

## *Executive Summary*

**Chapter 1**, the introduction, notes that the Government of the Federal Democratic Republic of Ethiopia (FDRE) has recognised the importance of transport and logistics sectors and has taken steps to introduce reforms in these sectors.

The objective of the FDRE reforms is to promote efficiency, innovation and transparency in cross-border trade, increasing capacity and range of services, and reduce the cost of doing business in the country.

The 2019 Ethiopian Logistics Review carried out for the Government of Ethiopia by a World Bank and African Development Bank team proposed that the Logistics Sector should be designated a priority sector for Ethiopia. Ethiopia started down this path with the development of the National Logistics Strategy, the establishment of a National Logistics Council and the creation of the Logistics Transformation Office within the Ethiopia Maritime Authority. The National Logistics Strategy has been the driver of Logistics since its formal adoption in 2017.

Structural reform was one of the key macroeconomic issues addressed in Ethiopia's 2019 Home-grown Economic Reform Agenda and logistics and transport issues were among the priority areas of the reform agenda.

The challenges faced by businesses, exporters, and manufacturers include a heavy bureaucratic customs process and inadequate logistics services, under-developed transport systems, inadequate terminal facilities, limited utilisation of ICT systems, and an inefficient regulatory framework.

Recent logistics reform measures undertaken by the Ethiopian government include measures to enhance logistics sector competitiveness and efficiency; to enhance coordination across the logistics sector actors; and to digitalise logistics and related services.

**Chapter 2** describes the data and information gathering techniques used to obtain data and information needed to prepare the diagnostic. The main data gathering exercise was the responsibility and, initially, it was envisaged that the AAU team would travel to different parts of the country to collect data and information, but local conditions restricted this exercise and data collected by AAU was limited to sourcing secondary data, and through interviews and group discussions mainly in and around Addis Ababa.

Experts in other sub-sectors, such as road, rail, shipping and warehousing, also complemented the AAU data by also collecting their own data and information.

**Chapter 3** provides a macro-economic and trade context to the Diagnostic. It notes that:

- Ethiopia is a landlocked country located in the Horn of Africa with an estimated population of 120 million people (with about 78 per cent rural) and a GDP of USD111 billion in 2021.
- Most of the Ethiopia's population is concentrated in the central and northern parts of Ethiopia, particularly in the Oromia region and the city of Addis Ababa.
- Ethiopia's economy is mainly based on agriculture, which accounts for a 32.4 per cent share of GDP and a growth rate of 6.1 per cent in 2022 and 85 per cent of total employment.
- The agricultural sector is predominantly characterised by smallholder farmer agriculture.
- The Amhara and Oromia regions accounted for around 93 per cent of the total wheat production in the country.
- The Oromia region accounted for around 72 per cent of the total production of coffee in 2021-22.

- Ethiopian trade is characterised by an imbalance of imports and exports, with low export volumes.

**Chapter 4**, on stakeholders in the Logistics Sector, itemises stakeholders in the public and private sectors and describes the responsibilities, activities and functions of these stakeholders.

Government ministries, agencies and SOEs mentioned include the following:

- Ethiopian Customs Commission
- Other Border Agencies, including Ministry of Trade (MOT), Ethiopian Investment Commission (EIC) and Regional Investment Bureaus, National Bank of Ethiopia (NBE) and Commercial Banks (CBs), Ministry of Agriculture and Natural Resources (MOANR), Ministry of Industry (Mol) Ministry of Mines, Petroleum and Natural Gas , Ethiopian Conformity Assessment Enterprise (ECAE), Ministry of Transport and Logistics (MOTL) Ethiopian Radiation Protection Authority (ERPA), Oromia Islamic Affair Supreme Council (OIASC), Food, Medicine and Health Care Administration and Control Authority (FMHACA), Veterinary Drug and Feed Administration and Control Authority (VDFACA) , Information Network Security Agency (INSA), Ministry of Communication and Information Technology (MCIT) and Ministry of Livestock and Fishery (MOLF).
- Ethiopian Maritime Authority (EMA)
- Logistics Transformation Office (LTO)
- Ethiopian Airlines Cargo and Logistics Services
- Ethiopian Shipping and Logistics (ESL)

Private Sector agencies include the following:

- Ethio-Logistics Sectorial Association (ELSA)
- Ethiopian Freight Forwarders and Shipping Agents Association (EFFSAA)
- Customs Clearing Agents Association
- Ethiopian and Regional Chamber of Commerce and Sectoral Associations

Major warehouse operators and procurement service providers include the following:

- Ethiopian Agricultural Business Corporation (EABC)
- Ethiopian Trading Business Corporation (ETBC)
- Ethiopian Sugar Corporation (ESC)
- Ethiopian Petroleum Supply Enterprise (EPSE)
- Public Procurement Service (PPS)
- National Disaster Risk Management Commission

Other logistics service support providers include the following:

- Insurance Companies
- Banks.

With reference to the **National Logistics Council and Strategy**, up to September 2023, it had met 13 times since its formation.

The Logistics Transformation Office (LTO) was established as the technical arm of the National Logistics Council under the overall direction of the Ethiopian Maritime Authority. LTO is in charge of implementation of the National Logistics Strategy, scheduled to be completed within ten years of its launch, based on the identified ninety-eight interventions.

