity 2013-17 (%/year)	Main importers (Share in world exports, %)	Value (USD million)	Quantity (1,000 tons)	Growth value 2013-17 (%/year)	Growth in quantity 2013-17 (%/year)
HS 4001 Natural rubber, balata, gutta-percha, guayule, chicle and similar natural gums, in primary form									
World	16,424	..	-12	2	World	17,688	..	-10	1
1. Thailand (36.7)	6,024	3,662	-9	2	1. China (27.8)	4,917	2,793	-9	2
2. Indonesia (31.1)	5,105	2,838	-9	1	2. United States (11.1)	1,968	972	-9	1
3. Malaysia (6.7)	1,094	616	-17	-7	3. Malaysia (10.0)	1,771	1,113	-10	2
4. Viet Nam (5.7)	937	..	-22	0	4. Japan (7.6)	1,339	703	-12	-1
5. Côte d'Ivoire (5.1)	841	662	1	25	5. India (4.3)	756	410	-6	5
8. Cambodia* (1.2)	202	..	-3	0	62. Cambodia* (0.0)	3	..	9	17
HS 400110 Natural rubber latex, whether or not prevulcanised									
World	2,038	..	-7	3	World	2,058	..	-12	-1
1. Thailand (74.7)	1,523	1,186	-5	4	1. Malaysia (34.3)	706	323	-11	-1
2. Viet Nam (5.7)	117	..	5	0	2. China (32.0)	659	494	-1	10
3. Malaysia (3.8)	78	33	-10	-1	3. United States (3.0)	63	55	-8	3
4. Guatemala (3.3)	68	51	-4	4	4. Iran (2.6)	53	28	-25	-16
5. Netherlands (2.1)	44	23	35	30	5. South Korea (2.2)	46	33	-9	0
59. Cambodia* (0.0)	0.2	0.2	-76	0	33. Cambodia* (0.1)	3	..	10	17
400121 Smoked sheets of natural rubber									
World	2,062	..	-12	-3	World	2,208	..	-12	-3
1. Thailand (69.3)	1,430	709	-14	-5	1. China (31.0)	684	331	-13	-4
2. Myanmar (7.8)	162	114	-7	18	2. Japan (12.8)	282	132	-13	-4
3. Indonesia (6.4)	132	66	-8	0	3. United States (12.5)	275	118	-3	7
4. Viet Nam (6.3)	129	..	-3	0	4. India (4.9)	109	56	-27	-19
5. Cambodia* (2.3)	47	..	12	0	5. Malaysia (4.1)	92	57	-21	-10
7. Lao PDR* (1.2)	24	11	-18	-14	45. Cambodia* (0.0)	0.2	0.1	0	0

¹⁹⁸ HS 4001 also includes a fifth product: Balata, gutta-percha, guayule, chicle and similar natural gums, in primary forms or in plates (400130).

400122 Technically specified natural rubber (TSNR)									
World	11,648	..	-13	2	World	11,588	6,042	-10	2
1. Indonesia (42.6)	4,960	2,766	-9	1	1. China (26.2)	3,035	1,680	-13	-3
2. Thailand (24.8)	2,886	1,584	-8	3	2. United States (13.9)	1,614	793	-10	0
3. Malaysia (8.7)	1,009	580	-17	-7	3. Japan (8.7)	1,008	547	-11	0
4. Côte d'Ivoire (6.4)	743	478	-2	16	4. South Korea (5.4)	625	344	-12	0
5. Viet Nam (5.9)	690	..	-26	0	5. India (5.2)	606	331	4	15
6. Cambodia* (1.3)	154	..	-5	0	75. Cambodia* (0.0)	0.2	..	18	0
400129 Natural rubber in primary forms or in plates, sheets or strip (excluding smoked sheets, TSNR)									
World	665	..	-9	13	World	1,820	..	-7	7
1. Thailand (27.5)	183	183	-17	2	1. China (29.6)	538	288	100	124
2. Lao PDR* (26.2)	174	..	245	285	2. Malaysia (26.3)	478	428	6	19
3. Côte d'Ivoire (13.3)	88	165	130	221	3. Taipei, Chinese (7.3)	133	69	-12	-3
4. Philippines (10.2)	68	94	8	26	4. Spain (6.1)	110	60	-4	9
5. United States (5.1)	34	9	-9	-6	5. Iran (4.0)	73	39	16	44
28. Cambodia* (0.2)	1	..	-26	0					

Source: ITC's Trade Map.

* Countries with mirror statistics.

The item "Balata, gutta-percha, guayule, chicle and similar natural gums, in primary forms or in plates, ..." (HS 400130) is not shown here.

3.2. Cambodia's production, processing, and exports

The value chain for natural rubber can be segmented into the following value-adding stages: input provision, cultivation, harvesting, collecting, processing, storage, and export. Only a few major processing activities add value before the rubber products are sold to their final market. On a global level, the main use is in the transportation industry (especially for tires), health care, industrial or construction, and apparel and footwear. Cambodia processes and exports natural rubber mainly in the form of and Technically specified natural rubber (TSNR) and "Ribbed smoked sheets (RSS)".

3.2.1. Rubber production in Cambodia

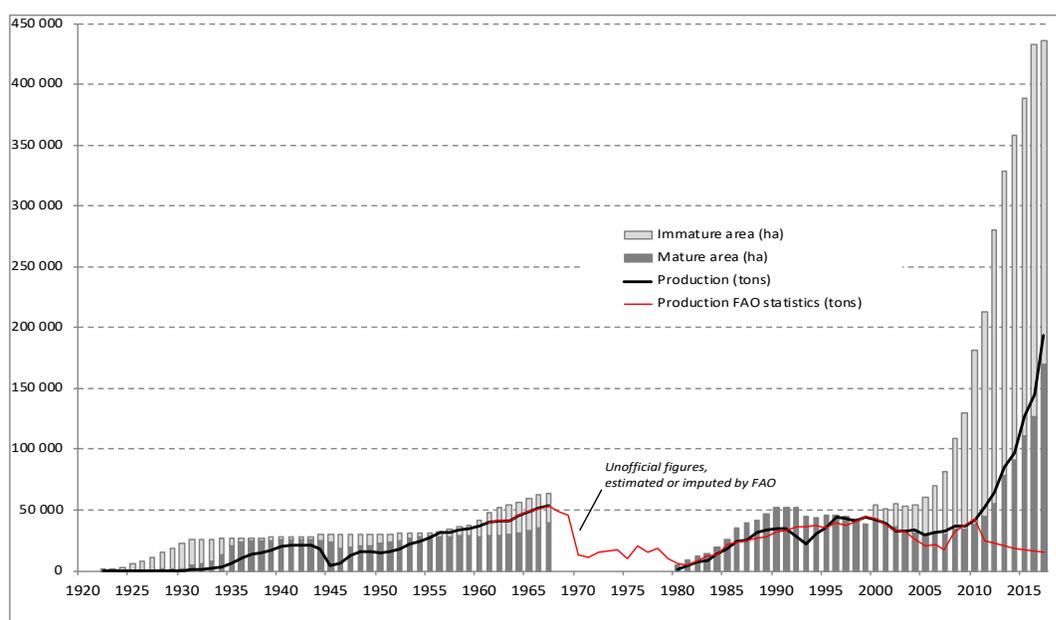
There are two categories of rubber plantations in Cambodia: Rubber Estates (previously state-owned rubber estates – SORE) and Economic Land Concessions on the one hand and Rubber Smallholdings on the other hand.

- **Rubber Estates** include previously state-owned rubber estates (SORE) that have subsequently been privatised — except for those still in the hands of Cambodian Rubber Research Institute (CRRI). There are currently nine private companies that own and operate these plantations which are in Kampong Cham, Tbong Khmum, Kratie and Rattanakiri provinces. Privatised state-owned enterprises accounted for 52,000 ha in 2017.
- The government provided areas under 10,000 ha as economic land concessions to foreign and local investors to develop rubber and other industrial crops, leading to a rapid increase in the plantings under ELCs since their introduction in 2007. In 2017, ELC companies have planted more than 227,000 ha and they are mostly in Kampong Thom, Preah Vihear, Kratie, Rattanakiri, Mondulakiri and Stung Treng provinces. According to MAFF, there remain significant areas under ELCs of more than 400,000 hectares that could be planted to rubber should the ELC holders decide to invest, and this would provide the potential to achieve a total planted rubber area for Cambodia of over 800,000 hectares.
-
- **Rubber smallholder plantations.** Household-owned rubber plantations started in 1990, and have increased rapidly largely due to the government policy of providing parts of state-owned plantations to farmers employed by the government. Rubber smallholdings represented an area planted of 156,000 hectares in 2017.

Long-term statistics show important ups and downs for Cambodian rubber production since the 1960s, although there are differences in terms of magnitude and years for which there are official data between MAFF and FAO data (Figure 27). Rubber has been planted in Cambodia since 1910, and large-scale rubber plantations were introduced in the early 1920s. By the mid-1960s, Cambodia produced more than 50,000 tons of natural rubber, and was among the ten largest producers in the world. However, output declined sharply in the 1970s during the Vietnam War and the Khmer rouge period. Production resumed gradually, but it was only in 2012 when the peak of 1967 (53,000 tons) was attained. It should be noted that FAO data is significantly lower -and increasingly so— than MAFF data.

The total area under cultivation in Cambodia was more than 436,000 hectares in 2017, according to the General Directorate of Rubber (GDR) in MAFF. The area for tapping was more than 170,000 ha in 2017, producing more than 193,000 tons of natural rubber —of which almost 100% is exported. The immature area, of about 266,000 ha, is used for maintenance, i.e. either for replanting areas or for new planting areas. It takes at least five years before newly planted trees can be tapped, suggesting that Cambodia’s rubber production will likely double over the next years.

Figure 27. Natural rubber production in Cambodia, 1922-2017



Source: Based on MAFF (2011), referring to Association des planteurs de caoutchouc au Cambodge (APCC), SONEXIM (1967); update for 2017 from MAFF Annual Report (2018); FAO FAOSTAT.

The world market price for natural rubber has strongly fluctuated over the last ten years, which is a challenge for rubber producers, in particular smallholders. The world market price for natural rubber has shown strong increases followed by rapid declines. For rubber producers, the strong fluctuation of prices makes investment decisions difficult, as rubber trees yield latex only at least five years after planting. In addition, smallholders have less information than traders and are price takers, and they are thus particularly vulnerable to price fluctuations and disadvantaged in price negotiations.

There are also a number of other constraints for rubber producers in Cambodia (see the SWOT analysis in Table 40) that however go beyond the scope of this chapter to be discussed here.

3.2.2. Rubber processing in Cambodia

MAFF estimates that there are more than 140 processing factories operating in Cambodia. Traditionally, processing natural rubber in Cambodia was mainly done by former state-owned rubber plantations, and the private processing industry is relatively new (around 2003). The increasing number of private plantations and smallholders provide opportunities for processing rubber.

There are a number of constraints for rubber processors, including:

- Lack of local up-stream rubber industries: There are no domestic supporting industries for rubber processing, so most inputs for processing have to be imported. Some factories operate only at 50-80 percent of their capacity because of the insufficient supply of rubber.
- Insufficient linkages between smallholder producers and larger rubber plantations: These insufficient links prevent smallholders to operate as out-growers, as there is often non-compliance on the procedures for processing latex from the use of incorrect acid treatment mainly by smallholder producers.
- Lack of sufficient processing facilities: The ability to transform dry natural rubber into finished products that can be used domestically and internationally is still limited due to lack of investment, technology and a skilled workers and professional staff. It appears that many processors lack knowledge about fumigation on rubber products before exports. As a result, production and exports concern mainly semi-processed products (dry rubber), which are then further transformed into final products in countries such as Viet Nam, Malaysia and China.
- High processing costs: Processing costs in Cambodia are USD 125 to 150 per ton which is higher than neighbouring countries possibly due to the higher costs for energy—which is often produced by generators—as well as high transport costs of up to USD 25 per ton to the border and then USD 45 onward to Ho Chi Minh City.
- Finally, it appears that the rubber processing industry is overly focused on latex products—representing a highly competitive, yet very small, segment of the global rubber trade.

3.2.3. Cambodia's rubber exports

Cambodia's natural rubber is exported to only a few markets, mainly Viet Nam, Malaysia, and South Korea. The Vietnamese market has long been the leading export destination for Cambodian natural rubber. China is the world's largest consumer, accounting for almost 40% of the global production, but is for the moment a small destination market for rubber produced in Cambodia (see Table 39).

The main exporters of natural rubber products are processing companies, who sell on their own account, typically to brokers in Singapore or Malaysia, or in the case of foreign affiliates, to their mother companies, which are often located in Vietnam and China. Large Cambodian companies export rubber to China or Malaysia through Vietnam, while small companies sell rubber to Vietnamese companies for export to China.

There are three main channels for the export of palletized crumb rubber : through Vietnam via road to Ho Chi Minh City Port, through Phnom Penh Port, or through Sihanoukville Port. Exports via Ho Chi Minh Port seem to be the preferred export channel of Cambodian rubber exporters. Though the Port is not the cheapest option, it has a number of advantages, including the proximity to Tbong Khmum (the largest rubber producing province), the size of the port, the fact to be served by larger ships and connected to more export destinations, and its straightforward procedures and quick methods of payment.

According to MAFF, at present the volumes of Cambodian rubber officially exported is not large enough to allow direct export to the mayor tire manufacturers who require minimum regular

shipments of 500 tons per month from suppliers. However, with the rapid expansion of rubber production in the coming years, Cambodia should be able to adapt to these market requirements, provided the sector is restructured and better procedures are adopted for the processing. A part of this adaptation will also necessarily include an increased environmental and social responsibility that is a growing concern for the tire manufacturers, and this will necessitate the adoption of a traceability process, which in turn will require stable contractual relationship between producers and the exporters/manufacturers.

Cambodian rubber is classified according to the Cambodia Standard Rubber (CSR). In the past, the lack of certification by an internationally recognized, accredited laboratory prevented Cambodian rubber from having broad market access (EIC, 2007). Many countries, including the United States, the European Union, Japan, Thailand, India and China, require certification by international accredited laboratories. The National Specific Laboratory House (NSLH) in the Cambodia Rubber Research Institute (CRRRI) established a national certification laboratory to test and certify crumb rubber as Cambodian Specified Rubber (CSR) as per international standards.

There are a number of major constraints for rubber marketing and exports (see also the SWOT analysis in Table 40):

- Inadequate export infrastructure: Only few experts and companies that know how to export rubber; lengthy processing of export documentation; and unpredictable export transaction costs (including formal fees).
- Limited international recognition of Cambodian Specified Rubber (CSR): The Association of Rubber Development for Cambodia (ARDC) provides inadequate coordination of the rubber sector and has not been successful in achieving recognition of Cambodian rubber on the world market.
- Limited experience in international marketing, export distribution channels and end markets. Even the largest exporters have little knowledge about the end users (since exports go to intermediaries in Singapore, Malaysia, and Vietnam). Limited knowledge on alternative markets. In the past, there was little opportunity to diversify exports to new partners. Exporters have difficulties applying for a certificate of origin for export rubber product to overseas markets. They are not aware of which CO should be used for exports to different regimes.
- Poor logistics and transport infrastructure. There are high costs of transportation from the more remote rubber production areas and CSR non-compliant procedures for transportation. There are large volumes of semi-processed rubber being informally exported to Vietnam for final processing, grading and labelling as Vietnamese rubber.

3.3. Opportunities to grow and move up markets

The outlook for the global natural rubber sector is regarded as favorable, although the global market has been in a state of slight oversupply for the past few years —affected by the growing tapping area of natural rubber in the main producing countries, as well as some slowdown in the growth rate of the tire manufacturing industry— and the oversupply is expected to remain until 2020. The Cambodian rubber sector offers significant opportunities to grow and add value, despite the many challenges to overcome. These include market and product diversification.

3.3.1. Market diversification

One possibility to add value to Cambodia's rubber sector is to diversify its destination markets by targeting markets that are currently not served at all by Cambodia, typically large, dynamic or open importers.

Cambodia has favorable market access conditions in most important markets for natural rubber. Though there are several rubber products that are internationally traded, the following examines

only technically specified natural rubber (TSNR), which is Cambodia's main export product. Cambodia has tariff-free access for technically specified natural rubber in the European Union, the United States, Japan, Korea, Malaysia, Brazil, Turkey, and the Russian Federation, though Cambodia's main competitors also enjoy 0% tariff rates on these markets (Table 38). In contrast, tariffs are high in China (20%), the world's largest importer, and in India (20%), where Cambodia has a slight tariff advantage (4% compared to its main exporters).

Cambodia's economic integration has deepened since entry into ASEAN in 1999 and its commitments under other regional free trade agreements (FTAs) and the global trading system. Cambodia has currently six FTAs in effect (ASEAN; ASEAN with: Australia and New Zealand; India; Japan; China); one signed but not yet in effect (ASEAN with Hong Kong), and the Regional Comprehensive Economic Partnership, which is currently under negotiation. These agreements give Cambodia preferential access to major markets for its exports. Lower tariffs on rubber products under the ASEAN-China FTA will thus stimulate greater exports from Cambodia. Cambodia needs to improve the quality of rubber processing to meet the demands of China's market and provide competitive prices.

Table 38. Tariffs for the main exporters of Technically specified natural rubber (TSNR) (HS 400122) on the main import markets

Main exporters (Share in world exports, %)	Main importers (Share in world imports, %)									
	1. China (26.2)	2. United States (13.9)	3. Japan (8.7)	4. South Korea (5.4)	5. India (5.2)	European Union ()	7. Malaysia (4.3)	8. Brazil (2.1)	9. Turkey (2.1)	11. Russian Fed. (1.9)
1. Indonesia (42.6)	20	0	0	0	20	0	0	14	0	0
2. Thailand (24.8)	20	0	0	0	20	0	0	14	0	0
3. Malaysia (8.7)	20	0	0	0	20	0	0	14	0	0
4. Côte d'Ivoire (6.4)	20	0	0	0	20	0	0	14	0	0
5. Viet Nam (5.9)	20	0	0	0	20	0	0	14	0	0
6. Cambodia (1.3)	20	0	0	0	16	0	0	14	0	0
European Union	20	0	0	0	20	0	0	14	0	0
8. Cameroon (1.0)	20	0	0	0	20	0	0	14	0	0
9. Guatemala (0.9)	20	0	0	0	20	0	0	14	0	0
12. Singapore (0.8)	20	0	0	0	20	0	0	14	0	0
Number of NTLs	1	1	1	1	1	1	7	1	1	1

Source: ITC's Market Access Map.

* Trade for countries marked with * is estimated through mirror statistics.

Concerning current markets, Cambodia's exported technically specified natural rubber (TSNR) to 11 different countries in 2017, mainly to Viet Nam, Malaysia and South Korea (Table 39). These markets tend to be large (Cambodia is already present in the five largest markets in the world: China, United States, Japan, South Korea, and India); dynamic (Viet Nam's imports grew by 13% per year between 2013 and 2017); and/or open (most large importers apply zero tariffs for imports from Cambodia). The exceptions are China (20%) and India (which applies a tariff of 14% to Cambodia and 20% to other large exporters). Cambodian exporters may try to increase volume through existing and new distribution channels.

Concerning potential markets for diversification, Cambodia is not at all present in several markets that are large (Germany, Brazil, Turkey, France, and the Russian Federation), or dynamic (Philippines, Belgium, Egypt, the Czech Republic, and Pakistan). These markets appear as potential diversification markets for TSNR from Cambodia, though more research needs to be undertaken, for example to conduct market profiles that also take into account qualitative information about e.g. the requirements and distribution channels in a particular target market. This would also help to better understand the potential for niche markets.

3.3.2. *Product diversification*

Another possibility to add value to Cambodia's rubber sector is to diversify its production and move downstream and transform the semi-processed products into final goods, instead of exporting them in semi-processed form. Cambodian processors currently export their semi-finished products (dry rubber), which are then further transformed into final products in countries such as Viet Nam, Malaysia and China. Natural rubber is used as a raw material in the manufacturing of industrial products (conveyor belts, rubber rollers, etc.), automotive products (fan belts, radiator hoses, etc.), latex products (rubber gloves, toys hygienic products, etc.) and adhesives. Rubber can also be used for birth control (condoms), medical products (surgical gloves), furniture (rubberwood), foam mattresses, and even artificial flowers.

However, Cambodia's ability to transform dry natural rubber into finished products that can be used domestically and internationally is still limited, due to lack of downstream investment in using natural rubber as main material to produce finished products technology and a skilled labor force. Cambodia has a very low captive rubber consumption and lacks a significant tire industry. As a result, Cambodian companies needed to be part of a global supply chain of the leading companies (e.g. Michelin, Bridgestone). This requires attracting one or several foreign lead investors that can bring the required capital, technology and distribution network — which in turn requires to seriously tackling the main issues that still hamper Cambodia's competitiveness of the rubber sector.

Table 39. Cambodia's exports of Technically specified natural rubber (TSNR) (HS 400122), and potential markets for diversification, 2017

Market (Rank Cambodia's exports)	Cambodia's exports (mirror data)					Imports by partner				
	Value in (USD 1,000)	Qty	Unit value (USD/ton)	Growth in value 2013-17 (%, p.a.)	Growth in quantity 2013-17 (%, p.a.)	Rank in world imports	Share in world imports (%)	Import growth in value 2013-17 (%, p.a.)	Tariff faced by Cambodia (%)	Main suppliers* (Share in partner's imports, %)
11 current export destination markets										
Total	154,022	..**	..	-5			100	-10		IDN (43), THA (25), MYS (9)
1. Viet Nam	106,073	..**	..	8		12	1.8	13	0	KHM (50) , LAO (26), IDN (15)
2. Malaysia	39,512	24,684	1,601	-8	3	7	4.3	-16	0	VNM (28), CIV (26), IDN (13)
3. South Korea	4,330	2,544	1,702	-12	-2	4	5.4	-12	0	IDN (55), THA (25), VNM (12)
4. Spain	2,171	1,236	1,756	69	100	13	1.8	-7	0	IDN (43), CIV (11), SGP (9)
5. India	1,296	746	1,737	3	18	5	5.2	4	16	IDN (69), THA (15), VNM (10)
6. China	298	180	1,656	-70	-66	1	26.2	-13	20	THA (53), IDN (25), MYS (17)
7. United States	138	60	2,300	..	35	2	13.9	-10	0	IDN (75), THA (10), LBR (4)
8. Japan	71	38	1,868	140	109	3	8.7	-11	0	IDN (79), THA (18), VNM (2)
9. Italy	49	20	2,450	..	..	14	1.7	-3	0	IDN (30), THA (15), FRA (12)
10. Greece	46	20	2,300	..	..	48	0.1	2	0	VNM (29), THA (27), IDN (21)
11. Hungary	37	20	1,850	..	..	25	0.8	-13	0	IDN (58), THA (15), SGP (11)
Selected potential markets for diversification: Large, dynamic, and/or open markets										
Germany	0	0	..	..	..	6	4.3	-3	0	IDN (22), CIV (22), MYS (21)
Brazil	0	0	..	..	..	8	2.1	-6	14	IDN (51), THA (24), CIV (12)
Turkey	0	0	..	..	..	9	2.1	-6	0	IDN (61), THA (15), MYS (11)
France	0	0	..	..	..	10	2.1	-10	0	IDN (41), CIV (18), THA (11)
Russian Fed.	0	0	..	..	..	11	1.9	7	0	IDN (61), MYS (16), THA (14)
Poland	0	0	..	..	..	15	1.5	5	0	CIV (48), IDN (28), LBR (3)
Canada	0	0	..	..	..	16	1.5	-4	0	IDN (64), LBR (13), THA (6)
Romania	0	0	..	..	..	17	1.4	-1	0	DEU (35), IDN (34), THA (10)
Slovakia	0	0	..	..	..	18	1.4	10	0	THA (31), MYS (29), IDN (25)
Czech Rep.	0	0	..	..	..	20	1.3	21	0	MYS (25), IDN (24), THA (19)
Belgium	0	0	..	..	..	22	1.0	63	0	IDN (81), CIV (12), VNM (3)
Pakistan	0	0	..	..	..	30	0.4	18	3	IDN (94), VNM (4), MYS (1)
Egypt	0	0	..	..	..	33	0.3	40	2	IDN (50), THA (28), MYS (21)
Philippines	0	0	..	..	..	40	0.1	1,041	0	IDN (51), MYS (31), THA (18)

Source: ITC's Trade Map.

* CIV: Côte d'Ivoire, IDN: Indonesia, KHM: Cambodia, LAO: Lao PDR, LBR: Liberia, MYS: Malaysia, SGP: Singapore, THA: Thailand, VNM: Viet Nam,

** Mirror data significantly underestimate Cambodia's exports in quantity to the world in 2017, as Vietnam did not report quantities in 2017. However, Vietnamese imports from Cambodia in value increased from USD 62.3 million in 2016 to 106.1 million in 2017. Applying that ratio to 2016 quantities suggests that Vietnam imported roughly 80,000 tons from Cambodia in 2017, which would bring Cambodia's total exports in 2017 to about 110,000 tons.

3.4. SWOT analysis of Cambodia's rubber sector

Table 40. SWOT analysis of the rubber sector in Cambodia

Strengths	Weaknesses
<p>Supporting infrastructure and policy</p> <p>Strong commitment by RGC and donor communities to promote crop diversification and rubber planting.</p> <p>Attractive FDI environment with lower cost (and more available) land compared to traditional rubber exporters such as Malaysia.</p> <p>Increased public expenditures on agriculture, R&D, and rural development.</p> <p>Improved railway, port and export infrastructure.</p> <p>International environment</p> <p>Cambodia's LDC status affords it tariff-free access for natural rubber exports to the EU, US, Japan, Korea—all major importers.</p> <p>WTO and ASEAN membership.</p> <p>Proximity to China, the world's largest importer of rubber.</p>	<p>Institutional and managerial weaknesses.</p> <p>Lack of coordination between GDR, agro-industrial plantations, and smallholder rubber producers.</p> <p>High entry barriers to industry, given large financial outlay over several years (5-7 years) before trees mature and yield latex.</p> <p>Vulnerable to price fluctuations and limited access to credit to re-invest in sector.</p> <p>Insufficient linkages between smallholder producers and larger rubber plantations to enable them to operate as out-growers.</p> <p>Processing</p> <p>Lack of local up-stream rubber industries.</p> <p>Insufficient linkages between smallholder producers and larger rubber plantations.</p> <p>Lack of sufficient processing facilities.</p> <p>Lack of high skilled workers and professional staff.</p> <p>Rubber processing industry is overly focused on latex products—representing a highly competitive, yet very small, segment of the global rubber trade.</p> <p>Marketing and exports</p> <p>Inadequate export infrastructure: Small number of experts and companies that know how to export; lengthy processing of export documentation; and unpredictable export transaction costs.</p> <p>Limited international recognition of Cambodian Specified Rubber The Association of Rubber Development for Cambodia (ARDC) provides inadequate coordination of the rubber sector and has not been successful in achieving recognition of Cambodian Specified rubber on the world market.</p> <p>Supporting infrastructure and policy</p> <p>Absence of policy on promotion of small rubber plantations.</p> <p>Reliance on imported inputs often leads to shortages of fertilizers and pesticides.</p> <p>Lack of adequate training programs.</p> <p>Inadequate rural infrastructure and high transportation costs.</p> <p>Poor market information services for smallholder rubber plantations.</p> <p>Cambodian Specified Rubber (CSR) not trusted by international buyers, often requiring exports to be independently tested by Singapore laboratories.</p>
Opportunities	Threats
<p>Processing</p> <p>Improved quality of processed rubber would significantly add to the sector's profitability and farm-gate prices.</p> <p>Encouraging processors to diversify away from latex to other natural rubber forms may create new market opportunities.</p> <p>Marketing and exports</p> <p>Recent accreditation of Cambodia's rubber testing laboratory should allow for broader market access and domestic export certification against international standards.</p> <p>Policy support</p> <p>Improved export procedures would lower cost and time for exporting.</p> <p>Increasing value addition through certification of natural rubber.</p> <p>International environment</p> <p>World rubber consumption in an upward trend.</p> <p>Strong outlook for global natural rubber trade backed by reliable and growing demand from global auto manufacturers.</p> <p>Increasing interest among potential foreign investors in Cambodia's rubber industry.</p>	<p>Processing</p> <p>Slow development on agro-industries and processing.</p> <p>Marketing and exports</p> <p>Continued perceptions of Cambodia as a supplier of low grade, poor quality natural rubber products.</p> <p>Possible end of preferential access to EU markets (EBA).</p> <p>International environment</p> <p>Risks arising from competition from neighboring countries.</p> <p>Price fluctuation and high-risk investment.</p> <p>Low potential investment from RGC and private companies.</p> <p>Lack of private sector/potential investors participation.</p> <p>Cambodia's industry overshadowed by regional competitors that dominate global production and trade in natural rubber—Thailand, Indonesia, Malaysia, China, and India.</p>

Source: Based on EIC (2007), MoC (2010), CTIS (2014), MAFF (2018), and interviews with stakeholders in December 2018.

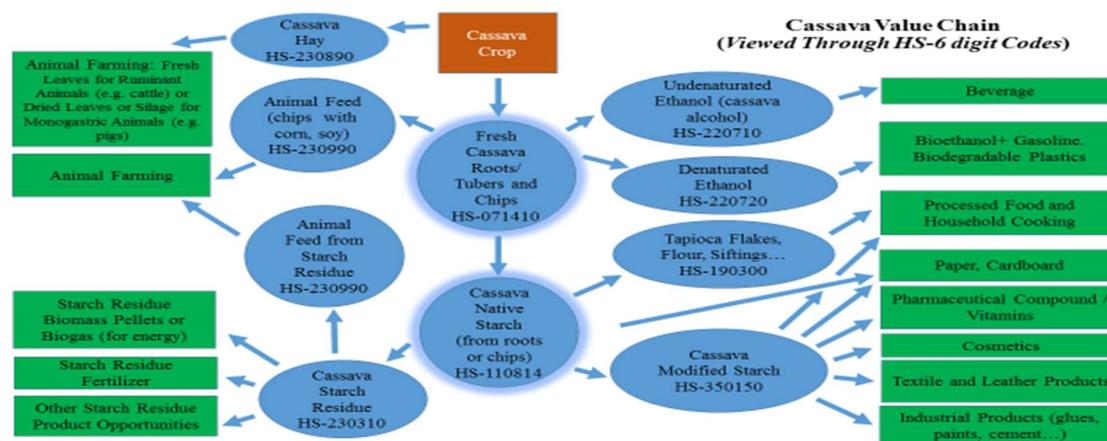
4. Cassava

Cambodia is the world's eighth largest producer of Cassava. Cassava is the country's second largest agricultural crop after rice. Cassava is an industrial crop and gives rise to a very well-developed value chain with multiple uses and applications ranging from human and animal food to consumer and industrial products as well as bio-fuels. By some estimates, between 90 and 95% of Cambodia's cassava production is dedicated to exports. Domestic consumption remains very limited. Cassava is receiving special attention from RGC under its *Cambodia Industrial Development Policy, 2015-2025*.¹⁹⁹ Further, the RGC is working on the formulation of a *Cassava Development Policy* focusing on upgrading the export value chain through investment in domestic processing of cassava. An Inter-ministerial Working Group is being formed under MoC's leadership to prepare a draft for submission to the Council of Ministers.

4.1. Cassava's global value chain

The Cassava global value chain is wide ranging and complex, as shown in Figure 28.

Figure 28. The Cassava Global Value Chain (GVC)



4.2. World demand and supply of cassava and its derivatives: Key importers and largest exporters

Because the market for cassava is global and Cambodian domestic consumption of cassava derivatives remains quite limited, the formulation of a sector development strategy and policy must be based on a close understanding of world import demand and export opportunities. An analysis of world demand for cassava derivatives (at HS-6 digit level) focusing on the largest and/or fastest-growing importers combined with an analysis of world supply by the largest exporters, potential export markets for Cambodia's cassava derivatives, by products and destinations, is summarized in Table 41.

A key point is that market access preferences of Cambodia for most Cassava derivatives are quite limited in key markets (China, ASEAN) and time-bound in EU. In EU, once Cambodia loses EBA, it may find itself at a competitive disadvantage against Thailand and Viet Nam as they benefit from favorable zero-tariff quotas as a result of various bilateral negotiations or FTAs. Preferences in India – a relatively new market for Cambodia – may also disappear following LDC graduation.

