



# **REPÚBLICA DEMOCRÁTICA DE TIMOR-LESTE**

## **MINISTRY OF TOURISM, COMMERCE, AND INDUSTRY**

# **INDUSTRIAL POLICY**

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## Table of contents

<b>I. BACKGROUND INFORMATION</b>	<b>3</b>
1. INTRODUCTION	3
2. METHODOLOGY	4
3. SITUATION ANALYSIS	4
3.1 Macroeconomic context	4
3.2. Summary of Complementary Sectors for Industrialisation	5
3.2.1. Agriculture	5
3.2.2. Fisheries	7
3.2.3 Tourism	8
3.2.4 Oil and Gas	9
3.2.4 Mining and Quarrying	10
3.2.5 Construction	11
3.2.6 Manufacturing	11
3.3 Microeconomic context	13
4. WHY INDUSTRIALISE?	14
4.1 Industrialization a tool of economic growth and diversification	14
4.2 Industrialization a tool for Creating Job Opportunities and Achieving the SDGs	16
4.3 Industrialization a tool for Imports Substitution	17
4.4 Key constraints to manufacturing	17
5. LINK WITH OTHER GOVERNMENT POLICIES	18
6. BENEFITS FROM REGIONAL AND INTERNATIONAL INTERGRATION	20
<b>II. INDUSTRIAL POLICY STATEMENT</b>	<b>21</b>
7. VISION OF THE INDUSTRIAL POLICY	21
8. APPROACH TO INDUSTRIAL POLICY	22
9. INDUSTRIAL POLICY AREAS AND MEASURES	24
9.1 Policy area 1: Industrial policy directions, coordination, and effectiveness	24
9.2 Policy area 2: Complementary industrialization	26
9.3 Policy area 3: Industrial Human resources development	30

## **I. BACKGROUND INFORMATION**

### **1. INTRODUCTION**

The Government is committed to an ambitious economic development agenda, as set out in the Timor-Leste Strategic Development Plan (SDP) 2011-2030. The SDP provides the vision for Timor-Leste to transition from a low-income to a healthy and prosperous upper-middle-income country by 2030 and a framework for identifying priorities, as well as guidance to implement strategic measures. The SDP's vision is that Timor-Leste will be a modern diversified and diversified economy based on the productive sectors and refinery industries that will propel through private sector-led growth to create jobs and income and tackle persistent poverty, which will be supported by high-quality infrastructure, including roads, power supply, ports, irrigations, and telecommunications. Subsistence agriculture will be upgraded to commercial and smallholder agriculture. Timor-Leste will be self-sufficient in food and produce a range of agricultural products for niche world markets including staples, livestock, fruits and vegetables, and other cash crops, as well as forestry and fisheries products.

The SDP specifically states that to build the nation and provide jobs and income for the people, Timor-Leste needs to develop key industry sectors, partner with international firms in building infrastructure, and support local firms to grow and foster.

The Guide for Economic Reform and Growth led by former MECAE is the VI Constitutional Government's strategy to increase private investment, promote economic diversification, and generate sustainable employment. The guide is structured in a matrix format consisting of five priority economic pillars, including (1) agriculture, (2) fisheries, (3) tourism, (4) oil and gas (downstream) and (5) light manufacturing and, seven reform areas, including (a) land and property regulation, (b) economic infrastructure development, (c) labor market regulation and workforce development, (d) business enabling environment, (e) fiscal reform, (f) private investment regime reform, and (g) private sector development.

The recent 8<sup>th</sup> Government Constitutional created 2020-2023 Economic Recovery Plan which put forward around 70 measures both for short and medium term in seven (7) areas such as agriculture (focussing on small and agri-food industry), Tourism, Housing, education, Health, social protection, institutional, energy and technology, with the aim that, within 2- 3 years the economic will bounce back from COVID-19 pandemic.

As part of its economic development agenda, Timor-Leste has prioritized membership in the Association of Southeast Asian Nations (ASEAN), Economic Partnership Agreement of European Union (EPA – EU) and the World Trade Organization (WTO) as key strategies to build a trade network, access to the global market, and accelerate international and regional integration to catalyse economic growth and achieve its sustainable and inclusive development

Timor-Leste has to take a strategic leap to develop existing industries with a focus on resource-based industrialization further and through the introduction of new industries, such

as manufacturing. Reducing the dependence on imports of essential goods that can be potentially developed in Timor-Leste shall be the first step to industrialization. Efforts to achieve SDP targets of sustainable and inclusive development require shifting the focus away from non-renewable resource-based oil and gas to other productive sectors of the economy such as agriculture and its value-chain, forestry, fisheries, tourism, 'livestock, and the tertiary sector such as services.

## **2. METHODOLOGY**

The Industrial Policy document has been developed since 2014 by the Ministry of Tourism, Commerce, and Industry. The Policy underwent a substantial iterative and collaborative process of research, analysis, surveys, stakeholder consultations, and drafting. A firm-level assessment of current manufacturing firms in Timor-Leste was also undertaken by MTCI through UNDP support. To accompany this firm-level assessment, an analysis of the macroeconomic context and opportunities in key sectors was also conducted. Comprehensive stakeholder consultations and engagement were conducted with the private sector, government agencies, development partners, and civil society organizations.

The Industrial Policy was developed with the support of the United Nations Development Program (UNDP) through its lead consultant [Professor Rajah Rasiah](#). In addition, the Japanese International Cooperation Agency also lent support for the development of an action plan to complement the policy.

## **3. SITUATION ANALYSIS**

### **3.1 Macroeconomic context**

Timor-Leste is a small and relatively open economy, where the economic environment, especially at the macro level, has been strengthened by rising petroleum revenue from 2004 until the recent oil price crisis in 2015 and the coronavirus impact that slowed down the global equity market. The economy is currently highly dependent on oil-related revenues while non-oil economic activity is mainly driven by the public sector. A development model based on public expenditure and financed by petroleum resources is unsustainable and the Government is committed to reversing this public financed economy model to a model where the private sector is the driver of the economy and economic diversification is a priority.

Timor-Leste's growth has historically been predominantly more inward-oriented than export-driven, but the domestic market is small, and Timor-Leste needs to look beyond for opportunities in larger global markets to grow and generate jobs and generate income for the Timorese people. Improving domestic production capacity and timely accession to regional and multilateral organisation such as ASEAN, EPA and WTO are pivotal for Timor-Leste to tap into global market.

Timor-Leste has had low levels of export diversification and despite having steadily improved over time, it remains at a relatively lower level than regional neighbours. From 2004 to 2014, exports have risen from crude petroleum comprising 24% of exports in 2004 to 81% of exports in 2014. However, these sectors do not provide Timorese people with sufficient employment opportunities. Coffee exports (main non-oil export) have also risen over this time from 4% to 14%. While candlenut and vanilla are still at negligible quantity in spite having export potential. The majority of Timor-Leste's export destinations have been in Asia, as dominated by exports to Korea, Japan, and Australia for Oil and Gas while Singapore and Malaysia for other commodities in the past five years.<sup>1</sup>

With regard to Timor-Leste's imports, the majority of its imports have been refined petroleum, 35% in 2004, and 25% in 2019. Historically, rice and cereal have also remained a top goods in Timor-Leste's import basket. Geographically, Timor-Leste's imports are predominantly from within the Asian region, with Indonesia remaining Timor-Leste's top importer across time accounted for 30% of total imports, followed by Singapore, Hong Kong, China, Vietnam, Malaysia and Australia.<sup>2</sup>

Productivity is a major constraint for Timor-Leste's international competitiveness. Many studies highlight that Timor-Leste productivity across sectors have been quite low as compared to its neighbouring counties and by international standard. According to Global Competitiveness Index (GCI), 2018, competitiveness can be defined as a set of institutions, policies, and factors that determine the level of productivity of a country, which, in turn, sets the level of prosperity that can be reached by an economy. Furthermore, GCI highlights that the productivity level also determines the rates of return obtained by investments in an economy, key drivers of growth rates which are likely to boost the economy faster over time. Timor-Leste is less competitive in the provision of infrastructure, macro-environment, higher education and training, skilled working force, agriculture production, goods market efficiency, financial market development, technological readiness, business sophistication, innovation, and managerial skills, compared with other Asian developing countries. Additionally, the absence of an effective and efficient enabling environment, combined with the small size of the market, and the lack of a comprehensive and clear strategic development objectives contribute to the low level of industrial development of the country.

It is against these backdrops of development challenges that the Industrial Policy comes into inception as a prerequisite for structural reforms for Timor - Leste industrial development.

## **3.2. Summary of Complementary Sectors for Industrialisation**

### **3.2.1. Agriculture**

The largest non-oil sectors of the Timorese economy are construction, agriculture, and services. Production of crops, food, and livestock has experienced fluctuations over the years, but overall, steadily risen in the last 20 years.