Ethiopia's **National Logistics Strategy** was developed to accomplish four main purposes:

- Enable National Development;
- Control Avoidable Logistics Costs;
- Provide Systemic Logistics Solutions; and
- Provide Direction and Leadership.

The NLS has six major strategies (divided up into twenty-two sub-strategies and ninety-eight interventions, to be achieved within ten years (2028). These six specific objectives are related to:

- Improve logistics services by refining the national trade and finance system.
- Establish well integrated and interfaced transit and customs System.
- Improve logistics service provider's efficiency.
- Reduce the monopolistic practices in the logistics sector of the country.
- Develop Logistics infrastructure.
- Build up logistics sector institutional capacity.

Some of the achievements already realised include the following:

- Diversification of Port Utilisation;
- Opening up of the Multimodal Transport Service;
- Export Containerisation;
- Perishable shipments / cool chain development;
- Expansion of Mojo Logistics Hub;
- Establishing Free Trade Zones; and
- Establishment of Corridor Management Institutions.

Other notable achievements in implementing the National Logistics Strategy include:

- The preparation and approval of Ethiopia's Logistics Performance Index (LPI) study for 2020 and 2021; and
- Approval by the NLC of a national coordinating mechanism for the import of dry bulk shipments.

**Chapter 5** provides information on the multilateral trade and trade facilitation agreements Ethiopia is a signatory to. At the multilateral level Ethiopia is a signatory to the International Maritime Organisation, the World Customs Organisation (so needs to comply with the provisions of the Revised Kyoto Convention) and is aspiring to be a member of the World Trade Organisation (which implies that Ethiopia is willing to implement and abide by the provisions of the Trade Facilitation Agreement).

**Chapter 6** provides information on the continental, regional and bilateral trade and trade facilitation agreements Ethiopia is a signatory to. At the continental level, Ethiopia is a signatory to the African Continental Free Trade Agreement protocol which contains similar trade, transport and transit provisions as those contained in the WTO Trade Facilitation Agreement). At the regional level, Ethiopia is a member of COMESA and, although provides limited preferences (10 per cent on originating goods) is not a member of the COMESA FTA. Ethiopia is also a member of IGAD, but IGAD does not have a free trade agreement in place amongst its Member States but does have a Regional Trade Policy which is designed mainly as a cooperation framework that seeks to guide the IGAD Members States to promote trade integration in a more flexible policy environment.

At the bilateral level, Ethiopia was a beneficiary of the AGOA regime but lost that status in January 2022 and, currently, Ethiopia has no trade agreement with the USA.

The Ethiopia-Sudan Preferential Trade Agreement (PTA) entered into force on 6th February 2003 and provides preferential market access provisions to all industrial and agricultural products originating

from both countries. Origin is determined through the application of the COMESA Rules of Origin as both parties are members of COMESA.

Ethiopia can benefit from the GSP schemes offered by the European Union (termed Everything-But-Arms or EBA) and the Japanese GSP.

**Chapter 7** addresses Ethiopia's logistics sector regulations and notes that the Ethiopian institutional framework for transport and logistics is governed by the Ministry of Transport and Logistics (MoTL) while the Ministry of Urban and Infrastructure Development (MUID) is responsible for infrastructure development.

Under the Ministries, the main institutions in relation to transport and logistics infrastructure are:

- The Ethiopian Roads Administration (ERA), which has absorbed all the responsibilities and duties from the Ethiopian Road Fund (ERF) and the Ethiopian Roads Authority.
- The former Federal Transport Authority (FTA), the functions of which have now been taken over by MoTL, was responsible for developing and administering roads; creating conducive conditions for coordinated development of the road network; and ensuring the maintenance of standards in road construction.
- The Ethiopian Maritime Authority (EMA), which is accountable to the MoTL, ensures transport operation and movement of goods are economical; plans, coordinates and enforces such operation; and seeks ways and means for the promotion and development of multimodal, marine, in-land water transport; and ensures the availability of uninterrupted resource of skilled manpower in the maritime sector for the country.
- The Ethiopian Pay Toll Road Enterprise (EPTRE) that enforces penalties and fixes the toll tariff.
- Ethiopian Railway Corporation (ERC), established to build railway infrastructure; operate the cargo and passenger railway; and to engage in other related activities.
- Ethio-Djibouti Railway Company (EDR), tasked with operating the Ethio-Djibouti Railway.
- Ethiopian Shipping and Logistics Services Enterprise (ESLSE), now Ethiopian Shipping and Logistics (ESL), providing services to stevedoring, shore-handling, dry port, warehousing and other logistics services for import and export of goods.

The Industrial Parks Proclamation is the primary legislation that governs the establishment, development, and management of industrial parks. It provides the legal framework for the creation of industrial parks, including their operation, administration, and incentives provided to investors.

It was not until August 2022 that SEZs were allowed in Ethiopia.

Ethiopia does not have specific regulations dedicated to Dry Ports or warehouses. Despite the enactment of the Warehouse Receipt System Proclamation in 2003, until 2021 there has been no active supervisory/regulatory body overseeing the warehouse system in Ethiopia.