¹⁹⁹ Cambodia Industrial Development Policy, 2015-2025, Council of Ministers, March 6, 2015

Table 41. World Demand for Cassava Derivatives, Key Importing Countries, Top Exporting Countries

Derivatives	World Imports in 2017 (2016)	Largest and/or Fastest Growing Top Exporting Countries, 2017	2017	Cambodia's Market Opportunities 2016 prices
Cassava "Native" Starch (HS-110814)	\$1.4 billion (\$1.5 billion)	1. China (53.2% of world imports) 2. ASEAN: Indonesia, Malaysia, Philippines (19.3%) 3. India, Bangladesh (fast growing) 4. EU (fast growing)	1. Thailand (55.0%) 2. Viet Nam (40.7%)	Starch production offers high value added potential at \$350/MT for "native" starch compared to \$35/MT for fresh tubers. Cambodia has a significant tariff advantages in India (0% or 15% depending on buyer) over GSP countries (45%) and in EU (0%). EBA DFQF would disappear in EU with LDC Graduation (or earlier if EU withdraw EBA benefits) putting Cambodia at a disadvantage. Thailand already benefits from a negotiated 10,000 MT tariff free quota in EU; Viet Nam, a 30,000MT tariff free quota under EVFTA. More limited tariff advantages in ASEAN and China. In Bangladesh, Thailand appears to have a tariff advantage over Cambodia. Emerging demand for organic certified native starch in EU and other developed markets for use in organic gluten-free foods. Growing demand in India and Bangladesh mostly for industrial use in garments and packaging.
"Modified" Starch (HS-350510) (HS code does not distinguish source material)	\$3.4 billion (\$3.2 billion) (all modified starches, not only cassava)	1. EU (over 30%) 2. China (10.9% of world imports and fast growing) 3. Japan (10%) 4. US (5%) 5. Korea (3%) 6. Indonesia 7. Russia 8. Saudi Arabia (fast growing) 9. Bangladesh, India (fast growing)	1. EU (over 50%) 2. Thailand (21.1%; almost exclusively cassava modified) 3. US (12.2%) 4. China (almost exclusively cassava modified) 5. Viet Nam (almost exclusively cassava modified)	HS-6 Code does not distinguish between Cassava and other modified starches. Price of modified starch may range from \$700 to \$1,200/MT depending on the type and grade. Based on exports by Thailand, China, and Viet Nam, modified cassava starch is dominant in South East and East Asia. China, Japan, Korea, and Indonesia are key importing markets in the region. Japan, Korea, Indonesia apply zero tariffs for import for modified starch from within the region under various FTAs. Zero tariff in the US as well. EU applies a 13.5% tariff on cassava modified starch from Viet Nam and Thailand whereas Cambodia would benefit from zero tariff. Viet Nam will benefit from a tariff free 1,000MT quota under EVFTA. Cambodia benefits from a tariff preference in India. Growing demand in Saudi Arabia due to use of modified starch as lubricant for off-shore oil and gas drilling.
Starch Residues (HS-230310) (HS code does not distinguish source material)	\$1.6 billion (\$1.6 billion) (all starch residues, not only from cassava)	1. Indonesia (14.0% of world imports) 2. Korea (7.6%) 3. Egypt (5.5%) 4. Mostly EU countries (fast growing)	1. USA (42.3%) 2. EU (over 30%) 3. China (12.4%) 4. Thailand (3.4%)	The HS-6 Code does not distinguish between cassava and other starch residues (e.g. corn, others) so it is difficult to identify which country imports what source residue materials. Residue by-products from cassava starch fetch possibly somewhere around \$175-\$250/MT. Again, significant value added over fresh tubers. Cambodia has no capacity to pelletized solid starch residues at present. Some but limited tariff preference for Cambodian producers in many markets.
Cassava Fresh Tubers and Dried Chips (HS-071410)	\$2.4 billion (\$2.7 billion)	1. China (61.0%) 2. Thailand (15.6%) 3. Viet Nam (13.9%) 4. Fast Growing Importers: Diverse group of countries for chips used in Animal Feed in Animal Feed	1. Thailand (49.0% of world exports) 2. Cambodia (27.5%) 3. Viet Nam (13%)	Cambodia's current dominant export – perhaps around \$400 million to \$500 million. Cambodia needs to diversify away from exports targeting primarily China (directly or indirectly via Thailand and Viet Nam.) Exports at \$35/MT average price for fresh tuber. Average price of dried chips ranges around \$160/MT. Opportunities to focus on export of dried chips and pelletized cassava (not yet produced in Cambodia) for the animal feed market in other countries. No tariff advantage over Thailand and Viet Nam in China (all zero tariff.) Very small tariff advantage in EU (0% for Cambodia vs. 2% for Thailand and Viet Nam.) Tariff advantage in India (0% for Cambodia vs. 8% for Thailand and Viet Nam.)

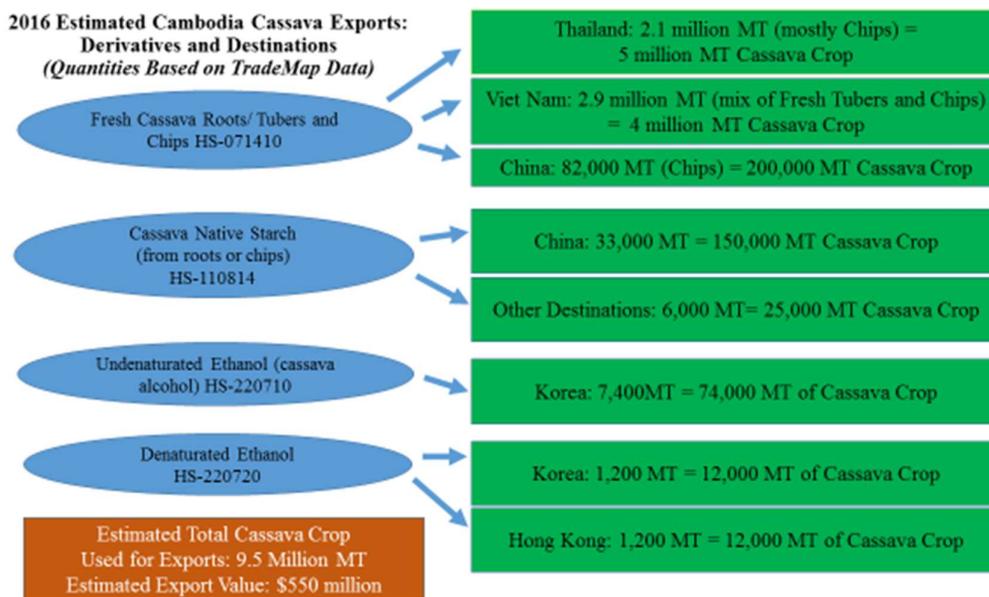
Derivatives	World Imports in 2017 (2016)	Largest and/or Fastest Growing Importing Countries, 2017	Top Exporting Countries 2017	Cambodia's Market Opportunities 2016 prices
Animal Feed (HS-230990)	\$15.4 billion (\$14 billion)	<ol style="list-style-type: none"> 1. EU countries (about 30%; also fast growing) 2. ASEAN: Thailand, Indonesia, Viet Nam (approximately 8.5%) 3. Russia, Japan, India (2% to 3% each) 4. Bangladesh, Saudi Arabia, India (fast growing) 	<ol style="list-style-type: none"> 1. EU (over 45% of world exports) 2. USA (10.3%) 3. China (7.1%) 	Very large global market and growing especially in emerging economies where rise in consumer income leads to rising demand for meat. Cassava is one among many ingredients in animal feed. The three ASEAN countries listed in the third column import \$1.2 billion in 2016. Cambodian price for pig and chicken animal feed estimated around \$500/\$600 MT. There is import/export among ASEAN countries and Cambodia may already be exporting small quantities of animal feed to Viet Nam. If focus remains on exporting cassava as an ingredient in animal feed, price of dried chips ranges around \$160/MT; price of pelletized cassava ranges around \$200/MT. Small tariff advantage in India compared to Thailand and Viet Nam. No tariff advantage in Indonesia or Viet Nam over other ASEAN producers under AFTA.
Bioethanol (HS-220720) (HS code does not distinguish among source materials)	\$2 billion (\$2 billion)	<ol style="list-style-type: none"> 1. Canada (30.5%) 2. India (13.0%) 3. Philippines (8.4%) 4. Korea (5.6%) 	<ol style="list-style-type: none"> 1. US (71.0% of world exports) 2. EU (approximately 25.0%) 	Investors are likely to invest based on initial commitments from wholesale or retail buyers. Opportunity for domestic substitution if Cambodia shifts to E5 or E10 gasoline blends. Growing demand in the region due to China nationwide shift to E10 by 2020. Vietnam in process of shifting to E5. Prices range between \$700 and \$900/MT. Investment in distilleries is quite large to reach competitive export scale.
Undenaturated Ethyl Alcohol (HS-220710) (HS code does not distinguish among source materials)	\$6.2 billion (\$5 billion)	<ol style="list-style-type: none"> 1. EU (approximately 40%) 2. Brazil (14.5%) 3. USA (11.2%) 4. Japan (7.4%) 	<ol style="list-style-type: none"> 1. EU (45.0% of world exports) 2. US (21.8%) 3. Brazil (11.7%) 	
Tapioca Flakes, Grains, Siftings (HS-190300)	\$80 million			Does not appear to be a promising export market as local producers prefer to use imported native or modified starch to produce those derivatives domestically.

4.3. Cambodia's production and export supply capacity

A schematic overview of 2016 Cambodian cassava derivatives production and exports can be developed using COMTRADE quantity or price export data combined with a quantity-approach (Figure 29).²⁰⁰ That approach converts all export quantities back to the original fresh cassava crop volumes using conversion ratios: follows:

- Conversion ratio of Fresh Crop to Fresh Tuber: 1.3 – in other words, 1.3 MT of fresh cassava produces 1 MT of fresh tubers
- Conversion ratio of Fresh Crop to Dried Chips: 2.5 – in other words, 2.5 MT of fresh cassava produces 1 MT of dried chips
- Conversion ratio of Fresh Crop to Native Starch: 4.2 – in other words 4.2 MT of fresh cassava should produce about 1 MT of Native Starch
- Conversion ratio of Fresh Crop to Ethyl Alcohol: 10 – in other words 10 MT will produce 1 MT of Ethyl Alcohol

Figure 29. Estimated Cambodia Cassava Exports: Derivatives and Destinations, 2016



In short:

- Approximately 9.5 million MT to 10 million MT of fresh cassava crop were used as base inputs for Cambodia's cassava derivative exports in 2016
- Fresh tubers and dried chips are the dominant Cambodian exports – Fresh tubers are exported mostly to Viet Nam and dried chips mostly to Thailand, Viet Nam and China, with the first two re-exporting some of the chips they buy from Cambodia to China
- The rest of the export value chain for Cambodia cassava remains underdeveloped
- The total value of exports in 2016 could be estimated at approximately \$550 million (using mirror data)

Cambodia's production capacity of main derivatives is summarized in Table 42. Data on production capacity shown in the table were collected by means of a comprehensive survey

²⁰⁰ Because of the significant amount of unrecorded, informal exports of cassava source materials and derivatives to neighboring countries, it is impossible to arrive at an exact value of cassava-related exports. The approach used to estimate trade flows in this section relies on direct and mirror data reported by Cambodia and its main trading partners in the COMTRADE data base.

conducted in late 2017, with some updating in late 2018. The most noticeable trend is the need for investment in processing and new interest of foreign investors in the starch sector.

Table 42. Cambodia's Cassava Main Derivatives Producers 2017

Producers	Location (Province)	Nominal Production Capacity	Annual Months Operating	Actual 2017 Production
Fresh Tubers and Chips				
Fresh tubers are produced by hundreds of thousands of farmers. Small local traders buy fresh tubers from farmers or dried chips from farmers and local processors and, in turn, sell to larger consolidators/traders that process fresh tubers and store dried chips. In turn, they sell to large Cambodia-based producers of starch or animal feed and/or export tubers and chips to Viet Nam, Thailand, and China. There are between 50 and 60 large dried-chip silos with an annual capacity of approximately 40,000 MT each in the Battambang/Pailin area (meaning about 5 million MT in fresh tubers equivalent.) Because much exports to Viet Nam are fresh tubers, the number of large dried-chips silos in the Kampong Cham/Kratie area is likely to be far smaller. Fresh cassava production in 2017 is estimated at 12 million to 13 million MT.				
Native Starch				
BAI (Khmer)	Battambang	40,000 MT 300 MT/day	6/7 months	Approximately 40,000MT (70% export market)
Hunan ER-Kang (China)	Battambang	30,000 MT 150 MT/day	6/7 months	10,000 MT
HLH Agriculture (Singapore)	Kampong Speu	30,000 MT 120MT/day	9 months	25,000 MT (70% export market)
TTY (China)	Kampong Cham	30,000 MT 200/250 MT/day	6/7 months	20,000-25,000 MT (80% export market)
Sing Song (Korea)	Kratie	35,000 MT 240 MT/day	6/7 months	New investment. Expected 35,000MT of native starch. Korean investor engaged in food processing and trading in Korea. Commercial operations started in 2018 Q4. Initial exports to China and Taiwan.
Green Leader (HK)	Pursat Tbong Khmum	2 plants @ 100,000MT native starch per plant. <u>First plant to open March 2019</u>	Target 9 months	New investment in 2 plants by HK investors. Each plant to consume 500,000MT of tubers and produce 100,000MT native starch and 30,000MT modified starch. Also, 100,000MT of biomass pellet and 50,000MT of feed. Long term plan by investors: total of 10 plants
Thai Wah (Thailand)	Oddar Meanchey	Planned capacity not known	Not known	New investment by Thai company heavily invested in sector with 4 plants in Thailand (335,000 MT/year combined nominal capacity) and 1 plant in Vietnam (40,000 MT/year nominal capacity) + minority interest in a second plant in Vietnam
A few more smaller plants (e.g. annual capacity below 20,000 MT.) Current nominal export supply capacity is approximately 135,000/150,000MT to rise to 180,000/200,000 MT once Sing Song is fully operational. Much larger once Green Leader is operational. Commodity's 2016 Report estimates domestic consumption of starch at between 60,000 and 80,000 MT originating mostly from small plants and some production from larger plants. For instance:				
Thai Meng	Battambang	15,000 MT 80 MT/day	6/7 months	8,000 MT
Seang Phong	Kampong Cham	20,000 MT 100 MT/day	6/7 months	Not producing in 2016
Sun Ath	Kampong Cham	20,000 MT 100 MT/day	6/7 months	Not producing in 2016
Kim Heng	Kampong Cham	15,000 MT 80 MT/day	6/7 months	8,000 MT
Ly Hong Leng	Tbong Khmum	15,000 MT 80 MT/day	6/7 months	8,000 MT
Specialty Starch: Organic Native Starch				

Producers	Location (Province)	Nominal Production Capacity	Annual Production Capacity	Months Operating	Actual 2017 Production
AMRU	Kampong Chhnang	2020 target: 50,000 MT of organic tubers. Initially, organic tubers will be processed to organic starch in Thailand			Production by contract farmers from 1500ha under Social Land Concession (SLC). At trial stage. To meet USDA and EU Organic standards. Component in gluten-free and organic processed foods.
Specialty Starch: Modified Starch					
Sing Song (Korea)	Kratie	18,000 MT 120 MT/day		6/7 months	Planned as part of new starch factory. Target markets: Japan and Korea. In contrast to native starch which can be produced and stored, modified starch can only be produced based on buyer orders and technical specs unique to each order.
Green Leader (HK)	Pursat Tbong Khmum	2 plants @ 30,000MT		9 months	See above. Within the 2 planned starch plants described above. Planned 30,000 MT per plant.
Thai Wah (Thailand)	Oddar Meanchey	Capacity not known		Not known	Not known
Starch Residues					
No evidence of a structured sector as of yet partly because the production of starch remains limited. For now, starch producers seem to focus on using residues as an energy source for the production of electricity to run plants and heat to dry starch. Green Leader plants will have capacity to process residues.					
Biofuel - Ethanol					
MH-BioEnergy Ethanol/ Seo Won Distribution Co., Ltd. (Korea)	Kandal	60,000 MT			Approximately 10,000MT in 2016
IDEMITSU (Japan)		May build an ethanol plant. Trial phase working with contract farmers to produce tubers to assess reliability of supply.			
Green Leader (HK)		Might look into building new ethanol producing plant			
Undenatured Ethyl Alcohol					
Not researched					
Animal Feed					
CP (Thailand)	Kandal and Pailin	360,000 MT/year 100/150 MT/day in Kandal 180,000 MT/year 80 MT/day in Pailin		12 months	Approximately 500,000 MT/year. All domestic sales: 70% for CP own pig and chicken farms; balance to other Cambodian producers
CJ (Korea)	Kampong Speu	100,000 MT/year 8,000 MT/month		12 months	Current production about 50,000 MT/year. Planning pig farm in Cambodia. Some limited export of finished product to Vietnamese market.
Betagro (Thailand)	Kandal (PP Special Economic Zone)	120,000 MT/year 10,000 MT/month		12 months	Consumes 35% of production for its own chicken and pig farms in Cambodia; balance sold to other Cambodian producers
Green Feed	Kampong Cham				Unable to secure interview
Possibly 2 other small plants					

NTBs: When dealing with derivatives for industrial use (native and modified starch), Cambodian producers must meet technical requirements set by buyers and users. For “modified” starch, technical specs are specific to each buyer’s order. National standards are mostly lacking for Cambodian cassava. When dealing with derivatives destined to animal and human consumption, Cambodia must meet the same SPS regulations and requirements as those applying to any other exporting country for the same derivatives in the same market.

A report prepared by an SPS expert for UNDP-Cambodia in December 2017 observes that²⁰¹:

- Very few (if any) processors in the sector are certified for GMP, HACCP, or GHP
- The use of GAP-compliant farming methods is extremely limited, while countries that have implemented those in cassava production have been able to improve land productivity and better control the spread of plant diseases. MAFF is attempting to introduce GAP but, thus far, it has been mostly NGOs that have implemented such schemes in limited areas.
- RGC’s monitoring and surveillance capacity at the farm level is very weak. Cambodia lacks ability to control risks associated with plant diseases (a significant amount of seedlings come from Viet Nam or Thailand) and lacks capacity for surveillance of risks associated with sale and herbicides, pesticides, and chemical fertilizers (including dangerous or banned products.)
- **Supply Chain Management:** One of the key issues for successful investment in starch processing is predictable and stable sourcing of raw materials by processors. Ongoing UNDP work on supply management in Cambodia suggests that the best approach to achieving stability and predictability might be one used in Thailand’s starch sector – namely for processors to source materials from a combination of three main suppliers: their own farms, collectors, and farmers cooperatives. Several Cambodia-based processors already use some such combination, including operating their own farms. BAI operates a 2,000 ha farm; HLH, 11,000 ha; AMRU, 1,500ha in a Social Land Concession (SCL) to produce organic cassava; Thai Wah, 4,000 ha. Green Leader has a small 500 ha pilot farm in Pursat.

4.4. SWOT analysis of Cambodia’s cassava sector

Table 43. SWOT analysis of Cambodia’s cassava sector

Strengths	Weaknesses
<p>Cassava has many end-uses: human and animal food, bio-fuel (ethanol, bio-mass, etc.), industrial products, others. Cassava produces the best modified starches in term of chemical and physical properties (viscosity in particular.) Modified starches are used extensively in industrial sector. The roll-out of E-10 gasoline in China from three provinces to nationwide is creating huge demand for ethanol. The introduction of E-5 gasoline nationwide in Viet Nam is also creating new demand</p> <p>Cambodia’s cassava exports enjoy some tariff preference advantages in China, EU, and emerging importing countries such as India, Bangladesh (food processing and textile industries) and Saudi Arabia (modified starch as lubricant for marine oil drilling)</p> <p>Cassava is adaptable to diverse climates and soil varieties. Cassava can be grown as a single crop or inter-cropped—offering an additional income source.</p> <p>Rising global demand has encouraged increased plantings and improved long run income returns to farmers – notwithstanding some cyclical downturns. Hundreds of thousands of small farmers grow cassava, with average size farms between 1 and 3ha.</p>	<p>Cambodia exports remain dominated by unprocessed cassava tubers, which are highly perishable, or semi-processed dried chips which are low-return products</p> <p>Significant disease in new seedlings, low quality cassava plantings, and poor post-harvest handling make it difficult to maintain yields or meet export specifications in higher-value markets. Lack of good farming practices (GAP), very limited monitoring and surveillance capacity by RGC (especially monitoring of pests and diseases; surveillance of herbicides, pesticides, chemical fertilizers). Weak investment in R&D and inadequate extension services to support use of higher yield varieties or improve crop management practices.</p> <p>Poor preparation, drying, and storage of cassava chips reduce quality and value.</p> <p>Low capacity of Cambodian farmers and processors at all stages of the value chain to meet core SPS requirements</p> <p>Absence of sustained seller-buyer relationships between farmers and processors makes for unpredictable supply in term of quantities. Competition from Thai and Viet traders for raw cassava undermines sustainability of seller-buyer relationship. Insufficient number of intermediate structures (such as cooperatives) to negotiate between farmers and domestic processors.</p> <p>Until now, low investment in processing facilities, despite sectors growth and new export opportunities. However, emerging interest from new foreign investors in investing in the full value chain from fresh tubers all the way to modified starches, bio-ethanol, and processing of residues</p> <p>SME starch processing investors have limited experience and skills in supply chain management, market research, export marketing plans, export promotion, etc.</p> <p>Lack of a sector association that can be a point of entry (information, contacts, etc.) into the Cambodian markets for foreign buyers interested in Cambodian cassava derivatives</p> <p>Lack of Cambodian product standards consistent with international standards</p>

²⁰¹ UNDP, Cassava SPS Technical Report, December 2018

Opportunities	Threats
<p>Cambodia's land yield for cassava roots ranges somewhere around 15 MT/ha. Mechanization and better farming practices (following GAP methods + stronger Pest Risk Management) should help raise land productivity higher</p> <p>Mechanization of local cassava chipping would significantly lower seasonal labor costs, reduce wastage from perished stock, and improve farmer's margins.</p> <p>Development of domestic starch (Native and modified) processing capacity near main production areas will increase competition for cassava crop, improve farm-gate prices, and contribute in major ways to Cambodia's economy.</p> <p>Scope to diversify exports of processed cassava to other Asian markets—especially China, Japan, Indonesia and Malaysia as well as “new” importers (India, Bangladesh, Saudi Arabia, others.)</p>	<p>Maintaining poor cassava farming practices can lead to serious depletion of soil quality, erosion, falling yields and lower farm profits.</p> <p>Rising labor costs during planting/harvesting. About \$7 or \$8 per day for farm labor (\$180 or so per month) unless matched by increasing labor productivity</p> <p>Current dominance of Thai and Vietnamese traders impedes efforts to shift production to more local channels for value adding and generating higher returns to rural communities.</p> <p>Limited market information leading to farmers' continued acceptance of lower farm-gate prices despite higher regional and international prices.</p> <p>Exposure to future policy changes in China can have sizeable impact on Cambodia owing the size of the Chinese demand for bio-ethanol and starches.</p> <p>Forthcoming changes in market access preferences for Cambodian cassava derivatives could put downward pressure on the sector's trade competitiveness</p>

4.5. Policy Recommendations

1. Strengthen the Implementation of Modern Process Standards to Improve Quality through the Entire Cassava Value Chain; Develop Product Standards to Help Promote the Uniqueness of Cambodia Starch and Starch Derivatives

- Introduce GAP farming practices and GMP or HACCP methods in processing
- Develop product standards, especially for starch. Standards should follow international cassava starch standards but also reflect unique properties of Cambodian starch
- Strengthen MAFF's monitoring capacity of diseases and pests and surveillance capacity for use of pesticides, herbicides, and fertilizer at farming level; Develop Ag research to introduce disease and pest resistant varieties in Cambodia
- Along with GAP and multi cropping, encourage mechanization of farming to increase land productivity

2. Encourage the Creation of a Cassava Private Sector Apex Organization to Structure the Private Sector and Serve as Access Point for Information about Markets, Prices, Processing Opportunities by Current Sector Players and New Foreign Buyers and Investors

- Encourage the creation of a private sector-led Cambodia Cassava Producers and Processors Association to provide an entry point for access to sector information and networking working opportunities for current actors and new foreign buyers and investors
- Continue to encourage new processing investment (in addition to new investments from Korea, Thailand, and HK) to localize large-scale production of native and modified starch and ethanol as well as diversify production of cassava derivatives towards higher value products

3. Identify New Export Markets (destinations and products) Opportunities; Strengthen Export Skills of SME Cassava Derivatives Producers

- Strengthen supply chain management mechanisms between growers and starch producers to ensure reliability and quality
- Diversify export products and export destinations. While consolidating presence in East and South Asian markets, Cambodia needs to open up new markets for processed derivatives including in Europe, South Asia, Gulf countries
- Develop program to support export-skill capacity building among SME starch processors that have very limited experience in export marketing, supply chain management, export promotion, etc.

4. Improve Trade Facilitation Procedures for Cassava Derivative Exports

- Provide Cassava starch processors with trade facilitation procedures similar to those extended to rice millers through the Ricer Single Window mechanism

5. Fruits and vegetables

The fruits and vegetables sector is important for nutrition and food safety, it generates rural income, and alleviates poverty. A survey in 2011 among 24 Provincial Departments of Commerce revealed that fruits and vegetables are among the “Top Ten Products” in 19 Provinces.

There is a rapidly increasing demand and imports for fruits and vegetables in Cambodia, with potential for processing and exports, especially for fruits such as mangoes and bananas. However, only mangoes, bananas, and to a certain degree longan seem to have an immediate potential for exports, though with limited opportunities for further processing, while vegetables are mainly seen as having potential for import substitution. For the formulation of the Crop Master Plan (CMP) for MAFF, Goletti and Sovith (2016) prioritized a long initial list of crop value chains. The most promising fruits were (in decreasing order) mango, banana, papaya, avocado, durian, and jackfruit, and the most promising vegetables were tomato, cabbage, cucumber, lettuce, rocket, and carrot. The final top prioritized value chains with potential for processing and exports were rice, maize, and cassava, and only mango and banana were part of into the final eight prioritized value chains. More recently, other observers, including USAID (2019), consider longan as another candidate with export potential.

In contrast, vegetables do not seem to have any significant export potential in the near future. They are important from a nutrition and food safety point of view, and are mainly considered as important for import substitution, though with potential for processing. The production of vegetables only meets an estimated 30 to 40 percent of domestic demand (BD Link).

This section will thus focus on three fruits with export potential: mango, banana, and —to the extent that there is information available—longan.

Table 44. The mango and banana sectors at a glance

Mangoes (2017)	103 producers	135 exporters	189 importers
Rank and share in world (%)*	<ol style="list-style-type: none"> 1. India (38.5) 2. China (9.5) 3. Thailand (7.6) 4. Indonesia (5.1) 5. Mexico (3.9) 6. Pakistan (3.3) 7. Brazil (3.1) 8. Bangladesh (3.0) 9. Egypt (2.7) 10. Malawi (2.6) 	<ol style="list-style-type: none"> 1. Mexico (15.5) 2. Viet Nam (11.8) 3. Netherlands (10.8) 4. Thailand (9.4) 5. Brazil (7.0) 6. Peru (6.5) 7. India (6.2) 8. Spain (2.9) 9. Philippines (2.8) 10. China (2.4) 	<ol style="list-style-type: none"> 1. United States (22.9) 2. Viet Nam (8.2) 3. Netherlands (8.0) 4. Germany (6.9) 5. United Kingdom (6.0) 6. China (5.8) 7. France (4.6) 8. Canada (3.7) 9. UAE (3.4) 10. Spain (2.9)
	39. Cambodia (0.1)	34. Cambodia* (0.4)	120. Cambodia (0.0)
Bananas (2017)	131 producers	116 exporters	167 importers
Rank and share in world (%)*	<ol style="list-style-type: none"> 1. India (26.8) 2. China, mainland (9.8) 3. Indonesia (6.3) 4. Brazil (5.9) 5. Ecuador (5.5) 6. Philippines (5.3) 7. Angola (3.8) 8. Guatemala (3.4) 9. Colombia (3.3) 10. Tanzania (3.1) 	<ol style="list-style-type: none"> 1. Ecuador (26.7) 2. Philippines (9.4) 3. Costa Rica (9.4) 4. Belgium (9.4) 5. Colombia (7.7) 6. Guatemala (7.2) 7. Netherlands (4.1) 8. United States (3.9) 9. Germany (2.9) 10. Honduras (2.2) 	<ol style="list-style-type: none"> 1. United States (17.6) 2. Belgium (9.5) 3. Russian Fed. (7.9) 4. Germany (7.0) 5. Japan (5.9) 6. United Kingdom (5.5) 7. Netherlands (4.2) 8. China (4.0) 9. France (3.7) 10. Italy (3.5)
	52. Cambodia (0.1)	49. Cambodia (0.1)	154. Cambodia (0.0)

Source: Taken from various tables in this chapter, based on FAO, ITC, World Bank, MAFF.

* World export and import shares are based on value.

5.1. World mango and banana production and trade, and Cambodia's position

5.1.1. Main producers of mangoes and bananas

India and China are the world's largest producers of mangoes and bananas in the world. India's mango production (19.5 million tons) in 2017 represented almost 40% of world production, followed by China (9.5 million tons), Thailand, Indonesia, and Mexico. India is also the world's largest banana producer, accounting for almost 27% of world production (30 million tons in 2017), followed by China (11 million tons), Indonesia, Brazil, and Ecuador.

Cambodia's position in the world for mangoes and bananas appears still limited, despite conflicting statistics. For mangoes, Cambodia is ranked 39th out of 103 producers in the world, producing almost 69,000 tons in 2017, up from 57,000 tons in 2010, according to FAO data. However, the FAO estimates could be dramatically underestimated, as MAFF reported mango production of 1.3 million tons in 2015, from 65,000 ha of plantation. Also, the PDAFF of Oddar Meanchey province estimated the production of mangoes in that province alone to be above 80,000 tons in 2017. For bananas, Cambodia is ranked 52th out of 131 producers in the world, producing almost 138,000 tons of bananas in 2017, down from 158,000 tons in 2010.

5.1.2. Main exporters and importers of mangoes and bananas

The largest exporters in the world of mangoes (and guavas and mangosteen) are Mexico and Vietnam, followed by the Netherlands, Thailand, and Brazil, together accounting for more than half of world exports (Table 45). Cambodia is a small player, exporting about USD 11 million worth of mangoes, but is extremely dynamic, with exports doubling between 2012 and 2017. The largest importers are the United States (more than USD 650 million), Vietnam, the Netherlands, Germany, the United Kingdom, and China.

Ecuador is by far the largest exporter of bananas, followed by the Philippines and Costa Rica. Cambodia exports only about USD 7 million, but it is extremely dynamic: exports more than tripled between 2012 and 2017. The largest importers are the United States (more than USD 2.5 billion), Belgium — a main re-porter, as is also the case for Germany and the Netherlands— the Russian Federation, and Japan.

Table 45. Main exporters and importers of mangoes and bananas, 2017

Exports					Imports				
Main exporters (Rank, and share in world exports, %)	Value (USD million)	Quantity (1,000 tons)	Growth value 2013-17 (%/year)	in quantity 2013-17 (%/year)	Main importers (Rank, and share in world imports, %)	Value (USD million)	Quantity (1,000 tons)	Growth value 2013-17 (%/year)	in quantity 2013-17 (%/year)
HS 080450 Fresh or dried guavas, mangoes and mangosteens									
World (135 exporters)	2,939	..	10	2	World (189 importers)	2,862	..	6	3
1. Mexico (15.5)	455	436	12	8	1. United States (22.9)	656	509	7	5
2. Viet Nam (11.8)	347	..	49	..	2. Viet Nam (8.2)	235	..	23	..
3. Netherlands (10.8)	317	156	11	11	3. Netherlands (8)	230	159	1	5
4. Thailand (9.4)	275	244	7	-4	4. Germany (6.9)	197	84	9	10
5. Brazil (7.0)	205	180	8	10	5. United Kingdom (6)	171	85	13	12
6. Peru (6.5)	192	163	12	8	6. China (5.8)	167	77	-8	-13
7. India (6.2)	182	172	-2	-9	7. France (4.6)	133	62	12	14
8. Spain (2.9)	85	41	13	16	8. Canada (3.7)	106	66	3	2
9. Philippines (2.8)	83	25	-1	-6	9. UAE (3.4)	98	88	2	-3
10. China (2.4)	70	37	93	65	10. Spain (2.9)	83	44	12	12
34. Cambodia* (0.4)	11	..	101	..	120. Cambodia*(0.0)	0.01	..	-50	-53

HS 080390 Fresh or dried bananas (excluding plantains)									
World (116 exporters)	11,100	168,994	3	81	World (167 importers)	14,386	21,665	1	6
1. Ecuador (26.7)	2,959	6,415	6	4	1. United States (17.6)	2,529	4,814	2	1
2. Philippines (9.4)	1,049	2,668	-3	-18	2. Belgium (9.5)	1,369	1,409	-4	0
3. Costa Rica (9.4)	1,043	2,525	7	6	3. Russian Fed. (7.9)	1,140	1,544	3	4
4. Belgium (9.4)	1,038	1,290	-9	-2	4. Germany (7)	1,013	1,416	-3	1
5. Colombia (7.7)	857	1,885	5	5	5. Japan (5.9)	850	986	2	0
6. Guatemala (7.2)	795	2,344	7	5	6. United Kingdom (5.5)	788	1,163	-1	1
7. Netherlands (4.1)	461	558	29	35	7. Netherlands (4.2)	608	660	28	27
8. United States (3.9)	428	594	-2	2	8. China (4)	580	1,039	8	12
9. Germany (2.9)	319	345	-3	0	9. France (3.7)	526	670	-1	1
10. Honduras (2.2)	250	605	-2	-5	10. Italy (3.5)	509	758	-1	3
49. Cambodia* (0.1)	7	..	241	..	154. Cambodia* (0.0)	0.001	..	..	..