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<sup>1</sup> Timor-Leste Annual Trade Statistic, 2019

<sup>2</sup> Timor-Leste Annual Trade Statistic, 2019

Agriculture is one of the important sectors for economic growth and social progress of the country since it ensures food security which will eliminate prevalent malnutrition in the country wherein some instances, will have irreparable consequences towards human capital development. Agriculture is one the area that has multiple linkages to other economy sectors and has more potential spill over effects for economic diversification. Especially, in low income countries and LDCs such as Timor-Leste, it is the backbone of the rural economy. Evidence suggests that agriculture sector has potential for poverty reduction due its multiple backward linkages<sup>3</sup>.

The main agriculture crops and livestock in Timor-Leste are rice, coconut, cassava, sweet potatoes, corn, coffee, fish, cattle, pigs, goats, and poultry products. Based on the agriculture census 2019 identified, there are 75 crops cultivated in the country. However, a significant number of products such as coconuts, cassava, sweet potatoes, and peanuts do not have access to markets due to poor transport infrastructure to bring them to Dili and other urban locations. Other products such as candlenut, cashew nuts, and animal hides are also available and have the potential for commercial scale production as well.

Timor-Leste is not currently in the position to successfully manage the introduction of new commercial crops. The returns and the more immediate impact would be much higher from exploiting/enhancing existing crops and rural enterprises, for which there is already some investment and an existing skill base and for which have the potential to progress. The development of the agriculture sector must be people-centered to (i) enhance local productivity and production for both local market and export; (ii) establish an agri-business sector that is capable of processing and developing the value chain to support the promotion and commercialization of the country's agricultural industry as well as encouraging domestic enterprises to invest in agricultural value-added products; (iii) improve agriculture-related constraints such as transportation infrastructure, water irrigation, labour productivity, legal frameworks, quality control and quality assurance facilities, post harvesting loss and ensure the quality and climate resilient agriculture inputs such as seeds, fertilisers and equipment.

Some immediate products with manufacturing implications, for import substitution, domestic market, and export promotion can be identified:

- For import substitution: rice, mushroom, onions, peanut butter, alcoholic beverages, soybean, chicken meat, beef meat, shallot, peas, spices, eggs, sweet potato, salt, edible oil, chicken feed, fish, and fruits.
- For domestic consumption: rice, coconut oil, soybean, vegetables, corn, beef, sweet potato, fish, chicken meat, pickles, feed meal for chickens and pigs, eggs, bamboo, and teak products.
- For export: coffee, candlenut, konjac, pepper, honey, mung beans, peanuts, vanilla, cattle, bamboo, sandalwood, and teak products.

Bamboo is a promising product with strong potential for downstream processing. The tropical land of Timor, suits to grow bamboo which takes only four years to market. Timor-Leste has

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<sup>3</sup> UNCTAD, LDC Report 2013.

some the high valued bamboo species such as *Bambusa lako*, known as Black Timor due to its aesthetic and it is unique to Timor-Leste. Since 2008, the Government of Timor-Leste, in collaboration with other development partners, has established a dedicated public institute “Instituto de Bamboo”. So far, the Government has invested substantially across the whole value chain of the bamboo including on training for nurseries, bamboo plantations, and processing. The objectives for the establishment of the institute were: 1) to allow ongoing research and develop bamboo products for the domestic market as well as for export with the technological support from abroad; and 2) to diversify and strengthen the industrial activities associated with bamboo. Timor-Leste has excellent natural conditions for growing high-value hardwood trees such as teak, mahogany, and sandalwood and also for faster-growing species such as *Eucalyptus* and *Acacia*. Strong potential exists to develop both smallholder and commercial-scale forestry with the possibility to make a link with processing activities. Manufacturing potential development will need to be coupled with efforts of building infrastructures such as roads, refrigeration and storage facilities, and the use of better seeds to raise output and yields.

### **3.2.2. Fisheries**

Timor-Leste has abundant marine resources due to its vast coastline with approximately 735 km with an exclusive economic Zone (EEZ) of around 72,000 km<sup>2</sup> and seas which rich in marine resources that has great potential for the development of fisheries<sup>4</sup>. However, there are number of challenges across the value chain that need to streamline including lack of infrastructure, cold chain storage, and regulatory on protecting over-fishing as well as illegal fishing activities. For generations, coastal communities of Timor-Leste have been using a wide range of tropical fish species including large tuna, numerous small pelagic fish species from the open coastal waters, a wide variety of coral reef fish, deepwater snappers, and fish from mangroves as well as from estuaries, including to some extent inland rivers and lakes.

As an island country it is expected the amount national fish consumption per capita should have been similar to the regional level. However, data indicated that the national fish consumption is quite low in the region with an estimated of 6.1 kg per capita whereas in PICTs, the fish consumption per capita reached to 110 kg. The domestic fish consumption actually not even close to the average global consumption which is around 20 kg per capita.<sup>5</sup> The trend of global consumption is increasing from 9 kg in 1961 to 20 kg in 2015 with Southeast Asia had the significant increase from 13.1 in 1960 to 33.6 kg in 2013<sup>6</sup>. Similarly, the production of fishing industry has also increased from 102 million tonnes in 186 -1995 to 179 million tonnes equivalent to \$401 billion worth of sales in 2018 with an increase of 1.5% per annum.

Fish imports have decreased over the past five years represented 0.5% of the total value compared in 2011 which represented an average of 1% of imported goods. According to FAO, the potential fish production in Timor-Leste can reach up to 116 thousand tonnes per annum when the fisheries industry is adequately exploited. This indicates that there is a huge

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<sup>4</sup> FAO 2009

<sup>5</sup> Fish, food security and health in Pacific Island countries and territories: a systematic literature review, by Karen E. Charlton, et. al., 2016.

<sup>6</sup> FAO 2018

opportunity to develop fishing industry in Timor-Leste both for domestic consumption as well as for global export.

However, Timor-Leste fishery sector remains underdeveloped, given that the vast majority of the fishing in Timor-Leste is still relying on artisanal methods, is subsistence or semi-subsistence, consisting of various small scale, low-capital fishing practices in which individual fishing households are engaged in. There is a limited fishery activity on the north coast that just conducted using small boats or canoes with part-time labour. Thus, current contribution of the fisheries sector to the national economy is very low compared to its neighbouring countries whereby the fishery sector contributes significantly to its GDP<sup>7</sup>.

Further studies and detailed planning to boost this sector in the short and medium-term are necessary. As highlighted in its SDP, the government, has stated the high importance of developing fish processing port facilities.

The potential for commercial production of agri-fisheries, aquaculture that is sufficient for both domestic consumption and exports will enable the establishment and development of the fishery industry, reducing dependence on the imports and for global market, creating new employment opportunities through local products value-added.

Aquaculture is another high potential sector from which the GoTL hopes to source 40 percent of domestic fish supplies by 2030. Globally, in 2018, aquaculture fish production reached 82.1 million tonnes that contributes 52 percent fish consumption. The potential for community-based aquaculture and coastal mariculture activities that need to go beyond subsistence and semi-industry through incentivizing them to open adequate community-led private sector may offer sustainable employment opportunities to a large part of the rural population and Timor-Leste population in general, significantly contributing to the improvement of income to coastal communities who are most vulnerable toward poverty based on the Timor-Leste vulnerability assessment. Aquaculture and mariculture may employ both young men and women in the coastal areas where aquaculture can also be practiced.

### **3.2.3 Tourism**

The vision for tourism is clear, by 2030, to have a vibrant and attractive tourism sector that significantly contribute to employment generation as well as promoting good image of Timor-Leste, of which shall be economically, socially and environmentally sustainable<sup>8</sup>.

Timor-Leste has robust potential in tourism because of its geographic location, natural beauty, and rich culture and history. Timor-Leste has great scenic endowments, including spectacular mountains, unspoiled beaches, and pristine waters. Timor-Leste also locates along with the coral triangle that is home to one-third of the sea life.

Recently, the Atauro island of Timor-Leste is identified as one of the most biodiverse in the world. Studies also indicated that the Timor-Leste water corridor is essential for economic

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<sup>7</sup> SPC, 2011

<sup>8</sup> Timor-Leste Tourism Policy, 2017

diversification for the tourism industry and a sustainable blue zone economy. According to the World Economic Forum, 2019, coral reef shelters sea life as they are home for a quarter of all marine ocean species even, they contribute to \$172 billion to the global economy. As highlighted in the Timor-Leste National Tourism Policy, Timor-Leste has Tourism potential to attract international and local travellers as it co-locates in the Asia Pacific region as one of the most competitive tourism regions in the world based on 2015, with an 8% increase in international tourist arrivals and a 4% increase in tourism receipts. In the same year, Southeast Asia earmarked US\$108 billion resulting from 104 million international tourists. Further, the World Travel and Tourism Council (WTTC) estimates that tourism directly employs 65 million people in the Asia Pacific region. Meanwhile, in Timor-Leste context, as of 2014 Timor-Leste earned US\$14 million from 55,000 visitors and directly employed around 4,300 people. Such indicators provide compelling rationality for the Government of Timor-Leste to set forth the tourism sector as one of the high potential economic alternatives for developing the country's oil & gas revenues is depleting. The National Tourism Policy of growing tourism to 2030 was in place in 2017 to ensure sustainable and inclusive tourism development to drive socio-economic growth. Recent, Economic Recovery Plan, 2020, also emphasizes the importance of investment in the Tourism sector to recover Timor-Leste economy beyond pandemic.