**Chapter 8** addresses trade, transport and transit facilitation measures. Although Ethiopia is not a member of the WTO, it is in accession to the WTO and so subscribes to the implementation of the Trade Facilitation Agreement (TFA). For this reason, the TFA categorisation of trade facilitation measures and instruments are used.

According to the UN Global Survey on Digital and Sustainable Trade Facilitation, Ethiopia has made significant progress in implementing trade facilitation measures. Ethiopia's trade facilitation score in 2023 is 52.69 per cent. The score is based on several factors, including transparency, formalities, institutional arrangement and cooperation, paperless trade, and cross-border paperless trade. The survey indicates that Ethiopia has improved its trade facilitation score compared to previous years.

The African Continental Free Trade Agreement (AfCFTA), which Ethiopia is a signatory to, addresses Customs Cooperation, Trade Facilitation and Transit in Annexes 3, 4 and 8 of the AfCFTA Protocol on Trade in Goods respectively.

In terms of securing supply and value chains the following trade, transport and transit facilitation provisions of the WTO TFA and AfCFTA are probably the most important:

- Customs Cooperation and Mutual Administrative Assistance.
- Trade Facilitation.
  - o Advance Rulings.
  - o Pre-arrival Processing.
  - o Electronic Payment.
  - o Separation of Release from Final Determination of Customs Duties, Taxes, Fees and Charges.
  - o Risk Management.
  - o Post-clearance Audit.
  - o Trade Facilitation Measures for Authorised Operators.
  - o Use of Information Technology.
  - o Single Window.
  - o Border Agency Cooperation.
- Transit Facilitation.

Operational NTFCs are important to ensure implementation of trade facilitation measures that will secure regional and continental supply and value chains but the way that the Ethiopian NTFC is structured and operate needs to be re-examined.

The role of an NTFC is to facilitate and coordinate but what is needed is a body to champion trade facilitation in Ethiopia. Implementation of trade facilitation measures requires combined actions by, usually, multiple agencies and private sector organisations and an implementation budget, which should come from government rather than International Cooperating Partner grants. For example, a common risk assessment instrument needs not only cooperation between border agencies but also agency agreements, possibly changes in legislation and regulations, and a budget to make it happen. This may require a directive from a higher authority.

**Chapter 9** addresses digitalisation of logistics. The digitised logistics systems, or digitised systems that are related to logistics and make logistics easier are as follows:

- Ethiopian Electronic Single Window for Traders (eSW).
- Ethiopian Customs Commission systems which include the Customs Management System, the Trade Portal and a soon-to-be implemented cargo tracking system.
- Ethiopian Airlines digitised and web-based systems that include an on-line ticket booking, paying and check-in system; and a cargo or shipment tracking system.
- Electronic Banking Systems and mobile money services including the Ethiopia Telecom's Telebirr and Safaricom's M-Pesa systems as well as online banking services offered by several of Ethiopia's commercial banks.
- Ethiopian Maritime Authority which has access to the Indian Ocean Region information Sharing Platform (IORIS).
- Ethiopian Shipping and Logistics' Oracle Enterprise Resource planning cloud application modules and data software.

**Chapter 10** addresses the bilateral transport and transit corridor agreements Ethiopia has with neighbouring countries including:

- The Ethio-Djibouti Corridor: Steps are being taken to establish an Ethio-Djibouti Corridor Management Institution and to agree a Bilateral Agreement, but, in the meantime the existing agreements can be used to govern activities, exist agreements include:
  - o The Djibouti Port Utilisation Agreement (2002);
  - o The Preferential Investment Facilitation and Property Acquisition Agreement (2006);
  - o Customs Transit Protocol Agreement (2008);
  - o The Agreement on the Implementation of the Multimodal Transport System (2010);
  - o The Road Transport Services Agreement (2011); and
  - o The Bilateral Agreement for the Ethio-Djibouti Railway (2016).
  
- Berbera Corridor with the following agreements in place
  - o Berbera Port Utilisation Agreement (2016) - makes provision for a Joint Corridor Management Authority that will meet every six months and a Joint Operational Committee; allows goods originating from, and destined to, Ethiopia to transit through the port of Berbera free of taxes and Customs duties; harmonises systems regarding frontier facilities for goods in transit; and provisions for demurrage charges. The Agreement allows for only two checkpoints for transit traffic – one at the port and one at the border.
  - o MoU between the Ministry of Transport and Logistics and DP World - opened up the possibility of concluding an agreement in which DP World and its partners would invest up to USD1 billion in developing supply chain infrastructure along the Berbera corridor over a ten-year period.
  
- Port Sudan Corridor
  - o The Port Sudan Utilisation Agreement makes provision for guaranteeing Ethiopia the permanent right of access to the sea and unhindered freedom of transit through Sudan in respect of goods and cargoes originating from or destined to Ethiopia; use of installations and equipment; the right of Ethiopia to have a free-zone facility within the port facilities of Port Sudan; preferential tariffs for Ethiopia; unhindered transit; and provisions on demurrage costs.
  
- LAPSSET Corridor
  - o In 2013 Kenya announced the setting up of a government agency, the LAPSSET Corridor Development Authority (LCDA).
  - o Kenya and Ethiopia signed a Bilateral Agreement to jointly pursue the development of the LAPSSET Standard Gauge Railway.