Source: ITC's Trade Map.

* Countries with mirror statistics.

Longan is part of the item HS 081090 "Fresh tamarinds, cashew apples, jackfruit, lychees, sapodillo plums, passion fruit, carambola, pitahaya and other edible fruit." This item is not examined, given its heterogeneous nature.

5.2. Cambodia's production, processing, and exports

The value chain for mangoes can be segmented into the following value-adding stages: Input provision, production, processing (dried, treatment/SPS), packaging (fresh) and cold storage, distribution, and marketing and sales/exports. Cambodia is primarily present in the production stages of the mango value chain (mainly small and medium farms, though more recently there is increasing investment for large-scale production), with limited packaging and processing (mainly dried and packed mangoes) and exporting (mainly fresh mangoes).

The main segments of the banana value chain are provision of inputs, production, packaging, distribution, ripening (for fresh bananas), processing (e.g. dried, chips or frozen), and marketing and sales, including exports. As is the case for mangoes, Cambodia is mainly present in the production stages of the banana value chain (mainly small and medium farms, though there is increasing investment for large-scale production), with limited processing (mainly dried bananas and banana chips) and exporting (mainly fresh bananas). Processed bananas have less stringent requirements from buyers but offer lower prices for producers, while fresh bananas earn higher prices but require higher investments in handling and distribution capacities to meet the requirements of retailers (Duke University CGGC, 2018).

4.2.1 Fruits and vegetables production in Cambodia

The main fruits and vegetables produced in Cambodia are bananas (about 138,000 tons in 2017), mangoes (69,000 tons), oranges (65,000 tons, and pineapples (25,000 tons), according to FAO data (Table 46). While banana production appears to have slightly decreased between 2012 and 2017, mango production increased from 60,000 to almost 69,000 tons. However, MAFF estimates Cambodia mangoes production at 1.3 million tons in 2015. Other main produced fruit crops include oranges, pineapples, grapefruit, and lemons. Unfortunately, the breakdown provided by FAO is not very detailed, especially for "fresh vegetables, not elsewhere specified" which is by far the main produce under the heading fruits and vegetables (542,000 tons in 2017), but also for "fresh fruit, nes" (which might include longan). USAID (2019) reports that Cambodia produced about 26,000 tons of longan, mainly in Battambang and Pailin, grown by about 1,000 farmers, and that production has increased strongly over the last years. There appears to be growing interest in longan production, given high margins for farmers.

The fruit and vegetable sectors are highly fragmented and dominated by smallholders, with limited large-scale production, although this may change with recent investment in the sector . Many smallholders have only a few trees, typically grow produce for personal consumption, and sell the surplus at local markets, Phnom Penh traders, or Thailand or Vietnam for those farmers that live near the borders (BDLINK). Large-scale commercial production is still limited, though there

are some large-scale orchards in the northwest, and there has been recent investment, including by foreign investors. Overall, supply is unreliable, which means that perhaps half of all fruits and vegetables consumed in Cambodia are imported.

Mango trees are grown in all 25 provinces in Cambodia, with a cultivated area of some 65,000 ha in 2015, up from 24,000 ha in 2010 (MAFF). Kampong Speu is by far the largest mango producing province, followed by Kampot, Siem Reap, Battambang and Kratie. The slight difference of production timing in Kampong Speu area and in the North-West area can be an asset to ensure supply for a longer period of time during the year. The *Keo Romeath* mango variety has become the most popular mango variety over the last years, both for local use and Cambodian export. Yields appear high by international comparisons, and *Keo Romeath* mango can be harvested up three times per year. However, farmers tend to apply excessive doses of chemicals to mango trees (chemical induction of out-of-season flowering, generally using Paclobutrazol), raising concerns about food safety and labor health in intensive mango orchards, with a tremendous amounts of pesticides (Golleti and Sovith, 2016).

Some observers suggest developing more diversified orchards and farms rather than mono-cropping of mangoes or bananas. With a network of smallholders' orchards, there is a potential to reach significant volumes without putting too much constraint on the collection logistic. More diversified farms/orchards could also relieve the pressure of diseases and pest attacks, and be a factor to reduce the use of chemicals which are a huge obstacle to reach more profitable export markets. It could also improve the resilience of farms, as more diversified production would lower the vulnerability to technical and market hazards.

Table 46. Cambodia's production of selected fruits and vegetables (tons)

	2012	2013	2014	2015	2016	2017
1. Cassava	7,613,697	7,550,140	8,324,617	9,090,587	9,830,665	10,577,812
2. Rice, paddy	9,290,940	9,390,000	9,324,000	9,335,000	9,952,000	10,350,000
3. Maize	950,909	927,000	550,000	400,000	663,000	750,000
(...)						
5. Vegetables, fresh nes	628,000	606,393	534,841	537,158	539,681	542,204
8. Bananas	139,616	138,489	137,816	137,520	137,499	137,660
10. Fruit, fresh nes	73,000	72,044	74,909	74,358	74,510	74,749
12. Mangoes	59,890	61,646	63,402	65,158	66,915	68,671
13. Oranges	64,435	64,517	64,599	64,681	64,764	64,846
17. Pineapples	22,706	23,072	23,439	23,806	24,172	24,539
24. Grapefruit (incl. pomelos)	3,166	3,191	3,216	3,241	3,266	3,291
25. Lemons and limes	2,725	2,766	2,808	2,849	2,890	2,931

Source: FAO, FATSTAT.

Nes: Not elsewhere specified.

4.2.2 Fruits and vegetables processing in Cambodia

The fruits and vegetables processing sector in Cambodia is still in its infancy, and there is very little value-added processing on Cambodian fruits and vegetables at a commercial level. There are only few small companies involved in processing, which includes dried mango or banana, jams, preserves, juice, and snacks such as banana chips. However, these products are mostly for domestic use and there are not yet any major brands of Cambodian companies.

There are a number of constraints for post-harvesting and processing fruits and vegetable in Cambodia, including: weakly organized supply chains for most fruits and vegetables; limited R&D and capacity building on knowledge and technology for post-harvest technology, processing and product development; limited capacity of drying, cold chain and storage facility; and a lack of sufficient agro-processing facilities. The lack of sufficient and modern processing and packaging equipment means that farmers often have to sell to middlemen, often from Vietnam and Thailand, at prices that are only a fraction of their value in lucrative markets, such as China, Japan, and South Korea (Phnom Penh Post, 17 January 2017).

This however is starting to change due to new investment, especially from China and Korea. For example, agro-industrial conglomerate Mong Reththy Group (MRG), together with a partner company from Singapore, set up a mango processing (washing, grading, and packaging) plant in Preah Sihanouk province in 2013 (Phnom Penh Post, 17 January 2017). In 2018, a local subsidiary of Hyundai Corporation from South Korea invested about USD 4 million for a washing, processing and packaging facility and distribution centre in Kampong Speu province (Asiafruit, 2018). It will use mangoes grown on Hyundai's 400 ha plantation, as well as Mao Legacy's 2,000 of mango farms, and plans to offer adequate SPS procedures to process 1,700 tons of mangoes in the first year of operation, and eventually 50,000 tons of fruit annually, including coconut, durian, and mangosteen. Hyundai is also planning to set up another facility for drying and freezing mangoes to produce derived products, such as juice and jams. Exports will be based on Hyundai's international distribution network, targeting in particular the Korean and Japanese markets. Finally, it was reported that MAFF is about to sign an even larger investment deal (USD 40 to 50 million) for mango exports with Chinese firm Weighai Dragon Union Agriculture Co Ltd, who plans to package mangoes from Kampong Speu province for exports to China and Japan (Freshplaza, 2018).

4.2.3 Cambodia's fruits and vegetables exports

Cambodia's formal exports of mangoes appear for the moment limited, as mangoes are typically exported informally by individual traders to Vietnam and Thailand, where they are packaged or processed—for example into juices and jams to disguise their Khmer origin—, and then exported to China and other countries. While MAFF reported an export volume of about 9,000 tons in 2015, informal exports to Thailand and Vietnam are estimated to be 20,000 tons to 30,000 tons per year (Goletti and Sovith, 2016). Direct exports have traditionally been blocked by limited pest control capacity and hygiene-related issues, including critical sanitary and phytosanitary (SPS) certification, according to In Chayvan, president of the Kampong Speu Mango Association (Phnom Penh Post, 17 January 2017). As a result, Cambodian farmers have to sell their mangoes to Thai and Vietnamese brokers for as little as 800 riels (USD 0.20) per kilo, which is only a fraction of their value in destination markets.

Cambodia formally exported about USD 11 million worth of mangoes to nine destination markets in 2017, mainly to Vietnam and Thailand, followed by the European Union (France, Czech Republic, United Kingdom, Luxembourg), Hong Kong, Norway and the Russian Federation (Table 49). Exports concern both fresh and dried mangoes. In 2016, Cambodia seemed to have also exported to other markets, including Korea, China, and the United States, mainly in the form of dried mango (Lun, 2017).

Cambodia's banana exports are smaller (USD 6.5 million) and go to only three markets, almost exclusively to Vietnam, with limited amounts going to Germany and France (Table 50).

Concerning longan, some 1,500 tons worth about USD 2 million are exported to Thailand, where they are likely to be sorted, packaged, and possibly processed into dried or canned longan, before being re-exported to China, the world's largest consumer of longan (USAID, 2018).

There is a myriad of constraints for marketing and exporting fruits and vegetable in Cambodia. These include:

- Limited linkages between producers and traders.
- Porous borders with Thailand and Vietnam.
- Inadequate export infrastructure: Small number of experts and companies that know how to export; lengthy processing of export documentation; and unpredictable export transaction costs.
- Lack of access to market information, especially on import requirements of trading partners—fruits and vegetables have different and product-specific requirements.

- Cambodia's mango shipments have been routinely blocked before making it to the international market, as the mangoes are not of a high enough quality to meet the SPS requirements of destination markets.
- Limited experience in international marketing, and knowledge on export distribution channels and end markets.
- Limited market access due to limited trade facilitation with regional and overseas markets, and weak bargaining power.

5.3. Opportunities to grow and move up markets

The Cambodian fruits and vegetables sectors offer significant opportunities to grow and add value, despite the many challenges to overcome. Given its natural endowments and growing effort to enforce strict norms and standards, Cambodia has potential to produce high-quality fruits and vegetables, and could develop into a high-end, niche exporter, especially for tropical fruit for which world trade is expected to expand over the next decade.

4.3.1 Market diversification

Another possibility to add value to Cambodia's fruits and vegetable sector is to diversify its destination markets —by increasing export volume on existing markets, and/or by targeting markets that are currently not served at all by Cambodia, typically large, dynamic or open importers.

Cambodia has favorable market access conditions in the major import markets for mangoes and bananas. Cambodia has duty-free access for the top ten importing markets for mangoes and bananas.

- For mangoes, the European Union, the United States, Canada, the United Arab Emirates, Saudi Arabi, and Hong Kong offer zero or near zero duties for Cambodia, though this is also the case for its competitors (Table 47). In contrast, Cambodia has a tariff advantage compared to its competitors in Vietnam (except for other ASEAN member countries and China) and China (also except for other ASEAN countries).
- For bananas, the United States, Canada, the United Arab Emirates, and Saudi Arabia apply zero duties for Cambodia and its competitors (Table 48). Cambodia has a tariff advantage between 7 and 18 percentage points in the European Union, and on average 10 percentage points in Japan and China. In contrast, tariffs are high (30%) in South Korea, for Cambodia but also for example for the Philippines, which however does not prevent the Philippines from having a market share of 80% in the Korean market (Table 50),

Table 47. Tariffs for the main exporters of guavas, mangoes and mangosteen (HS 080450) on the main import markets

Main exporters (Rank, and share in world exports, %)	Main importers (Rank, and share in world imports, %)										
	EU-28	1. United States (22.9)	2. Viet Nam (8.2)	6. China (5.8)	8. Canada (3.7)	9. UAE (3.4)	11. Saudi Arabia (2.1)	12. Hong Kong (2.0)	15. South Korea (1.9)	16. Switzerland (1.6)	120. Cambodia* (0.0)
EU-28	0	2.6	25	15	0	0	0	0	7.2	0.25	7
1. Mexico (15.5)	0	0	25	15	0	0	0	0	30	0	7
2. Viet Nam (11.8)	0	2.6	.	0	0	0	0	0	18	0	7
4. Thailand (9.4)	0	0	0	0	0	0	0	0	24	0	7
5. Brazil (7.0)	0	0	25	15	0	0	0	0	30	0	7
6. Peru (6.5)	0	0	25	0.6	0	0	0	0	9	0	7
7. India (6.2)	0	0	10	8.7	0	0	0	0	25	0	6.3
9. Philippines (2.8)	0	0	0	0	0	0	0	0	24	0	7
10. China (2.4)	0	2.6	0	.	0	0	0	0	22	0	7
11. Ghana (2.0)	0	0	25	15	0	0	0	0	30	0	7
34. Cambodia* (0.4)	0	0	0	0	0	0	0	0	24	0	7
NTL	2	3	3	5	1	1	6	3	3	1	3

Source: ITC's Market Access Map.

* Trade for countries marked with * is estimated through mirror statistics.

Table 48. Tariffs for the main exporters of fresh or dried bananas (HS 080390) on the main import markets

Main exporters (Rank, and share in world exports, %)	Main importers (Rank, and share in world imports, %)										
	EU-28	1. United States (17.6)	3. Russian Fed. (7.9)	5. Japan (5.9)	8. China (4.0)	11. Canada (2.8)	12. South Korea (2.5)	14. Argentina (1.7)	18. UAE (1.0)	19. Saudi Arabia (1.0)	154. Cambodia* (0)
1. Ecuador (26.7)	7.6	0	3	10	10	0	30	0	0	0	7
EU-28	0	0	4	16	10	0	0	10	0	0	7
2. Philippines (9.4)	9.8	0	3	0	0	0	30	10	0	0	5
3. Costa Rica (9.4)	7.5	0	3	10	4.7	0	30	10	0	0	7
5. Colombia (7.7)	7.5	0	3	10	10	0	12	0	0	0	7
6. Guatemala (7.2)	7.5	0	3	10	10	0	30	10	0	0	7
8. United States (3.9)	17.8	0	4	16	10	0	0	10	0	0	7
10. Honduras (2.2)	7.5	0	3	10	10	0	30	10	0	0	7
11. Mexico (2.1)	9.8	0	3	0	10	0	30	3.8	0	0	7
13. Côte d'Ivoire (1.4)	0	0	3	10	10	0	30	10	0	0	7
49. Cambodia* (0.1)	0	0	0	1	0	0	30	10	0	0	7
NTL	2	1	2	3	1	1	1	1	1	1	1

Source: ITC's Market Access Map.

* Trade for countries marked with * is estimated through mirror statistics.

One possibility to add value to Cambodia's fruits and vegetable sector is to diversify its destination markets by targeting markets that are currently not served at all by Cambodia, typically large, dynamic or open importers.

- **Concerning potential markets to diversify mango exports** (Table 49), Cambodia is not at all present in several markets that are large (United States, Netherlands, Germany, China, Canada, and the United Arab Emirates), or dynamic (Spain, South Korea, Italy, Poland, Iran and Oman). These markets appear as potential diversification markets for mango exports from Cambodia. It should be noted that the global mango sector operates as a buyer-driven value chain, and large

supermarkets are the leading actors in the key export markets for the sale of fresh mango (Duke University CGGC, 2017). The largest global food retailers are Wal-Mart Stores (US), Tesco (UK), Carrefour (France), Costco (US), followed by Schwarz Group, Metro Group, and Aldi (all Germany). These buyers seek enhanced cost competitiveness, consistency, and product differentiation from their global supply chains.

- **Concerning potential markets to diversify banana exports**, Cambodia is not at all present in the major import markets in the world: the United States, Europe (Belgium, United Kingdom, Netherlands, Italy, Poland, and Spain), the Russian Federation, Japan, China, and Canada, which all offer duty-free or near zero tariffs to Cambodia (Table 50).

These markets appear as potential diversification markets for mangoes and bananas from Cambodia, though more research needs to be undertaken, for example to conduct market profiles that also take into account qualitative information about e.g. the requirements and distribution channels in a particular target market. This would also help to better understand the potential for niche markets

Table 49. Cambodia's exports of guavas, mangoes and mangosteen (HS 080450), and potential markets for diversification, 2017

Market (Rank and share in Cambodia's exports, %)	Cambodia's exports (mirror data)				Imports by partner				
	Value (USD 1,000)	Quantity (tons)	Growth in value 2013-17 (%, p.a.)	Growth in quantity 2013-17 (%, p.a.)	Rank in world imports	Share in world imports (%)	Import growth in value 2013-17 (%, p.a.)	Tariff faced by Cambodia (%)	Main suppliers* (Share in partner's imports, %)
9 current export destination markets									
Total	10,897	..	101	..	..	100.0	6	..	
1. Viet Nam (60.8)	6,626	..	..	..	2	8.2	23	0	THA (96), KHM (3) , CHN (1)
2. Thailand (26)	2,831	23,711	164	198	36	0.3	123	0	IDN (43), KHM (37) , PHL (19)
3. France (8.8)	962	187	101	123	7	4.6	12	0	PER (23), ESP (15), ISR (13)
4. Hong Kong (3.0)	330	71	..	..	12	2.0	-8	0	THA (35), PHN (33), AUS (20)
5. Czech Rep. (0.7)	75	33	-51	-20	34	0.3	23	0	BRA (28), DEU (20), PER (17)
6. Norway (0.4)	40	6	-5	-6	25	0.7	2	0	PER (31), BRA (25), PAK (10)
7. United Kingdom (0.2)	22	4	41	19	5	6.0	13	0	BRA (19), GHA (13), PER (12)
8. Luxembourg (0.1)	7	1	..	..	51	0.1	5	0	PER (27), BEL (22), BRA (16)
9. Russian Fed. (0.0)	4	1	..	..	20	0.8	2	0	BRA (48), THA (15), PER (11)
Selected potential markets for diversification: Large, dynamic, and/or open markets									
United States	..	..	..	..	1	22.9	7	0	MEX (56), PER (11), ECU (9)
Netherlands	..	..	..	..	3	8.0	1	0	BRA (34), PER (32), CIV (6)
Germany	..	..	..	..	4	6.9	9	0	BRA (34), PER (26), ESP (7)
China	..	..	..	..	6	5.8	-8	0	THA (90), TWN (4), AUS (3)
Canada	..	..	..	..	8	3.7	3	0	MEX (51), PHN (12), BRA (8)
United Arab Emirates	..	..	..	..	9	3.4	2	0	IND (40), PAK (17), KEN (11)
Spain	..	..	..	..	10	2.9	12	0	BRA (46), PER (29), MEX (6)
Saudi Arabia	..	..	..	..	11	2.1	4	0	EGY (34), YEM (24), IND (14)
Portugal	..	..	..	..	13	2.0	11	0	BRA (42), ESP (41), NLD (15)
Belgium	..	..	..	..	14	1.9	1	0	NLD (37), CIV (11), SEN (9)
South Korea	..	..	..	..	15	1.9	16	24	THA (66), PHN (17), PER (6)
Switzerland	..	..	..	..	16	1.6	8	0	PER (27), BRA (16), ESP (14)
Singapore	..	..	..	..	17	1.1	1	0	THA (44), MYS (16), AUS (14)
Japan	..	..	..	..	18	1.1	-8	0	MEX (36), THA (26), TWN (17)
Italy	..	..	..	..	19	1.1	16	0	NLD (36), ESP (16), FRA (10)
Poland	..	..	..	..	21	0.8	22	0	ESP (34), BRA (18), DEU (17)
Kuwait	..	..	..	..	22	0.8	3	0	IND (45), EGY (30), YEM (5)
Austria	..	..	..	..	23	0.7	7	0	BRA (30), PER (22), DEU (13)
Malaysia	..	..	..	..	24	0.7	-1	5	THA (92), PAK (3), PHN (2)
Iran	..	..	..	..	26	0.6	12	25	PAK (99), IND (0.4), ITA (0.3)
Oman	..	..	..	..	27	0.6	12	0	YEM (29), PAK (23), UAE (17)

Source: ITC's Trade Map.

* AUS: Australia, BEL: Belgium, BRA: Brazil, CHN: China, CIV: Côte d'Ivoire, DEU: Germany, ECU: Ecuador, ESP: Spain, FRA: France, GHA: Ghana,

IDN: Indonesia, IND: India, ISR: Israel, ITA: Italy, KEN: Kenya, KHM: Cambodia, MYS: Malaysia, NLD: Netherlands, PAK: Pakistan, PER: Peru, PHN: Philippines, SEN: Senegal, THA: Thailand, TWN: Taiwan, UAE: United Arab Emirates, YEM: Yemen.

Table 50. Cambodia's exports of fresh or dried bananas (HS 080390), and potential markets for diversification, 2017

Cambodia's exports (mirror data)					Imports by partner				
Market (Rank and share in Cambodia's exports, %)	Value (USD 1,000)	Quantity (tons)	Growth in value 2013-17 (%, p.a.)	Growth in quantity 2013-17 (%, p.a.)	Rank in world imports	Share in world imports (%)	Import growth 2013-17 (%, p.a.)	Tariff faced by Cambodia (%)	Main suppliers* (Share in partner's imports, %)
3 current export destination markets									
Total	6,500	0	241	..	..	100.0	1	..	
1. Viet Nam (98.4)	6,394	0	..	..	61	0.1	183	0	KHM (68) , LAO (28), THA (5)
2. Germany (1.6)	104	9	..	..	4	7.0	-3	0	COL (35), ECU (25), CRI (22)
3. France (0)	2	2	..	..	9	3.7	-1	0	CIV (27), CMR (20), COL (13)
Selected potential markets for diversification: Large, dynamic, and/or open markets									
United States	1	17.6	2	0	GTM (40), CRI (20), ECU (13)
Belgium	2	9.5	-4	0	COL (34), CRI (17), ECU (13)
Russian Federation	3	7.9	3	0	ECU (96), MEX (2), CRI (1)
Japan	5	5.9	2	1	PHN (81), ECU (14), MEX (2)
United Kingdom	6	5.5	-1	0	COL (27), DOM (17), CRI (15)
Netherlands	7	4.2	28	0	PAN (38), CRI (20), DEU (14)
China	8	4.0	8	0	PHN (71), ECU (17), VNM (4)
Italy	10	3.5	-1	0	ECU (42), COL (25), CRI (18)
Canada	11	2.8	0	0	GTM (46), CRI (20), ECU (12)
South Korea	12	2.5	8	30	PHN (79), ECU (10), GTM (5)
Poland	13	1.9	-1	0	ECU (43), COL (16), CRI (16)
Argentina	14	1.7	4	10	ECU (79), BOL (16), PRY (4)
Spain	15	1.3	1	0	CRI (32), CIV (23), COL (13)
Sweden	16	1.3	0	0	ECU (31), DOM (23), CRI (18)
Czech Republic	17	1.0	7	0	CRI (22), COL (13), ECU (12)
United Arab Emirates	18	1.0	15	0	PHN (50), ECU (35), IND (12)
Saudi Arabia	19	1.0	-1	0	PHN (70), ECU (23), LKA (3)
Ukraine	20	1.0	-19	0	ECU (57), CRI (25), Col (11)
Greece	21	0.9	5	0	ECU (76), CRI (10), COL (9)
Austria	22	0.8	-2	0	ECU (31), COL (27), PER (14)
Portugal	23	0.8	4	0	ESP (56), CRI (21), COL (16)
Romania	24	0.8	29	0	POL (22), BEL (20), FRA (15)
Switzerland	25	0.7	-1	0	COL (36), ECU (17), PAN (17)
Turkey	26	0.7	-2	146	ECU (84), CRI (10), GTM (4)
Finland	27	0.7	4	0	CRI (73), PER (13), ECU (12)
Iraq	28	0.7	60	..	ECU (57), PHN (20), KWT (13)
Denmark	29	0.5	-5	0	DEU (61), SWE (20), NLD (10)
Chile	30	0.5	6	0	ECU (99), BOL (0), PHN (0)
Norway	31	0.5	-7	0	CRI (39), ECU (36), COL (15)
New Zealand	32	0.5	8	0	ECU (76), PHN (16), MEX (7)
Slovakia	33	0.5	10	0	ECU (21), CMR (14), CZE (14)

Source: ITC's Trade Map.

* BEL: Belgium, BOL: Bolivia, CIV: Côte d'Ivoire, CMR: Cameroon, COL: Colombia, CRI: Costa Rica, DEU: Germany, DOM: Dominican Republic, ECU: Ecuador, ESP: Spain, FRA: France, GTM: Guatemala, IND: India, KHM: Cambodia, LAO: Lao PDR, LKA: Sri Lanka, MYS: Malaysia, NLD: Netherlands, PAN: Panama, PER: Peru, PHN: Philippines, POL: Poland, PRY: Paraguay, SWE: Sweden, THA: Thailand, VNM: Vietnam.

4.3.2 Agro-processing and product development

Cambodia’s fruits and vegetable sector needs to move into commercial and export oriented agro-processing, especially for fruits, as this appears still limited for vegetables. There are opportunities for investment at every level of the supply chain, in particular for large or SME investors for agro-processing and product development. This ranges from supplying contract farmers with better seeds and inputs to ensure consistent quality and yields; cold chain transportation and cool storage for fresh, perishable produce; drying, freezing or otherwise processing fruits into derived products, such as jams, preserves, juice, and snacks; packaging, canning or bottling; to finally establishing trade linkages with high-value destination markets such as China, Japan, Korea, the United States and the European Union, which however require stringent SPS compliance and therefore imply investment along an integrated value chain and SPS trade agreements with destination markets.

In terms of product upgrading, there is an increasing global preference for organic and environmentally-friendly produce, for which niche markets in developed countries are willing to pay a premium. Here again there are clear opportunities for Cambodia’s fruits and vegetable sector.

5.4. SWOT analysis of Cambodia’s fruits and vegetables sector

Table 51. SWOT analysis of the fruits and vegetables sector in Cambodia

Strengths	Weaknesses
Domestic policy support	Post-harvesting and processing
Rapidly improving infrastructure (roads, electricity, irrigation).	Weakly organized supply chains for most fruits and vegetables.
CamGAP standard approved by MAFF in 2010, though not implemented for all fruits and vegetables.	Limited R&D and capacity building on knowledge and technology for post-harvest technology, processing and product development.
Interest and support for fruits and vegetables are fast growing among local and international communities.	Limited capacity of drying, cold chain and storage facility.
International environment	Lack of sufficient agro-processing facilities, although this is starting to change due to new investment, especially from China and Korea.
Cambodia’s LDC status affords it tariff-free access for natural fruits and vegetables exports to the EU, US, Japan, Korea.	Marketing and exports
Proximity to China, the world’s largest importer of fruits and vegetables.	Limited linkages between producers and traders.
Cambodian mango varieties appreciated by buyers in neighboring countries and China.	Lack of access to market information, especially on import requirements of trading partners —fruits and vegetables have different and product-specific requirements.
	Cambodia’s mango shipments have been routinely blocked before making it to the international market, as the mangoes are not of a high enough quality to meet the SPS requirements of destination markets.
	Limited experience in international marketing, and knowledge on export distribution channels and end markets.
	Limited market access due to limited trade facilitation with regional and oversea markets, and weak bargaining power.
	Supporting infrastructure and policy
	No specific national policy on (indigenous) fruits and vegetables.
	Poor marketing and transportation infrastructures.
	Weak producer associations.
	Weak institutional capacity, lack of policies and regulations, and weak enforcement of existing regulations for compliance with SPS requirements and food safety.

Opportunities	Threats
<p>Processing</p> <p>Increased scale of agro-processing.</p> <p>Improved quality of processed fruits and vegetables.</p> <p>Marketing and exports</p> <p>Potential to become a reliable supplier of high quality fresh and processed fruits (e.g. mangoes, bananas, longan) for the global market.</p> <p>Geographic indications (GI) labelling of Cambodian mango to supply niche markets.</p> <p>Protocol on phytosanitary for banana exports China signed in 2018.</p> <p>Supporting infrastructure and policy</p> <p>MAFF is developing an Agriculture Sector Master Plan.</p> <p>Implementation of roadmap for national GAP scheme.</p> <p>International environment</p> <p>Strong outlook for global fruits and vegetables consumption and trade.</p> <p>Increasing demand in export markets for quality mango products.</p> <p>Increasing interest among potential foreign investors in Cambodia's fruits and vegetables industry, especially from China.</p>	<p>Limited statistical information for fruits and vegetables (e.g. production, exports).</p> <p>Processing</p> <p>Slow development on agro-industrial processing.</p> <p>Marketing and exports</p> <p>Possible end of preferential access to EU markets (EBA).</p> <p>Supporting policy</p> <p>Weak or arbitrary enforcement of regulations related to SPS and food safety, agrochemicals, seed, organic certification.</p> <p>International environment</p> <p>Strong competition and imports from neighboring countries (e.g. Vietnam for vegetables).</p> <p>Prices volatility (e.g. for mangoes).</p>

Source: Based on Goletti and Sovith (2016), MAFF (2017), USAID (2019), and interviews with stakeholders in December 2018.

CHAPTER 9 : LIGHT INDUSTRIES FOR EXPORT DIVERSIFICATION AND ENHANCEMENT

1. Introduction

A favourable medium term national economic outlook is buoyed by all-round performance, especially within the manufacturing sector.

Cambodia is the 17th fastest growing economy in the world in terms of GDP growth rate, and the fastest in SE-Asia. A real GDP growth rate of 7.25% in 2018(e) beat regional powerhouses such as Vietnam and Thailand, and medium-term GDP growth projections are forecasted to hold steady at around 7%. Strong performance in exports, tourism, construction, and FDI has helped to maintain the growth trajectory set in the past decade.

Industries have played an important role in this growth story, primarily led by the export-focused Garments and Footwear sectors, and to a much smaller but high-potential light-manufacturing base comprising of Bicycles, electrical + electronic components assembly and misc. light manufacturing. The overall manufacturing sector has benefited significantly from the openness to investment and trade facilitated through conducive industrial policies, preferential market access to the EU and the ASEAN region, proximity to input-sourcing markets (which has enabled integration in regional value chains and reduced lead times), and the success of Special Economic Zones (SEZs) for the light-engineering sectors, among other factors.

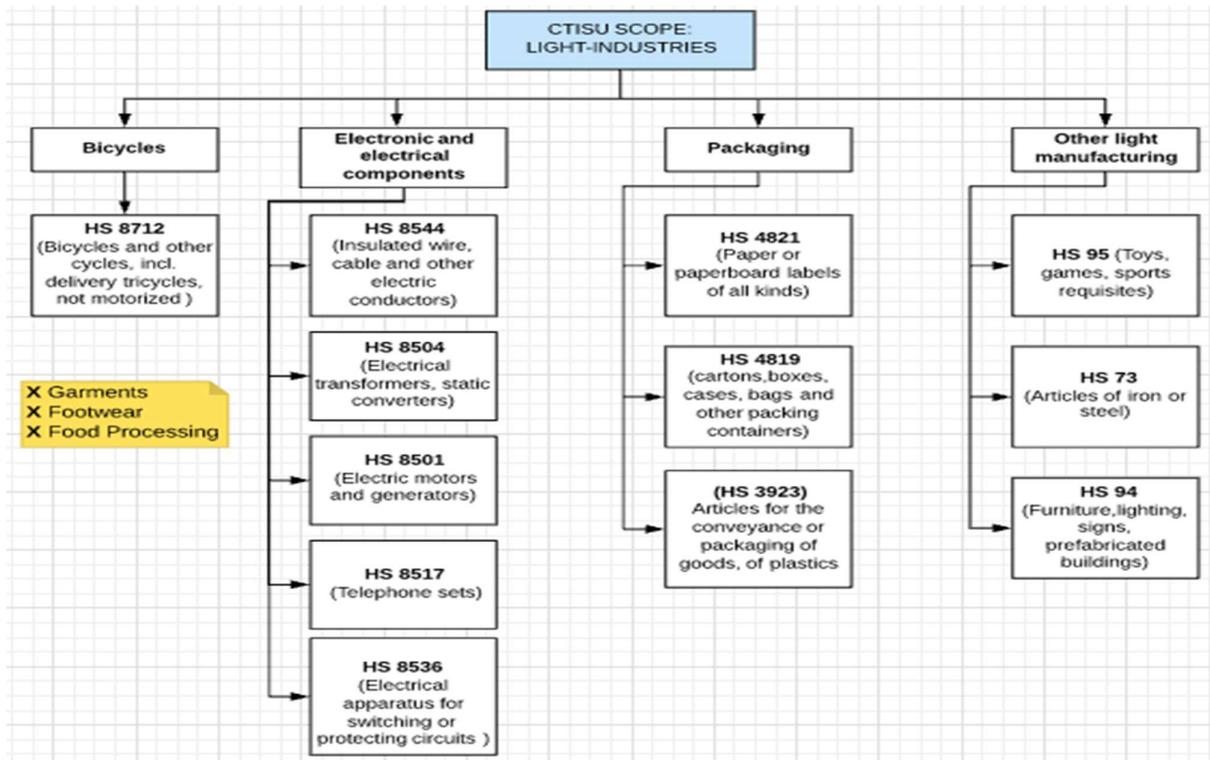
The Cambodian light-industries sector is currently at a critical juncture in its developmental trajectory. In the past decade, the Government's efforts to liberalize the investment climate for foreign investors in the sector have paid dividends. Sectors such as Bicycles and electrical + electronic components assembly are growing rapidly from an exports perspective, and investment activity is expected to ramp-up further as highly industrialized nations such as Japan seek to further outsource their assembly operations. The potential for value addition and enhancement is high. Light-industries represent a high-potential conduit of trade-led growth for Cambodia, through which the country can realize its vision of transforming the industrial structure from a labour-intensive-industry to a skill-driven industry by 2025.