The tourism sector provides a wide range of business activities such as adventure tours, marine and ecotourism, hotels and restaurants, local craft markets, and investment in local attractions across the country. The development of tourism that is sustainable requires the development of policies and strategies to set up a tourist-friendly destination, as well as coordination with other sectoral policies such as infrastructure, environment, ICT readiness, labor force, health, digitalization of payment streams, and business environment.

Tourism also provides inclusive economic progress; this sector is also influenced by women's involvement that requires a substantial investment for capacity development to create quality product offers. UNESCO recognition of Timor-Leste Tais as an intangible cultural heritage provides significant opportunities for cultural tourism and contributes to people's economy specially women. Investment in the women-led industry as studies show is key to eradicating poverty, boosting economic growth, creating inclusive societies, and accelerate achieving SDG goals. The focus on industrialization that is targeted at complementing tourism will be on handicrafts that can be sold to tourists, and the development of infrastructure (construction and utilities), including digitalization of the industry.

#### **3.2.4 Oil and Gas**

The petroleum industry is still considered the backbone of the Timor-Leste economy. Oil and gas are being produced in the southern area of Timor-Leste's offshore territory and are the country's main income-producing assets.

The government's SDP, stipulates that the oil and gas sector is an imperative pillar of the current and future development of the country. The Timor-Leste growth in the non-oil sector and macro-economic balance has been ensured greatly from this sector. It is expected that the wealth generated in the petroleum sector should serve to finance the economic and social needs, in the medium term, and also to contribute significantly to investments with

sustainable returns, to ensure the prosperity of the Timorese people in the long term. Recent landmark Maritime Boundary Treaty ratification paved the way for a new phase of development vision for Oil and Gas with exclusive jurisdiction for Timor-Leste

The income generated from the sales of non-renewable petroleum wealth is saved in the Petroleum Fund. Several onshore drillings and exploration are underway, and the government has committed to developing the necessary infrastructure to support the petroleum industry. There is an ongoing plan for an onshore petroleum industry complex on the southern coast of the country known as the “Tasi Mane Project”. As part of the plan, Suai Highway and its Airport are built for the supply base as well as a petroleum hub in Betano and Beaco to service the industry. These supporting infrastructures, on top of assisting the development of an onshore processing center but also develop other potentials in the South of the country.

However, Timor-Leste also does not have the supporting industries, nor the adequate human resources that are essential to operate and manage the national oil sector. An adequate and comprehensive analysis of upstream and downstream are needed to take advantage of opportunities and fully benefit the industry into the development of Timor-Leste. As well as the need to mitigate constraints and expand the oil sector, creating a solid basis for the development of successful downstream processing industry, promoting the export of goods and services of a competitive and dynamic private sector.

### **3.2.4 Mining and Quarrying**

While the mineral endowment is welcome as it helps draw the foreign exchange to finance imports and economic development, given that oil and gas is a non-renewable resource, it is pertinent that the government targets policies to extract more value added by promoting downstream processing activities in the country. Timor-Leste currently imports chemicals from abroad and therefore efforts will also be taken to start petrochemical industries to further extend the value-added in the country including the need to start preparing young Timorese to deployed for skill labour in the industry.

The complex geology of Timor-Leste suggests the presence of a wide variety of minerals, as well as, hydrocarbons, including expensive metal ores. Hence, an important sub-sector is quarrying, due to the huge demand for construction in the country. There are more than 200 minerals distributed throughout the country. Some important metallic mineral deposits known to occur in Timor-Leste are gold, copper, manganese, silver, and chromite. The main metallic minerals potential in Timor-Leste is in the ultramafic rocks.

The non-metallic important minerals in Timor-Leste are sand, clay, gravel, and limestone, which are important inputs in the production of cement and bricks. The country’s largest FDI is a cement plant to be built in Baucau, and marble exploration in Manatuto which will increase the demand for these minerals. To support the industry, the National Parliament has approved Timor-Leste mining code which will provide transparency and assurance to investors both domestic and FDI who intend to engage in all mining activities. Additionally,

the Government has also approved the establishment of national mining company “Murak-Rai Timor” to ensure and safeguard the development of the sector.

The preliminary study by National Institute of Petroleum and Geology (IPG, IP.) showed that the country is endowed with limestone, marble, gypsum, bentonites, kaolinite, and phosphate, which possess high economic value. The widespread presence of limestone and marble, especially in the eastern and western coast of Timor-Leste are amongst the few minerals that have been exploited for many years. The argillic alteration has resulted in the development of a red to white clay complex in the Aileu Formation. It extends from Dili to the municipalities of Aileu and Ermera.

### **3.2.5 Construction**

Timor-Leste’s economic development also means that construction is a highly demanded activity. Electricity, roads, airports, bridges, ports, hospitals, schools, office buildings, marketplaces, and essential housing are some of the major developmental programs the government has launched in recent years. Recent data shows a fall in value-added in the construction sector over the period 2000 to 2006 and then followed by a significant increase for the period 2006 to 2015 after Government fiscal stimulus. Construction has since expanded sharply to address the infrastructure requirements of the country. The share of construction in GDP rose in early 2010s but sharply decrease in 2019 due state budget disapproval prior to bounce back in early 2021<sup>9</sup> as the Government budget execution begin to normal.

Although the demand for construction is rising which presents an enormous opportunity for the domestic supply of building materials, but it has instead attracted massive imports materials. Hence, while the expansion of construction is essential, efforts must be taken to manufacture construction inputs, such as cement, concrete, timber, and bricks in the country to reduce imports.

Construction sector also generates complementary synergies for the country’s agriculture, mining, and quarrying, and tourism sectors. Therefore, the development of other productive sectors needs to be synchronised with construction sector with an ample of opportunity for Private-Public Partnership.

### **3.2.6 Manufacturing**

Timor-Leste manufacturing sector still at incipient and has a small domestic market size. Due to its small size, manufacturing sector still lacks the capacity to support large-scale industrialization. Except for coffee processing, brewing, and small niche processing of other agricultural products, enterprises produce mainly for the domestic market where coffee

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<sup>9</sup> Timor-Leste 2019 National Accounts

production growth contributing to industry reached up to 6.6% in 2019 that accounted for 28.3 million USD or equivalent of 1.5% shared of GDP<sup>10</sup>.

Efforts to stimulate the manufacturing sector and its complementary activities, including strategic sectors identified in the SDP and GRFE, are still desirable and achievable as it is essential for engineering support and light consumer goods: downstream oil and gas, agriculture, fisheries, tourism, and highly qualified and specialized services. The industrial focus should be on absorbing cutting-edge know-how and innovation through the adoption of best practices from foreign direct investment and knowledge spill-overs to domestic enterprises. Learning from foreign technology should be the prime channel for the development of manufacturing capabilities and highly qualified and specialized services in Timor-Leste.

Because of the small-sized economy and rural orientation of Timor-Leste the realization of the value addition will require the implementation of strategies to stimulate upgrading into higher value-added stages. Natural resources as well as the economically important products in the country should then be promoted to stimulate value addition through sorting, processing, and packaging. Due to its size, the country strategy should be focussing on highly qualified and specialized education and training programmes in order to deliver high quality services and limit the import of qualified and specialized skills. Innovation and new technology as well as R& D can be an area of focus – but will necessitate important investments.

The obstacles to promoting manufacturing can also be explained by the scarcity of capital and human capital, and the existing weak infrastructure and technological capabilities but targeted and focused investments can overcome the issue. Further, productivity across sectors, measured in terms of production per employee and contribution to GDP, is low. The shortage of skilled workers and infrastructure are key constraints for the manufacturing sector to become a driver of economic growth in Timor-Leste and to improve the country's international competitiveness. The lack of access to international markets as a consequence of the lack of competitiveness of most Timorese products could be surmounted with the introduction of, initially, an effective resource-based industrialization policy and, a more broad-based industrialization policy over the long term and subsequently a robust implementation of the policy with clear roadmap of action plans and indicators are fundamental.

Overall, Timor-Leste presents an interesting platform where the government has challenges ahead to develop the main sectors of agriculture, fisheries, tourism, mining, and downstream petroleum industry through expansion in construction, manufacturing, and utilities, initially, and, gradually, a strong focus on knowledge-based services, which is currently dominated by simple activities. Following this inter-sectoral macro-assessment, the next sub-section examines the state of manufacturing and related industries using micro-evidence from firms.