**Chapter 11** provides information on the ports that serve Ethiopia and includes information on the following ports:

- Djibouti Ports and Free Zone Authority (DPFZA) Ports, these being:
  - o Société de Gestion du Terminal à conteneurs de Doraleh (SGTD). SGTD plans to increase the number of containers it handles both for Ethiopia and transhipped containers. As such SGTD has recently purchased four new mega-max ship-to-shore (STS) cranes from Liebherr. These cranes will operate alongside the current eight STS cranes already installed. SGTD has also invested in an expansion of its container yard

which, together with the installation of the new mega-max STS gantry cranes, will allow SGT D to significantly increase the number of ships and containers it is able to handle per year.

- Doraleh Multipurpose Port (DMP)
- Tadjoura Port
- Damerjog Liquid Bulk Port
- Société Djiboutienne de Gestion du Terminal Vraquier (SDTV)
- Horizon Oil Terminal
- Berbera Port  
DP World plans to transform Berbera into an integrated maritime, logistics and industrial trade hub to serve the Horn of Africa and has recently opened the Berbera Economic Zone (BEZ).
- Port Sudan
- Kenya Ports
  - Mombasa Port
  - Lamu Port

Chapter 11 also addresses port tariffs and compares port tariffs using the ESCAP/UNDP port tariff structure which organises tariffs into four service groups, these being navigation, berth, cargo operations and other business. From an exercise carried out to determine port charges for a “standard” vessel, it has been calculated that total port charges are substantially lower for Mombasa, with the other ports charging from about half to two thirds more than are charged by Mombasa.

**Chapter 12** addresses Shipping transport Services. Eighty-nine liner services call at the ports considered in the Ethiopia Logistics Masterplan Diagnostic, these being Djibouti, Port Sudan, Massawa, Assab (although there was no data available for Assab) Mogadishu, Mombasa, Kismayo and Berbera. To qualify, a service needs to call at a port at least once. If only services that call at least once a month are considered, the total number of services reduces to 67. None of the services is purely intra-regional, i.e. looping between only a selection of the nominated ports. Of the 67 services, six are regional in that they loop between one or more of the nominated ports and ports in the Gulf, Red Sea and Middle East. The majority of the services are extra-regional in that they link one or more nominated port, possibly with a regional port(s), and with port(s) outside the immediate region.

From this port call analysis, it is shown that:

- Mombasa and Djibouti have the most extensive service connectivity networks, followed by Berbera and Port Sudan.
- Mombasa, Djibouti and Berbera are relatively well connected and have strong connectivity to the surrounding region.

There are 21 liners participating in services to the ports of interest. These may be “operating” liners that actually provide the service or “sharing” in that they purchase capacity on another liner’s vessel. The relationship between liners may take the form of cooperating alliances, of which the major ones are 2M (Maersk and MSC), Ocean Alliance (CMA CGM, Cosco, Evergreen, OOCL), and Alliance 2022 (Hapag-Lloyd, ONE, Yang Ming, HMM).

The ports under consideration received about 193 vessel calls per month on average with Mombasa receiving nearly half of the calls, Djibouti about a third and Berbera about a tenth of calls.

The dominant frequencies are to/from Mombasa and South-East Asia, East Africa and the Indian Sub-Continent; and to/from Djibouti and the Red Sea and Gulf. Each of these five OD pairs represents about 10 per cent of the vessel call activity.

The Linescape data, which related to a period before SGT had their mega-max ship-to-shore cranes installed, which can handle the largest ship on the ocean, shows that the busier ports attract vessels of a larger carrying capacity. The maximum vessel size at Mombasa is a Post Panamax, whilst at Djibouti, vessels reach a ultra-large container vessel (ULCV) size. At the other ports, vessels are mostly of a Feeder (up to 3,000 TEU) and Feeder-max (up to 5,000 TEU) size. These are vessels that are often equipped with their own gear which enables them to self-handle cargo and not rely on port cranes.

**Chapter 13** concerns railway transport services and, in particular, the Addis Ababa – Djibouti standard gauge railway that serves as the main transport corridor for Ethiopia to its gateway of the Port of Djibouti, which handles over 90% of Ethiopia’s international trade.

The railway line is owned by the Ethiopia-Djibouti Railway (EDR), a joint venture company of the two state-owned companies, Ethiopia Railway Corporation (ERC), owning 75 per cent of the railway and La société de chemin de fer Djibouti (SDCF), owning 25 per cent of the railway.

The project was constructed by China Railway Group Limited (CREC) and China Civil Engineering Construction Corporation (CCECC). CREC and CCECC also have a contract to operate the railway for six years following construction completion.

All rolling stock was purchased by ERC and has been transferred to EDR.

Since the opening of the railway line, the transport volumes and passenger numbers have been below planned volumes and numbers.

**Chapter 14** addresses road infrastructure issues. Road transport accounts for more than 95 per cent of the country’s total domestic passenger and cargo traffic, although the country has a limited road network, a small transport vehicle fleet and a low coverage of road transport services.

The country’s road network has increased from 26,550 km in 1997 to 147,942 km in 2020, so an average growth rate of 8 per cent per year. This does not include an estimated 49,573 km of unclassified roads. The road density per 1000 sq. km has increased from 24.1 km in 1997 to 131 km in 2020.