For the purpose of this chapter, the following sub-sectors²⁰² are included within the scope of the light-Industries sector:

1. Bicycles
2. Electronic components assembly
3. Packaging
4. Other light manufacturing (Miscellaneous products aimed at businesses as intermediate product or end-consumer use)

²⁰²²⁰² Garments and Footwear sectors have been excluded given that the focus of this chapter is on diversification within light-industries sector. Food-processing is covered under the scope of Chapter XX on Agri-business value chains. Although garments, footwear and food-processing are not included in the core scope of this chapter, these sectors will certainly benefit from the various interventions and solutions proposed which are wide-ranging and cross-functional in nature.

Figure 30: Light Industries – CTISU scope



Source: author

1.1. Sector overview

The bulk of current activity is predominantly occurring in the SEZs. The SEZs account for the vast majority of light-industries²⁰³ firms regardless of sector, and as such the growth of light-industries can be charted since 2005 when the legal framework for the SEZs was established. There are currently 22 SEZs operating the country employing approximately 115,000 workers²⁰⁴ across all sectors. Firms are primarily foreign-owned, export-oriented. Companies include those from Japan, Thailand, South Korea, Malaysia, and Singapore. The main Cambodian input to this value chain is labor. Within the SEZs, there is a relatively higher degree of diversity of light-industries firms (bicycles, shoes and pouches, electrical and electronic parts, motorcycle parts, automobiles and plastics, bolt nuts, coils and transformers, electrical locks, and clock parts, misc. home furnishings, toys etc) than outside, where the mainstay of the manufacturing sector is still garments.

The business case for firms locating to Cambodia is varied- while bicycle assembly operations in the Bayet SEZ benefit from close proximity to Vietnamese parts suppliers (who had to reorient themselves as a result of the decline of the sector in their country), the electrical + electronic components assembly sector benefits from tight integration in the ASEAN regional value chain and market, along with a concerted drive by Japanese, Chinese companies to outsource certain parts of their supply chains.

In all cases, the special provisions offered by the SEZs have influenced their decision. i.e. there is evidence that the location and the provisions offered by the SEZs result in a significant enhancement to the business environment which has contributed to the investor due-diligence in favor of Cambodia.

²⁰³ The term light –industries is defined per the scope definition included in this chapter) which does not include garments, footwear and food-processing.

²⁰⁴ Data provided by the CDC representative in the CTISU Interministerial committee (valid May 2019).

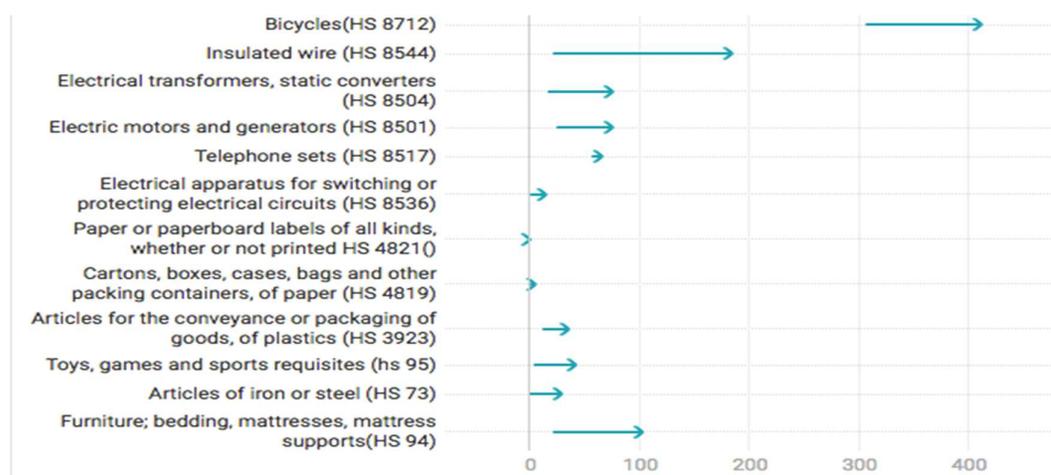
The vast majority of firms are assemblers. Intermediate inputs are imported to the SEZs, and the end product is exported after assembly. Outside of the SEZs there are no lead firms (or any other identifiable firms) operating for the sectors. The production values equal the export-values given that 100% of production especially for the bicycles and electrical+ electronic components sectors is exported from the SEZs. While each light-industry sector has its nuances, by and large Cambodia's positioning within the light-industries value chain is at the lower-end.

Within the trading portfolio, Bicycles constitute the top exports in the light-industries category, followed by electronics and electrical components. The overall export share of light-industries is still quite low and close to 4%. The role of preferential tariffs in driving exports growth within the Light-Industries sector is evident. The US, EU and ASEAN markets, offering tariff-free advantages for most of the light industries basket, overwhelmingly dominate the market-portfolio.

The key markets are those dictated by Cambodia's market access preferences such as the EU, US, and ASEAN. As mentioned earlier, one of the factors that favors Cambodian investment and export climate – favorable trade preferences – may change. This may occur not only in the medium-long term (through graduation to a middle-income country status), but even in the short term as evidenced by the EU review and possible withdrawal of Cambodia's EBA status (and accompanying EU trade preferences). Additionally, ongoing trade negotiations by regional rivals may also improve their trade preferences standing. These factors may have an impact on the investment entry and expansion plans investors. This poses a particularly strong risk to certain light-industry sectors such as bicycles due to its heavy dependence on the EU market.

Overall, Cambodia's goods based exports have almost doubled in value between 2013 and 2017, and light-industries is one of the sectors where diversification and volume based growth has occurred. Light-industries exports in 2017 amounted to just above USD 1 Billion, up from USD 466 million in 2013. Despite the growth over the past decade, light-industry exports still constitute a small proportion of the export basket (just above 5 per cent in 2017).

Figure 31: Cambodia Light-industries export trends (2013-2017) USD millions



Source: ITC's Trade Map.

Cambodian SEZs are primarily investment-enclaves, export-oriented and have limited to no backward or forward linkages with the domestic economy. Two main contributory factors exist:

- a. Absorptive-capacity of Cambodian SMEs has not developed to the extent that investors can reliably forge supplier relationships without undue risk to their supply chain (in terms of on-time delivery, quality compliance etc)
- b. The relatively low value-added manufacturing base of firms has not required them to actively seek out supplier relationships. i.e. cost-reduction is not a main factor for these firms, but rather more importance is attributed to maintaining quality and on-time delivery of inputs.

SEZ firms do not sell to the domestic market, primarily due to their export-oriented nature but also because firms may be eligible to pay taxes once they cater to the domestic markets.

ADB research suggests that along with the valuable socio-economic contributions of the SEZs (primarily employment), there may be a demonstration effect as well that may result in increased light-industry activity outside the SEZs. This will however only be visible in the long term and other factors such as quality and pace of SME development initiatives, skills enhancement etc will most likely play a part as well.

1.2.1. Bicycles

The key driving forces in favor of foreign investors (primarily Chinese firms) coming to Cambodia were the establishment of the SEZs and the downturn of the (normally more competitive) Vietnamese bicycling sector primarily due to anti-dumping duties applied by the EU. The coinciding events, accompanied by Cambodia more favorable trade status, the tax incentives and increasingly improve soft and hard infrastructural support offered within the SEZs, and the low cost of Cambodian labor led to a locus shift of assembly operations from Vietnam to Cambodia. Parts manufacturing operations have stayed in Vietnam, following a period of severe challenges and re-alignment.

The Bavet area, located 5 km to the Cambodia-Vietnam border- is the centre of bicycle-assembly operations in the country. There are 4 firms (Asia Leader International, A&J, Speed-tech and Smart-tech) currently operational within two SEZs in Bavet (Tai Seng SEZ and Manhattan SEZ).

Bicycle-assembly constitutes the main operations of the bicycle sector. The main operations related to component-assembly (un-finished but mounted cycles to be fully assembled onsite at client location) although there is some movement up the value chain in terms of frame-assembly (value addition in terms of finishing). Bulk of the inputs required for bicycles are imported from the ASEAN region including from Malaysia, China, Vietnam, Taiwan, Singapore, Japan and Indonesia. Some packaging may be sourced locally.

Table 52: Bicycles Trade Statistics

Light industry sub-sector	Exports (2017) US\$ Million	Exports Growth rate in value ('13-'17) %p.a.	Imports (2017) US\$ Million	Growth rate in value ('13-'17) % p.a	Top current export markets		% share in Cambodia's export basket	% share of global exports / global export ranking
					Market (share)	Applied Tariff		
Bicycles (HS 8712)	\$413 m	-1%	\$8.7 m	-7 %	DE (36.3%)	0	2.2%	4.6 % / 5 th
					UK (21%)	0		
					BE (11.2%)	0		
					US (6.1%)	.5		
					AT (4.1)	0		

Source: ITC's Trade Map.

Cambodian contributions to the value chain is primarily limited to labor, and recent assessments of the value chain have not identified any domestic component manufacturers. Given the weak supply of skilled labor in the country, these firms typically import talent from their home countries

The main markets for bicycles is the EU, while the electronics components assembly sector primarily caters to the ASEAN market. Cambodian cycles are primarily positioned in the lower end of the market segment in the EU. Cambodia benefits from regional accumulation within ASEAN for the purposes of the required 30% domestic content requirement for the EU market, which has helped Cambodia develop its status as a leading assembler.

1.2.2. Electrical + electronic components assembly

Similar to the bicycles sector, foreign firms involved in assembly of electrical + electronic components are predominantly housed in the SEZs. As in the case of other sectors operating within the SEZs, electronic component assembly firms have limited to no connection with the domestic economy. They import raw materials from their original production hubs such as Thailand, and their involvement with the Cambodian supply chain is limited to labor. The country's proximity to the ASEAN electronic product manufacturing hub, combined with the low labor costs and strong market access preferences have been driving factor for companies.

As indicated below, the main exported product is insulated wires and cables. There is significant trade deficit in a number of products exported in this portfolio. Thailand and Japan are the two largest importers of insulated wires and cables exported by Cambodia.

Some diversification and move up the value chain ladder has occurred, but on a limited basis. Japanese investments have stepped up in recent years in the Phnom Penh, Bavet City and Poi pet City SEZs. These investments are linked to production of electronic circuit boards and smartphone screens.

The top HS4 code categories in the electrical + electronic components sector exhibits moderate growth rates in international markets, which is a favorable sign for investors.

Table 53: Electrical + electronic components trade statistics

Light industry sub-sector	Exports (2017) US\$ Million	Exports Growth rate in value ('13-'17) % p.a.	Imports (2017) US\$ Million	Imports Growth rate in value ('13-'17) % p.a.	Top current export markets		% share in Cambodia's export basket	% share of global exports/ global export ranking
					Market (share)	Applied Tariff		
Insulated wire (HS 8544)	\$185.6	18%	\$157	9%	TH (56.2%)	0	1%	0.2 %/55 th
					JP (21%)	0		
					KO (14.8%)	0		
					VT (3.4%)	0		
					CN (2.8%)	0		
Electrical transformers, static converters (HS 8504)	\$76.9	300%	\$83.7	14%	CN(63.7%)	0	<1%	0.1%/51 st
					HK/CN(18.4%)	0		
					VT(7.4%)	0		
					FR(3.6%)	0		
Electric motors and generators (HS 8501)	\$75.5	7%	\$12	-12%	CN(37.6%)	0	<1%	0.1%/41 st
					HK/CN(28.5%)	0		
					VT(19.8%)	0		
					JP(5.4%)	0		
Telephone sets (HS 8517)	\$66.4	179%	\$344	6%	HK/CN(96.8%)	0	<1%	-/63 rd
					CN(2.4%)	0		
Electrical apparatus for switching/ protecting electrical circuits (HS 8536)	\$15.8	32%	\$41.9	7%	JP(40.5%)	0	<1%	-/69 th
					CN(27.8%)	0		
					TH(24.7%)	0		

Source: ITC's Trade Map.

1.2.3. Packaging

A strong business case exists for promoting and pursuing development in the packaging sector – the sector offers one of the highest opportunities for forward linkages with other product sectors which could translate into cost-savings (for instance from reducing dependency on imported packaging material) and increased competitiveness for those sectors (given that many markets have mandatory

packaging and labelling requirements). Packaging ('packaging equipment for export') is one of the priority sectors noted in the IDP as well.

From a pure export sense, Cambodia is not a significant player in the Packaging sector as indicated in the table below. Indeed, in all packaging segments, whether paperboard or plastic based, the absolute import figures outnumber exports by factor of 6 times, with imports from Vietnam, Thailand and China. Cambodia imports the vast majority of packaging and labelling material for its industrial and consumer needs, and local manufacturing is limited to few international firms including from Japan. These firms primarily cater to the SEZ firms, garment factories, and more recently to the fast-evolving food and beverage industry in Cambodia.

Future development of the sector will likely assist in reducing the high imports of packaging in the country in the short-medium term, rather than functioning as a pure packaging exports sector. i.e. it is unlikely that Cambodia will become a leading packaging exporter at least in the medium term, but rather the sector can build strong forward linkages with other sectors that have high export potential. The high import-dependency on packaging and labelling, coupled with strong growth exhibited in the consumer products sector within Cambodia offer a strong value proposition to develop packaging and labelling capabilities. The fast-growing food and beverage sector and indeed the overall agro-industry sector is one such candidate which can forge strong linkages with the packaging sector. Once the SME base starts developing, the packaging and labelling sector will find a ready market in multiple sectors including other light-industry segments.

The packaging and labelling sectors can play an important part to develop a competitive SME base. Developed markets such as the EU and US have strict packaging and labelling requirements that can serve as barriers to entry if not carefully considered. Packaging itself can serve as a value-added component to a product. Sound packaging and labelling capabilities within the country mean that SMEs may have access to diverse options as well as incur lower procurement costs which can be translated to lower operational costs.

Finally, from a sustainability angle, it is in the country's interest to develop a conducive regulatory framework involving packaging and related standards that focus on ensuring environmentally friendly packaging, reusability of packaging etc. There is currently 1 standard developed for plastics packaging, and none for paper/cardboard-based packaging.

Table 54: Packaging Trade Statistics

Light industry sub-sector	Exports (2017) US\$ Million	Exports Growth rate in value ('13-'17) %p.a.	Imports (2017) US\$ Million	Import Growth rate in value ('13-'17) % p.a	Top current export markets		% share in Cambodia's export basket	% share of global exports / global export ranking
					Market (share), market growth	Applied Tariff		
					CN(27.8%)	0		
Packaging (HS 4821)	\$756K	7%	\$83.2 m	9%		0		
Packaging (HS 4819)	\$5.6 m	33%	\$39.8 m	8%		0		
Packaging (HS 3923)	\$36.2 m	8%	\$ 125 m	2%	US (72%)	0	<1%	0.1%/76 th
					JP (20%)	0		

Source: ITC's Trade Map.

. Red fill color indicates trade deficit.

* May primarily constitute re-exports

1.2.4. Other light-manufacturing

Cambodia has also started developing a competency in miscellaneous light-manufacturing products such as toys, misc. articles of iron and steel (springs/screws/bolts etc.), and furniture, lighting products etc. As the accompanying table indicates, exports have ramped up in recent years although the high growth rate may be attributed to the low base from which production and exports have ramped up. In some cases such as HS 94, there is possibly significantly high re-export activity occurring as well. Toys manufacturing has picked up in recent years and may offer a strong contender for growth in the coming years, given that it is the only product segment in this category which is trading on a surplus.

Table 55: Misc Industries Trade Statistics

Light industry sub-sector	Exports (2017) US\$ Million	Exports Growth rate in value ('13-'17) %p.a.	Imports (2017) US\$ Million	Import Growth rate in value ('13-'17) % p.a.	Top current export markets		% share in Cambodia's export basket	% share of global exports / global export ranking
					Market (share), market growth	Applied Tariff		
Other light manufacturing - Toys, games and sports requisites (HS 95)	\$42.4 m	34%	\$32.9 m	13 %	JP (20%)	0	<1%	NA/57 th
					US (41.5%)	0		
					JP (16.5%)	0		
					DE (11.2 %)	0		
Other light manufacturing- Articles of iron or steel (HS 73)	\$29 m	39%	\$ 298.3 m	3	US (50%)	0.1	<1%	NA/91 st
					JP (11%)	0		
					IT (6%)	0		
Other light manufacturing- Furniture; bedding, mattresses, mattress supports, * (HS 94)	\$103.1 m	34%	\$ 106.3 m	3%	US (75.6%)	0.3	<1%	NA/61 st
					CA (8.3%)	0		
					MX (6%)	9.1		

Source: ITC's Trade Map. Yellow fill color indicates trade deficit. * May primarily constitute re-exports

2. Barriers to growth

Cambodia's national development framework including the Rectangular Strategy IV and the Industrial Development Policy (2015-2025) have highlighted the growing cognizance among policy-makers regarding the potential of the Light Industries sector, especially in terms of export-led growth. Before this potential can be realized however, important constraints currently facing the overall light-industries value chain must be addressed. The external environment for Cambodian industry has now changed and there are several factors that are serving as headwinds and threaten the growth trajectory.

2.1. Structural issues within garments sector

Garments is the principal manufacturing sector, and its contributions to the GDP (18% share), export-portfolio (80% of national export earnings), manufacturing output (80% share) as well as total employment (>600K workers) highlight the sector's importance from both economic and socio-economic perspectives. Cambodia's 550+ garment factories are mainly foreign owned and tightly integrated in the global value chain. The currently stable export performance belies a number of risk factors, endogenous and exogenous, that may result in an erosion of the sector's competitive position in international markets. The main challenges in brief are as follows:

- The heavy dependency on the global quota regime for access to markets means that disruptions as well as external shocks such as roll-backs to preferential treatment (already a concern in the case of the EU EBA) in target markets can result in severe economic and employment related setbacks. These risk factors can become economic existential threats, and the lack of diversification in the manufacturing sector limits options to mitigate them.
- Stagnating productivity is a significant cause of concern, and will likely remain a long-term challenge. The sector needs capital-intensive investments with capable investors willing to form supplier development relationships. This in conjunction with a robust TVET oriented skill-development strategy, will be the equation that enhances productivity sustainable. However this will take time and effort over a long-term basis. As the regional competitiveness in the baseline textile sector is not very complex, investors are more likely to move to Africa given the rising wage structure and stagnating productivity.
- Skills development: The key workforce challenge facing light-industries is that of skills rather than quantity. Given the labor-intensive nature of activity in the sector (even within the SEZs), the overall skills base of the workforce is low. Low worker productivity and skills have proven to be barriers for SME growth in the light industries sector. Existing studies for the bicycle sector note that SEZ firms face significant issues in procuring local skilled labor, and instead of devoting time and resources in training programs, opt for importing skilled workers. The skilled labor shortage has implications on decisions on whether further investments for growth and value-addition should be made in these factories. Cambodia needs a flexible workforce that can adapt to new skills that are transferrable to different sectors, and are aligned to best practices. *The human capital* is skewed towards low-skilled and labor-intensive work (even in the garments sector) with the severe skills-mismatch for future growth of non-garments/footwear light manufacturing segments. This also poses significant challenges to the Government's vision to modernize Cambodia's industrial sector from a labor-intensive industry to a skill-driven industry. TVET curricula and infrastructure is also in need of a revision to reflect light-industry concepts. An important need exists to facilitate workforce development in aid of higher value-addition and flexibility.
- Continuous minimum wage increments for garments manufacturing since 2013 is beneficial for workers, but need to be weighed carefully against the impact of the bottom lines of companies and investors, especially the Government has to set supporting policy to offset any extra cost. Since companies will not be able to reduce fixed costs such as electricity, the operational cost increase will ultimately be transferred to customers. In the face of stiff competition from Bangladesh and Myanmar's garments sectors, any price increases may hurt Cambodia's competitive positioning. Existing/potential investors as well will be keeping this in mind as part of their due-diligence on investment/expansion plans.
- Labor-market pressures owing to the demographic skewed towards a young population (50% under the age of 22) make it clear that the Cambodian economy will need multiple growth poles rather than focusing solely on Garments.
- A downturn in the garments sector will inevitably lead to an adverse spill-over impact on the rest of the manufacturing sector as well. The manufacturing sector has benefited from the government's open policies towards investment and this is reflected in the dominance of investors in each of the manufacturing sectors, whether garments, bicycles or electrical + electronic-components. The linkages between sectors may not be apparent, but investors are continuously scanning the overall landscape as part of their due-diligence and risk assessment. A downturn in the garments sector may have a spillover-effect on investor-confidence on other sectors as well.

The above factors make it evident that while the garments sector will remain essential to the Cambodian economy and in the short-medium term, growth within the manufacturing sector will be inevitably dictated by the garments sector, any erosion of the sector's competitiveness due to factors will have an important bearing on not only the sector, but also the overall manufacturing sector as well as on the national economic bottom-line performance.

2.2. Backward linkages between SEZ and domestic suppliers.

The SEZ model, while successful in terms of spurring export-based activity for sectors such as bicycles and electronics components assembly, has largely proved ineffective in facilitating investor and local-supplier linkages. The spill-over effect expected from SEZs has not materialized amidst perceptions that *that SEZ rules are unclear as to which procedures must be followed to allow trade with firms outside SEZ, making subcontracting relationships with firms located outside the zone uncertain, costly, and time consuming.*²⁰⁵ This is not the only reason however. The lack of SMEs with adequate absorptive capacities to fulfil on-time order delivery with the expected quality is a significant risk for investors. On the demand-side, SMEs are frequently unaware of how to approach investors and their particular requirements, as there are limited investor-SME supplier development initiatives in place.

It must be noted that the lack of supplier-linkages is not a criticism of the SEZs but rather a natural consequence of the type of industry (assembly operations with an established inputs supply side in neighbouring countries). Additionally, Cambodia has by choice positioned itself in the lower-value added end of the global and regional value chain spectrum focusing on labor- vs. capital- intensive operations, and assembly- vs. value-added manufacturing activities. This model has worked well given the combination of low labor costs and ample workforce supply, proximity to inputs suppliers, duty-free market access (with the benefit of regional accumulation), and tight integration with the ASEAN value chain. Driven by opportunity and considered deliberation, Cambodia's positioning as an assembler has paid dividends, but has not resulted in any meaningful relationships between SEZs and local-firms.

In the absence of this trickle-down of expertise and technology, the SEZ operations are essentially enclaves and have not facilitated the growth of the SME base in the country. There is however cognizance within the government regarding the urgency to build SME capabilities so that they can become suppliers to the SEZ firms.

2.3. Limited innovation and technology flow

In comparable economies that have managed to successfully leverage investment for upgrading national value chains, joint-ventures have played an essential role through technology-transfer and sharing of best-practices. In an environment where the country cannot organically foster the technological innovation from inside, joint-ventures are frequently the predominant mechanism for facilitating this. This is especially the case for the light-industries sector where a fair degree of process efficiency and technological prowess is required.

Partnerships have not occurred within the SEZs (primarily manufacturing) or outside SEZs within the garments and food-processing sector. In the spirit of promoting the investment environment, joint-ventures are not a mandatory requirement for investment. There is an important requirement to promote joint-venture activity even while preserving the above freedom of choice for investors.

2.4. Institutional support for light-industries

Institutional support for Cambodian firms in the light-industries sector in terms of trade information, market intelligence and in-market support is lacking. There is no viable SME sector demanding for such support and the SEZ firms have their own distribution and marketing channels, and do not require it. Unlike the garments sector, where some trade promotion support from the Ministry of Commerce and Ministry of Industry and Handicraft has emerged, light-industries are still very much unsupported in this aspect. A wide range of areas where support is required include: Relevant and up-to-date information on global market trends related to Bicycles, electrical + electronic components, toys, packaging and other light engineering

²⁰⁵ Cambodia's CTISU 2014-2018 Full Report, page 254

segments; Any changes to mandatory market entry requirements in key markets; In-market support through a system of commercial attaches well-informed regarding the light-industries sector.

2.5. Standards and accompanying enforcement capability

For the electronics sector, 150 standards exist - 116 developed in 2016 alone, primarily focusing on household electrical products. There is 1 standard developed for plastics packaging, and none for paper/cardboard based packaging. No standards exist for bicycles/components as such.

Given the weak supply side dynamics in the sector, the absence of standards is not a significant barrier to scale, but standards development will take on increasingly importance once SME activity starts ramping up adoption of national standards which are in line with regional and international standards will help promulgate the best practices in the sector and assist in market penetration. A continuous review is necessary to identify the main gaps relate to standards in line with developments of the sector, and related standards should be developed.

2.6. Export promotion/in-market support efforts

Currently, the Ministry of Commerce's Directorate General for Trade Promotion functions as the de-facto trade promotion organization (TPO) and provides some trade information based support to exporting firms, however the level and scope of services would need to ramp up significantly once the SME base starts developing. This is because SMEs require much more hand-holding, the number of SMEs requesting support will be numerous, and the under-developed state of the SME base means that the TPO services have not been in need to enhancement. Current exporters within the SEZ have their own distribution and marketing channels and so have not requested this support to a significant degree, and garment exporters have also over time developed their own sales and business development channels. However, in anticipation of an exporting SME base emerging in the light-industry sector, the export promotion function would need considerable review and support.

2.7. Energy constraints

In fact, without the promise of reliable and relatively lower cost electricity supply in the SEZs, it is unlikely that foreign investors would have been able to commence operations in the manufacturing sector. The Government has worked to expand Cambodia's power system significantly from 2011, that is becoming more independent. Up to 2018, hydropower facilities representing 1330 MW as well as 538 MW of coal-fired generation and 65 MW of renewable energy included 10MW of solar power generation. The Royal Government of Cambodia has established a strategic plan to reduce tariffs and the cost of electricity supply in the country from 2015-2020 and as result can eliminate to the gap of tariff between downtown and rural areas.

Despite recent price reductions, cost of electricity is still significantly higher than neighbouring countries, and has a heavy impact on the bottom line profitability of companies. This is an important area requiring to be addressed. Although the government has recently announced measures to subsidize electricity costs (anecdotally estimated at USD 50 million) for investors inside the SEZs, this does not resolve the challenge faced by SMEs who will likely operate from outside the SEZs. Costly and unreliable electricity access will certainly pose a high barrier for SMEs to enter an power intensive sector such as manufacturing, especially if they want to increase the level of value-addition in their product which requires electricity powered machinery.

3. Options for future growth

A new paradigm for value-addition and diversification within light-industries is required.

The key question facing the sector is on navigating the delicate balancing act of pursuing opportunities to enhance the value capture and value-addition of light industry sub-sectors/products while maintaining existing growth through the 'import-assemble-export' model. i.e. how to develop capabilities in core light-industries development in addition to light-industries assembly, which is where Cambodia's specialization currently lies. This is the anticipated goal for diversification and value enhancement within the sector in the short-medium term.

The high export potential of the light-industries sector should be taken into context of high import dependency for the raw-material, weak SME base, high concentration of markets and an uncertain positioning in the global quota system, low productivity levels and the fact that true diversification will require an expanding from solely 'assembly operations' to a movement up the value-chain ladder at least in the medium-long term basis, which will requires significant strategic planning and resources allocation on one hand and development/adherence to quality standards, fostering innovation and investment, re-hauling the skills infrastructure among other areas.

Based on the review conducted for the Cambodian light-industries sector, it is clear that careful planning will be required for unleashing the potential of the sector along the following dimensions, which if nurtured properly can function as levers of growth. There are five levers of growth:

1. Investment promotion for productive growth
2. SME development for light-industries (business incubation)
3. Skills development (focusing on TVET)
4. Access to finance
5. Export promotion and in-market support (including Public procurement)

3.1. Investment promotion for productive growth

Since the establishment of the first SEZ in 2006, the light-industries sector has been hitherto successful in attracting investment in a relatively diverse range of sub-sectors. As reviewed in this chapter and by several separate studies, the spill-over impact of these investments on the domestic supply chain has been negligible. While continuing the current investment promotion efforts is key, efforts must be taken to also review how these investments can be used to promote productive SME growth. Given the early stage/nascent stage development status of the sector, it is important that investors are encouraged to ensure human capital development locally, in a way that helps their bottom-line, and is not burdensome.

Focused investment promotion for foreign parts manufacturing firms is a necessity. It is unlikely that the parts and component manufacturing activity can begin from the ground up given the nascent state of the sector. Instead, entry of foreign firms with enabling conditions for facilitating supply to SEZ firms and exports, and may help develop additional value-added activity in the sector as well as local skills-development. This can be accomplished by supporting joint-venture activity.

3.1.1. Promote joint-ventures (JV):

The ASEAN-CLMV countries have been the focus of attention for manufacturers from China/Hong-Kong, Japan and other countries and Cambodia in particular currently has the locational, labor-cost advantage and potential to be an alternative production base in the light-industries sector (bicycles, metal forming/cutting, electronics assembly etc), and to participate in the regional value chain of ASEAN Economic Community. The past decade has demonstrated this potential. Besides this, the preferential trade access to U.S. & other developed markets is a great pull for JV's in light engineering amongst other sectors, although there is some uncertainty regarding this factor over the medium-long term

The following key recommendations apply for promoting joint-ventures in the sector:

1. Arrest the slippages in the Ease of Doing Business Index of World Bank²⁰⁶ - this is the first parameter, an investor looks at while considering a joint-venture location.
2. Create testing, design and common facility centres appropriate to the targeted product groups in light engineering sector e.g. bicycles, toys, electronics, sports goods, fashion design (to boost the garment sector), machined and fabricated parts etc.
3. Establish a Tool Room cum Training Centre to support light manufacturing.
4. Establish dedicated Centres to produce skilled manpower in high technology areas like CNC Programming and Computer Assisted Design.
5. Create a Logistics Zone in SEZ's to provide Customs Bonded Warehousing facility, logistics support for re-export as well as activities like component assembly, labelling, packaging and repackaging, testing & repair. Multiple successful case studies such as the Bahrain Logistics Zone can serve as examples.
6. Make efforts on war footing to improve the existing backward industrial and transport infrastructure.
7. Leverage commercial-attaches in Cambodian diplomatic and trade representations in key target markets who can liaise with potential investors.
8. Foster development of talented human capital- well educated, tech savvy and bilingual.
9. Ensure that the regulatory structure can be well understood in a transparent and easy manner by potential JV partners, especially those who are not familiar with Cambodia, and rapid support is available for answering investor queries.
10. Ensure uninterrupted power supply to industries.
11. Urgently adopt measures to enhance labour productivity across sectors through improved quality of vocational training and awareness creation. Put in place appropriate industrial dispute resolution mechanisms- bad labour relations and frequent strikes in certain sectors have recently been a cause of concern for the investors.

3.1.2. Expedite the ongoing update to the investment law and ensure that SME specific provisions that may assist investment in the light-industry sector with positive spill-over effects are included.

The existing investment law is dated to 1994 and in need to a review in order to reflect the current economic reality. The revision to the investment law should include aspects of joint-ventures, investor-SME linkages, and investment guarantee schemes and include light-industries within the scope.

3.1.3. In the medium-long term facilitate development SEZs as target markets, with robust local supplier linkages:

Support industries are critical for the viability of manufacturing sector in Cambodia. The presence of SEZs as defacto target markets within the country's borders is an excellent opportunity to develop supplier relationships with light industry firms. Currently, this is not feasible due to the lack of absorptive capacity of SMEs and the overall lack of institutional shepherding between investors-SMEs. These linkages must develop naturally rather than forced.

Support industries to provide parts, components, assemblies and services must be readily available and collaboration among SMEs will be a prerequisite if they are to develop the absorptive capacity for supplying to investors. One of the most effective method is to set up a Sub Contract Exchange that acts as a Clearing House between Buyers and Suppliers of parts, components & services. A trusted third party (an industry association or SME Promotion Agency) undertakes rigorous profiling of local firms with respect to their technical expertise, supply capacity, skill sets etc. and co-ordinates with large industrial companies in SEZ or other industrial areas to match the capacities/skill sets of supplier companies with

²⁰⁶ Cambodia has slipped three notches in the World Bank "Ease of Doing Business Index", ranked at 138 out of 190 countries as per 2019 report released by the World Bank recently. The Kingdom was ranked 135 in 2018 and 131 in the previous year.

the requirements of buyers for parts, components, assemblies or services. The SMEs also gain from the managerial and technical expertise of large firms and over a period of time can grow into trusted suppliers to other large firms in the region. International actors such as UNIDO have extensive experience in this regard.

3.2. SME development

The business case for the developing a formal SME base in Cambodia and especially in the light-industries sector is solid and urgent. There are multiple considerations related to entrepreneurship, informal -> formal transition and incentivization, and skills-development among others.