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<sup>10</sup> Timor-Leste 2019 National Accounts.

### 3.3 Microeconomic context

Timor-Leste's position in the World Bank *Doing Business* ranking dropped from the 178<sup>th</sup> position out of 190 in 2018 to the 181<sup>st</sup> out of 190 in 2019, performing far from its East Asian & Pacific (EAP) regional peers, with a regionally averaged rank of 94 in 2019. Timor-Leste ranked especially low in 2020 in the indicators of Enforcing Contracts (190), Registering Property (187), Resolving Insolvency (168) and Getting Credit (173), protecting minority (157), dealing with construction permits (159), and enforcing contract (190) while it stands in a slightly better position than some of the neighbouring countries in starting a business (68).

In 2014, MTCI and UNDP carried out an assessment of manufacturing and related firms in Timor-Leste, looking into firm characteristics and four systemic pillars: basic infrastructure, high tech infrastructure, network cohesion, and global integration. The firms belonged to coffee processing activities, printing, construction materials, furniture making, bottled water, and handicrafts. Some of the main findings from the assessment were:

- **Firm characteristics:**
  - **Exports:** all coffee firms in the sample had export experience with exports accounting for almost 100% of production in 2013. The printing, construction related, furniture, and bottled water firms only supplied the domestic market, while the handicraft firm did export, mainly to Australia.
  - **Training:** most firms reported no formal allocation of funds for training for its employees; noting that they gained knowledge through learning by doing methods or a hands-on approach.
  - **Technology:** All firms reported participating in incremental engineering activities. This is a positive development, as firms' have put in place strategies to adapt existing technologies to improve their efficiency and quality of production<sup>11</sup>. Despite the nascent nature of manufacturing in Timor-Leste, these developments show that technological upgrading is also occurring in the country.
- **Basic infrastructure:** Firms' assessment of the standard of basic infrastructure in Timor-Leste is largely below average, although expected for a newly independent country, suggests that the government needs to aggressively develop high-quality basic infrastructure in the country. Among other things, good roads will make it possible to gather commodities more easily in processing plants, which will contribute to reducing processing costs and thus, help amortize the investment in these plants. Coconut oil, rice mills, peanut sorting, and packing are some of the industries that will benefit from such an expansion.
  - The ambiguity of land ownership is one of the biggest concerns facing manufacturers in Timor-Leste. Although, the President has promulgated Law no. 13/2017 for proprietorship the land issue remains unsettled and the development of manufacturing will remain uncertain, as a secure environment with proper legal enforcement for protection over the property and land ownership is essential.

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<sup>11</sup> This is the form of innovation entrepreneurs typically undertake (Schumpeter, 1934).

- The treatment of the environment is critical as firms' assessment shows that environmental regulations in the country are either poorly defined or not enforced.
- **High Tech infrastructure:** Firms' assessment of high-tech institutions in Timor-Leste was also weak. high Tech infrastructure must be upgraded further to support the transformation of manufacturing from low to high value-added activities and also pave the way towards digital economy. This will help the government to achieve its long-term SDP goals.
- **Global integration:** Instruments targeted at increasing linkages with the global economy varied in firms' ratings. Some reported the use of marketing representatives hired by them, while industry coordination councils are recorded to be weak, understandable given the small number of firms in each of the manufacturing industries.
- **Network cohesion:** Coordination between firms and critical support organizations in Timor-Leste was fairly strong given the nascent nature of its development. The weakest record was on coordination between firms, government, and other organizations supporting basic and high-tech infrastructure, and promoting external linkages followed by firms' links with financial institutions. Otherwise, firms reported fairly strong buyer-supplier links, business support organizations, government's SME programs, and technical collaboration, firms' strategy to network, and technical collaboration.

It is clear from the firm-level analysis that Timor-Leste is at a starting stage of economic development, however, for a nascent nation it has managed to make significant improvements in some fields. All the five areas require a strong capacity, in terms of strategies, human and financial resources, to stimulate the structural transformation of the economy, particularly its promoted manufacturing industries targeted to add value to resource-based clusters in the countries from low to high value-added activities.

## 4. WHY INDUSTRIALISE?

### 4.1 Industrialization a tool of economic growth and diversification

It is a well-known fact that countries that have relied largely on natural resources to finance development expenditure have rarely enjoyed sustained economic development. Governments of such countries who ignored the need to develop dynamic sectors of agriculture, manufacturing, and services, specifically those linked to the development of a digital economy, have been trapped by problems associated with the fallacy of composition. Real sectors are squeezed during natural resource booms as imports become cheaper than domestic production because of high exchange rates. Norway and the Netherlands averted such a problem by developing industry and agriculture. Nigeria and Congo failed to do so, and hence, have remained underdeveloped although other factors may have contributed here, thus, still being heavily reliant on mining.

Timor-Leste uses the United States Dollar and so does not face the same problems as other resource-rich countries in terms of exchange rate appreciation. However, lessons from other countries are relevant in terms of expenditure patterns driven by natural resources referred to as the problem as the 'curse of resources' growth<sup>12</sup>. The complacency that sets in from the abundance of natural resources accompanied by unproductive practices leads to underdevelopment. The most convincing explanation of the curse economically, is that a rise in the natural resource sector crowds out the manufacturing and agricultural sectors<sup>13</sup>. Large export earnings from natural resources inject additional purchasing power into the national economy which pushes up the prices of non-traded goods and non-traded factors of production such as services, wages, land rents, and industrial service costs. Meanwhile, the prices of manufactured goods, which are traded internationally and cannot deviate from global norms, remain the same. Thus, the manufacturing sector loses international competitiveness due to high input costs relative to output prices. Moreover, the domestic factors of production, such as human capital (managers, engineers, and skilled workers), capital (if capital mobility is less than perfect), and technology embodied in them compete away to the dominant non-renewable natural resource sector. Faced with reduced supply and higher costs of domestic inputs, the manufacturing and agricultural sectors shrink as natural resource export rises with the consequent squeezing out effect on the manufacturing and agricultural sectors. Nonetheless, developing high qualified and specialized services can help mitigate the risk.

Industrial policy exponents<sup>14</sup> argue that manufacturing and its appendages of construction and utilities possess increasing returns properties, so their expansion not only stimulates the expansion of their sectors but also, other sectors through inter-sectoral linkages. It is only after the primary sectors mature will services be able to take over as the growth propellant as knowledge becomes the major driver of the sector. Until then any expansion in services shall only slow down other sectors as they tend to specialize in non-productive sub-sectors<sup>15</sup>.

Evidence has not only shown that industrialization is linked to economic growth, but also manufacturing can play a catalytic role in transforming the economic structure of agrarian societies. There is a close relationship between per capita income and industrial structure. Agriculture and mining dominate GDP in the poorest economies, while manufacturing becomes important in middle and upper-middle-income countries. Services take over in the most developed economies such as the case with South Korea.

Manufacturing sector is less exposed to external shocks, price fluctuations, climatic conditions, and unfair competition practices even during the covid-19 pandemic, it quickly bounced back from its early drop. As of third quarter of 2021, global manufacturing production growth reached 5.7 per cent compared to the same quarter of last year<sup>16</sup>. The price of manufactured goods tends to be more stable than that of commodities. The prime reason

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<sup>12</sup> Sachs and Warner (1997).

<sup>13</sup> This also the argument advanced by the Dutch Disease exponents (Corden and Neary, 1982).

<sup>14</sup> Young (1928) and Kaldor (1967). Kaldor (1967) classified construction and utilities as appendages of manufacturing

<sup>15</sup> Rowthorn and Wells (1987).

<sup>16</sup> UNIDO: World Manufacturing Production, Statistics for Quarter III 2021

for this is that manufacturing firms – unlike primary commodities –are exposed to the rapid maturity of products and have shorter gestation periods<sup>17</sup>.

Manufacturing generates stronger technical externalities (including inter-sectoral), skills creation, and learning that are crucial for competitiveness<sup>18</sup>. For instance, manufacturing is the main vehicle for technology development and innovation, representing the hub of technological progress in many countries. Industry and services use technology in many forms and at different levels to increase returns to investment by shifting from low to high productivity activities. Manufacturing also offers great potential for informal innovation activities such as ad hoc incremental improvements in products and processes.

Manufacturing has a ‘pulling effect’ on other sectors of the economy. The development of the manufacturing sector stimulates demand for more and better services: banking, insurance, communication, and transport – digitalization, information technology systems are shaping the way businesses in the service sector operate and should operate. Finally, the internationalization of production has spread the benefits of manufacturing to many parts of the world. The geographic distribution of the activities of multinational corporations (MNCs), as well as the global outsourcing of production, has benefited manufacturing in the developing world more than other sectors of the economy<sup>19</sup>. The trend towards the vertical dispersal of production activities in industrialized countries means that developing countries have a higher chance of integrating into global value chains<sup>20</sup>.