Improvement has been registered in the condition of the country’s road network, with the proportion of road network in good condition increasing from 22 per cent in 1997 to 71 per cent in 2020.

The population living within 2 km from an all-weather road is 28 million people which gives a Rural Accessibility Index (which is an indication of the percentage of the population living within a 20-minute walk from an all-weather road) of 31 per cent, which is low for sub-Saharan Africa, which has an average RAI of 42 per cent. The RAI for the Somali and Afar Regions of Ethiopia are significantly worse than for the rest of the country.

To improve the road network coverage and improve road conditions, the FDRE Government has completed five phases of the Road Sector Development Programme (RSDP), starting in 1997 and completed in 2020. Under the RSDP, physical works have been undertaken on a total of 159,218.4 km of roads excluding routine maintenance work and community roads, financed mainly (84.9 per cent) from domestic sources, including the general budget and the Road Fund Office, but also from external sources (15.1 per cent).

**Chapter 15** addresses the trucking fleet, and in particular the cross-border truck fleet. Most cross-border trucks, about 60 per cent, are rated as having a carrying capacity of 38 tons or more. This is an interesting statistic in itself as the maximum axle loads for a truck under the COMESA-EAC-SADC Tripartite Transport and Transit Facilitation Agreement (TTTFP), which Ethiopia has signed up to, is about 8 tons an axle, depending on the axle combinations. Most cross-border trucks registered in Ethiopia are 6-axle truck/trailer combinations which have a tare weight of about 18 to 20 tons. If a 6-axle truck with a tare weight of 18 tons carries a load of 40 tons (which is the allowed cargo weight in Ethiopia) the total weight (or gross vehicle mass) will be 58 tons and the axle loading will be almost 10 tons per axle, which is about a 20-25 per cent overloading. As Ethiopia's roads are designed for axle loads of about 8 tons per axle, and as the damage caused to pavements from overloading is a log (or exponential) function, an overloading of 20 per cent will half the life expectancy of the road pavement. Given that it costs about USD1m to USD2m to build a pavement of a single lane going in both directions, overloading is a massive economic cost to any economy.

Most cross-border trucks, or about 75 per cent, are owned by the truckers' associations and about 50 per cent of the trucks owned by the truckers' associations are in good condition (level 1), about 30 per cent are in fair condition and about 20 per cent are in poor condition. Of the trucks owned by the private sector, about 70 per cent are in good condition.

About 16 per cent of the total cross-border fleet is either not operational or is being maintained which means that the number of trucks providing a cross-border service is about 11,000. Of these 11,000 trucks, about 2,700 belong to private sector operators and about 8,300 belong to the truckers' associations.

**Chapter 16** addresses air transport and focusses on cargo services provided by Ethiopian Airlines, Ethiopia's, and Africa's dominant carrier, and the 4<sup>th</sup> largest airline in the world. The firm is wholly owned by the Government of Ethiopia but operates as a private company, with its own Board of Directors, and Government does not get involved in the management of the company. It became a share company in 1965 and changed its name from Ethiopian Air Lines to Ethiopian Airlines.

Ethiopian Airlines was organised into an aviation holding group in July 2017 consisting of Ethiopian Airports Enterprise (EAE); Passenger Airline Company; Cargo Airline and Logistics Company; Ethiopian Aviation Academy; Ethiopian In-flight Catering Services; Ethiopian Maintenance, Repair and Overhaul (MRO) Services; and Ethiopian Hotel and Tourism Services.

Ethiopian Airlines carries about 1.5 million tons of cargo a year, using 177 aircraft, of which 129 are passenger aircraft, 12 are cargo freighters and 36 are training aircraft.

There are three cargo terminals at Bole International Airport that belong to Ethiopian Airlines, these being Terminal I (ETCT-I) with a capacity of 300,000 tons/year; Terminal II (ETCT-II) with a capacity of 600,000 tons/year and a perishable cargo terminal that can handle 276,000 tons (82%) of import cargo/year; 17,000 tons (5%) of transit cargo/year and 43,000 tons (13%) of export cargo/year.

**Chapter 17** addresses warehousing and warehousing systems. The warehouse system in Ethiopia is decentralised across many organisations, both public and private and are used mainly for storing agricultural commodities such as grains, oilseeds, coffee, and other non-perishable agricultural products.

Key public entities involved in warehouse management include the Ethiopian Trading Businesses Corporation (ETBC), the National Disaster Risk Management Commission (NDRMC), the Ethiopia Commodity Exchange (ECX), the Ethiopian Agricultural Businesses Corporation (EABC), and the Ethio-Djibouti Railway (EDR). Accurately accounting for the total number and capacity of warehouses,

especially the private ones, can be challenging because of the many warehouse owners. However, the combined warehouse capacity of the main public entities is estimated to be around 1,685,784 tons with ETBC owning or controlling the largest share of warehousing space.

The availability of warehouses in Ethiopia is currently limited because most warehouses are already used by the main entities mentioned above. The few available options often come with high costs. Additionally, most of the warehouses are independent scattered facilities.

There is a notable lack of coordination and integration among entities involved in the warehouse system, resulting in inadequate stock management and ineffective price control. This issue is further compounded by the seasonality of many stored products, particularly agricultural commodities such as wheat, leading to periods of under-utilisation in warehouses during certain months of the year.