Requirements are needed to develop a uniform SME definition across the public sector: there is currently no standardized definition of SMEs in Cambodia and the definition term usage varies between different ministries. This is not ideal given that a standard definition would be the fundamental starting point for policy development and measurement of data related to SMEs. A common definition is thus required with urgency.

National Entrepreneurship Policy distinct from SME Policy/strategy: there is a need to evolve a national entrepreneurship policy that will take a holistic look at all aspects of entrepreneurship development and building of a vibrant entrepreneurship ecosystem in Cambodia. The key issue for Cambodia is creation of formal enterprises. Most economies realize that ad hoc efforts to expose youth to entrepreneurship will not be sufficient to build a strong entrepreneurial culture. Entrepreneurship/enterprise education must be integrated in the school curriculum at all levels from primary school through to university and awareness need to be created about opportunities for starting own business instead of being job seekers. A national entrepreneurship strategy will help to structure and elevate this focus into an implementable plan.

Technology Upgradation Support is an important priority: an autonomous Council of Scientific & Industrial Research or equivalent institution should be established to work for technology upgradation in the light-industries sub sector. The Council can also provide assistance to entrepreneurs in technology search and assessment process.

SME policy is required with the following tenets: an updated SME policy/strategy is required which should be drafted to address policy issues affecting SME's and to provide a legal framework to define formal small and medium enterprises in manufacturing as well as service sectors. Salient features would include the following: SME Board/Council. Leveraging Public Procurement as an important domestic market, penalty for delayed payment to SMEs, incentives for innovation related activities e.g. Innovation Vouchers.

Inter-SME collaboration is essential to the success of the sector: in order for Cambodian SMEs to grow, they will need to grow together. The current fragmentation in the SME sector does not bode well for future growth. There is an important need to develop horizontal linkages which will help small firms to compete, grow and cooperate with large firms. By working together, firms can gain the benefits of collective efficiency, enabling them to link with larger producers and break into national and global markets.

One mechanism strengthen collaboration within the light-industry SME sector include establishing a light-industries sector association, which should be a private sector driven initiative undertaken when there are adequate SMEs active in the sector. Such a platform would help drive advocacy for the SME base, and also help promote good ideas for the sector's development.

3.3. Skills development (focusing on TVET, business incubation)

For light-industries, a robust TVET infrastructure will be a key ingredient for success. Considering that every year approximately 300,000 young Cambodians will enter the workforce pipeline, universities will

not be able to cater to this demand. Indeed, the bulk of the workforce would require technical skills at the TVET level given Cambodia's positioning within the regional and global value chains.

Two key planning and policy documents – the strategic Planning on TVET for the next 5 years and National Employment Policy are due to be updated in the short term, led by MOLVT.

The TVET curricula requires a significant overhaul. Light-industry sectors such as Bicycles and electrical + electronic components assembly would benefit from dedicated courses for each sub-sector in addition to fundamental courses on engineering and workmanship. Standards for Light-industry sub-sectors along with other industry sectors will be required, especially information to maintain uniformity across TVET institutions.

The commendable work in terms of improving collaboration between various public sector bodies (National Training Board), sectors skills councils, tripartite committees, inter-ministry focal points group) in aid of TVET should be continued and gaps in terms of coordination should be addressed.

An apprenticeship program is essential to provide TVET students with industry-expertise during these studies and also to keep the TVET curricula relevant. Industry players including investors and local SMEs should be involved in TVET curricula development and management. Strong linkages have to be fostered with the private sector. A feedback loop between the public sector-private sector – TVET institutions is essential to avoid skills mismatch issues and wastage of resources.

Incubation facilities are required to help start-ups in the light-industries sector. Incubators to develop new light engineering products should be set up on priority. These Incubators should be supported by Banks and provide shared space and common facilities. Mentoring support should be made available to companies being mentored.

3.4. Export promotion and in-market support

Growth in the Cambodian light-industry sector will need to intimately follow a market-driven approach. i.e. market-demand will dictate the evolution of the growth trajectory and market-development will need to be a priority.

Enhance trade-information and in-market support for light-industry SME exporters: institutional support must be developed to help SME exporters understand evolving market trends, quality and price among other market entry requirements, buyer preferences as well as understanding how to manage non tariff barriers/ barriers behind borders. The Ministry of Commerce's export promotion role and capabilities would need to be significantly enhanced in terms of scope of sectors covered, depth of services provided, and linkages within key target markets through dedicated commercial officers/attaches. The cooperation between MOC and MoIH in terms of export promotion would also need to significant ramp up in anticipation of SME growth.

Develop government as the market: The local market will grow at a gradual pace, however there is a strong domestic market that can be tapped by SMEs. Government is the largest buyer of goods and services in every country. Enabling local SMEs to access a share of public procurement is an effective method to develop the sector. This is done in almost all developed and developing countries. For instance, The Small Business Administration of USA utilizes set-asides for helping small firms access and win federal prime contracts. Government purchases that have an anticipated dollar value exceeding \$3,000, but not over \$150,000 are automatically reserved or set-aside for small businesses. This allows SMEs to have a market within the public procurement which is aligned with their ability to absorb and deliver. Such a scheme could also provide for a minimum allocation of a certain percentage (typically 5 to 10%) of the budget of all government entities for procurement of goods and services from SMEs.

Some countries also have products reserved for exclusive procurement from SMEs by government entities. These are not limited to developing countries. USA, Japan, Korea, India, South Africa, Brazil amongst others have practiced Set Asides/Reservations in government purchase for a long time, and such procurement is used as an important tool to develop SMEs. There is currently no such program existing in Cambodia.

Develop the domestic market initially by targeting the high import product segments: a judicious mixture of focus towards the domestic and international markets is recommended. Even with the knowledge that export-led growth is ultimately going to assist Cambodia's economic growth trajectory, the domestic market cannot be ignored for two reasons:

1. The high trade deficit exhibited by Cambodia requires some rebalancing, because exports with inordinately high imports will stem growth.
2. Second, the import categories can themselves become market opportunities for SMEs in case they are able to supply the same goods at reasonable costs and good quality – a lofty goal and one for the medium-long term, but still possessing merit. This is especially relevant in the case of light-industries which are geared towards consumer products as well as intermediate goods for other manufacturers. An ideal sector to test this approach could be Packaging given the significantly high packaging material imported by exporters.

This recommended drive towards the domestic markets should not be construed as protectionism, and indeed there is little scope for protectionism in a liberalized economy such as Cambodia. It is rather a market opportunity for SMEs who will face significant challenges initially in directly tapping into the international market. The Cambodian consumer base is also unlikely to absorb for long cheap substitutions given the market trends towards consumers preferring high quality products, therefore SMEs will have to build up their quality management capabilities.

4. Conclusion

Overall diversification is fast becoming a necessity rather than simply an option, and light-industries are a strong candidate. The business case for the Cambodian economy to develop light-industry sectors as new growth poles in addition to Garments is strong:

- Light-industries segments such as bicycles, electrical + electronic components assemblies, and miscellaneous manufacturing segments such as Toys offer strong potential for long-term growth. Even if pace and contribution of these sectors to trade and overall GDP is currently much lower than garments and footwear, the Cambodian experience has shown that well-timed efforts to develop the sector can pay dividends, signalling absorptive capacity exists in the sector. Case in point is the proactive action in 2005 taken by the government in establishing the SEZs and encouraging investment in tandem with efforts to gain global preferential quota access. This has yielded results for the bicycles sector in particular. Driven by preferential tariff advantages in markets such as the EU, Cambodia's exports of bicycle parts have increased to more than 75 percent of the total light-industry exports (when the garments sector is excluded).
- A high state of readiness to engage in light-industries. With the experience of the garments and bicycles sectors, Cambodia has demonstrated that it can play a leading role as an assembler within the respective global value chains. While it is positioned in the lower end of the global value chains, the successful experience nevertheless is a testament to the determination of policymakers and the competence of its workforce to undertake this challenging activity and maintain growth for over a decade. Given that the workforce has already demonstrated a readiness to engage in light-industries, diversification within the light-industry segment should not be too challenging. There is ample labor available in the country and while the overall skills base is not aligned with the needs of complex manufacturing (such as those in the heavy manufacturing sectors), the workforce can be relatively easily re-trained and reoriented to fit the needs of light-manufacturing sectors.
- Light-industries sector development will contribute to SME development. Light-industries are naturally aligned with, and constitute a fertile sector for SMEs to engage in. This SME base, which typically acts as an engine of job-creation, innovation and commercial activity in domestic and international markets, as well as a buffer against downturns, is very small overall within Cambodia's private sector ecosystem, and is virtually non-existent for the manufacturing sector. The critical challenge of the missing SME layer in Cambodia can be addressed if the light-industries sector is

adequately developed. Development of a competent SME base will also help investors to forge local supplier relationships, something that has not occurred at all in the case of current investors. Light-industries are ideally placed to help enhance the current labor-intensive, low-value capabilities of the SME sector, especially with the help of a supportive business environment that assists SMEs develop their supply-side (human-capital, technology etc.) and market-entry capabilities.

- Impact on domestic-markets development and trade-deficit reduction. Light-industry products such as processed-food, bicycles, toys, mattresses, packaging, cater heavily to end-consumers. The packaging sector has significant potential to leverage forward linkages with export oriented sectors and assist them to both meet market entry requirements as well as enhance value addition of the overall the products thus helping the companies' and economy's bottom line. Therefore, in addition to the export focus, companies may find the domestic market attractive as well for some of their products. On a broader scale, this may also have an impact of reducing the significant trade deficit.

Light-industries will be an essential component of Cambodia's growth story going forward. The above points serve as a strong argument in favor of achieving diversification and value-addition within Cambodia's manufacturing sector and indeed the overall industrial base. The recent experience with attracting investors to SEZs has demonstrated that investors recognize the benefits offered by Cambodia's strategic positioning and the intrinsic value proposition offered by the labor cost advantage. A significant ramp-up of activity in the bicycles and electronic components sub-sectors is testament to this. The key challenge will be to maintain this investment focus and diversify the base to include SMEs who ultimately hold the key to driving the sector's competitiveness. Cambodian firms –and the sector at the aggregated level- will have to experiment and decide their positioning within the regional and global value chain. Eventually as firm capabilities increase, the sector will move up the current lower value added positioning in favor of more complex and higher value added products, although the transition may take time. The role of the SME base in this regard will be essential, and ultimately they will be responsible for the rate of overall diversification and value enhancement within the economy.

CHAPTER 10 : SERVICES TRADE

1. Introduction

Cambodia is one of the world's fastest growing economies and among the most liberal in East Asia. Two decades of economic modernization and regulatory reforms, which saw the country's accession to the WTO in 2004, led to an impressive economic growth and to the country's upgrade from low-income to lower middle-income status in 2016. Cambodia's openness, its young population and agile work force attracted and continue to attract a flow of foreign capital and foreign skills to invest in and develop the country's fast-growing industries across a range of sectors, including tourism, infrastructure, construction, telecommunication and manufacturing. Cambodia recorded the largest improvement among its ASEAN neighbours since 2007 in WEF's Global Competitiveness Index.¹

Within this impressive development **services are a new, or newly recognized, source of growth**. They are prominently acknowledged as such by the government in its *Rectangular Strategy for Growth, Employment, Equity and Efficiency*, now in its fourth phase identifies a potential for export diversification through services.

There are **strong linkages between services and investment and other development focuses**. Attracting foreign direct investment (FDI) remains a top priority for the government. The Rectangular Strategy since its inception in 2004 has focused on attracting FDI as a means to achieve socio-economic development of the country. Phase 4 of the Rectangular Strategy now more broadly and ambitiously aims to achieve a 'new transformation' to an upper middle income country through enhancing the rule of law, creating quality jobs for the youth, taking full advantages of technological developments and digitalization among other factors recognizes the importance of favourable environment for business and investment as a key factor in the overarching environment for implementing the Strategy.

Cambodia's investment climate is generally open, but there is room for improvement not least in terms of regulatory quality and performance. A look at selected services sectors reveals a similar picture also in terms of trade and domestic measures.

Creating more jobs especially for the youth is one of the strategic objectives of the current government.¹ **The sectors considered here** – as a small selection of examples of a wide range of promising sectors – **are fast growing, forward looking sectors with indeed a significant potential to show the way towards more and better employment for young people** in particular. Both imports and exports of services can make important contributions.

2. The Contribution of Services to the Economy

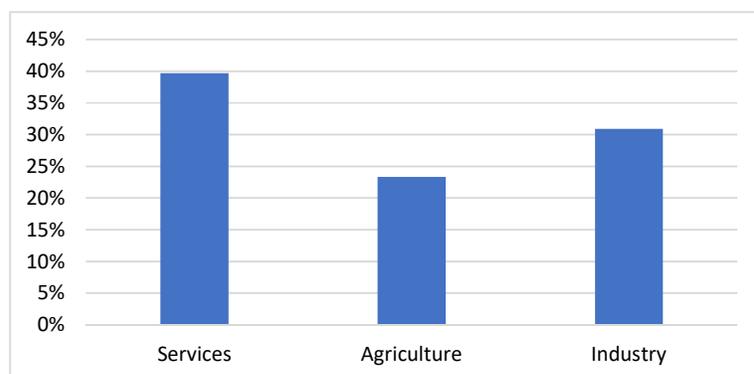


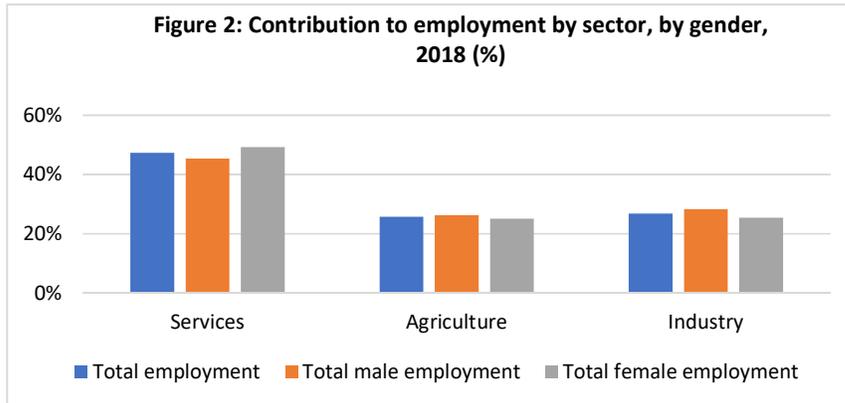
Figure 32: Cambodia's GDP Composition by Sector

Much of Cambodia's economic growth in the last two decades has been driven by its services sector.¹ In 2017, services were the main contributor to the GDP accounting for 39.67 percent while the contribution of agriculture and industry stood at 23.38 and 30.87 percent

respectively as illustrated in Figure 33 below:¹

Source: World Bank Data, <https://data.worldbank.org/>

Figure 33: Contribution to employment by Sector



The services sector was the largest contributor to employment in 2018 absorbing 47.39 percent of Cambodia’s (formal) labour force and a major contributor to reducing the gender gap in employment, as almost half of those employed in the services sector are women.¹

Source: World Bank Data, <https://data.worldbank.org/>

Cambodia is a net services exporter. Available statistics suggest that exports of commercial services generated USD 4.5 billion in 2017 while services imports amounted to approximately USD 2.25 billion.¹ Tourism remains Cambodia’s largest services export sector, accounting for 83.5 percent of total (measured) commercial services exports in 2016:¹

In addition to tourism, Cambodia exports a multitude of services including transport services (12.94 percent), other business services (2.76 percent), Information and Communication Technologies (ICT) (1.41 percent), construction services (0.41 percent), cultural and recreational services (0.18 percent) and financial services (0.14 percent).¹

These numbers significantly understate the reality. **Services trade statistics are difficult to compile and are still often incomplete and unreliable.** Even in the best of cases services statistics miss important elements, and generally do not adequately reflect value added, not least because services embedded and embodied in goods do not get recorded as such. This may explain the modest values attached to Cambodia’s exports of services in certain sectors where transactions, especially in modes 1 and 4 (cross-border supply and supply through the temporary presence of natural persons), may not be recorded or be identifiable in payment flows. This may be relevant for trade in the three services sectors considered in focus here, namely IT and IT-enabled services (ITeS), animation and FinTech, as much as in others such as entertainment and cultural services and professional services.

3. Selected Services for Export Diversification

Cambodia trades in and exports services across a wide range of sectors and subsectors to the region and worldwide. Many appear to represent growth potential as much as potential to diversify exports. This chapter considers three of them: Animation, ITeS, and FinTech. The selection is inspired by those sectors identified as ‘Key and New Sources of Growth’ in the recent Rectangular Strategy,¹

Apart from the perhaps most obvious potential in and with IT and ITeS, creative industries including animation, promise not only growth but also youth employment and cross-cutting inspiration effects while FinTech has proven its importance for socio economic development including in the context of financial inclusion of the unbanked domestically in Cambodia and elsewhere.

In addition to tourism services, other services sectors including professional services, engineering services, transport and logistic services are not only key for the socio-economic development of the country but have significant export potential. Cambodia’s economic growth and growing FDI inflows created an increasing demand for qualified providers of professional services including legal, accounting, auditing and taxation services in recent years. While most of these services are currently supplied to

foreign investors operating in the country, providers of professional services including legal services, for example, are projecting themselves into regional markets while accounting and taxation services, especially those provided by multinational companies operating in Cambodia, export their services to international clients. Cambodia's construction and other engineering services also service clients in and beyond the Mekong region.¹ These services sectors and others need to be studied, nurtured and developed as part of Cambodia's drive to develop a services economy.

3.1. Animation Services

Animation services, a subset of audiovisual services, are a creative industry that encompasses a wide range of animated content (motion picture) production, including 2D animation, 3D animation, motion graphics, stop motion and visual effects (VFX), as well as related distribution and projection services.

Animation is a fast growing, forward-looking and global industry with a worldwide annual growth rate of 2 percent. In 2018, the global animation industry recorded an output value of approximately USD 259 billion, which is expected to rise to USD 270 billion by 2020.¹ To supply the growing global demand for animation, **multinational studios and broadcast companies have sought collaboration and coproduction with global partners to explore wider market opportunities and reduce costs.** Asia has become a prime outsourcing destination for animated content. In 2017, about 90 percent of American television animation was produced in Asia.¹

Cambodia is home to a few but high-quality providers of animation services producing content in particular for export markets in the region and globally including Ireland, France, Belgium, Spain, the US, China, Malaysia and Australia. Although the sector is still in its early stages, it has already made headlines internationally. **The Cambodian co-produced animated movie 'Funan' won the top prize in the main competition section at the Annecy International Animation Festival in 2018.**¹

The Cambodian animation industry thus has the obvious potential to grow, and grow significantly, tapping into the growing global demand for animated content. Cambodia could further develop the sector and join some of its regional peers in becoming a more broadly recognized outsource destination for animated content, in addition to developing original content.

This represents a significant potential to create future-oriented jobs for young people. Animation is not only creative but also highly work intensive. It can provide high quality jobs with distinct development potential to agile and creative youth without the prerequisite of significant formal education. This means rural communities can engage and benefit more readily.

To realize these potentials certain challenges such as size and scale-up needs have to be addressed. Cambodian studios are currently too small for global production companies to outsource to them in earnest. **Scaling up however requires facilitated access to talent, the capacity to train and most crucially access to funding for training and human resource development.** Given the long cycles in film and animation projects a better access to flexible finance generally is a *sine qua non* for effective scale-up. Credit must become more accessible, and not subject to immovable assets and other collateral not available to many in the industry.

3.2. Information Technology Enabled Services (ITeS)

Information Technology (IT) services include IT applications and engineering services that enable organizations to create, manage and optimize access to information and business processes. IT enabled services (ITeS) encompass a wide range of services delivered over electronic networks, including business process outsourcing (BPO), among others.

IT and ITeS have experienced a rapid growth over the past decade with increasing technological advancement, digitalization and businesses' willingness to outsource their back-office, client relation and other business-related operations to more efficient and cost-effective destinations. The IT services industry recorded an output value of USD 1.011 trillion in 2017.¹ The US is the largest IT services market,

followed by Europe and Japan, while India is the world's top sourcing destination.¹ The BPO services market recorded an output value of approximately USD 195.2 billion in 2017 and is forecasted to reach USD 343.2 billion by 2025.¹ North America is the largest BPO market followed by the EU.¹

Cambodia ranks third among LDCs in the ICT development Index and 54th in FDI and technology transfer (2017), higher than most its regional (non-LDC) partners.¹ Currently, Cambodia's ITeS industry provides IT outsourcing services including software and app development, coding and data processing, data analysis and document processing services to local and international clients in the US, Europe and the region.

Capitalizing on the growing global demand for ITeS outsourced services, **Cambodia has a great potential to position itself as an outsource destination for ITeS services, especially those that are labour intensive.** Cambodia's low telecommunication cost, quality Internet and its young and agile labour force (once trained) are distinct advantages but realizing this potential requires the industry and government to work together on addressing pertinent challenges including regulatory challenges and access to talent and innovative work force in addition to enhancing the exposure of Cambodian service providers to opportunities in export markets and rebranding Cambodia as an outsource destination.

3.3. FinTech

FinTech refers to banking and financial services delivered through the use of technology. These can be provided to the marketplace or to the financial services industry itself. FinTech services typically include technology solutions for banking (deposits, lending and equity); payments, transfers and forex; digital currencies; wealth and assets management; personal financial management, and insurance (also referred to as insurtech), and related enabling technologies and infrastructure (i.e. data analytics, artificial intelligence, cyber security, advanced services from cloud infrastructures and distributed ledger technologies).¹

The growing Internet penetration, rapid development of digital technology and increasing availability of data are driving growth of the FinTech market globally and in Cambodia. The global investment in FinTech companies is estimated at USD 57.9 billion during the first half of 2018.¹

The global FinTech industry is forecasted to keep growing in the upcoming years especially in the Asia-Pacific region due to the region's large population, rapid GDP growth and growing middle class.¹

The FinTech sector in Cambodia is growing fast. With over 50 active start-ups, FinTech, is in fact, the most crowded segment in the tech start-up sector in Cambodia.

Mirroring global trends, money payments and transfers are the FinTech services with the highest adoption rate in the country (50 percent), followed by insurtech (20 percent), mobile banking (13 percent), accounting services (10 percent) and digital currencies (3 percent).¹ Currently, most of Cambodia's FinTech services target domestic clients both individual customers primarily with mobile banking and electronic payment services as well as commercial clients including banks and SMEs with a wide range of services including payroll and disbursement, digital accounting, credit scoring, credit matching and other services.¹

Cambodia's FinTech industry has great expansion potential. The majority of Cambodia's population lives in rural areas and is mostly underserved by traditional financial institutions. The gap between financial services needs and formal supply, estimated at USD 24 billion in 2017,¹ offers significant opportunities for FinTech companies.

Expanding the FinTech industry not only benefits Cambodia's GDP growth but improves the financial inclusion of large segments of society. Therefore, encouraging the development and use of FinTech as part of promoting the development of the banking and financial sector is among the priorities of Cambodia's government.¹

Exports of Cambodian FinTech services, apart from transferring remittances across borders, is still in its early stages.¹ The complexity of complying with financial regulations in export markets and the need to

collaborate with financial institutions including banks in these markets are part of the challenge. **Efforts to foster regulatory cooperation and regulatory convergence with regional partner governments and their regulators will assist in foster exports of Cambodia’s FinTech industry.**

4. Level of Openness and Policies to Attract Investment

Cambodia is an open economy with a liberal and relatively-investor friendly policy and regulatory regime. Its services market is the second less trade restrictive in the East Asia and the Pacific region.¹

Cambodia has made far reaching liberalization commitments under its multilateral and regional trade agreements as part of a drive to develop its services economy with the support of foreign capital and talent. Under the General Agreement on Trade in Services (GATS), Cambodia liberalized the majority of its services sectors leaving the cross-border supply of services and consumption abroad largely free of restrictions, and removing market access limitations on foreign ownership in all but a few of the committed services (sub)sectors (tourism, telecommunication and a few professional services (dental and legal services)). Likewise Cambodia promised to treat foreign providers in the committed sectors like national providers (national treatment) largely across the board, with only a few exceptions related to land ownership (no ownership but land lease), access to subsidies, and the requirement to train Cambodian staff as a prerequisite to seek investment incentives.¹

Cambodia’s commitments under the ASEAN Framework Agreement on Trade in Services (AFAS), as it stands in the shape of the 9th package, partly go beyond its GATS commitments including in sectors such as computer and related services. Cambodia is also a party to several regional “GATS plus”-type agreements including those concluded between ASEAN and Australia-New Zealand, China, India and Korea and participates in the Regional Comprehensive Economic Partnership (RCEP) negotiations.

4.1. Level of Openness: Animation

Like many other countries Cambodia did not undertake commitments to liberalize audiovisual services in its multilateral and regional trade agreements. Going even further Cambodia (again like many others) reserved the right to confer national treatment to works covered by co-production agreements in its list of MFN exemptions under the GATS – a one-off list of reservations from the otherwise applicable obligation to treat all foreign animation services and providers equally.¹

Cambodia’s recent TPR highlights three restrictions in the sector. These are local content requirements for commercial advertisements, restrictions on broadcasting times for foreign dramas and (overall) screen quotas for foreign movies.¹ These restrictions, adopted as part of broader measures aimed at developing the local media and movie industry, limit the broadcasting of imported (foreign) audiovisual/animated content in the country.

Apart from these restrictions, **Cambodia’s applied regime especially in regard to the commercial presence of foreign investments in the sector is more liberal.** The country’s top animation studio, iThink Asia, is a locally incorporated foreign investment.

4.2. Level of Openness: IT and ITeS

Under the GATS, Cambodia has undertaken commitments to liberalize computer and related services, including IT and ITeS services eliminating limitations on market access and national treatment. It made similar commitments in its AFAS schedule of commitments. The reality appears to confirm this approach, as IT and ITeS services are traded freely into and out of Cambodia.

Cambodia’s liberal policies on trade in ITeS services reflect successive governmental policies and strategies to develop the sector and promote private investment in the sector to enhance its competitiveness and export potential. Those include the National Development Plan (2014 - 2018) which foresees the development of the ICT sector through private investment in broadband Internet, cloud technology and

software development.¹ The Industrial Development Policy (2015 - 2025) refers to ICT as a priority and strategic industrial sector that could tap into regional value chains pledging to promote and facilitate private investment in the sector.¹ Similar directions for the development of the ICT sector through private investment were pronounced in the country's ICT Policy (2017 - 2020), the ICT Master Plan 2020 and the National Science and Technology Master Plan (2014 - 2020).

4.3. Level of Openness: FinTech

Save for prudential regulations, Cambodia's financial services sector is largely liberalized. Several foreign providers of financial services operate in the country including regional FinTech companies.

In the WTO, Cambodia has undertaken commitments to liberalize insurance and insurance-related services removing market access and national treatment limitations on licensed providers of insurance services. Banking and other financial services are also largely liberalized. Providers of cross-border banking services are required to reinvest deposits taken from the public in Cambodia. Foreign banks can provide banking services in Cambodia if they are locally incorporated or are branches of foreign banks. Cambodia's commitments under AFAS largely reflect those under the GATS.

This approach appears to extend to FinTech. **The Government considers the FinTech sector a "game changer" in supporting financial inclusion.**¹ Several initiatives and policy statements by the government over the past two years are directed to support and promote the sector. The ICT Master Plan 2020 foresees the promotion of the e-economy as a key objective including through enhancing regulatory and policy frameworks for online business and enhancing e-banking and raising e-banking literacy among the population.¹ In 2017, the National Bank of Cambodia (NBC) introduced a licensing framework for payment service providers that facilitates and clarifies FinTech business' license application.¹ While the Cambodian Investment Board (CIB) offers fiscal and administrative incentives for investors looking to support technology start-ups including platforms that provide B2B and C2B payments, mobile security, accounting and alternative lending products.¹

4.4. Investment and Immigration Policies

Cambodia's liberal services regime is further complemented by a liberal investment regime - one of the most open in the world and the second most open in Southeast Asia after Singapore.¹ Foreign investment in Cambodia is permitted in virtually all services sectors with few restrictions on foreign ownership including movie production and television (51 percent local equity participation), dental services (joint venture requirement), telecom services (local share holding up to 49 percent) and travel agencies (foreign equity participation limited to 51 percent).¹

In addition, Cambodia has one of the lowest overall rates of corporate taxes in the region and the investment incentives regime is relatively simple and generous.¹ **Ensuring access to incentive and support schemes for SME service providers in promising sectors promises significant returns for the economy.**

Cambodia's flexible immigration policies allow foreign managers, technicians and skilled labour to obtain business visas (up to 12 months) and work permits (valid for a year, may be renewed), as well as residency visas for the spouses and dependants of those foreign nationals.¹ Some restrictions apply on the recruitment of foreign staff including an economic needs test, which however does not appear to operate as an obstacle, and the general requirement that the foreign workforce does not exceed 10 percent.¹

The overall climate, in other words, is rather positive for foreign investment and foreign services trade into Cambodia. That said, a number of challenges remain virulent, which especially in cumulation may act as severe deterrence: regulatory challenges including weakness in interagency coordination, incomplete regulatory framework, weak IPR protection, dispute settlement, inter agency coordination in addition to shortage in skilled labour, among others.

5. Challenges at Home

Cambodia made significant steps to modernize its services economy and reform the supporting frameworks – policy, regulatory, institutional, educational, business ‘cultural’ and other. But many challenges remain that often work in concert to make progress difficult – arguably unnecessarily difficult, not least as many appear to be low-hanging fruits. This affects services businesses, many of which are by definition low-capital SMEs, more than others. Challenges include in particular those related to **regulation and regulatory frameworks; talent and human resource development; access to finance and appropriate financing tools; intra-agency coordination and cooperation; and public-private dialogue and cooperation.**

5.1. Regulatory Framework(s)

The weak regulatory framework is a major challenge affecting service industries in Cambodia including lack of transparency and predictability in the implementation of regulations, discretionary application of regulations, frequent changes of administrative practices and incomplete information on regulatory requirements. This is of particular concern to services businesses, which rely on regulatory frameworks more than others.

Other regulatory challenges underscored by services stakeholders include the need to **complete and upgrade the regulatory and legislative framework, both general and sector-specific.**

An important weakness is the absence of a general **competition policy and competition law** in Cambodia. This matters greatly for services. Cartel behaviour, abuse of dominance and other anti-competitive practices remain mostly unregulated.

Equally if not more important for many service providers are **intellectual property rights (IPR)**. Reforming and upgrading the application, registration and enforcement mechanisms of intellectual property rights is key to enhancing the competitiveness of sectors such as IT, ITeS and animation services which thrive on innovation and creativity. **Effective IPR protection matters for Cambodian providers as originators**, for example of animation artists and their studios or software/app developers and their businesses; **but it arguably matters even more for Cambodia as an outsourcing destination – including in animation, ITeS and FinTech** – as foreign and multinational clients require effective protection of their IPR. The current IPR regime is reportedly weak on copyright protection especially for foreign copyrighted material, and generally on enforcement.¹ There is also no law yet on trade secrets.

As to more sector-specific legislation, efforts need to be channelled to reform, upgrade and adopt legislation on **e-commerce** and **secure transactions**. Without strong, clear and up-to-date legislation businesses lack the framework for reliable development and growth also because foreign clients will be hesitant to engage otherwise. The current e-commerce law dates from 1996 and deals primarily with postal services. A new draft reportedly exists, but has not yet been enacted. The same applies to a (more recent) draft law on secure transactions and a new telecommunications law. Issues like reported possible inconsistencies between the secure transactions law and the civil code hold up progress, which is unfortunate and calls for an urgent search for technical solutions. Progress, such as the Decree on Digital Signatures of January 2018, is needed.

Equally important is to complete the regulatory framework on **cyber security** and **data protection/privacy**, issues reportedly not addressed in the draft legislations on e-commerce and secure transactions. **The twin deficits in data protection and cyber security operate as an important deterrent to foreign investors and outsourcing clients, and hence affect the transfer of technology and know-how, especially but not only in IT and ITeS.** In the absence of a data protection law companies currently have to protect data only through internal procedures and processes, a second-best approach. The absence of regulation on electronic transactions, data protection and privacy, consumer protection for online purchases, and cybercrime prevention reduces consumer trust in digital services, hence affects growth of the local market, which in turn affects export capacities.

Cambodia also largely lacks a regulatory framework on FinTech, except for isolated rules such as a Prakas on the Management of Payment Service Providers adopted by the NBC in June 2017.

A third concern is **dispute settlement**. The domestic court system is seen as deficient by services businesses. The need to develop alternative mechanisms for commercial disputes has been recognized in principle, but there's a need to revitalize efforts to develop an independent, competent and efficient commercial arbitration system.

5.2. Talent

A dynamic, competitive services economy thrives on talent. This applies in particular in the three sectors under consideration. Producers of animation services capitalize on skills generated from several industries including visual arts, cinema, television, video gaming, graphic design, software development, web/mobile design and application development. In addition to IT related technical expertise, innovation and agility are key to developing ITeS and FinTech services.

Cambodia's young population is a crucial but still raw asset at this stage, an asset that needs to be trained and developed to realize its significant potential to contribute to the economic development of the country and to its services sector. The limited trained human resources in terms of both technical and managerial skills acts as a clear brake on growth in the selected sectors and the services economy at large.