#### **4.2 Industrialization a tool for Creating Job Opportunities and Achieving the SDGs**

Employment creation is a key goal of the Government of Timor-Leste. The recent census 2015 estimates the population of Timor-Leste at 1,18 million with an annual growth rate of 2.7%<sup>21</sup>. The population of Timor-Leste is expected to be doubled by 2039 if the high growth rate continues. The youth population is expected to increase sharply, with 15,000 to 16,000 people entering the labor market every year. Recent data indicated that around 74% of the country’s population is below the age of 35 years old and most of whom are not in employment nor education. The recently launched 4th National Human Development Report (NHDR) found that 80% are not formally employed and 25% are not looking because they are discouraged by the difficulty of finding work. Yet, the working-age population has continuously increased with an annual growth rate of 2.4%. Moreover, one of the main findings highlights that 45% had basic education as the highest level of education attainment, and 60% aspire to take further studies/training but only 1/3 received any training.

It is essential to outline the gaps in the right-fit labour/capacity before exploring the role of industrialization offering opportunities to young people to participate in economic activities. This can also serve as an avenue for them to continue learning and improving their skills while contributing to national development. Additionally, government should create the appropriate environment to incentivize young entrepreneurs to become more innovative and

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<sup>17</sup> Rasiah, Osman and Rokiah (2000).

<sup>18</sup> Hirschman (1958) and Rosenberg (1976).

<sup>19</sup> Helleiner (1973), Rasiah (2014).

<sup>20</sup> Rasiah, McFarlane and Kuruvilla (2015); Rasiah, Kimura and Oum (2015).

<sup>21</sup> World Bank, 2015.

high technology-oriented for the development of highly qualified and specialized services. However, the current private sector engaging in the productive sector is small and can absorb only a limited share of the available national labor force.

To generate employment, it is necessary to diversify industries and develop new ones. However, it is difficult to diversify industries by leaving industrialization to market forces alone because the Timor-Leste market is small due to the small population as well as the petroleum sector that may squeeze out the real sectors as it is relatively too large now. Hence, the industrial policy must target a shift away from the non-renewable petroleum sector to the real sectors.

The focus of the industrial policy of Timor-Leste is the development of light manufacturing industries complementary to the strategic sectors of tourism, agriculture and forestry, fisheries, mining, and oil and gas construction, and highly qualified and specialized services. The industries to be promoted must also be economically and environmentally sustainable to ensure the catalytic effect on poverty reduction, the long-term demand for employment, and the achievement of the Sustainable Development Goals<sup>22</sup>.

#### **4.3 Industrialization a tool for Imports Substitution**

Timor-Leste's economy remains to be heavily dependent on finite oil and gas. The Trade balance of non-oil and gas goods have remained heavily negative. As of 2019, Timor-Leste export deficits for merchandise and non-merchandise goods reached up to - 95%<sup>23</sup>. The reduction of imports of essential goods that can be potentially developed in Timor-Leste shall be the first step of industrialization. But the promotion of import substitution will be carried out in a manner consistent with Timor-Leste's obligations under WTO, EPA-EU, and ASEAN accession.

#### **4.4 Key constraints to manufacturing**

Timor-Leste faces two overarching barriers to the development of light manufacturing:

1. High costs, low productivity, and economic geography are preventing the attraction of light manufacturing FDI. This means that non-resource-based industrialization has not developed to date in Timor-Leste. These factors are also preventing Timor-Leste from participating in regional value chains and production networks. Production networks in the ASEAN region are the main driver of industrialization in Southeast Asia.
2. Coordination failures and weak general business enabling environment are also preventing resource-based industrialization from occurring. These constraints apply to most businesses operating in Timor-Leste. The development of manufacturing will therefore be contingent on an overall improvement in the business enabling environment.

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22 As Kalecki (1976) has argued the creation of just jobs can be counterproductive. Thus, job creation must take account of sustainability

23 National Statistic Timor-Leste 2019)

Economic take-off in East Asian countries starts typically with the arrival of a critical mass of manufacturing FDI performing simple assembly or processing of light industry products for export such as garment, footwear, foodstuff, and other household goods. Timor-Leste at present cannot attract this type of manufacturing investment and non-resource-based industrialization is contingent on Timor-Leste improving its business environment but also addressing structural issues explained in the macro and microanalyses.

## **5. LINK WITH OTHER GOVERNMENT POLICIES**

Timor – Leste SDP 2011-2030 is the Government guiding development principles that set out an ambitious economic development agenda as well as providing a framework for identifying priorities. Within this context, the Government is undertaking various reforms and strategic decisions that will contribute to economic growth and Timor-Leste's integration and openness. Nonetheless, complimentary policies including industrial policy needs to be created to guide and specific development sector.

Timor-Leste is a member of CPLP (Portuguese Speaking Countries) since 2002. A multilateral platform that offers vast market opportunities that is home for over 260 million population. Furthermore, Timor-Leste also prioritizes membership in the Association of Southeast Asian Nations (ASEAN), the World Trade Organization (WTO) as well as Economic Partnership Agreement as key strategies to accelerate international economic integration. The SDP specifically states that to build our nation and provide jobs and income for our people, Timor-Leste needs to attract investors to our key industry sectors, partner with international firms in building our infrastructure, and support local firms to start-up and grow. Therefore, Timor-Leste needs to attract other forms of investment beyond natural resources and find better ways to link the domestic economy with regional and global trade and investment.

At the country level, Timor-Leste has established the Special Economic and Social Market Zone (RAEOA- ZEESM) in 2014 with the objective towards inclusive development of agribusiness, the creation of a free zone, development of industrial, export and import activities, and other economic activities that create added value for the Region, as well as strengthening its international competitiveness.

In the last 15 years, the country has enjoyed high rates of economic growth, largely due to the petroleum sector, although government expenditure in agriculture, infrastructure, and basic services, as well as an incipient non-oil private sector, have also contributed to economic expansion until recently, 2020, the economic fell sharply due to Covid-19 pandemic. Therefore, Timor-Leste now needs to consolidate all the achievements made and set up the conditions to advance to the next phase in its development, with fiscal sustainability as a fundamental condition for this to take place. With continuous declining petroleum revenues, maintaining the current short-and medium-term expenditure policy would require increasingly large withdrawals from the Petroleum Fund above the Estimated Sustainable Income (ESI). Conversely, keeping withdrawals at or below the ESI would imply severe cuts in public expenditure or an increase in foreign debt to unsustainable levels. The only

alternative to guarantee the long-run fiscal sustainability of the country is to increase the resources available to the State from non-petroleum sources while making sure that expenditure grows at a rate compatible with the expected growth of such resources.

The Government priorities of Public Administration Reform and the Fiscal Reform aim to create more efficacy and increase State revenues other than oil and gas revenues. The Fiscal Reform is the sum of three two separate but interrelated reform processes: Tax Reform and Public Expenditure Reform and the Economic Reform. Reform in these three areas will go a long way towards achieving fiscal sustainability. Tax Reform will increase the availability to the State of non-petroleum resources, while public expenditure reform has the potential to improve the quality of public expenditure, controlling its rate of growth while increasing the quantity and the quality of public services and fostering productivity and economic diversification.

The Guide for Economic Reform and Growth (GRFE) led by former MECAE is the VI Constitutional Government's strategy to increase private investment, economic diversification and generate sustainable employment. The guide is structured in a matrix format consisting of five priority economic pillars, including (1) agriculture, (2) fisheries, (3) tourism, (4) oil and gas (downstream) and (5) light manufacturing and, seven reform areas, including (1) land and property regulation, (2) economic infrastructure development, (3) labor market regulation and workforce development, (4) business enabling environment, (5) fiscal reform, (6) private investment regime reform, and (7) private sector development. The objective of the measures envisaged within the scope of the Private Investment Regime Reform (6) is to introduce profound changes in the regime to greatly improve the framework and its procedures, to create favorable and competitive conditions capable of inducing greater attraction and retention of private investment in Timor-Leste.

A National Investment Policy and Investment Road Map were drafted accompanied by the Investment Guide and Investment Law that had been approved and promulgated in 2017. Increasing domestic and foreign private investment is central to the Government's economic strategy. Increasing investment will drive diversification of the economy from the oil and gas sector towards investment in agriculture, tourism, manufacturing, and infrastructure. Investment can drive economic transformation and the transition into higher value-added economic activities.