Most warehouses in Ethiopia typically lack value-added services and often operate with limited personnel. The available workforce is often characterised by low qualifications and strong unionisation, resulting in low productivity rates.

Warehousing in Ethiopia is, in general, inefficient which is caused by a lack of qualified personnel and long loading/unloading and shifting times. Warehouses are not specialised and are almost always at an advanced stage of their useful life. Their overall security is fair, and their management systems are still manual in most cases, without IT systems. This leads to serious planning issues, resulting in poor stock management and long storage, dwell, and turnaround times. It can also lead to the contamination of stock, such as grain, stored for long periods of time. The general lack of coordination and integration between all procurement bodies makes it difficult to find available warehouses and leads to poor control of warehouses prices.

Warehouses are primarily concentrated in the central and northern regions of the country, with a notable concentration around the city of Addis Ababa. This distribution pattern aligns with the population density and agricultural production centres in those areas.

Most of these warehouses enjoy good accessibility, as they are located close to major road networks that traverse the country. Additionally, some warehouses have the added advantage of being accessible via the Ethio-Djibouti railway line, which further facilitates the transportation and movement of goods.

**Chapter 18** addresses Industrial Parks, Dry Ports and Special Economic Zones The Government of Ethiopia places high importance to industrial parks development and is establishing over 20 industrial parks located along key development corridors. Currently, there are 13 Federal Government owned and managed industrial parks, 3 regional government owned industrial parks and 7 private industrial parks operating in Ethiopia.

Most factory sheds of Industrial Parks are rented to foreign investors, and they produce mainly products to be exported. In general, Ethiopian Industrial Parks have low land rental prices by global standards (2.50 USD/sqm/month in Hawassa and 2.75 USD/sqm/month in Dire Dawa).

All Ethiopian Dry Ports are managed by the Ethiopian Shipping and Logistics (ESL) and are mainly focused on container trade, but some of them also offer services for fertiliser or grain trade.

The Modjo Dry Port is the largest operational Dry Port in Ethiopia and handled around 67 per cent of the total tons and 86 per cent of the total TEUs traded by Ethiopian Dry Ports in 2021. Apart from the container storage area, it has six closed warehouses (three of 5,400 sqm for customs inspection, another one of 5,400 sqm rented to the shipping lines and two of 1,600 sqm for fertiliser).

Although Ethiopian Dry Ports are generally in good condition and the overall security is good, the global storage capacity is limited by global standards. Therefore, the Ethiopian Transport Master Plan 2022-2052 proposes several new dry ports, mainly along the corridors connecting Addis Ababa with Eritrea, Sudan, Kenya and Somalia, given that the Ethiopia-Djibouti corridor is already well served by the Modjo Dry Port, which is currently being upgraded. Of particular interest is the Dry Port being built in Hawassa, which will serve a major Industrial Park along the Ethiopia-Kenya corridor.

#### Special Economic Zones

**Chapter 19** addresses exports and imports of commodities and value chains Ethiopia's economy largely depends on agricultural commodities for its foreign exchange earnings and the export cargo volume partly reflects this. Of the top ten major export items by volume, eight are from the agricultural sector, being, in order of importance, pulses, coffee, oilseeds, fruits and vegetables, flowers, chat, live animals, meat products and spices, while the two most important mining products are tantalum and gold.

The export value of flowers, chat and fruit and vegetables have been increasing while the export values of oilseeds, pulses and live animals has been decreasing. Exports of meat, spices, tantalum, and gold are stable but are not major export earners for Ethiopia.

The total export cargo volume of the top ten exported items was 1.2 million metric tons in 2021 and are estimated to grow to 1.37 million metric tons by 2030, which would be almost a return to the volumes exported in 2016, which were 1.39 million metric tons.

Ethiopia exported about 594,000 tons of coffee, sesame and fruits and vegetables per year, on average, from 2020 to 2022. In the same period the total average production for these commodities, plus wheat, was 16.4 million tons, with wheat contributing 5.4 million tons. About 4.3 million tons was consumed within the production areas, with about 11.5 million tons consumed domestically within Ethiopia and about 0.6 million tons was exported.

Containerised imports account for about 50 per cent of Ethiopia's total imports which increased during the 2015-2017 period at an average CAGR of 4.3 per cent but have been declining since 2017 at an average CAGR of 8.2 per cent.

Most of the containerised products imported into Ethiopia and exported from Ethiopia pass through the Port of Djibouti, mainly at the Doraleh Container Terminal (operated by SGTD) but also at the Doraleh Multipurpose Terminal (operated by DMP). All goods are subject to customs clearance procedures at the port. Customs officials inspect the goods, verify the accompanying documentation, and assess applicable duties and taxes.

The business processes that are followed for containerised imports entering Ethiopia from Djibouti through the borders of Galafi or Dewele, destined to Modjo Dry Port are itemised, with the business processes revolving around three core processes:

- i) Pre-import, which starts with preparation of documentation and ends with issuance of international payment options.
- ii) The Djibouti port service process starts with goods arrival, to transit, to the border crossing.
- iii) The in-transit process starts from the Dewele or Galafi border posts to Modjo dry port for container cargo and fertiliser and final destination for dry bulk cargo.