The skills shortage, weak exposure to creative content and the gap between academia and the market are key challenges facing the three services sectors. **Resourceful young talents are responding through – sometimes impressive – self-learning, but this can compensate only partly for the shortage in learning and training structures, especially those that address market needs.**

Most effective training and talent development in animation, IT/ITeS and FinTech today has to be provided by the businesses concerned – a major challenge for SMEs generally, and a near-impossibility for start-ups. This acts as a significant brake on the speed of the industries' growth.

In animation, for example, major outsourcing contracts require small 'armies' of several hundred animators. The demand and potential are clearly there, but without external support provided or funded by government, donors or creative credit institutions even those businesses that have admirably developed their own animation curricula and conduct systematic large scale in house training of hired staff will take years to gain critical mass. **Opportunities for clearly profitable scaling-up in this promising Cambodian services industry are missed as a result.**

Industry insiders in the IT, ITeS and FinTech sectors tell a similar story. Academic and vocational training curricula are outdated and usually do not match the requirements of the market, and the number of graduates in IT-related disciplines (around 4000 every year) are not sufficient to grow IT-related sectors fast enough. Again, companies provide in house training and capacity building, but cannot compensate for the twin deficits in education and access to finance and funding.

Laudable efforts are under way, including by the National Institute for Post, Telecommunication and ICT (NIPTEC), a part of the Ministry of Telecommunications, but the industry needs more immediate responses. Ideas shared by insiders include incentive schemes, possibly including tax incentives for companies to train in house, especially if the training is matched with retention (train & create jobs). Donors and their funding arms could play an important role here, including by directly supporting (or investing in) services businesses that invest in training. Other ideas include targeted efforts to bring in foreign universities, especially on FinTech where theoretical underpinnings are important.

5.3. Access to Finance

Access to finance is one of the main challenges for SMEs generally, but in particular those in services industries where the 'working capital' often consists primarily of ideas, IP, know-how, talent and other goodwill – all difficult to use as collateral, unless approached creatively by financing institutions.

Difficulties in accessing financing limit service businesses' access to technology and sufficient talent. Operators are forced to heavily rely on scarce and expensive private financing, which inhibits necessary developments, expansion potential and scale up. The example of Cambodian animation studios which could scale up quite readily if financing or funding (including for rapid talent development) were more readily available stands for many other similar cases in Cambodia's services industries.

The issue has been recognized as a major challenge, however. The government's Rectangular Strategy states the aims to establish a Small and Medium Enterprise Bank. **Key will in any case be to develop tools to secure loans other than asset collaterals so that services businesses including SMEs can access finance.** Lending against contracts and backed-up business plans should be encouraged and supported, possibly backed by governmental/donor-supported guarantees. Other models explored elsewhere, such as the 'Circular 331' scheme of Lebanon's Central Bank which backs up equity investments in IT businesses by local banks, could be adapted to Cambodia.

5.4. Inter-Agency Coordination and Cooperation

Services are regulated and managed, and related policies developed, across multiple government agencies. This translates into an increased need for agency coordination and cooperation, including in developing regulatory frameworks. Working in silos, as it is traditionally done in Cambodia (as it is in many other places) is not efficient. A case in point are arguably the needed legislative improvements in the related areas of e-commerce, secure transactions, cyber security and data protection, which would ideally benefit from intensive cooperation and cumulative initiative.

5.5. Public-Private Dialogue

Perhaps more than other services sectors, in particular **highly innovative and fast-developing sub-sectors, require intensive interfacing and cooperation between the public and private sectors.**

Cambodia's service providers in the three sample sectors stress the need to further institutionalize, strengthen and foster private sector representation in public discourse and policy making. The ICT Federation could be encouraged and supported in stepping up activity while the recently established FinTech Federation should be promoted and strengthened. Animation does not yet have an umbrella body. Key players in the sector are advised to consider establishing an institutional structure as those are key tools to develop and formulate sectoral support projects and ensure systematic and sustained liaison with the government on policy making and export promotion.

This is particularly important in Cambodia where the private sector has traditionally had comparatively limited participation in the policy-making process. Allowing the business community to have a meaningful voice in the regulatory process however is crucial in the complex world of 21st century services sectors in particular, both to ensure relevance and quality and to support the implementation and enforcement of laws and regulations.

5.6. Barriers to Services Exports

Services from Cambodia face a variety of market access restrictions, regulatory and other challenges in their export markets, some of which could be addressed through or under trade agreements, cooperation agreements or other bilateral, regional and global agreements; through unilateral preferences that could benefit from justification under the WTO's LDC Services Waiver; or simply through better local regulation, facilitated access to support or infrastructure, or other measures that could be induced through engagement with foreign governments.

The LDC Services Waiver in a Nutshell

What is the LDC Services Waiver? The LDC Services Waiver is a legal tool adopted by the WTO that enables WTO Members to grant preferential treatment to services and service suppliers originating in LDCs without extending this treatment to all WTO Members.

Why Services Preferences? The majority of LDCs already export a multitude of services in nearly all modes of supply. Many LDC services are competitive and innovative but they face a great number of obstacles on their way to actual or potential foreign clients, including regulation, taxes and charges, visa and work permits, and classical market access restrictions. Many of these obstacles may seem negligible, but are significant in relation to the specific circumstances of LDCs service, such as size, capital base, cash flow, and their regulatory and educational environment at home. Many measures may also seem adequate and fair when seen from a distance but a closer look will often reveal that such measures affect LDC providers disproportionately.

What services really need is a targeted removal or reduction of the myriad small and sometimes larger obstacles and challenges that impede their ability to effectively access markets they can otherwise service perfectly well.

What are Services Preferences? Unlike trade preferences for goods, preferences for services will usually not create margins, but rather *facilitate* trade where a healthy potential exists but where firms cannot overcome threshold challenges. Services preferences stimulate activities that generate wider benefits for developing economies, while carrying virtually no costs for importing nations.

One can distinguish five types of services preferences:

1. Market access: exemptions from quantitative measures, including those that bar foreigners entirely or limit the number of services providers or the volume of services trade;
2. Domestic regulation: exemptions from or facilitation of regulatory or administrative requirements relating to licensing, qualifications, standards, etc.;
3. Taxation, social security and other contributions: exemptions from taxes and other charges or facilitated processes;
4. Financing: access to funding support mechanisms;
5. Promotion and other support: dedicated support measures or preferential participation in existing ones; for example, free advice, tutoring, or access to helpdesk functions.

How can Cambodia and its services industry benefit from the LDC Services Waiver? Cambodia is an LDC and as such is entitled to preferences granted by WTO Members. Over 2000 preferences were notified by WTO Members but many of those preferences might not provide truly additional access to foreign markets nor reflect actual preferences as measures are in most cases applied on a non-discriminatory basis. However, the Waiver remains a potentially important tool for Cambodia's service and services trade policy makers as they engage target market governments in removing actual obstacles to Cambodia's services exports. Provided the needs are clearly identified and articulated, foreign government may well be inclined to grant special access to Cambodian and other LDC providers in the future.

Key barriers to Cambodia's services exports include:

- **Local content, film funding, co-production:** Funding for films in important film producing markets is heavily state driven, which often translates into a strong local content requirement where the use of national inputs is a precondition for access to financial support by the state (film funding, tax relief, etc.). This significantly limits the marketplace not only for movies but also input services that are, or could be, provided by Cambodian service providers to international productions. This matters greatly for animation where outsourcing of production steps across borders on a 'mode 1' basis is widely practiced.

Such local content requirements are often effectively modified through co-production agreements, but these again impose specific requirements that often exclude third party inputs. Their impact on third parties is sometimes even worse than 'pure' local content requirements. This is because bilateral co-production agreements often require all or a fixed share of inputs of production services (including studio and post-production work) to be provided in the coproduction parties, hence effectively excluding third party audiovisual service inputs.

Cambodia is currently party to only one film co-production agreement, namely with France (2013). The result is a disincentive for film producers from film producing countries with state funding to cooperating with (outsource part of the production to) Cambodian studios like in the case of 'Funan'.

The experience of concluding a co-production agreement with France should be emulated and policy makers are advised to promote the conclusion of coproduction agreements with other film producing and film sponsoring countries.

- **Physical Market Access and Visas:** IT and FinTech professionals and animation producers, while often providing the bulk of their services through remote means, i.e. mode 1, occasionally, but importantly, do need to travel to meet clients or participate in important events (e.g. film festivals, exhibitions, fairs) or client meetings abroad. They may need to cross borders as intra-corporate transferees sent to an establishment abroad, contractual service providers (employees of a company not resident in the target market), or independent professionals, depending on the contractual construction. Cambodian service providers often encounter challenges in obtaining the necessary access permits to markets including the US, the UK and others. Delays can be a major problem, as speed is often of the essence in IT service contracts, and delayed travel and unreliable access can have a major impact on delivery and hence contracts more generally.
- **Local partnering requirement & access to grants, subsidies and tax breaks:** Local partnering requirements are a limitation to incorporate a foreign company in certain markets and in others are a barrier to access to public funding programs or public procurement tenders. Singapore, for instance, offers a support package for ICT startups where three of programs under the package require 30 percent of local partnering and at least one is subject to 51 percent local shareholding.
- **Challenges in tendering on government procurement tenders:** Governments are among the biggest consumers of IT services. Government procurement is thus a crucial sales avenue. Cambodian providers when bidding for governmental contracts often face strong local preferences, which often translate into requirements to work with local partners. These partnering exercises can be heavy and risky.
- **Exposure:** Cambodian service providers experience the challenge of gaining enough exposure to clients and cooperation partners worldwide. A boost to exports in the selected services sectors could come from connecting Cambodia's services to opportunities worldwide including through the supported participation in trade fairs, trade delegations and film festivals abroad.

CHAPTER 11 : E-COMMERCE

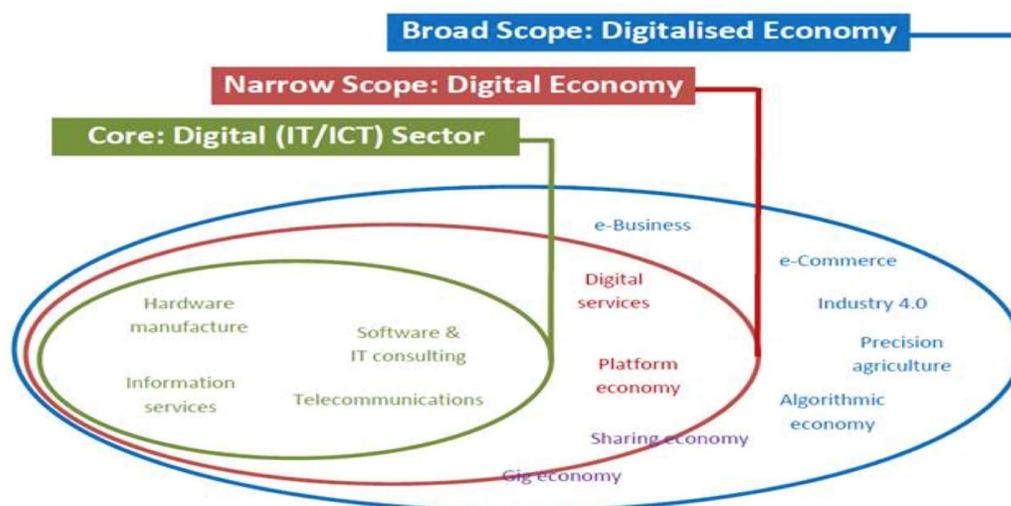
1. Introduction

The potential for e-commerce development is significant in Cambodia, promising to diversify the economy, provide new jobs, and increase financial inclusion, as well as contributing to improved lives and livelihoods. Cambodia is in a stage of development in which e-commerce is becoming visible, with an IT-hungry urban middle class that has emerged over the past 10 years, and with 60 per cent of the population below the age of 25. Cambodia has considerable advantages that could be leveraged to create ICT jobs and benefit the national economy. Yet E-commerce is relatively undeveloped compared to Cambodia's neighbours. Impediments to e-commerce development include lack of widespread internet infrastructure, limited audiences, delivery system challenges, lack of standardized electronic payment solutions. Other impediments include the high cost of electricity and a lack of trained ICT professionals.

Increased interest among Government entities for coordination of efforts and development of a conducive framework for e-commerce, stemming from negotiations, commitments and increasing pressure from private sector to regulate the sector and derive revenue from it. Government-led coordination of e-commerce development efforts picked up in 2017. In recent months, interest in e-commerce has risen again, prompting the RGC to intensify consultations among Government institutions with the objective to improve coordination of e-commerce development and in response to obligations taken by Cambodia under different negotiation fora. E-commerce in Cambodia is not yet perceived as a potential source of exports – in particular for agricultural commodities, handicrafts and garments, as it remains constrained to retail shopping, almost entirely for a small, domestic customer base.

E-commerce development should be replaced in the broader context of Cambodia's transition to become a digital economy (Figure 34). For the purpose of this chapter, e-commerce refers to operations established by companies to sell goods and services online. The OECD definition of e-commerce is followed which mandates that the order placement must occur online, but payment and order-facilitation can be handled offline, which allows for flexibility in developing country contexts where online payments are not common.

Figure 34: Digital Economy Scope



Source: World Bank

Other components of Cambodia transition to a digital economy only partially covered here include (see chapter 12 for more details on Industry 4.0 and Digital Economy in Cambodia):

- E-businesses / services which focuses on the digitization of operations within value chains. Here the extent to which ICT technologies are used within a value chain such as agriculture are considered.
- Social media shopping: this refers to the role of social media platforms and services such as Facebook that are enhancing communications and facilitate buyer-seller interactions.
- Government-led services: this refers to e-government services and its anticipated role in enhancing the government's service delivery for citizens and businesses in a geographically challenging environment, and building consumer behavior/confidence in conducting online transactions.
- Digital Financial Services (DFS): this refers to electronic money transactions (mobile banking and mobile money, credit card and debit card usage etc.).

2. Policy, Legal and regulatory framework for E-commerce

2.1. Policy and national coordination for e-commerce

In recent years, the Cambodian authorities have issued several policy documents related to digital economy and e-commerce, in line with international good practice. In March 2018, the Cambodian Government announced its plan to be ready to transform into a digital economy by 2023, considering that digitization of the economy drives innovation and fuels job opportunities and economic growth.

To achieve this goal, Cambodia requires an enabling policy framework and a supportive regulatory, among other priorities. The Royal Government of Cambodia has already identified an e-commerce as one of the most significant components to be enhanced for boosting economy as stated in the National Strategy Development Plan 2014-2018, the Cambodia ICT Master Plan 2020, and in the Rectangular Strategy Phase IV, an overarching policy document for the Cambodian government in its 6th mandate. This strategy outlined that the "Fourth Industrial Revolution" will become a key determinant of all aspects of socio-economic development.

Other key policy documents include the launch in 2014 of the Cambodia ICT Master Plan 2020 which aims to improve ICT industry and human resources development, internet connectivity, cybersecurity, and government e-services, the Telecoms and ICT Policy in 2016, which outlines policy measures and associated targets to expand ICT infrastructure and develop ICT human capacity. In addition, the Cambodia e-Government Master Plan 2017-2022 has been drafted, although not yet adopted. The draft outlines programs to provide quality information and digital services, in collaboration with prospective beneficiaries; connect with people on public policies and decisions, in particular through social media; and increase government efficiency by establishing basic foundations for digital government and a government portal on which ministries can host their services.

Numerous institutions across the Government are tasked with implementing these policies and strategies. These agencies include: Ministry of Economy and Finance (MEF), Ministry of Post and Telecommunications (MPTC), Ministry of Commerce (MOC), Ministry of Information (MOI), and Council for the Development of Cambodia (CDC). A working committee on Digital Economy has also been established in 2018, with the objective to streamline efforts by the Government to move towards a digital economy and promote the development of digital SMEs in a coordinated way. More efforts of the government to prepare and adjust relevant policies and regulations to seize all opportunities, to boost the growth of e-commerce, and to minimize any risk that can be caused by technology will also need to be considered.

Several business-related factors explain the renewed interest by the Royal Government:

- Growing concerns among Government agencies about the loss of revenue generated by informal and unregulated online commercial activities (e.g., Facebook and Instagram shops) with, in corollary, the lack of data and statistics on e-commerce.

- Strong call from the private sector for the Government to increase coordination and avoid overlaps on e-commerce development and improve formalization of the sector, in particular as regards status of e-commerce vendors and e-marketplaces
- Growing consumer protection concerns as MOC, as the agency responsible for consumer protection, does not have the mandate, means and capacity to address consumer complaints.

2.2. . E-commerce laws and decrees

The development of e-commerce in Cambodia has been hindered by a lack of regulation: foreign and domestic Investments in e-commerce and subsequent adoption by firms is constrained by the lack of a supportive legal framework for e-transactions, data protection and privacy, consumer protection for online purchases, and cybercrime prevention.

As shown in the table 56 below, Cambodia is the only ASEAN nation that does not have yet an electronic transactions or eCommerce law. A prerequisite for conducting commercial transactions online is to have e-transaction laws that recognize the legal equivalence between paper-based and electronic forms of exchange. Such laws have been adopted by 145 countries, of which 104 developing or transition economies. An e-commerce law is expected to be reviewed and passed by the National Assembly early 2019. The current draft law contains 12 chapters, divided into 90 articles. The draft law on aims to establish a comprehensive legal framework related to e- transaction. The main content of the Draft Law on E-Commerce are: E-Commerce, E-Signature, E- Government, intermediary or service provider, online consumer protection, online personal information protection, unsolicited message, e-payment, e-evidence, and penalties. The e-commerce law shall protect both investors and consumers and settle differences when problems happen. The law will cover e-payment (under jurisdiction of the National Bank of Cambodia) and state punishment for those who violate the law.

Table 56: E-commerce Legislation Adoption by ASEAN Member States

	e-transactions / e-commerce law	Data protection and privacy law	Consumer (including consumer law)	protection online protection)	Cybercrime law
Brunei	Yes	No	Yes		Yes
Cambodia	Draft	No	Draft		Draft
Indonesia	Yes	Yes	Yes		Yes
Lao PDR	Yes	No	No		Yes
Malaysia	Yes	Yes	Yes		Yes
Myanmar	Yes	No	Yes		Yes
Philippines	Yes	Yes	Yes		Yes
Singapore	Yes	Yes	Yes		Yes
Thailand	Yes	Yes	Yes		Yes
Vietnam	Yes	Yes	Yes		Yes

Source: Summary of Adoption of E-Commerce Legislation Worldwide, UNCTAD

Despite this, recent progress in the legal framework for e-commerce includes:

- Law on Telecom - 2016
- Sub Decree on Registration of Company operated ICT –21/07/2017
- Sub Decree on Capacity Building, Research and Development (CRBD) –21/07/2017
- Sub Decree on Tax Incentives for SMEs in Priority Sectors - 2017
- Sub Decree on Digital Signature –29/12/2017

As a move in the right direction, the Sub-Decree № 246 on digital signature aims to regulate and promote the use of digital signatures in Cambodia. A “Digital signature” is defined as the data which is linked to an electronic message used to confirm the identity of the digital signatory and to verify the original status

of the electronic message. To be considered as a digital signature, it must properly and specifically affirm the identity of the digital signatory, confirm the original status of the electronic message, and certify the time and date that the digital signature was executed. The Sub-decree seeks to manage the use of digital signatures in a secure and efficient way. Digital signatures could prove useful for both public and private institution, with applications when registering a business online, using the Automated System for Customs Data (ASYCUDA), the Financial Management Information System (FMIS), paying taxes, registering vehicles and real estate, as well as for online banking platforms and e-commerce, among others.

Last but not least, concerns by formally established e-commerce businesses on unfair competition, added to the perception of revenue loss by the Government by failing to account for a largely informal sector pushed the Government to consider taxation of e-commerce operations, in line with similar moves among ASEAN member states. The absence of a proper registration system and rules for e-commerce players (vendors and marketplaces) further complicates the issue. At the present time, while taxes on e-commerce is being developed regionally and globally, Cambodia has no actual mechanism to collect fiscal revenue from e-commerce operations. This is made even more complex as MEF or MOC do not define what type of online business is defined as e-commerce. Consequently, it is not possible to define what type or size of a business transaction would be subject to tax obligations in the future. As Cambodia's e-commerce is still at an early stage of development, it might not be wise to decide to impose a tax immediately. Instead, the Government preference is to design policies and regulation to help the sector grow smoothly and move informal businesses to the formal sector.

2.3. Regional and International Commitments

The Cambodian Government support to the development of an e-commerce ecosystem is influenced by commitments taken during multilateral (WTO) and regional (ASEAN, RCEP) trade negotiations. With increased internet connectivity, rising smartphone penetration, and growing availability of internet access and new payment options, electronic commerce (e-commerce) has gained momentum in ASEAN. Discussions and negotiations on e-commerce have accelerated in recent years.

Cambodia's participation in and commitment to the e-ASEAN framework that calls for, among other targets, a robust legal and regulatory framework for e-commerce. Cambodia's participation in ASEAN negotiations in trade in services, including e-commerce (ASEAN Framework Agreement on Services – AFAS), in the ASEAN Trade in Services Agreement (ATISA) and the on-going negotiations in the framework of the Regional Comprehensive Economic Partnership (RCEP) that include China will have a strong bearing on the Cambodia e-commerce ecosystem.

Recognizing the potential benefits of e-commerce to businesses, particularly for small and medium-sized enterprises and start-ups, ASEAN Member States (AMS) committed to create a conducive environment for the growth of e-commerce through, among others, advancing trade rules in ecommerce and building up greater digital connectivity within the region. To this end, the ASEAN Agreement on e-Commerce was endorsed by the ASEAN Economic Ministers at the 50th ASEAN Economic Ministers' Meeting and signed at the side-lines of the 33rd ASEAN Summit & Related Meetings in November 2018. The Agreement builds on past agreements and incorporates modern elements including (i) cross-border transfer of information by electronic means; (ii) location of computing facilities; and (iii) cybersecurity. The Agreement's objectives are (i) to facilitate cross-border e-commerce transactions; (ii) to contribute to creating an environment of trust and confidence in the use of e-Commerce; and (iii) to deepen cooperation among ASEAN Member States to further develop and intensify the use of e-Commerce to drive economic growth and social development in the region. The Agreement contains provisions on Domestic Regulatory Framework Transparency Cooperation among Member States, Facilitating Electronic Transactions and Trading, Cross-Border Data and Information Flows and Location of Computing Facilities, Logistics, Consumer Protection and Privacy and Technology Neutrality.

ASEAN is only a first step for Cambodia. Regional trade agreements increasingly include e-commerce provisions. This risks fragmentation of the international regulatory environment for e-commerce with implicit barriers arising for Cambodia (as well as ASEAN) e-commerce external trade. A multilateral

agreement is protection against such a risk, again emphasizing that CLM should consider promoting a WTO Agreement on e-commerce.

At the WTO, discussions on e-commerce in the framework of the WTO prior and during the 11th Ministerial Conference, resulting in Cambodia supporting the MC11 Statement on Electronic Commerce. It gained additional speed in January 2019 when 76 partners decided to start negotiations to put in place global rules on electronic commerce. Despite the fast increase in electronic transactions, there are no specific multilateral rules in the WTO regulating this type of trade. Business and consumers instead have to rely on a patchwork of rules agreed by some countries in their bilateral or regional trade agreements. WTO rules on e-commerce will aim to enhance opportunities and address challenges of e-commerce in both developed and developing countries. The Government of Cambodia, should play an active part in international efforts by LDCs to streamline the rules on e-commerce and in working on removing national barriers to e-commerce. The benefits of e-commerce for development are evident and should aid the further integration of Cambodia, into the multilateral trading system. Cambodia could take a proactive stance in promoting a decision to make permanent the present provisional moratorium on customs duties on electronic transmissions; It could also seek to promote the adoption of a reasonably high de minimis value for cross-border shipments from LDCs that are contracted by e-commerce and which would be exempt from customs duties. Currently many OECD members have different de minimis standards for such shipments. The introduction of a worldwide common de minimis on imports from LDC MSMEs would help spur the development of MSMEs and provide them with an important competitive advantage, especially as low value / low risk shipments that fall in the de minimis category are the predominant form of MSMEs e-transactions. Finally, Cambodia might also consider joining the discussions of “Friends of E-commerce for Development” (FED), which is a grouping of a number of developing countries in the WTO that arranges periodic meetings on e-commerce topics. October 2017.

2.4. Government Strategy for an E-commerce Uptake

As highlighted in the 2017 UNCTAD eTrade Readiness report for Cambodia and the 2018 World Bank “Benefitting from the Digital Economy” Cambodia Policy Note”, the Cambodia digital and e-commerce ecosystem is developing fast, yet is still incomplete. Before Cambodia can benefit from the age of digitalization, the lingering barriers need to be removed. A comprehensive digital economy strategy and a five-year road map should be developed to incentivize investment in digital infrastructure, improve digital literacy, promote entrepreneurship and innovation, and build trust in the use of online services. The Rectangular Strategy IV covering the period 2018-2023 provides the political platform and thrust to move forward in building a robust, shared vision for a Digital Cambodia, relying on four strong components:

- Strategy for a Digital Cambodia (enhancing current work by MPTC and MIH on Digital SMEs)
- Digital Government Strategy: It could be beneficial for the Government to establish a Coordinating Agency for Digital Development—similar to those established in the United Kingdom, Singapore, Malaysia, and Thailand—to drive the preparation of the framework and its implementation. Successful implementation of the strategy also requires reforms specific to e-government.
- Digital Skills Strategy (including acceleration the upgrade of secondary and tertiary education curricula and emulating the achievements of the National Institute of Posts, Telecoms & ICT – (NIPTICT)
- An e-commerce strategy, to ensure increased broadband availability and affordability is used for productive goals, generating employment, revenue and foreign trade.

While the government should play a facilitator and coordinator role with the above, all stakeholders have a role to play in Cambodia’s transformation into a digital economy. The government should create an enabling environment and demonstrate digital leadership to encourage the adoption of digital technologies. Firms should invest in digital infrastructure and upskill their employees to facilitate the development of local talents in the ICT and tech start-up industry. And non-governmental organizations and schools could provide education and training to bridge the digital divide.

The Ministry of Commerce has taken the lead in the formulation of an e-commerce strategy, building upon the foundations created by the UNCTAD eTrade Readiness report for Cambodia and the RSIV goals and KPI on a digital Cambodia. Cambodia, with one the fastest-growing internet connectivity in the Asia-Pacific region, is at a crucial stage where E-commerce development is potentially viable but still untapped. The Ministry of Commerce considers the development of an e-commerce strategy as the launching pad to promote and foster e-commerce development in Cambodia. It is expected that the e-commerce strategy will be launched during the first of 2019. Its formulation will be Government-owned and driven with strong stakeholders engagement. The Ministry of Commerce will lead this process in cooperation with line ministries, in particular the Ministry of Posts and Telecommunication, the newly formed National Logistics Council, the Ministry of Transport and Public Works, the Ministry of Industry and Handicraft, private sector and other stakeholders. The strategy will focus on seven policy areas for e-commerce development, namely:

- E-commerce vision for Government and Businesses
- Legal and Regulatory Framework for e-commerce (including formalization of e-commerce vendors and marketplaces, consumer protection, Online IP, taxation options, business associations)
- ICT infrastructure for e-commerce
- Trade logistics and trade facilitation (including *deminimis* thresholds for cross-border e-commerce, paperless trade, first-mile and last-mile delivery, return logistics)
- Electronic payment solutions and Digital Financial inclusion
- Access to Financing for SMEs and Digital SMEs (including on role of business accelerators, business incubators and venture capitalists).

3. ICT-Infrastructure and Internet Penetration

The rapid expansion and coverage of the mobile Internet has contrasted with the slow development of fixed broadband Internet. The introduction of fibre-based broadband has provided a boost to commercial and residential customers. Despite this initial uptake, fixed line telephone and/or fixed broadband Internet are hardly used, considered by many customers and private companies as too expensive and not reliable.

Cambodia Internet and Mobile Penetration (MPTC data, 2018):

- 121% Mobile Phone Penetration
- 84% Internet Penetration
- 7 Million social media (Facebook) users
- Broadband coverage in urban areas: 100%
- Broadband coverage in rural areas: 70%

Cambodia ICT Infrastructure (MPTC data, 2018):

The ICT sector is considered one of the backbone services industries in Cambodia, providing important economic and social benefits. Besides its direct contribution to the economy, ICT allows people to stay connected and is considered an essential facilitator of economic growth in other sectors of the economy.

- Mobile Operators: 6 (3 share more than 90% of the market)
- Fixed telephony operators: 8
- Internet Service Providers: 36
- Land Fiber Optical Network: 46,600 Km
 - Including Viettel Cambodia: 26,000 Km
 - Including Cambodia Fiber Optic Cable Network (CFONC): 19,000 Km
 - Including Telecom Cambodia: 1,600 Km
- Sub-Marine Cable Networks:
 - MCT (Malaysia-Thailand-Cambodia)
 - CFONC : AAE-1

- -Fixed Subscriptions. (2017): 0.84%

Fixed-line broadband market penetration has not grown significantly over the last five years, with penetration increasing from a very small base from 0.1 per cent of Internet users in 2012 to 0.6 per cent in 2017. Over the next four years to 2022, growth is expected to continue but overall market penetration will remain low. In contrast, there has been the rapid expansion of mobile broadband Internet services on the back of the large-scale launch of 4G services by the numerous mobile operators.

Table 57: Ranking of selected economies in the UNCTAD B2C Index 2018

Country	Ranking in UNCTAD B2C E-Commerce Index 2018 ¹
Singapore	2
Malaysia	34
Thailand	43
China	63
Brunei	n/a
Vietnam	69
Indonesia	90
Philippines	92
Lao PDR	98
Cambodia	118
Myanmar	125

Cambodia rank among ASEAN members, as measured by the UNCTAD B2C e-commerce index, has remained low with little evolution over the past 5 years, partly due to a weak legal and regulatory framework for e-commerce and challenges in logistics and distribution as seen in table 57.

In line with what is being observed in other in the region (Lao PDR, Myanmar) Cambodia is a mobile-only country when it comes to broadband Internet. There has been a rapid expansion of mobile broadband Internet services on the back of the largescale launch of 4G services by the mobile operators. However, even as digital adoption surges among the Cambodian people, with mobile penetration and subscriptions reaching new heights, internet penetration is still low across the country. As a result, smartphone adoption is growing at a fast pace, mobile eCommerce in Cambodia enjoyed fast growth over the past few years as mobile internet access is affordable. Mobile money transfer and mobile payments options have grown rapidly in popularity, even in the countryside (money transfer and remittances from migrant workers), fuelled by the large size of unbanked population and the very limited used of debit/credit cards.

Similarly for business online presence, digital adoption at the firm level also remains low. Fewer than one-quarter of businesses had a web presence in 2017, well below the world median of 46 percent. Cambodia also has a very low number of secure servers per million people.

4. E-commerce eco-system

Over the past ten years, the e-commerce ecosystem development in Cambodia has been largely driven by the private sectors initiatives. The subsequent sub-chapters will illustrate the current “composition” of Cambodia’s e-commerce sector.

4.1. E-payment Gateways

E-payment is the most developed e-commerce sub-sector. Wing, Pipay, Paygo, GetLoy, PostTransfre, Ecash and are the main stakeholders which form a relatively complete and competitive e-payment landscape. To follow the global trend of electronic payment, more banks have started offering payment solution apps which has made cashless payment a popular experience for many consumers. Moreover, International partners like Alipay and WeChat-pay, have sought partnerships with local companies to offer their e-payment services.

There are still barriers such as low bank account ownership rate, cash on delivery preference, and trust which prevent e-commerce from booming. However, based on the experience of other countries', e-payment will rapidly bridge the users and market, and promote the expansion of e-commerce exponentially.

Wing (launched in 2009) is the leading mobile money and electronic payment service provider in Cambodia. Wing provides channels for Cambodians to send and receive money anytime, anywhere with the use of a mobile phone. It was crowned No. 1 as the "Best Mobile Payment Solutions Cambodia 2017" in the Global Banking & Finance Awards, Its services have been extended from C2C money transfer by using mobile phone to B2B and B2C mobile payment solutions.

Wing has built its partnership with public sector, local and foreign banks in order to extend its money transfer service both local and international consumers. It has also begun to offer cashless payment solutions. Adding to the local money transfer market, the company further provides the services such as phone top up, bill payment and online service payment. Wing also provides funds and disbursement solutions to the corporate sector. Small and medium enterprise and companies can use Wing's payroll and disbursement services for their employees.

PiPay is another payment platform that is competing with Wing. Pi Pay has started to transition to a payment infrastructure provider model where the company is building partnerships with businesses to expand payment infrastructure across the nation. Pi Pay currently has 250,000 e-wallet users; 50,000 users covering Phnom Penh, Siam Reap and Sihanoukville and 50% market penetration. The company plans to expand services to rural areas in 2019. PiPay's eventual goal is to implement a business model that is similar to similar to PayTm and WeChat Pay where users through their services can gain access to vouchers and enable them to review of goods/services. PiPay endeavours to expand their partnerships network with with UPI's such as Alipay and VISA.