The overarching program of the GRFE has fostered the development of sectoral policies and strategies. For example, in 2017 the Council of Ministers approved the Timor-Leste National Tourism Policy, to provide a clear path forward for the Government, private sector, and civil society to work together towards developing sustainable eco-tourism. The vision for tourism is that by 2030 Timor-Leste will have a vibrant and attractive tourism sector that makes a significant contribution to employment across the country; is economically, socially, and environmentally sustainable; helps promote a positive image of Timor-Leste overseas, and is an industry that people wish to work in. Similarly, the Government is collaborating with ADB in working on a coffee sector development plan, which aims to double the coffee production by 2030 and enhance up to 270% of income from coffee exports by modernizing

the sectors and improving its quality; and a national policy on forests to safeguard, promote and accelerate the development of a national asset of commercial trees in Timor-Leste.

The people-centric Economic Recovery Plan aims to sustain the country's economy beyond covid-19 as the pandemic exacerbate unemployment and business closedown and make structural socio-economic changes to make Timor-Leste economy to be more resilient are to be done in two stages, short and medium-term including injecting direct cash and supporting the local private sector and move towards a digital economy could also be a way to explore.

## **6. BENEFITS FROM REGIONAL AND INTERNATIONAL INTERGRATION**

The timely development of the Industrial Policy will help Timor-Leste to maximise the impact of its bid to secure membership in the Association of Southeast Asian Nations (ASEAN), the World Trade Organization (WTO) and Economic Partnership Agreement with EU and Pacific Islands. Beyond cultural affinity and solidarity with ASEAN, regional and global economic integration will (i) facilitate further business and investment opportunities and (ii) solidify Timor-Leste's access to regional and global supply chains. Timor-Leste can also reap gains from ASEAN's targeted focus to bounce back from the COVID-19 pandemic by undertaking myriad measures to stimulate growth, sustain and create new employment opportunities, strengthen supply chains, improve transport and logistics efficiency and accelerate digital transformation. Additionally, acceding to WTO provides enormous opportunity for domestic institutional and regulatory reforms as well as predictability and transparency of international trade which guarantees stability of legislation and reduce investment risks thus provide conducive business environment for Foreign Direct Investment and boost domestic production. Similarly, acceding to Economic Partnership Agreement with EU \_ACP (African, Caribbean, Pacific countries) would open up export market of half a billion people for domestic firms as it provides free access to the EU market with duty and quota free for all products except for arms (EBA)<sup>24</sup>.

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<sup>24</sup> <https://ec.europa.eu/trade/policy/countries-and-regions/development/economic-partnerships/>

## II. INDUSTRIAL POLICY STATEMENT

### 7. VISION OF THE INDUSTRIAL POLICY

Our vision for 2030 is:

*“Timor-Leste will take a strategic leap to develop existing manufacturing industries and introduce new industries to contribute to increasing economic growth rates required to meet the goals of the National Strategic Development Plan to make Timor-Leste a prosperous and healthy Upper-Middle-Income Country by 2030 and diversify the economy to reduce the economic dependence on the non-renewable oil and gas sector”.*

Although Timor-Leste's industrialization focus seems to indicate a resource-based type for the short and medium-term to complement agriculture, tourism, mining, oil and gas, construction, and services, innovation industrialization will also be an option, given the young age of its population.

While Timor-Leste is a latecomer, only now strategizing to engender the conditions for rapid growth, it has the advantage of avoiding the pitfalls other countries have faced during their process of industrialization. The country will initiate industrialization by incorporating strategies to avoid environmental and natural resources degradation by encouraging the use of environmentally friendly technologies from the outset to avert climatic damage and ensure sustainability and enhance innovation and development of the industries through embedding young population with highly qualified and specialized knowledge and skills.

#### **The vision of industrial policy for Timor-Leste**

- ✓ *Contribute to increasing economic growth rates so that Timor-Leste can meet the goal of SDP to make Timor-Leste an Upper Middle-Income Country Group by 2030.*
- ✓ *Industrialise in the strategic sectors of agriculture, mining, tourism, construction, and services.*
- ✓ *Reduce the economic dependency of the economy from the non-renewable oil and gas sector.*
- ✓ *Stimulate resource-based industrialization in the short and medium term, and gradually include non-resource-based Industrialization in the long term.*

## 8. APPROACH TO INDUSTRIAL POLICY

The Industrial Policy will achieve this vision by:

- Building public sector capacity to implement industrial policy.
- Encouraging industrialization complementary to agriculture and fisheries, forestry, tourism, mining, oil and gas, construction, and services.
- Encouraging innovation industrialization by realizing the potential value of new technologies and to enable new technology industries to quickly achieve large scale.
- Improving the enabling environment for both resource-based and innovation industrializations, including manufacturing and services.
- Promoting resource-based FDI to improve local competitiveness and transferring technology know-how.
- Linking with the Investment Law to promote investment in light manufacturing.
- Coordinating with government, private sector, and development partner activities to support manufacturing and other sectors, including services.
- .
- Fostering private sector and cooperatives capacity to develop profitable manufacturing and other businesses, including services.
- Promoting public-private partnerships to develop manufacturing and other highly qualified and specialized activities.
- Promoting technology and innovation to keep advance the rapid development progress.

The focus of the Industrial Policy is on ‘catch-up’ industrialization. Catch-up industrialization emphasizes the development of national technological capabilities targeted at raising the people’s standards of living. Learning from foreign technology – both through licensing and other forms of transfer directly to Timorese and FDI – is how all countries catch up with an intensivemeasures to get buy-in domestically. The Policy sets forth several measures to actively transform Timor-Leste’s factor endowments and transform them into high value-added activities.

The Investment Policy contains the overall framework for Timor-Leste to improve its enabling environment for domestic and foreign investors and to provide high-level government economic policy coordination. The Investment Policy and Industrial Policy work together to actively target, attract, and facilitate investment in the light manufacturing and other relevant sectors, including services sector. The investment will provide financing for industrialization. In addition to financing, foreign direct investment will provide access to technology and higher productivity work practices to support the industrialization process. The Industrial Policy will be informed by demand-side assessments of investor interest in manufacturing and /or other relevant strategic sectors.

The policy priorities are both *resource-based industrialization* and *innovation industrialization*. Resource-based industrialization will focus on agri-products, construction materials, and downstream processing of petrochemicals, and cultural products (e.g.

handicrafts). Innovation industrialization, a mechanism and a combination of force, will create the link between science and technology innovation and industrial innovation. This can be achieved through a) industry-university-research coordination; and b) technology entrepreneurship. This means coordination among the functions of improvement and development in new industries, new technologies, and new talents of innovation industrialization. The incentive mechanism should motivate both innovation and coordination. Technology entrepreneurship is the industrialization of new technology through business start-ups, which occurs beyond the stage of incubation and development of new technology. Capital will consist of knowledge capital manifested through technological innovation, human capital manifested through entrepreneurs, and physical capital in the form of venture capital<sup>25</sup>.

There have been numerous studies by government and development partners on potential areas for additional processing. The main activities to be supported by this policy include:

- Processing of agricultural raw materials, such as rice, coffee, soybean, edible oils and fats (including coconut oil), candlenut oil, fruits, recycling materials, soaps, mushroom, vanilla, cornflour, animal feed, peanuts, etc.
- Expanding production of salt and organic fertilizers
- Substituting imports of building materials (including cement, concrete, timber, bricks, etc.)
- Promoting supply of wood-based (including teak) and bamboo-based products, including in the manufacture of furniture and construction.
- Adding value to handicrafts through modern processing and assembly technologies including safeguarding the TAIS.
- Processing of oil (from crude exports) and oil waste (into carbon fiber) and the development of downstream petrochemical industries

The Industrial Policy will target two markets in the short to medium-term:

1. Increasing the market supply of existing economic activities - diversifying the economy through activities aimed at the domestic market (growth of existing activities). While domestically owned enterprises may play the dominant role in catering to the local economy, market-seeking foreign investment may also be important players.
2. Competitive import substitution – encouraging the emergence of new activities. Market-seeking foreign investors will be important players.

The policy contains measures to improve the enabling environment and Timor-Leste's competitive position. A more competitive enabling environment can validate a long-term aspiration to develop non-resource based, export-oriented manufacturing.

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<sup>25</sup> Yinxing Hong & Yao Lu & Jianghuai Zheng, 2017. "Industrialized Innovation: The Connection of Science & Technology Innovation with Industrial Innovation," *Frontiers of Economics in China*, Higher Education Press, vol. 12(3), pages 400-417, September.

## **9. INDUSTRIAL POLICY AREAS AND MEASURES**

Section 9 outlined the approach of the Industrial Policy. This section details the policy measures and categorizes the government actions in four policy areas:

### **9.1 Policy area 1: Industrial policy directions, coordination, and effectiveness**

The measures under these policy areas are designed to increase systemic coordination of the industrial policy with other policies; focus the overall direction towards resource-based industrialization and innovation industrialization, and ensure the effectiveness of implementation through periodic review and evaluation.