As the Ethio-Djibouti Railway, linking the port(s) of Djibouti to Addis Ababa, has become operational, increasing volumes of cargo are moving from road to rail so that, currently, more containerised cargo imports from Djibouti are now moving to Addis Ababa and Modjo Dry Port by rail rather than by road.

The Business Process for import via rail transport for international container cargo covers two core processes:

- i) Document validation, which is done by the owner and EDR, starting from contract to document validation; and
- ii) The issuance of order occurs between EDR and Djibouti port.

Chapter 19 provides detailed value chain analyses and business process analyses for the following commodities.

- Coffee. Ethiopia is Africa's largest coffee producer and the world's fifth largest exporter of Arabica coffee and coffee is one of Ethiopia's main sources of export revenue, generating, on average, about 30 to 35 per cent of the country's total export earnings.
- Sesame. Ethiopia's three main oilseed crops (sesame, soybean, and Niger seed) account for about 20 per cent of the country's total agricultural export profits. The oilseed sector is one of the fastest growing sectors in the country and is the second largest source of foreign exchange earnings after coffee. Ethiopia is one of the world's top six sesame producers and accounts for 14 per cent of total global exports. It is a crop that is cultivated and grows wild in Ethiopia, with a wide range of cultivated sesame varieties. Sesame is grown in Amhara, Tigray, Oromia, Benishangul-Gumuz, and the Southern Nations, Nationalities, and People's Region (SNNPR) but the major production areas are in Ethiopia's northern and northwestern regions, bordering Sudan and Eritrea.
- Wheat, one of the most important food security crops in Ethiopia, is cultivated on a total area of 2.1 million hectares, with 1.7 million hectares rain-fed and 0.4 million hectares irrigated. Annual total production in 2020-21 was about 5.52 million tons and about 7.5 million tons in 2021-22. Wheat is mainly produced by smallholders with landholdings of less than one hectare. About 5 to 10 per cent of Ethiopia's wheat is produced on large-scale farms in the Arsi-Bale wheat belt. Wheat is the third most important cereal crop in Ethiopia, after teff and maize, accounting for 17 per cent of the country's grain production. Ethiopia is the second largest wheat-producer in Africa, after South Africa. The grain produced in Ethiopia is aggregated by farmers at cooperative societies, local markets, and other designated locations. The quality of wheat is assessed through various tests, and afterwards it is packed in sacks or bags. It is then transported and stored in warehouses because Ethiopia does not have public sector silos which can be used to store wheat. In 2021 Ethiopia met about 70 per cent of its wheat demand through domestic production and so needed to import the remaining 30 per cent. Once the domestic supply of wheat is known (or estimated) and total demand is forecasted, government agencies, including the Ethiopian Trading Businesses Corporation (ETBC) and the National Disaster Risk Management Commission (NDRMC), working together and often with external agencies such as the World Food Programme (WFP) will estimate the amount of wheat that needs to be imported. Recently Government determined that the only agency authorised to import wheat was ETBC.

Imported wheat arrives mainly through the Port of Djibouti but also, to a much lesser extent, and mainly wheat imported through WFP, through Berbera. Vessels are unloaded with either suction machines or mechanical grabbers, and the bulk grain is then stored in the port, either in a warehouse (as is the case for SDTV) or in a horizontal silo (as is the case for DMP) or, in the case of WFP, can be transported directly to the WFP silos. The grain is bagged in 50kg

bags at the port facilities before being transported to Ethiopia, usually directly to the warehouse the wheat has been assigned to.

Some wheat off-loaded at DMP is transported by rail. The Ethio-Djibouti Railway railhead in Doraleh is about one kilometre from the port and there is no system (such as a conveyor belt) linking the warehouses or horizontal silos to the Doraleh railhead, so all grain exported by rail is bagged at the quayside, loaded onto a truck, driven to the rail head, and loaded into wagons.

- Perishable Products Ethiopia has the potential to produce and export perishable products such as fruit, vegetables, flowers and meat. But, despite this potential, the horticulture sector has been underdeveloped, compared to food grains and floriculture, partly because of the lack of cold chain logistics infrastructure for sea freight. To tap into this potential, Ethiopia has prioritised horticulture as a key sector for agricultural production and future export growth. Work being done on export by surface transport of perishable products and development of the cool chain is carried out primarily under the National Cool Logistics Network, which is a joint project between the Governments of Ethiopia, Djibouti and the Netherlands and involves local businesses and smallholder farmers. The National Cool Chain Logistics Network categorises export cargo flows by primary and secondary flows. The primary flow is the export of fresh produce, which is the priority and catalyst project for the National Cold Chain Logistics Network. Secondary export flows include chilled and frozen meat, as well as refrigerated flowers.
- Teff is a dietary staple food crop and the most important cereal in Ethiopia in terms of agricultural land use and total value. It is adapted to a wide range of environments and is presently cultivated under diverse agroclimatic conditions, but mainly in the central and northwestern highlands. The crop is critical for incomes and food and nutrition security and is grown by 6.5 million smallholder farmers who consume 70 to 80 per cent of their production and market the surplus to consumers.
- Livestock. Ethiopia has the largest livestock population of any African country. The sector contributed up to 40 per cent of agricultural GDP, nearly 20 per cent of total GDP, and 20 per cent of national foreign exchange earnings in 2017. The export of live animals from Ethiopia plays a significant role in the country's economy, contributing to foreign exchange earnings and providing employment opportunities.
- Fertiliser. Between 2020 to 2022 Ethiopia distributed on average 1.4 million tons of fertiliser across Oromia (658,000 tons), Amhara (615,000 million tons), and (the previous) SNNP (110 million tons) regions. The country has distributed an annual average of 1.49 million tons of fertiliser in the three years.
- Minerals, Gemstones and Construction Materials. The Ethiopian mining sector generated annual average revenue of ETB389 million and USD131 million from 2018 to 2020. Mineral investment brought annual average revenue of about ETB2m. The country has reportedly produced, on average, 2,259 kg of gold, 7.5 million tons of lime, and 139 thousand tons of gypsum.
- Gold. Asosa zone, Metekel zone, and Kamashi zone are the major gold producing regions and are part of the "Gold Belt" stretching from Sudan and into the north-western part of Ethiopia. The major producers of gold in Ethiopia are artisanal miners, who account for about 48 per cent of the gold produced. The main commercial gold mine in Ethiopia is the Lega