It has also been observed that partnership building with public sector and cooperation with other industries are better ways to extend e- payment application and provide broader services. For ex. Wing and the Phnom Penh City Bus Authority (PPCBA) have run a successful trial of payment for city busses using a special Wing card. Pi Pay signed a partnership with the Ministry of Public Works and Transportation where users can pay for public transport, vehicle registration and several other services via the Pi Pay app.

4.2. Logistics and Delivery

Logistics in Cambodia continues to remains a critical barrier for e-commerce, especially last mile delivery and high cost. In terms of last mile delivery, infrastructure issues such as underdeveloped transportation pathways and lack of physical addressing system hinder the provision of logistical services. Further, logistic start-ups, particularly the small enterprises without access to large capital financing face the obstacle of a less-transparent taxation system.

Currently, the provider of logistics and delivery consists of state-owned enterprises (for ex. Cambodia Post), foreign logistics companies (for ex. Kerry Logistics), and local small start-ups (for ex. Joonak). Cambodia Post offers all range of domestic and international post services from collecting and processing to distribution of mail and parcel. Kerry Express (offered by Kerry Logistics Cambodia), KH Express and small start-ups focus on the provision of last mile delivery service B2B, B2C and C2C.

The demand for logistics has been increasing recently. Current logistics providers cannot meet the need of market. However, the market gap has not been filled up due to the infrastructure issues and start-ups/MSME predicaments. In fact, thousands of unorganized private drivers in Cambodia are a potential resource that has not been fully explored to expand last mile delivery coverage.

4.3. Mobile E-commerce

Soaring smartphone adoption and mobile internet penetration gave an impetus to mobile e-commerce

booming in Cambodia. As seen in many developing countries, Cambodia's e-commerce market mainly relies on mobile networks due to the backward ICT infrastructure and household computer ownership (10.5%). Cambodia's mobile broadband has grown sharply over the past five years from a small base to a mature market.

At present, approximately 67% of the population has the Internet access, and most of them get access to internet via smart phones. It is expected that 90% of the population will get connected to the Internet by 2020. In Cambodia, mobile internet access is affordable for the masses, with costs below the global average. Mobile money transfer options have grown rapidly in popularity, even in the countryside. Given these positive trends it can be forecasted that mobile e-commerce will be dominant form of e-commerce in the future among individual users.

4.4. Cross-border E-Commerce

With the popularization of internet, advancement of cross-border logistics and improvement of online payment, cross-border e-commerce B2C markets across the world are growing. As a product of consumer era, cross-border e-commerce is not only a new model of foreign trade but an effective pattern to broaden marketing channels overseas and achieve transforming and upgrading of foreign trade. Besides breaking the barriers between states and develop international trade into non-boundary trade, cross-border e-commerce also brings about a tremendous change in global trade.

There are three trade models in cross-border e-commerce models, including (1) international marketplace platform like Alibaba(B2B), Aliexpress and eBay(B2C), offer buyers products online and deliveries to Cambodia; (2) platforms like Fado168(B2C,O2O) allows costumers make purchases from Amazon USA and Amazon Japan; Kiu Ship provides solution for cross-border B2B e-commerce (3) Apart from web based shopping platforms, Cambodian people generally conduct the cross-border transactions by using social media like Facebook platform, or using phone calls. According to MoC, there are no official statistics on export and import of cross-border e-commerce

4.5. Cross Border E-commerce Challenges

Logistics and Last Mile Delivery

The most pressing logistical challenges have been outlined in section 3.2. In addition to these barriers the lack of a physical addressing system as well as the inefficiency of customs clearance for partially for less-than-container loads contributes to inadequate logistical service inefficiency. To address these observations, currently, the Cambodia Posts is piloting a custom declaring system along with ACYCUDA, aiming to promote cross border e-commerce through tax clearance.

E-payment for Cross-border E-commerce

Most of e-commerce transaction requires bank account, Visa/Master card, or e-payment solution. With 33% of the population having a bank account, most customers are excluded from cross border e-commerce. Moreover, the existing cashless e-payment solutions in Cambodia are mostly not accepted by the cross-border e-commerce platforms.

English language skills and ICT Illiteracy

Most of cross-border e-commerce market places are written in English and reserved for those who can fairly communicate in English. In addition, the buyers should be familiar with new technology tools and applications provided by the platform such as account sign up, provide personal information, payment tool details and the delivery address - which are not possessed by the masses.

5. Cambodia E-commerce Market analysis

5.1. Cambodia E-commerce Market Analysis Overview

Cambodia current engagement in e-commerce is still nascent but, it has tremendous potential to contribute to the economic growth of the country. Currently, Cambodian consumers maintain a strong preference for traditional markets and their financial markets rely on cash. The current demand for e-commerce is limited to goods and services that customers cannot access through traditional channels and/or very niche sectors (handicrafts, garments, tourism, and catering-related services). However, social media platforms such as Facebook have provided an attractive channel for small entrepreneurs to buy overseas products and sell them online. This type of “e-commerce” is the most popular and is very informal. The Facebook channel provides current e-commerce ventures with access to 15,000 consumers. Cambodia has local e-commerce platforms such as MyPhsar, Khmer24, Iknow, and Mall855 but access to these portals are less when compared to Facebook due to its perceived “less user friendliness”.

The Government has been encouraging Cambodian’s to utilize digital payment solutions to promote e-commerce. The National Bank of Cambodia (NBC) notes that Internet banking/mobile banking and mobile payment services (most notably Wing and PiPay) have been gaining popularity among consumers due to possibility of providing them better access to their funds and facilitate real-time trade transactions. However, the prevalence of a lack of trust in online transactions/financial institutions among consumers and the presence of an unbanked or underbanked population is a significant bottleneck to overcome.

Inefficient and expensive logistics represent a significant barrier preventing e-commerce development. The lack of a digital postal code system and presence of numerous logistic companies (DHL, Kerry Express, Joonak Delivery) complicates logistic co-ordination. Last-mile delivery in Cambodia involves heavy reliance on MSME’s and is very cost intensive especially for small merchants.

Another notable challenge is the presence of poor e-commerce skills development due to very low e-awareness and institutional support for digitization. However, a dynamic youth population is changing this trend due to their comfort with online services and their capacity to “spread the word” across generations. The Government has started to digitize itself by promoting adoption of e-services and e-payment through the movement of trade and business related procedures online.

While key barriers are slowing the adoption of e-commerce in Cambodia, the government and private sector have taken progressive actions to address these bottlenecks. The Ministry of Commerce has recently prepared an e-commerce law which is awaiting ratification from parliament. Following approval and implementation of these legislative articles, a strong e-commerce regulatory environment will be present and thereby attract leading e-commerce stakeholders and investors to catalyze and unlock the nation’s e-commerce potential.

The Ministry of Post and Telecommunications (MTPC) has established a Capacity Building and Research Development (CBRD) Fund to promote the mobilization of young talent and promote tech-startups in the country. Telecom operators have provided USD 6.5 million dollars to this fund and the government has contributed an additional USD 0.5 million. Two projects viz. an Innovation Center and Technology Center have been approved under this R&D fund. The former will support tech start-ups adopt innovative technologies and practices while the latter (in partnership with Metfone) will support R&D of products and services in the market. Further, the MTPC and Ministry of Education are working together to promote entrepreneurship via the establishment of Smart Labs throughout the country.

The Ministry of Public Works and Transportation (MPWT) will be finalizing its Master Logistic Plan 2018-2025 which aims to promote infrastructure and capacity building efforts in Cambodia. There are currently 75 pipeline projects (budget ~USD 19 billion) to fulfill strategic goals with different ministries serving as implementing agencies and the MPWT will serve as an overall project co-coordinator. China, Japan, ROK and Vietnam have been heavily engaged in this strategy.

The private sector is also conducting its own activities to facilitate e-commerce development in the

country. A few telling examples of recent innovations include:

- Pathmazing in conjunction with Salesforce offers its client access to advance ERP and CRM services. Further the company develops mobile applications and B2B platforms to provide online services (for ex. online meal booking) and provision of bulk materials to clients. Pathmazing launched in 2017 the E-commerce platform “Tesjor” an application to enable a wide range of online services from food ordering to hotel booking and reserving transportation. The app integrates mandatory cashless payment systems, a first in Cambodia which usually relies on cash on delivery.
- Joonak Delivery is an SME which has been creating a niche in the last mile delivery sector and has been using social media to provide logistic services for e-commerce related activities. They are currently developing a mobile application and website to increase the scope of their business and promote visibility.

Other leading digital innovators appearing in last few years include:

- Blockchain: Cryptoasia
- Accounting/banking/invoicing: Kiu, Morakot
- Comparison: SPEAN
- Payment and Remittances: AMK, KB Global, DaraPay, BongLoy, Wing, TrueMoney, Ly Hour Pay
- Alternative finance: Karprak, Bima, Agribuddy

The implementation of effective solutions to address e-commerce bottlenecks and identification of the synergies between e-commerce and Cambodia’s key economic activities will enable the nation to become an innovative marketplace for e-commerce.

5.2. Business to Business (B2B)

The B2B market in Cambodia has yet to mature and has tremendous potential. According to a 2016 World Economic Forum survey conducted in 2016, Cambodia’s use of ICT in the B2B transactions was evaluated with a score² of 4.73, which is only slightly better Lao RPC, Myanmar, and India. The current trends for B2B e-commerce focus on consumption product marketplaces such as clothes, foods, handicrafts, jobs and transportation. Recently, B2B e-commerce has begun expanding into new sectors such as technology, electronic devices and business information. As ICT infrastructure, services and e-commerce continue to develop and expand in Cambodia, it can be expected that dedicated B2B marketplaces will emerge.

5.3. Online Retail Market (B2C, C2C)

According to a WEF survey conducted in 2016, Cambodia has a score of 4 in the use of ICT in the B2C transactions, which ranks the second last among 12 Asian countries. Although the trade volume is still small, online shopping has become popular in recent years. This observation can be ascribed to the boost in B2C and C2C transactions on domestic and international e-commerce platforms due to a growing adoption of mobile payments. However, the majority of e-commerce merchants in Cambodia still prefer to use social media platforms, most notably Facebook, as their primary sale portal because they have more visits on their merchandise from their fans/friends when compared to a web-based platform. In terms of payments, cash on delivery (CoD) is still the preferred payment option among consumers due to its convenience and appeal to clients which don't have access to a bank account or e-payment. CoD popularity is further supported by the lack of performing online transaction on social media. Theoretically, Online-to-Offline (O2O) commerce employ in-store pick-up of items/services purchased online and enables items purchased online to be returned at a physical store. Currently in Cambodia, due to high reliance on cash payment and poor logistics - some local customers feel more convenient to make a purchase in brick-and- mortar stores after obtaining online selling information. With the successful launch of the local online payments such as Wing and PiPay, O2O business models have begun to

promote online ordering and offline pickup.

5.4. New Emerging E-business Activities

Due to the increase of internet penetration and smartphone utilization in Cambodia, new emerging e-business activities viz. payment/remittance; financing/insurance; accounting/invoicing; mobile banking, financial comparison and blockchain have been gaining traction in the country. Payment/remittance accounts for 50% of these new activities. Yet, Cambodia faces challenges that are slowing e-commerce business development such as the lack of local B2B and B2C platforms – due to the presence of a very large informal commerce market, the poor e-commerce fulfilment and logistics networks and absence of return policy (e.g. reverse logistics).

6. Key Opportunities E-Commerce Presents

Despite the small e-commerce market share in Cambodia, this sector has been identified as the key driver of economic growth for the country in the future. The positive trends for e-commerce adoption such as leapfrog of smartphone owning rate, affordable internet access, and online shopping habit developing allow the country to embrace e-commerce. Both public sector and private sector have realized that e-commerce has brought huge opportunities to the economic growth in many aspects, including investment, domestic market, second and tertiary industries, MSMEs etc.

While there are gaps and barriers in Cambodia's e-commerce sector, these challenges indicate the presence of market opportunities. For ex the growing adoption of e-payment modalities and the increase in logistics project development have attracted a large number of investors, start-ups and entrepreneurs across Cambodia and globally to contribute to the growth of the e-commerce sector. Innovative service oriented businesses like Pipay (e-payment) and Grab (e-transport) have been emerging in multitude.

Meanwhile, demographic advantages in Cambodia such as an increasing youth population will greatly influence the adoption of e-commerce which is ascribed to this generation's high acceptance of technology. Further, the newly-forming middle class' demand for inter-connected life will prop up the e-commerce market, and will directly promote the economic growth and social development.

6.1. Capital Investment Opportunities

Cambodia's Foreign Direct Investment (FDI) increased by 831.7 USD million in June 2018 (all time high), compared with an increase of 820.2 USD million in the previous quarter. Based on our survey and secondary data, most of the successful e-commerce related enterprises and innovative start-ups rely strongly on foreign investments. A large number of foreign capital investments and international e-commerce giants are prepared to invest in e-commerce and ICT in Cambodia once an e-commerce law is implemented. The sectors foreign investors intend to invest are presented as follows:

- **B2B and B2C platform marketplace**

Large-scale B2B and B2C platform marketplaces will integrate manufacturers, small vendors, individual users, e-payment and delivery providers into one network. Alibaba has expressed keen interest to offer its services to e-commerce stakeholders.

- **Logistics**

Logistics is one of the weakest links in e-commerce eco-system, contains tremendous potential. The Ministry of Public Work and Transportation has been coordinating with logistics stakeholders in China, Japan and the Republic of Korea to implement its Master Logistic Plan 2018 – 2025; which aims to revamp existing and build new logistic networks. Further, the government should explore opportunities to create incentives for logistic companies to use eco-friendly means to provide their services. Development of conducive policies to promote clean environment through a reduction of CO2 emission

will greatly contribute to the global environmental conservation mandate. Meal Temple, has been testing the utilization of electric bikes for more than 8 months and has been able provide smooth logistical services while decreasing by 70% our carbon foot print on logistic.

- **Fintech**

Cambodia's developing Fintech sector has started to attract the attention of foreign investors. There is still scope to expand this market. For ex. the Cambodian Fintech Association and Singapore Fintech Association have worked together to provide short term financing for their clients as well as develop programming culture in Cambodia – especially for e-commerce applications. The Government can promote the integration of digital payment solution by building a central platform connecting all fin-tech companies to share technology, build partnerships and work with government to increase their adoption among businesses and consumers. Such a platform is a cost-efficient as all licensed Fintech companies can be integrated at a one-time setup cost.

6.2. Domestic E-business Market Opportunities

- **Government Opportunities**

Cambodia has a draft e-commerce law which is yet to be ratified by Parliament. This is ascribed due to the fact that that e-commerce grows based on connectivity (mobile and internet), which has leapfrogged very fast. This growing connectivity accelerates the growth of other sectors, such as e-payment, stock exchange, etc. Thus, e-commerce has to include all the growing relevant sectors, such as capital market, requiring more time for the e-commerce law. However, through interviews conducted with stakeholders a common recommendation noted was the formal establishment of an e-commerce regulatory framework to stimulate e-commerce growth locally but, attract foreign investors to boost the investment in this sector.

Marketplace business and on demand services are creating opportunity for entrepreneurs. The Government will need to establish this regulatory framework provide these services (this is an example highlighting the importance and necessity of an e-commerce law). If there are legal methods to ensure simple registration of service companies, it will facilitate financial inclusion as well as boost opportunities for self-employed and entrepreneurs, especially women. Recommendations to facilitate fast business registrations include the provision of virtual office services; VAT and Tax ID; Assistance with obtaining licence (cryptocurrency, wallet, marketplace, and others); obtaining certified company documents in English; implementing an online accounting system; and assistance with opening bank account.

To facilitate the development of skills in e-commerce, the establishment of provincial Center for excellence's can be used to train workers to be employed in high value-added manufacturing. Further, such institutions should provide solutions to commerce such supporting merchants in inventory and warehouse management which are key aspects to consider when engaging in e-commerce.

To stimulate engagement in e-commerce, the Ministry of Economy and Finance (MEF) has confirmed that they will not impose tax on either local or cross border e-commerce in both short and medium term.

The Government should also explore the opportunity to promote regional e-commerce co-operation by discussing potential areas of collaboration with regional groups such as ASEAN, GMS and Mekong Lanchang Cooperation. Such an initiative can assist Cambodia to attract more investment from other e-commerce stakeholders.

- **Online Retail Marketplace**

Online marketplace platforms like MyPhsar, Khmer24, Iknow, and Mall855 have obtained customers' acceptance. They provide products and services such as art, books, clothes, household devices, vehicles, electronic devices, jewelleries, real estate and jobs. This market will appeal to more investors with more and more customers get used to online shopping.

- **Other Online Service Platforms**

It is important the “e-commerce” not be limited to retail and exchange of goods – the scope must be expanded to cover different service sectors. An example is the popularity of PassApp and Grab (online platforms offering private transportations) is a successful case of combination of foreign investment and local feature. The mode is highly replicable for other services like food delivery, entertainment etc. These models should be expanded to other sectors, including nursing, teaching, farming, etc. While actions are taken to increase the “online population” it is also important that a regulatory framework is established to monitor how entrepreneurs, owners and consumers declare income through an online platform.

A trending international sector where e-commerce has the potential to be implemented is the gaming industry. Consumers are increasingly making in-app purchases of virtual products such as online credits and virtual coins. The global market size of this sector in 2018 was US\$ 20 billion and training people to develop gaming apps to be sold on digital market places can provide them with skills such as 3D design, Animation, Marketing which are transferrable. Further, given Cambodia growing and dynamic youth population, the promotion of the online gaming sector can serve as a conduit to increase trust in other digital systems.

- **Digital Marketing**

With more Cambodian joining internet, traditional advertising methods through mainstream media such as TV are transitioning to online marketing where many young Cambodians reside. Digital Marketing Companies such as MangoTango assist their client to develop digital marketing strategies. For example, MangoTango worked with a Japanese insurance company Daiichi to conduct market analysis on perception of life insurance among consumers in Cambodia. MangoTango helped them to develop a brand, logo, lifestyle message. They are currently working on developing an advertising strategy for Daiichi’s services through tactical channel (TV, radio) and digital channels (social media, digital ads)

6.3. Cross-border e-commerce

Cross-border e-commerce has not been exploited. Cross-border e-commerce enables local enterprises to extend their economic activities beyond borders in order to pursue opportunities elsewhere. Moreover, cross-border e-commerce will facilitate and reshape the imports and exports. Additionally, The China-led Belt and Road Initiative provides new opportunities for Cambodia to leverage resources and international cooperation to support the development of the cross-border e-commerce sector.

6.4. Traditional Industry Opportunities

E + tourism: In recent decades, tourism has become one of the most important service industries in the global economy and the government is developing active and innovative policies to build a competitive, inclusive and sustainable tourism sector. Internet and e-commerce can stimulate tourism growth by providing online services for tourism experiences, by supporting innovative online approaches to tourism development and marketing and by influencing the image of destinations. The potential for value creation from this emerging relationship lies in the integration of touristic experiences with online services.

E + Agro value chain development and regional trade: Cambodia’s main agro products include rice, mango, cashew and etc., among which rice particularly generates an estimated 70% of total country production during the wet season. Internet/e-commerce plus agro industry will help to improve image and competitiveness of the industry, and support the growth of the agro industries and exports.

SEZ development: establish ICT industry agglomeration: The Government’s National Strategic Development Plan 2014-2018 aims to “mobilize human, financial and institutional resources to support the establishment of new industries” – which includes instituting and strengthening SEZs to attract foreign investment, encourage technology transfers and broaden export markets. The majority of investors in SEZ’s are Japan, China, Thailand and Taiwan. SEZ’s in Cambodia mainly focus on light manufacturing in the electronics, automotive and garment sector. There are currently 5 SEZ’s in Cambodia with the largest located in Sihanoukville. The utilization of e-commerce to export the outputs

of the SEZ's presents an opportunity as well as ensures that the SEZ's build and maintain a suitable ICT capacity to keep pace with technological advances.

Opportunities for MSMEs: in Cambodia, 90% of the local MSMEs are micro with no more than 10 employees. The e-commerce MSMEs usually do online business through Facebook or Instagram. The protection for both seller and customers through social media e-commerce is not guaranteed with the absence of the e-commerce law. The approval of the law will regulate the trade and boost the social-media e-commerce growth accordingly. The business opportunities for MSMEs include:

- Ability to join E-commerce marketplaces to increase their business activity potential
- Improved Social Media e-commerce Services
- Improved access to various delivery and courier options
- Ability to participate in Cross-border E-commerce

CHAPTER 12 : DIGITAL TRANSFORMATION AND INDUSTRY 4.0

1. Introduction

In the 2018 Rectangular Strategy Phase IV (RS4), the Royal Government of Cambodia set “readiness for the digital economy and the Fourth Industrial Revolution” to be one of the four priorities for economic diversification and new sources of growth²⁰⁷. The term ‘Fourth Industrial Revolution’, alternatively Industry 4.0 or just i4.0, in the words of the “United Nations in Cambodia’ website, “refers to the development of advanced technologies, such as 3D printing, robotics, biotech, quantum computing, enhanced communications networks and infrastructures (the Internet of Things) and new production management know-how.” The emphasis is on i4.0 as the use of productive new technologies that are Internet-connected, and as such reflects the origins of the term arising from the Industry 4.0 Working Group in Germany in 2012. This was to provide a techno-logical architecture for Germany’s industrial production processes: technically based upon automation and computerisation, and logically based upon a fully networked supply chain.

The logical component is as important as the technical because it constitutes a management philosophy of a highly coordinated array of sub-production processes – the supply chain – that result in the end-product itself. This level of coordination ensures not only timely production – and therefore the elimination of waste – but also ensures the maintenance and harmonisation of standards throughout the production process. The implication is that the concept of i4.0 can be applied across the entire economy and not limited to the manufacturing sector. There can, in principle, be a Health i4.0, and Education i4.0, even a Government i4.0 in which supply chains can be identified, interconnected and standardised to achieve a high-quality outcome of services. This is especially relevant to the banking and financial services sector where Fintech – the use of digital technologies and software to provide automated and innovative consumer-centric services – is making inroads. In a report on the Outlook for 2019, the National Bank of Cambodia affirms its commitment to fostering i4.0 for the financial sector in line with the 2016-2020 Financial Sector Development Strategy. A report suggests managing government cash-flow and reducing the printing of bank notes are two immediate benefits.

A somewhat complementary concept of Globalisation 4.0 was the theme of the 2019 World Economic Forum in Davos, by which is meant the leverage of international broadband communications to create global markets for services, for the “things that we do, not just the things that we make.” This is not so new in the sense that the outsourcing of activities such as accounting and payments, and teleconferencing are already well-established. What is being suggested however, is that whereas Industry 4.0 threatens the job of blue-collar workers, for example through the use of robotics, Globalisation 4.0 will bring increasing competition to white-collar jobs, especially where artificial intelligence (AI) is involved. Off-shore insurance, off-shore accounting, off-shore e-commerce, off-shore IT service centres, may all be transformed by automated processes. Given it is a low-cost country, Cambodia could well attract a share of globalised services as a source of future growth, but if and only if Cambodia’s infrastructure – notably broadband, logistics and power supplies – is sufficiently upgraded and further progress is made towards a business-and-innovation friendly environment.

Industry 4.0 is also closely aligned to the much broader concept of digitalisation because the underlying technologies are digital. Digitalisation usually refers to an economy in which technologies and socio-economic activities are interconnected through the Internet to create a myriad of different connected systems, such as payment systems, social media platforms and smart city management systems. A technical committee has been set up under the Supreme National Economic Council to formulate a digital economy policy, and according to the Ministry of Posts and Telecommunications, Cambodia should be a predominantly digital economy by 2023.

²⁰⁷ <http://cnv.org.kh/wp-content/uploads/2012/10/Rectangular-Strategy-Phase-IV-of-the-Royal-Government-of-Cambodia-of-the-Sixth-Legislature-of-the-National-Assembly-2018-2023.pdf> (p.27)

The most important feature that brings digitalisation into close alignment with i4.0 is the creation of interconnected systems of production or services and of data analytics drawing upon many different systematic sources of data, otherwise known as Big Data. The greater the degree of interconnectedness the greater the prevalence of compatible protocols and standards which are the technological foundation of i4.0. Further, from a policy point of view, interconnectivity that gives rise to systems should be accompanied by interoperability between systems, for two reasons. First, it breaks down barriers of entry for smaller systems to reach a wider audience and so promotes competition which stimulates innovation. Second, it offers customers wider choice, for example, if the ATM systems of banks are interoperable then customers can transfer funds between different banks. Governments are often confronted with a decision whether to require interoperability of systems, for example of ATM networks, or simply to encourage it but leave the outcome to competitive market forces. As with most regulation, the decision will depend upon the anticipated socio-economic impact of the outcome. Typically, in the first phase of intensive competition, collaboration between service providers is scant, each trying to capture a share of the market. As the market matures, the commercial advantages of offering interoperable services begin to outweigh the advantage of stand-alone networks and cross-industry interconnectedness is offered. To take just one example, in the world of computers, the classic case is of the previously incompatible operating systems of Mac and PCs. The networked industries in Cambodia remain nascent and such regulatory intervention could be premature, although encouragement should be given to inter-operable platforms. The mobile phone market is a good example of a market gaining maturity in which the interconnectivity and interoperability of basic services is a given. The interconnectivity and interoperability of emerging services, such as mobile payments and remittances, should follow.

2. Cambodia's Potential and Challenges

The distinction between the more industry-specific meaning of i4.0 and the more general meaning of digitalisation is important to Cambodia, because both developments have a role to play. For example, while the Cambodia Industrial Development Policy 2015-2025, which has a focus on technology transfers and infrastructure investment, does not refer to i4.0, and its only passing reference to automation is to speed up the registration of IP to encourage investment in technology, it does list digitalisation as one of the four pillars of industrial policy and sets it as a responsibility of the Council for the Development of Cambodia (CDC).²⁰⁸ At first sight, the role of Industry 4.0 would seem to be premature in Cambodia where manufacturing is closer to Industry 2.0 and the use of information and communication technologies (ICT) sparse. Most of Cambodia's manufacturing is in light engineering, such as bicycles, and in the garment sector. Both are dominated by international firms, making Cambodia heavily reliant upon foreign direct investment (FDI). The garment sector, which is the leading export industry, typically only uses the in-house technologies of global firms while relying heavily upon cheap labour for cutting and stitching apparel. The same applies for footwear production. In agriculture, which is dominated by small rice farms, technology remains basic. And all factories in Cambodia, in whatever sector, must contend with expensive and not totally-reliable supplies of electricity, and contrary to global best practice, the industrial or residential consumer has to pay additionally for the supply of renewable energy, for example, from solar power or hydro-power, rather than get compensated for adding it to the grid. i4.0 dictates that power supplies should be as much part of the automation process as the machines using the power. In 2019 the Government announced an electricity subsidy of USD50 million,²⁰⁹ but this only scratches the surface of the problem which will require a thorough review of energy policies. At the other end of the spectrum is Okra Solar, an Australian-founded technology company based in Cambodia "on a mission to see 100% of the world's population with access to stable electricity by 2025." Okra Solar has created two mini-grids using solar power energy-sharing systems in Cambodia to supply local dwellings. Further, in January 2019 the Gideon Group announced USD488 million investment in a solar plant in Kandal province after the Ministry of Mines and Energy gave a green light to a feasibility study.

²⁰⁸ http://www.mih.gov.kh/File/UploadedFiles/12_9_2016_4_29_43.pdf (pp.15, 33)

²⁰⁹ <https://www.khmertimeskh.com/50561137/electricity-subsidy-to-boost-manufacturing/>

Yet leapfrogging from i2.0 to i4.0 is not out altogether of the question in at least some sectors. The example of automation in the garment sector is referenced below. Despite low-labour costs the increased productivity and quality of machine cutting and stitching using computer-aided design-computer-aided manufacturing (CAD-CAM) is, according the Garments Manufacturing Association in Cambodia (GMAC), increasingly demanded by international buyers of high-end fashions. This suggests that the impact on employment will be driven largely by the composition of demand. Should Cambodia capture a larger share on the high-end garment markets the impact will be greater, whereas low-labour costs will remain Cambodia's competitive advantage in the lower ends of the market. According to a report by the UNDP, garment workers in Cambodia, of whom 70% are women, maybe less vulnerable to automation than workers in sectors such as engineering, due to the fragile nature of the materials, but the evidence does suggest higher-end production poses greater risks. Examples from other sectors are cited below, such as the automation of rice milling.

The ASEAN Secretariat (2018) compiled the following set of indexes for an Assessment of ASEAN Readiness for the Fourth Industrial Revolution.²¹⁰ Cambodia currently comes close to the bottom on each index, which cannot come as a surprise given Cambodia's low starting point. The important issue is how rapidly can Cambodia adjust.

Table 58: Assessment of ASEAN Readiness for the 4th Industrial Revolution

ASEAN Member States	WEF Global Competitiveness Index 2017-2018			Cornell INSEAD WIPO Global Innovation Index 2017			DII Global Industry 4.0 Readiness Index 2016			WEF Networked Readiness Index 2016			KPMG Change Readiness Index 2017		
	Rank (out of 137 countries)	Index (score)	Rank in ASEAN	Rank (out of 127 countries)	Index (score)	Rank in ASEAN	Rank (out of 120 countries)	Index (score)	Rank in ASEAN	Rank (out of 139 countries)	Index (score)	Rank in ASEAN	Rank (out of 136 countries)	Index (score)	Rank in ASEAN
Brunei	46	4.52	5	71	32.89	5	-	-	-	-	-	-	-	-	-
Cambodia	94	3.93	8	101	27.05	8	115	1.5	7	109	3.4	8	85	0.48	7
Indonesia	36	4.68	4	87	30.10	7	41	3.10	4	73	4.0	4	39	0.57	3
Laos	98	3.91	9	-	-	-	-	-	-	104	3.4	7	111	0.41	9
Malaysia	23	5.17	2	37	42.72	2	22	4.4	2	31	4.9	2	37	0.58	2
Myanmar	-	-	-	-	-	-	-	-	-	133	2.7	9	106	0.41	8
Philippines	56	4.35	7	73	32.48	6	44	3	5	77	4.0	5	45	0.55	4
Singapore	3	5.71	1	7	58.69	1	1	6.6	1	1	6.0	1	4	0.80	1
Thailand	32	4.72	3	51	37.57	4	38	3.4	3	62	4.2	3	63	0.51	5
Vietnam	55	4.36	6	47	38.34	3	91	2.1	6	79	3.9	6	81	0.49	6

Source: Compiled by the ASEAN Secretariat

The World Economic Forum found only 25 countries – five from Asia – out of 100 assessed were i4.0-ready, with Cambodia far from.²¹¹

But, as discussed below, there are important developments in two areas that Cambodia can take advantage of. First, the use of digitised technologies and automated processes is spreading. Second, there are interesting visions arising to create localised 'SME clusters' that can experiment with an i4.0 supply chain technologies, such as sensors and the Internet-of-Things (IoT), and the use of blockchain to stabilise prices using smart contracts and to verify rules of origin. In a more conventional sense, the digitalisation of Cambodia is already happening in leading sectors, notably in the availability of mobile phones and Internet, and in terms of payment systems, despite Cambodia remaining a largely unbanked society in which cash is the preferred means of payment. For example, there is widespread use of mobile

²¹⁰ Assessment of ASEAN Readiness for the Fourth Industrial Revolution, to be published 2019

²¹¹ <https://cdri.org.kh/wp-content/uploads/Industry-4.pdf>

phones by younger people working in towns to remit money to their families in rural areas. WING payment booths are many in the towns to make these transactions where only a mobile phone number and an ID are required. The transactions are instantaneous.

The key to i4.0 is how rapidly can digital processes be engaged in systematic end-to-end manufacturing and in the provision of services. It may well be that a shift towards linked i4.0 technologies will occur not in the traditional manufacturing sectors but in areas of trade-in-services and commerce. An example that is appearing elsewhere in the world is in retailing. In reaction to the death of bricks-and-mortar shops under the onslaught of online shopping, a new 'omni-channel' shopping is emerging that combines the most valuable of both. Algorithms using customer recognition technology identify the preferences of regular customers from the moment they enter the store to be served by a human. In the case of checkouts, "Smart trolleys fitted with image recognition ... allow customers to grab what they need from the supermarket and leave without scanning the bar codes." This technology is not rocket science, although it often sounds like it – or maybe better said that rocket science is becoming very familiar given that a smartphone contains more processing power than the Apollo space craft that landed on the moon in 1969 – but for it become popular requires broadband connectivity and an online (mobile) payments system for checkout, which in turn requires customers with payment accounts: there are plenty in the cities of Cambodia. Physical stores face thin margins in light of online competition, so i4.0 technologies that can ramp-up productivity, requiring fewer staff, more targeted sales and greater customer convenience – for example, it could be combined with delivery services – may be a prime candidate for the future in Cambodia, and the demonstration effects on other commercial sectors such as Fintech could be significant.