#### **9.1.1 Government actions in the short-medium term will be focused on encouraging both resource-based and innovation industrializations targeted at the domestic market and competitive import substitution.**

Resource-based and innovation industrializations should be the focus of short to medium-term actions. Adding value to existing resources in agriculture, fishery, mining, oil and gas, wood and handicrafts, and services can assist in increasing incomes and employment.

#### **9.1.2 The government will investigate actions necessary to develop in the long-term manufacturing exports, non-resource-based and innovation industrializations**

The objective of this measure is to ensure that government actions build towards developing a long-term plan to export manufactured goods, to develop non-resource-based manufacturing, and to develop industrialized innovation. To achieve this objective, the Government will:

- Coordinate improvements to the enabling environment for industrialization (resource-based, non-resource-based and innovation) with the appropriate, required investment promotion strategy and investment-related policies.
- Investigate the physical infrastructure necessary to develop industrialized innovation and export-oriented manufacturing including export processing zones, trade corridors, industrial parks, and special economic zones. This consideration will include an investigation of which infrastructure could reduce costs for exporters.
- Develop an export promotion strategy investigating what measures are necessary to promote exports including through benchmarking against successful export promotion strategies in the region.

#### **9.1.3 The government will ensure coordination between the investment promotion strategy and the Industrial Policy.**

The Investment Policy outlines how the Government will develop an investment promotion strategy to increase domestic and foreign investment in key economic sectors. The objective of this measure is to ensure coordination between the implementation of the industrial policy and the investment promotion strategy.

**9.1.4 The government will develop a light manufacturing and innovation industrialization strategy to guide the implementation of the Industrial Policy.**

The government will seek the support of development partners to develop and implement a practical, action-based strategy to implement the policy. This strategy should identify short, medium, and long-term priorities and should be linked to the annual action planning and budget cycle. It should also identify the resources necessary to implement the strategy and actions needed to strengthen the available resources to meet those needs. The objective of this measure is to ensure orderly implementation of the Industrial Policy. A draft action plan of priorities is attached to this policy as Attachment A.

**9.1.5 Close coordination between the Investment Guide and the Industrial Policy.**

Increased domestic and foreign investment will underpin industrialization in Timor-Leste. Therefore, close coordination is required during the implementation of both the investment guide and the industrial policy. The Ministers with responsibility for economic coordination, investment, and industry shall establish a coordination mechanism at both the political level and the technical level. Assistance from development partners shall also be coordinated.

**9.1.6 The government will develop baseline, targets, and indicators against which to measure progress in the implementation of this policy.**

This measure ensures that the implementation of this policy is assessed against objective indicators. Baseline, targets, and indicators may be developed to assess the success of this policy in developing manufacturing, coordination, development of public sector capacity.

**9.1.7 Industrial Policy shall be subject to a systematic review jointly led by the government members with responsibilities for economic coordination and industry.**

The Government's objective is to ensure the continuing relevance of the policy in the light of changing circumstances and evolution of the Government's broader policies and strategies as well as regional and global changes. The systematic review should monitor the implementation of the policy as measured against the indicators developed and identify bottlenecks faced during implementation.

**9.1.8 The government will plan for the development of industrial parks to provide the infrastructure for light manufacturing and innovation industrialization.**

The government can assist in the development of light manufacturing and industrialized innovation by seeking to establish industrial parks. These parks should be accompanied by feasibility studies and detailed engineering design. The parks should also be developed in conjunction with TradeInvest and other interrelated Government agencies to allow for the targeting of investment promotion strategies towards the parks and link with private investors

willing to participate in the industrial parks. One of the purposes of the park is to provide readily to use land complete with basic infrastructure as part of the investment facilitation to attract FDI to accelerate industrialization. The industrial park is also expected to create and nurture local micro, small, and medium-sized enterprises, such as, suppliers of intermediary goods, hotels, restaurants, as well as development of local contents.

## **9.2 Policy area 2: Complementary industrialization**

The Government will encourage industrialization complementary to agriculture, tourism, mining, oil and gas, construction, and services.

### **A Development of agri-processing industries**

The government will prioritize the development of agri-processing industries. Timor-Leste has the raw materials to be used as inputs into agri-processing industries. The country is endowed with abundant resources including the availability of over half a million hectares gross agriculture area for cultivation and has forest land of 1.5 million hectares. Agriculture sector is also one of the sectors that absorb large employment, as highlighted during 2019, agriculture census, there are around 63% of the population engage in the agriculture livelihood. This provide substantial opportunity for import substitution on the agri-processing products. Parallel to this, for short and medium-term, the policy area can focus on competitive import substitution; in the longer-term, firms can develop the capabilities to export agri-processing products through the promotion of climate smart agriculture practices and technologies.

To ensure that agri-processing industries are developed, the Government will take five measures:

#### **9.2.1 The government will promote value chain development in the agricultural sector as the mechanism to increase agricultural production for processing.**

Timor-Leste farmers have developed agricultural systems based on food security rather than market orientation. Hence, changing subsistence farming to commercial farming requires the building of confidence in market systems as well as requiring behavioural changes. This requires an integrated value-chain development approach and transforming a community mindset towards economic orientation. This approach should consider all parts of value chain development including production, processing, transport, distribution, agribusiness information, technology inputs, communication systems, storing, packaging, and marketing. The policy measure shall ensure that efforts to develop agricultural value chains are coordinated between Minister of Coordinating of Economic Affairs (MCAE), MTCI, MAF, IADE, Agency for Quality Control, TradeInvest, Secretary State of Cooperatives, Ministry of Planning, MPoW, CCI-TL, and Development Partners.

### **9.2.2 Promoting processing industries**

MTCI shall support and encourage the establishment of processing industries. Support can be provided for the set-up, operations, and management of processing industries. The setting up of private processing industries will be based on private sector participation and domestic demand for processed products. Domestic commodity processing can make use of domestic agricultural, livestock, forestry, and fisheries products. MTCI will promote labour-intensive small-scale home industries with farmers groups, community-based organizations, farmer organizations, and cooperatives.

### **9.2.3 Promoting agri-business**

The promotion and incentivization of agri-business are essential to stimulate entrepreneurship in agriculture. MTCI will work closely with MAP National Directorate of Agri-business, youth business center, and TradeInvest to promote private sector participation in agriculture. Specific actions include strengthening business management, market linkage, supply chain management, and economic activity of private entrepreneurs, such as farmers' group/ women groups, youth groups, cooperative, processing industries, and traders. MTCI will work together with TradeInvest to promote the opportunities in agribusiness to encourage and mobilize private sector participation.

### **9.2.4 Promoting competitive import-substitution for agri-processing industries**

Timor-Leste currently imports substantial numbers of products that could feasibly be produced domestically. MTCI has already achieved success in supporting the domestic processing of salt and coffee for both the domestic market and export. Under this policy measure, MTCI will promote further competitive import-substitutions in agri-processing targeting products that can be manufactured using domestic agricultural goods as inputs and focused on the domestic market.

### **9.2.5 Support for agro-processing export promotion**

MTCI in cooperation with TradeInvest shall develop an export promotion strategy based on existing and near-term agri-business exports as well as addressing how competition from regional and multilateral economic integration and their member States' sensitive sectors could be addressed to ensure Timorese exports are not drowned out. The short-term focus of the export strategy will be on coffee, candlenut, virgin coconut oil, figs, vanilla, black pepper, and other niche agricultural products where the supply chain is developed and can respond to increased export demand.

## **B Handicrafts and wood products**

The focus of industrialization in the tourism sector should be on handicrafts that can be sold to tourists but also enabling digital payment mechanisms for tourists. Manufacturing more handicrafts within Timor-Leste supports the goals of the Timor-Leste tourism

policy to increase the value-added from tourism and reduce leakages from tourism spending.

Wood products are another area of comparative advantage for Timor-Leste. The government is already proceeding with plans to accelerate the development of commercial forestry plantations through the National Forestry Policy (2017) and the National Forestry Investment Plan. Bamboo has already been identified as a promising resource and the Government has set up the Bamboo Institute to promote the growing and processing of bamboo products and to untapped the huge potential of this ‘green gold’ for economic diversification.

#### **9.2.6 Implement a program to add value to local handicrafts**

The handicraft industry already exists in Timor-Leste, but it is underdeveloped and operates traditionally. Its modernization will require the conversion of scientific knowledge in a designated science park that pools university and foreign expertise to add value to existing products and create new products.

The existing handicraft industry such as tais-weaving which recently has been recognised by UNESCO as part of Timor-Leste intangible cultural heritage, Mahanaim Garments, Boneca-Atauro, Empreza Diak, Rui Collection, wood-based handicraft, and others was aiming to supplement and to support the tourism industry and has made progress in designing and producing high quality “Tais-based shoes” and uniform and Atauro Dolls. However, most of the handicraft initiatives led by the woman cooperatives which requires improvement in developing a good market reputation as a high-quality craft producer and improve sales in the market. There are stagnant sales because of high marked up price and very little product innovation after the original tais, handmade wood, Boneca Dolls were designed and introduced in the market, over-reliance on institutional sales and the limited capacity of staffs and cooperative members in product design, textile design, communication, and financial literacy to improve the profit margin of the business, it needs to invest in staff capacity development in the area of product design, textile design, graphic design, English and Portuguese language learning, marketing, branding, financial literacy, and business management

#### **9.2.7 Promote the use of more efficient wood processing techniques through hands-on training and technique demonstration**

Current techniques of wood harvesting and primary processing are not efficient, with only an estimated 15% of wood volume grown captured for final use. The government will try and implement with development partners a program for increasing the efficiency of wood processing techniques through hands-on training and demonstration of more efficient techniques.

#### **9.2.8 Develop vocational training courses targeted at the wood processing industries.**

In the medium-term, the Government will develop and implement vocational training courses for wood processing industries. Such training courses should be based on similar courses in neighbouring countries. The MTCI shall work together with the SEFOPE and other related training agencies to implement the training course curriculum which shall be embedded into the national curriculum for vocational schools and training centers.

#### **9.2.9 Coordination between Ministries with responsibility for commercial forestry development and industrial development.**

Ministries with responsibility for industry should coordinate with Ministries with responsibilities for forestry. The objective of this coordination is to ensure that plans to develop commercial forestry plantations are coordinated with plans for wood sector processing facilities.

### **C Mineral and Metal Smelting, processing, and other downstream industries**

Timor-Leste's main export is oil and gas. Yet, processing mineral products constitute around 21.4% of all imports to Timor-Leste in 2015. Once metals are included the two items constitute almost a quarter of all imports to Timor-Leste. Since Timor-Leste has its oil and gas, and metal ores endowments, it should be viable to support the development of downstream industries to improve the balance of payments of the country.

#### **9.2.10 Investigate the long-term potential for mineral processing alongside government plans to develop the minerals sector.**

MTCI should work with IPG and ANPM to investigate the potential for mineral processing in parallel with plans to develop the minerals sector. Minerals with the potential for processing include sand and gravels, limestone for cement, clay for bricks, marbles, gypsum, phosphate, etc.

### **D Construction industrialisation**

Timor-Leste is building significant amounts of new infrastructure. The market for construction materials is driven by public investment in infrastructure. Timor-Leste can capture more value from infrastructure development if it can manufacture construction materials domestically. Existing studies demonstrate that Timor-Leste has resources in clays, limestones, sand, and gravel, which can support small- to large-scale raw material for the construction materials industries. Clustering effects can be substantial in construction-related industries. Investments in this sector and its subsequent development can help to reduce imports of raw materials and ready-made construction materials.

#### **9.2.11 The government will work to develop an investment strategy for the construction materials sector**

MTCI, TradeInvest, National Development Agency and Ministry of Public Works will develop together a strategy to promote investment in the construction materials sector.

### **9.3 Policy area 3: Industrial Human resources development**

Human resources development is critical for industrial development. The need for skill development is even more pressing given the growing pace of global technological change, the spread of information technologies, and the intensification of global competition. To enhance productivity and efficiency, there are needs to provide viable training mechanisms for workers and line managers. Training schemes would also help workers develop local design capabilities and more sustainable production and marketing practices. Technical assistance and other training, such as Kaizen methods, lean management, just in time, Six Sigma, technology, and innovation would also be beneficial. If such strategies were adopted sector-wide, this would improve productivity and promote the use of capital-intensive productions instead of labour-intensive productions. Timor-Leste could thus lower production costs and become more competitive.

#### **9.3.1 Undertake an immediate skills audit of government capacity to implement the Industrial Policy. Following the skills, audit develops a capacity building program.**

The objective of this measure is to ensure that government has the capacity to successfully implement the industrial policy. Undertaking a skills audit can assist MTCI design a long-term capacity building program. Development partner assistance should be sought to undertake the skills audit and develop a capacity-building program.

#### **9.3.2 Undertake coordination between MTCI and SEFOPE to strengthen the targeting of TVET towards industrial development.**

SEFOPE is currently implementing the TVET Strategic Plan. MTCI should establish coordination mechanisms with SEFOPE to ensure that training and skills development support industrial development and market needs. The recently approved 2017-2030 National Employment Strategy emphasized the need for matching skills requirements and training. Close coordination with the training centers will be necessary to make sure that the skills required are being offered by the training institutions.

#### **9.3.3 Develop a program to link TVET institutions with industry.**

MTCI and SEFOPE should work together to link vocational training directly with industry, including setting up business incubation centers and training centers in industrial parks. This will ensure that vocational trainings are aligned with market needs.

#### **9.3.4 Policy area 4: Private sector and cooperatives development for manufacturing: Promotion of Distribution, Business Advisory, and Standards Certification Center**

The government in collaboration with the private sector should start a center to catch young entrepreneurs and new firms so that they can be trained to face the business environment effectively. The center should be a public-private initiative to equip national entrepreneurs with the necessary business capabilities to succeed in their industries. This

action plan is to support processing industries in the transportation of target products produced by farmer groups/ women groups, youth groups, and processors among production, processing, and consumption sites. There should be additional packaging firms in the industrial zones approved to pack fresh and other products with high-quality standards to make their distribution effective and efficient.

#### **9.3.5 Support the development of Micro, Small, and Medium Enterprises through direct support, policy-level capacity building, and service capacity building.**

MSMEs have a vital role to play in economic development in general and in industrial development in particular. The Industrial Policy will support the development of MSMEs through the following actions:

- Policy-level capacity building: strengthening capacity of relevant bodies to plan, monitor, and coordinate efforts in support of MSMEs. Strengthened capacity efforts should include an evaluation of the capacity of Ministries and Agencies to support MSMEs.
- Direct support: provide recommendations to government on improvements to the policy and regulatory framework including, but not limited to, those relating to registration procedures, Organic and quality certification, import/export procedures, and disincentives or regulatory barriers affecting MSMEs through mechanism such as regular private sectors forum or annual forum meetings.
- Service capacity building: strengthening the capacity of selected public and private institutions to provide effective market-led business development services in the fields of technological information; advice and counselling; technical training; promoting subcontracting work and business planning.
- Access to finance: set the enabling environment which will allow financial institutions to grant loans to MSMEs. This can be possible by setting a proper credit guarantee scheme and or setting up the appropriate legal environment by adopting a certain set of laws which essential for the effective and efficient functioning of financial institutions, such as enforcement law, collateral law, solvency law.

#### **9.3.6 Investigate the establishment of a technical consultancy to advise businesses.**

Many businesses in Timor-Leste suffer from low productivity and inexperienced management. A technical consultancy could advise on and solve day-to-day technical problems and also assist in the improvement and upgrading of products and processes. The government will investigate the establishment of a technical consultancy to advise business drawing on relevant experience from existing government institutions, especially IADE and MTCI, and the work of development partners.

### **9.3.7 Support the development of cooperatives through direct support, organizational capacity building, agriculture, and service focused production, and entrepreneurship capacity building.**

The cooperatives sector is an effective contributor to economic development and in industrial development, cooperatives contribute to producing agricultural raw materials, value-added products, and as an effective actor in the service sector. MTCI and the Secretary of State of Cooperatives (SEKOOP) should work together in building a cooperatives ecosystem and provide market access. The Industrial Policy will support the development of cooperatives through the following actions:

- Entrepreneurship capacity building: strengthening capacity of primary, secondary and tertiary cooperatives movement in the area of business, financial literacy, value chain, and market linkages through IADE, SEKOOP, cooperatives training center and relevant bodies to plan, monitor, evaluate and coordinate efforts in support of cooperatives in addition to supporting capitalization in the sector.
- Organizational capacity building: strengthening the organizational capacity of cooperatives movement in the areas of governance, leadership development, information and technologies, research, and development. Strengthened capacity efforts should include an evaluation of the capacity of Ministries and Agencies to support Cooperatives.
- Direct support: Conduct national diagnostic to develop a high-quality program and policy, provide recommendations to government on improvements to the policy and regulatory framework including, but not limited to those relating to finance and non-financial as well as multisector to registration procedures, auditing and inspection, and disincentives or regulatory barriers affecting cooperatives.
- Agriculture and service sector focused production: stimulate the participation of cooperatives in the high value of economic sectors. The financial sector which is the pulse of the cooperative movement of the country should be strengthened to ensure the sound development of the cooperative movement. In addition, other major service sectors of the cooperative movement, namely tourism, fisheries, agriculture, food production, livestock farming, plantation, and distributive trade need to be improved more and expanded. Expansion of economic activities and increased value-add through value chain activities in related industries such as sorghum, honey, dairy product and meat, local rice, mushroom, coconut oil/water, peanuts, soybeans, local chickens, bamboo, drinking water, among others need to be developed.

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