3. Driving i4.0 and Digitalisation

As a recent briefing on Cambodia by the CDRI notes, accelerating digital innovation, the lowering of trade barriers and falling transport costs have combined to encourage multinational corporations (MNCs) to access low-cost locations, contributing to the growth of global value chains (GVCs), improved efficiency and competitiveness. The big question is what drivers can help Cambodia make the shift from digitalisation to i4.0. As seen above, Cambodia does not start from a highly competitive position of readiness, and the CDRI briefing suggests, in common with many similar papers, eight areas in which the government of Cambodia can make a difference.²¹² They are: creating a conducive business environment to attract FDI and start-ups, improving the transport and logistics infrastructure, streamlining customs procedures and border management, the further development of special economic zones (SEZs), strengthening linkages between local supply chains and GVCs, creating high quality human capital and more vocational training, fostering a technology and science culture and practice, and promoting Cambodia as a prototyping and piloting hub within ASEAN.

Policies such as these may indeed attract investment into Industry 4.0, and the advantage to Cambodia lies in enhanced levels of productivity – and therefore competitiveness – which requires either economies of scale, or a very high-value specialised product. But to create either Cambodia would need to attract and develop local supporting supply chains, outside of agriculture something that is mainly absent at present. Electric vehicles are a case in point. Car4You Cambodia imports Foton electric vehicles from China, and assembles Volkswagen E-Green electric golf buggies but has no design or manufacturing capacity. The electric Angkor Car was designed in Cambodia by local mechanic Nhean Phaloeck and prototype development was supported by local businessman Seang Chan Heng, and while the car is available for tourist transportation in Siem Reap, apparently no production has so far been forthcoming. Although some components have been produced in Cambodia, most have come from China, Japan and Germany, and there is no local supply chain to support large-scale production. However, in 2017 a South Korean company did propose the manufacture of auto parts in a Special Economic Zone – see below.

²¹² CDRI (2018) *Cambodia Outlook Brief: Moving Up Value Chains for Industrialisation, Digitalisation, Growth and Development* <https://cdri.org.kh/wp-content/uploads/OB2017e.pdf>

The digitalisation of Cambodia is being driven by a combination of FDI and local capital. In some sectors, such as garments, FDI dominates and in the more advanced factories fully-connected systems using computer-aided design (CAD) and computer-aided machines (CAM) for cutting and sewing, have been introduced, automating processes and replacing labour. In others, such as the burgeoning shared economy including taxis and tuk-tuks and goods deliveries such as food, both FDI and local capital are prominent. In rice farming, powerful local interests often combine with international partners or overseas aid agencies to diversify the crop into higher valued added fragrant varieties, creating forward linkages to international markets, mid-chain linkages to automated factories for milling grain, and backward linkages to small farmers. Two factors are widely cited as driving investments in the Cambodian economy in the direction of i4.0 and digitalisation: that it is an open economy, and it is a young economy in the sense of a plentiful supply of young workers, most of whom speak English, who are familiar with digital technologies and platforms such as smartphones and social media. This is not to argue that a generation of digital natives have sufficient skill sets to support the digital transformation of Cambodia, let alone the design and programming skills to develop i4.0, but it does make Cambodia an increasingly attractive market for investment in the region, because despite its size, Cambodia can be a platform for exports.

This chapter will use these frameworks to examine the current structure of Cambodia's main economically active areas, notably the key export sectors of garments, tourism, footwear, rice and light engineering, along with role of telecoms, Internet provision and of government, including e-government.

4. Industry 4.0 and Cambodia's Nascent Digital Economy

The list of new and emerging interconnected information and communications technologies (ICTs) that can be associated with i4.0 and a digital economy is almost endless; but they all involve labour-saving interconnected and programmable machines and devices that joined together into interoperable systems or connected through platforms offer precision in the production of goods and services with a guarantee of increased productivity and standards of high quality. It should be noted that productivity here implies physical outputs. Markets determine prices and therefore determine the measure of productivity in terms of costs and revenues, and only when the business case is made is industry ready to invest. For example, if the price of rice fluctuates too far, investments in capital goods will be considered too risky, but by securing quota access to the markets of the European Union investment has been forthcoming.

An important feature of these new technologies is that they can be applied to any sector of industry or the economy. They all use digital language and protocols and are clustered around the Internet, which is what economists call a General-Purpose Technologies (GPT), meaning that its impact is felt upstream and downstream within each sector and across all sectors. The invention of electricity and the internal combustion engine would be examples of a GPT. The following sections examine the potential use of these technologies in different leading sectors of Cambodia's economy. Their widespread adoption would propel Cambodia as a digital economy towards i4.0.

5. Agriculture

Rice, cassava, pepper are three of the major crops produced by Cambodian farmers, typically on small family-run farms. The average size of smallholdings is about half a hectare, unsuitable for industrial farming, and even small-scale technologies such as sensors that could provide early warnings of crop and fish pond conditions may require difficult-to-secure microloans. For small farmers to earn the average of garment workers' wages they would need to produce up to six hectares of rice annually.¹ The way forward as offered by international donors and local NGOs, is for small farmers to diversify into high value-added crops, such as organic farming and fresh vegetables. For larger farms the mass cultivation of rice or cassava and pepper is possible at something closed to an industrial scale, especially for the mechanised production of cereals. But again, this implies the need to plant higher quality value-added crops such as fragrant varieties of rice such as Jasmine Rice, Neang Minh Rice, Medium Grain Rice. The

process of switching crops from rice to, say, pepper requires technical information that is not common knowledge but could be easily made available with the appropriate means of communications. For example, the ADB has been supporting an e-Agriculture Platform for Kampong Cham Province, which is at the centre of rice growing in Cambodia. The project involves channels of communications using mobile phones – 80 per cent of farmers are thought to have mobile phones, 20 per cent of them smartphones – kiosks, desktop, call centres, TV and radio among others. The project, implemented by Ernst & Young on behalf of the ADB, itemises the typical intermediaries – from farmer to markets, trader, processor, exporter to consumer – along the supply chain which not only reduces the revenues available to farmers, but creates inefficiencies that add to the cost of the final exportable product. Also active in promoting innovation in farming in these provinces and ICT4AG is CAVAC in partnership with the Australian government and many private companies.

5.1. Rules of Origin and Blockchain

Blockchain technology is seen as being one way to disintermediate and connect the farmer directly to the end-market. One important reason why blockchain may be considered an appropriate technology for Cambodia is because of Rules of Origin requirements. The smuggling of rice from Vietnam and Thailand into Cambodia is of concern, but rice has its own ‘DNA’ giving Cambodian rice a unique signature, which could be sanctioned in a blockchain supply-chain, an important safeguard.²¹³ One such project is ‘Blockchain for Livelihoods from Organic Cambodian Rice’, or Blocrice, a project supported by Oxfam Cambodia, started in 2018 with 50 organic rice farmers participating. The aim is to spread country-wide and the goal is contract farming using blockchain to validate the origins of the rice and through smart contracts, giving small farmers greater assurance. Another initiative is the IFC’s promotion of the Sustainable Rice Platform (SRP) designed to introduce contract farming and raise farming standards to meet European Union quota requirements. The IFC is working with many Cambodia companies involved in industry-scale agriculture. One such is Amru Rice working with 27 agricultural cooperatives and 5,000 farmers in Preah Vihear province “through assisted quality production up to EcoCert organic standards through farming contracts that assure them of sure market and a premium price 30 percent or more higher than prevalent commercial paddy prices.” Another partner of the IFC is Mars Food, “owner of the world’s largest rice brand UNCLE BEN’S®” working with local rice miller Battambang Rice Investment Co (BRICo), with the objective of “improving farmers’ adoption of technology and climate smart agriculture practices, the project is expected to result in a 20 percent increase in yield and a 25 percent increase in income by 2025.

5.2. i4.0 and Milling

As with other sectors, such as garments and light engineering, the move towards i4.0 is being driven by the potential for exports. The ingredients are quality and standards to meet EU quota requirements, involving both international and local investors in rice processing and exports, essentially milling but also in food processing, such as rice cakes and sweets, contract farming to guarantee farmers an income for their crop, and the adoption of technology to raise processing productivity and standards. For example, Angkor Kasekam Roongroueng (AKR), Cambodia’s largest mill is described on its website as “state-of-art technology with own establishment of contract farming supply chain of non-chemical finest and premium ‘Neang Malis’ rice, well known worldwide.” Golden Rice is another processor, also describing its mill as “state-of-the-art machinery and technology for drying, milling and packaging rice.” Milling machines are usually imported, but the Mekong Business Initiative (MBI) through the Mekong AgTech Challenge (Match) has started Cambodia’s first agricultural start-up accelerator programme to encourage local product and use of such technologies. Between 2013-2015 a project run by Waste-to-Energy was completed to promote the local production of rice husk gazifiers (RHG) which turn rice husks into useable

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https://www.moc.gov.kh/TradeSwap/userfiles/file/uploadedfiles/Job/Rice%20Sector%20Support%20Project%20Brochure7_17_2015_14_48_15.pdf

energy. The project covered nine provinces with nearly 3,000 direct beneficiaries, ranging from rice millers, husk gasifiers technology manufacturers to producers.

The majority of Cambodian small-scale farmers do not have the resources to invest in agricultural technologies, for example, in the use of drones and wireless sensors, nor do many small millers have the opportunity to upgrade to state-of-the-art fully-automated machines. According to Dr. Mey Kalyan of the Royal University of Phnom Penh and senior advisor to the Supreme National Economic Council, the answer for small farmers is a “niche market, not volume” while for larger farmers it is “scale, not strategy”. But as far as technology goes, in a digital age i4.0 in agriculture can mean automated processes and small-scale Internet-of-Things, such as sensors, connected irrigations systems and even the use of drones for field surveillance, monitoring and management.

5.3. SME Clusters

Demonstration projects are one way to spread the ideas and the information, and social media could become a powerful tool in this respect, and there are numerous websites of individual farm projects but fewer farming community sites. One such is the Cambodia Organic Agricultural Association (COAA) which aims to “raise awareness on environmental, economic, social, and health related benefits of organic farming.”²¹⁴ COAA is Cambodia’s first Certification Body. But the most radical proposals for demonstration projects involve the idea of ‘SME clusters’, a concept which brings together farmers and other SME businesses in close locational proximity to each other to form a physical as well as a logical supply-chain, using agricultural raw materials to process into higher value-added products. From inputs such as rice, maize and bamboo, for example, can come outputs such as cakes, cosmetics and cooking oil from maize, construction materials from laminated bamboo, and many other products. The most ambitious project proposal is coming from Woodbridge, a housing and construction conglomerate who are breaking ground to build the first such cluster with the aim of bring i4.0 into play. “(The) model changes the game. It is not a typical SME cluster, we create a creative and innovative cluster model which itself is an ecosystem.” A critical aspect of this concept of an SME cluster is therefore on-site access to connected and automated i4.0 technologies.

6. Garments

Garment prices globally are subject to secular decline due to the relocation of manufacture from low cost countries such as China and India to lower cost countries such as Bangladesh, Cambodia, Myanmar and Vietnam, and to rising productivity owing to increasing automation in the production process. In the case of Cambodia, in recent years the basic wage has risen from below USD100 a month to USD170 a month from January 2018, placing growing pressure on thin margins that will further encourage automation, the growing use of digital technology being encouraged by the Ministry of Commerce as a means of keeping Cambodia competitive. To further encourage automation and productivity growth, the Garment Manufacturers Association of Cambodia (GMAC) in 2017 launched the Cambodia Training Centre Institute (CGTI) with assistance from an aid agency from France. According to the GMAC the pace of introducing new technology is dictated by the brands themselves, with higher-end global fashion brands requiring industrial cutting and sewing of the highest quality. The smaller number of locally-owned companies are usually producing for the lower end of the market.

Other i4.0 developments that can be seen in Cambodia’s garment sector are post-production logistics, such as storage and warehousing, sales responding instantaneously to market fashions and the management of stocks. The systems require IT and high-level IT staff positions, such as programmers, while at the lower level maintenance staff are in demand. According to the GMAC, most of the technician posts are trained on-the-job (OTJ) while staff for more advanced positions still come from overseas.

²¹⁴https://www.facebook.com/pg/Cambodian-Organic-Agriculture-Association-COAA-101302199967897/about/?ref=page_internal

Despite the shift towards automation, employment in the sector in Cambodia has increased over recent years from 500,000 to around 700,000 employed in nearly 800 factories, but ultimately automation will displace labour. The ILO estimates over 80 per cent of jobs in Cambodia's textile, clothing and footwear (TCF) could be lost to automation. But unless driven by investment in i4.0 technology by foreign-owned firms involved in higher-end products, 80 per cent seems too high an estimate. If Cambodia can succeed in growing its other manufacturing sectors, such as light engineering, and its commercial and services sectors, labour displacement will morph into labour redistribution. For example, according to the Royal Government's Tourism Development Strategic Plan 2012 – 2020, there is a need for an extra 500,000 tourism professionals.²¹⁵ However, for the immediate future, factories are spreading out across Cambodia to locate close to labour supplies.

Funding for automation is coming mostly from foreign investors, notably from China, Hong Kong, Malaysia, Japan, South Korea, Singapore and Taiwan, but also from across the border with Vietnam. Cambodia's quota access to markets in Europe and the US are the big attraction – for example, 45 per cent of footwear exports go to Europe and 25 per cent to the US – and while some imported yarn is turned into fabric local, most of the fabrics are imported so rules of origin need to be strictly observed to safeguard those quotas. Foreign ownership of textile factories is over 90 per cent.

7. Tourism

Travel & Tourism contributed almost 33 per cent of Cambodia's GDP in 2017, with foreign receipts averaging 20-30 per cent of total export earnings for the past decade. Tourism lends itself to digital systems, notably websites, booking and payment platforms. In Cambodia all these exist, often run by foreign travel platforms by companies such as TripAdvisor and Agoda.com, but also by many local tour companies. Visitor numbers have been boosted in recent years by a growing number of international flights into Cambodia, especially from the Asia-Pacific region. In 2017, the largest number of tourists were from China, followed by Vietnam, Laos, Thailand and then South Korea. Tourists from neighbouring countries would also come by road transport where Customs and Excise border controls have been significantly improved following closer coordination with the Ministry of Transport and the introduction of visa-upon-arrival. In addition, by 2018, seven local airlines have been licensed to cater for the growing tourist market.²¹⁶ There are also specific sectors of tourism that could be candidates for growth, such as health tourism. For example, clinics offering non-complex dental treatment are well represented in Cambodia's towns.

Despite these advances, the tourism sector remains challenged with issues of staff professionalism, and uneven standards of hygiene and cleanliness. A government Tourism Reform Plan 2015-2018 has tried to address these issues with a "One Service, One Standard" and a "One Staff, One Skill" approach and encouraging the use of ICTs in tourism (e-tourism), which could also stand for eco-tourism that government would like to see developed. Also introduced is a national competition "Clean City, Clean Resort, Good Service, Best Hospitality." Further improvements may come from a programme launched in 2017 by the ADB and the Australian Government, the Mekong Business Initiative, which is supporting start-ups in the tourism sector through the Mekong Innovative Start-up Tourism (MIST) platform.

But the most direct way to elevate standards is through competition and the demonstration effects of international hotel management entering Cambodia, a process that has been well under way for several years. This points to a segmentation in the market. For the budget traveller local hotels and hostels are plentiful. For tour groups and overseas visitors there are middle-range hotels, and most have Internet. But the lucrative end of the market is for business travellers and the market for MICE (meetings, incentives, conferences and events), in luxury hotels and resorts that offer digital facilities, from broadband Internet to audio-visual conferencing and business centres. Overseas travel companies, such as Hanoi-based Tran Thanh Num, are moving into Cambodia to provide for this market, catering for business travellers from Asia-Pacific, India and China, Turkey and Japan and Hong Kong among others.

²¹⁵ Royal Cambodian Government (2012) Tourism Development Strategic Plan 2012-2020 (p.34)

²¹⁶ Royal Cambodian Government (2012) Tourism Development Strategic Plan 2012-2020

The pattern of development is familiar in Cambodia. Digital technologies are being used to support the sector, especially at the high end where a growing number of international operators and hoteliers are involved. And catering for individual tourists, mobile app developers are appearing, such as the Angkor Audio app which provides in 14 languages audio-visual guides of Angkor Wat and other temples while threatening to disrupt the human guide business, and a BookAngkorTukTuk.com platform. Travel and tourism, already well established in Cambodia, is set not only to grow but to become a significant part of Cambodia's digital economy, especially as an foreign exchange earner.

8. Light Manufacturing

In 2017, according to the Asian Development Bank, Cambodia's manufacturing continued to grow by over 9 per cent, "with a slowdown in garments and footwear off set by stronger growth in emerging industries: electrical parts, automobile components, bicycles, milled rice, and rubber." Foreign-invested factories were driving much of this growth, incentivized by foreign trade quota agreements with the European Union and the United States, contract pricing for local producers, and an abundant supply of young, and therefore adaptable, low-cost labour with English as their second language. On-the-job (OTJ) training is also more prevalent among foreign-owned companies. For example, typically Japanese manufacturing is more complex, and "requires a more highly skilled labour force than the garment sector. This has resulted in much higher investment flows from Japanese firms being channelled into human resource skills training and development..." also "resulting in higher wages for workers."

Japanese FDI especially has been responsible for the growth of the electronics sector in Cambodia, mostly in Special Economic Zones (SEZ), notably around Phnom Penh – the Phnom Penh SEZ employs around 20,000 workers – and the strategically-located areas of Bavet City and Poipet along the Vietnam and Thailand borders. Products include circuit boards and smartphone screens and represent a significant development of Cambodia's potential as a platform for components and assembly. For the Poipet SEZ, Japan's Sumitronics Manufacturing (Cambodia) reached a memorandum of understanding with Thailand-based B. Grimm Power Company to build power transmission lines from Thailand to the SEZ, thus tackling one of Cambodia's current bottlenecks.

Other major investors in Cambodia's manufacturing sector include South Korean, Chinese and Taiwanese companies. In 2017, a South Korean company bought 100 hectares of land in Phnom Penh and plans to develop an automotive SEZ, producing car parts and bringing in other investors to produce spare parts. After garments and footwear, bicycles are Cambodia's largest manufactured export. Of Cambodia's USD430 million exports of electrical and vehicle parts in 2017, around USD355 million were bicycles. In 2017 Cambodia shipped 1.42 million bicycles, a 9 per cent increase over 2016, becoming – ahead of Taiwan – the largest supplier of bicycles to the European Union under the EU's 'Everything But Arms (EBA) preferential tariffing scheme which, under the Rules of Origin, requires over 30 per cent of locally-produced inputs. Most of the FDI into bicycle manufacture comes from Taiwan which has transferred much of its production to Cambodia. Cambodia is also the third largest and fast growing supplier of bicycles to the United States. Chinese companies, who have invested heavily in the Battambang SEZ, close to the border with Thailand, are also shifting their production to Cambodia. China's Trek and Kent bicycle manufacturing companies both announced plan to produce in Cambodia, Trek planning 200,000 made-in-Cambodia and a supplier of Kent is building a 500,000-square-foot factory.²¹⁷

Although Cambodia's light engineering sector remains mostly at the level of assembly with little local manufacturing of parts and components, it is attracting significant investment from overseas from companies that have a strong interest in productivity, quality and price to benefit from trade quotas. This FDI is capable of accelerating the adoption of i4.0 and digital technologies in these sectors and in local factories that supply them because they will insist upon price and quality. But ultimately, it is about how government and the private sector position the economy in the sense of opening up options for private

²¹⁷ https://www.bicycleretailer.com/industry-news/2018/11/12/trek-kent-and-others-look-cambodia-bike-production#.XBXbd_ZuKBQ

investment, options which range from a low cost of doing business to market incentives to create new growth sectors either as new industries or as new products and processes within existing industries.

9. Hard and Soft Infrastructure for Trade, a Digital Economy and i4.0

The transition to a digital economy and the adoption of i4.0 technologies and work processes requires a framework of hard and soft infrastructure. Hard infrastructure comes in the form of ubiquitous broadband fixed and wireless telecommunications networks, and uninterrupted electricity power and water supplies. One of the features of a digital economy is the availability of data on a scale that allows intelligent machines to learn and discern patterns for analysis and action, and that data is increasingly stored in the cloud in large-scale data centres that require broadband connectivity and guaranteed sources of power and cooling water, or alternatively with edge computing, using network architectures that store and process information from sensors and the Internet-of-Things (IoT) at the periphery of the network as a distributed computing model. Cambodia is far from all of this, especially where power and water are concerned – in the case of power customers have to pay the electricity utility for bringing renewable sources into the grid as if it were compensation, the reverse of global best practice – but giant strides have been made with telecommunications.

9.1. Telecoms, Internet Capacity and the Digital Dividend

The telecoms market in Cambodia is competitive, with six cellular operators and two fixed line operators. According to a report from the World Bank Group²¹⁸, by mid-2018, the mobile penetration rate or teledensity in Cambodia was 124.9 compared with an average for ASEAN countries of 98.9, although this does not imply everyone has a mobile phone as multiphone ownership will inflate the teledensity and the listed subscribers of mobile networks may include duplications and expired subscriptions, but these factors will also be present in the ASEAN average. More telling is that active mobile broadband subscribers in Cambodia stand at 50.2 compared with the ASEAN average of 47.4 and mobile broadband prices for 500 MB of data capacity as a percentage of per capita GNI is 1.1 compared with 2.7 average for ASEAN, and for 1GB is 2.2 compared with 5.4 average for ASEAN. Although 4G networks exist in all provinces, these figures relate primarily to 3G, and the percentage of the population covered by 3G is 80 per cent compared with 87.6 per cent average for ASEAN, so 2G handphones, notably Nokia, are still widely used.

Cambodia is much further behind in terms of fixed lines, partly because of the legacy of land mines which always made the construction of a fixed line network more hazardous than a wireless network. Fixed-broadband subscriptions per 100 population is only 0.6 compared with 11.3 average for ASEAN while fixed-broadband prices as a percentage of GNI at 13.5 is only slightly below the ASEAN average of 14.5.

An important boost to Cambodia's digital capacity came with the opening of Cambodia's first two submarine optical fibre cables in 2017: the Malaysia-Cambodia-Thailand (MCT) cable that connects to the pan-Pacific Asia-America Gateway (AAG) cable linking Southeast Asia to the United States and the Asia Africa Europe-1 (AAE-1). These cables land at Sihanoukville, using 100 Gbps technology with a designed capacity of 30 Tbps and 40 Tbps respectively, although it is common for less than 10 per cent of the capacity of a fibre cable to be lit. The spur of a third fibre cable, the South-East Asia – Japan Cable 2 (SJC2) with a designed capacity of 144 Tbps is due to land in 2020.

The area where capacity is most lacking is in rural and remote areas, especially high-speed Internet access. The digital dividend which should see 700Mhz frequencies in the UHF band become available when the TV ASO/DSO (analogue switch-off/digital switchover) occurs will offer a more effective way to cover these areas, but according to an interview with the MPTC, the 2020 due date may not be met. Not least among the problems of the switchover is the need for citizens to upgrade their TV sets to digital,

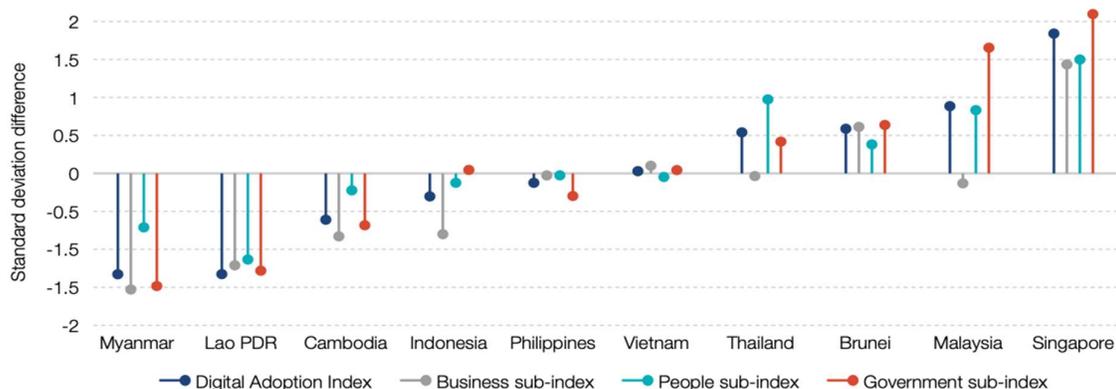
²¹⁸ <http://documents.worldbank.org/curated/en/100841543598854492/pdf/128267-REVISED-Digital-Economy-web.pdf>

which will be an unwelcome expense to many households. Maybe the government will be able to ease the process with a credit voucher system financed from the sale of the spectrum.

9.2. Digitalisation and Public Policy

The shift from manual to mechanised, and from analogue to digital, creates opportunities to leapfrog into i4.0. Leapfrogging is certainly possible through the adoption of i4.0 technologies, not least because Cambodia does not have an overhang of legacy investments in i3.0, but to achieve results a framework of governance needs to be in place. For example, legislation recognising the legality of digital signatures and the non-repudiation of smart contracts to facilitate the use of blockchain, as well as a Personal Data Privacy Act, cyber laws strengthening data protection and e-commerce legislation. The creation of an effective e-Government framework is also essential. Currently, each government department has its own approach to setting up a website and populating it with information and applications, described by the Ministry of Commerce as “piecemeal”. For example, the Ministry has for three years been testing a Single Window for conformity to Rules of Origin (but apparently not yet for wider trade issues) with Customs and Excise, but no other ministries are yet ready to connect. Nevertheless, these are frameworks necessary for a steady adoption of digital technologies in industry and commerce. The World Bank Group report²¹⁹ shows that digital adoption remains low in Cambodia with only the Lao Republic and Myanmar in ASEAN trailing. Besides the necessary governance framework, leapfrogging into a digitalised economy requires sets of industrial standards to be put into place to ensure interconnectivity, interoperability, security and international recognition for the purposes of trade, cross-border payments and the sharing of data. The World Bank Group suggests the following areas for Cambodia to achieve internationally-recognised national standards: the architectures of networks, the technical specifications of networks, the protocols of networks, the security of networks, the information standards, ICT service management standards, data management and data sharing standards, and data centre and cloud standards.

Figure 35: Digital Adoption Index (and sub-indexes) relative to global average



Source: World Bank, 2018

These are not easily achieved without considerable support from specialists. It would serve Cambodia well if multilateral support in combination with private sector specialists could advise and work with the Royal Government of Cambodia, including the leading universities and research institutes, such as the Institute of Technology of Cambodia and the Royal University of Phnom Penh, to achieve a degree of technology transfer in terms of knowledge and expertise. In some cases, this will involve knowledge of technologies, in others legal knowledge. For example, there are many benchmarks of international best practice to follow for personal data privacy legislation and cyber security laws. To advise the Prime Minister of Cambodia with technical analysis and recommendations regarding policies and strategies for rapid and sustainable socioeconomic development, the Government has set up a taskforce under the

²¹⁹ <http://documents.worldbank.org/curated/en/100841543598854492/pdf/128267-REVISED-Digital-Economy-web.pdf>

auspices of the Supreme National Economic Council (SNEC), a body that brings together the public, private and academic sectors, including Dr. Mey Kalyan of the Royal University as Senior Advisor. Dr. Mey Kalyan is also the Chair of Cambodia Development Research Institute (CDRI) Board of Directors.

Financial support for innovation and for start-ups is a further requirement of leapfrogging. Although of quite recent vintage, several start-up and support funds have emerged. Fintech, which is showing early signs of growth in Cambodia, is receiving support from the Ministry of Finance. According to a study in 2017 by the Asian Development Bank (ADB)²²⁰, by significantly expanding digital financial services Cambodia could stimulate economic growth and increase GDP by about 6 per cent. In 2018 the Ministry of Economy and Finance announced it was working with the General Department of Taxation to create a policy framework to support and guide SMEs in tax-related issues, and at the same time planning a tech start-up and SME centre to be built within ministry grounds. “Three floors will be dedicated to SME development, and will have, among other facilities, an incubator, an accelerator and a co-working space.” To help student develop IT skills, the Ministry of Posts & Telecoms has launched a USD1 million fund, and in December 2018 the Prime Minister announced the setting up of a state-owned SME start-up bank, similar to the existing Rural Development Bank, with an initial capital of USD100 million.

From the private sector the Smart Axiata Digital Innovation Fund has been particularly active in supporting innovation and start-ups in partnership with the investment advisory firm Mekong Strategic Partners (MSP). With the creation of the ASEAN Economic Community (AES) from January 2018, Cambodia is also emerging as a pole of attraction for regional investors, such as the Thailand investment fund ‘500 Tuk Tuks II, 500 Startups’ that is “aggressively” seeking to invest in start-ups “particularly in Cambodia.” Additionally, there are workspaces and incubators starting to spread across Cambodia. For example, in Phnom Penh the Impact Hub, part of a global network of incubators, has developed a platform in partnership with Smart to roadshow opportunities to university students. The platform is also marketed through Facebook. An interesting feature of the Impact Hub, which has over 350 local members of its ‘Entrepreneurs Club’ is that it is especially looking to overseas returnees, young Cambodians who have been abroad to study and have acquired IT knowledge and skills along the way. Proposals supported by the Impact Hub include a Start-up Visa in order for tech companies to easily offer jobs and training, start-up funds ranging from USD10k – USD100k to foster early stages of growth, possibly with government acting as underwriter, and a simplification of the business registration process which can be lengthy and cost up to USD2k.

In many developing Asian economies, multinational IT companies such as Microsoft, Hewlett Packard and Cisco provide vocational training programmes, but so far only Cisco has done so in Cambodia, and that from its base in Thailand. Page 17 of the Cambodia Job Outlook 2018 published by the National Employment Agency reveals that among 15 skill sets employers have difficulty filling, ‘basic computer literacy/using IT’ comes only seventh in the list. This suggests that IT skills shortages are a demand as well as a supply problem, and that addressing management knowledge of innovation and IT is equally important as assisting students at secondary – only 30 per cent of schools have computers according to the MPTC – and tertiary education levels. The paucity of IT skills in Cambodia is certainly a break on digital transformation, and with relatively few qualified graduate students many employers look to On-the-Job (OTJ) training for technician levels grades, while relying upon overseas staff for more skilled work, such as programming. However, they do not get government funding for this, and because of poaching, many employers are reluctant to invest money on workers only to see them leave for a competitor. A direct subsidy or a tax break would help to insure against loss.

10. Conclusion

While Cambodia is lacking most of the development of Industry 3.0, it nevertheless has an opportunity to leapfrog in stages towards Industry 4.0. There are likely to be two key drivers to this. First, the pattern of demand for products and services led by large investors. For example, if the demand for higher-end garments grows this is likely to include i4.0 technologies in their making. If foreign multinationals choose

²²⁰ <https://www.adb.org/sites/default/files/publication/222061/financial-inclusion-se-asia.pdf>

to locate supply chains in Cambodia to produce high-end engineering products, like electric vehicles, then this is likely to involve i4.0 technologies and i4.0 management practices. Second, is the need to strengthen various hard and soft infrastructures. Hard infrastructure requires ubiquitous access to broadband Internet, primarily but not exclusively over wireless mobile networks – 5G will eventually provide the technology for this leap – and a more reliable water and electricity supplies at lower tariffs assisted by inputs of renewable energy into the grid, especially if Cambodia is to develop data centres to support Special Economic Zones and SME clusters with cloud computing. Reform of these sectors is called for, notably energy and water supplies. Giving subsidies is not a long-term solution. Transport logistics is the other hard infrastructure that needs addressing. The key issues to be addressed here are freight and passenger capacity and the efficiency of transport hubs such as ports and warehouses. The decision in January 2019 to reduce customs clearance procedures under the Ministry of Commerce’s Camcontrol and also reduce the number of agencies involved in border checkpoints is a step in the right direction if this leads to increased efficiencies.¹ Soft infrastructure needs e-Government and legislation to support the spread of digital trade, commerce, data protection and the promotion of payment systems. In 2014, KOCERT, the Korean aid agency working in cooperation with the MPTC, proposed five pilot projects for government to pursue: a technical framework for government, CamCERT enhancement for cyber-security, e-commerce promotion, a tourism network, and an education development programme. These should be revisited to monitor their progress, assess their impact and consider their extension to other areas to maintain a momentum of innovative thinking across government.

The creation of the ASEAN Economic Community (AEC) in 2018 should be of long-term benefit to Cambodia, but the shorter-term gain is likely to be more regional foreign investment coming into the country. Foreign investment has been instrumental in the adoption of i4.0 in sectors such as garments, and is beginning in rice milling, including plans for the use of blockchain to guarantee rules of origin and quality of crops, and is entering the arena of IT start-ups, in areas such as hailing apps and in tourism, all vital foreign exchange earning sectors. Cambodia has gained considerably from adopting an open approach to its economy and to trade, remarkably gaining World Bank low-middle income status in 2015, and to maintain the momentum the government needs now to adopt i4.0 ways of thinking and to adapt them to its own operations and services to the community. Besides the general reforms needed to foster a digital transformation of Cambodia’s economy, set for 2023 (see above) a specific set of policies aimed at encouraging investment in i4.0 technologies to meet the aims of the RS4 is required. They should include the following: investment incentives covering land, skills training, taxation and R&D allowances; encouragement of technology transfer, collaboration with local companies, ministries and universities and automating IP protection; soft and hard infrastructure improvements to minimise the costs of doing business; an equitable framework for labour and foreign management relations including an impartial arbitration system.