Dembi Mine located in Oromia, which is owned by Midroc and which produced about 168,280 ounces in 2021 and accounted for about 38 per cent of the gold produced.

- Gemstones. Ethiopia has a large variety of high-quality precious gemstones, including opals, emeralds, sapphires, amazonite, amber, rubies, tourmaline, aquamarine, chrysoprase, peridot, and semi-precious gemstones including quartz, agate, jasper and there have been new discoveries of colour-change Chrome Grossular Garnets
- Coal. Ethiopia has an estimated 430 million metric tons of coal, and the government continues to encourage utilisation of this resource by encouraging small- and large-scale coal producers as well as trying to attract investors into this sector. The volume of coal that is imported rose steadily from 381,300 short tons in 2014 to a high value of 732,500 short tons and then steadily declined to 509,300 short tons in 2021.
- Cement and Construction Materials. Ethiopia is the 7th largest producer of cement in Africa. There are 13 companies operating 23 plants owned by a mix of international and local investors, with Derba Midroc Cement, Dangote, Muger Cement, Messebo Cement, Habesha Cement and National Cement (parent company East African Holding), being the largest producers.
- Dimension Stone. Ethiopia has untapped potential in marble production. The marble deposits are mostly located in the Northern and Western part of Ethiopia. In the exploitation of dimensional stone, large, commercial blocks are extracted in the quarry and transported to a processing plant for final shaping and finishing into slabs and tiles. Those that are homogenous and attractive types of rocks are potentially exported to other countries as rough blocks. Interesting deposits of marble are found in the western part of Wellega (Daleti) and Gojam (Mora, Bulen, Mankush and Baruda). The area is quite remote, and distances to Addis Ababa vary between 550 and 800 km, for the most part along non-paved roads. The cost of transportation and the security situation in the area are posing serious challenge for the production and smooth marketability of the product.
- Oil and Gas. Ethiopia has the potential to be an oil exporter with oil deposits having been located in the northeast, southeast, and southwest of the country. International oil exploration companies have been given oil concessions and, in 2018, Poly GCL struck oil at their oil field of Hilala at the Hamanlei formation, where they had drilled three exploration wells. All of the three wells have shown gas reserves with 2 of them having oil flows. The test production phase of Hilala will see Poly GCL producing 450 barrels of oil per day.

Ethiopia has imported about 3.8 million metric tons of petroleum products worth Birr 164.3 billion by the Ethiopian Petroleum Enterprise during the 2021/22 fiscal year. This value of petroleum import showed a 126.3 per cent annual surge mainly due to an increase in import of jet fuel (140 per cent), gas oil (127.5 per cent), regular gasoline (120.4 per cent) and fuel oil (65.3 per cent). Consumption of petroleum products has also been rising rapidly and annual oil consumption tripled from 1.2 million metric tons in EFY 1995 to 3.9 million metric tons in EFY 2012.

EPSC) has 23 strategic depots built in 14 different cities to store 394 million metric tons of different types of fuel at a time. Out of these 327 million litres of diesel can be stored in 15 depots in five different towns; 53.5 million litres of gasoline in 5 depots in five towns; 50,000 litres of kerosine in 1 depot in Gondar; and 3 million litres of light black diesel in 2 depots, in Kombolcha and Shashemene.

Fuel is distributed to just under 1,000 fuel stations throughout the country. Seven of the distribution companies are foreign owned and thirty-one are Ethiopian owned. In terms of market share, five companies have a market share of about 80 per cent.

**Chapter 20** describes the framework for private investment in infrastructure in Ethiopia. The Ethiopian government has recognised the significant role that PPPs can play in addressing the country's infrastructure gaps and promoting economic growth. To this end, it has implemented a comprehensive legal framework, established dedicated institutions, and introduced transparent processes to facilitate PPP projects.

The recently enacted Public-Private Partnership Proclamation No. 1076/2018 (the PPP proclamation) aims at facilitating and improving private sector participation in infrastructure financing.

In March 2021, the PPP Board, following an initiative of the PPP Directorate General, granted approval for a total of twenty-three (23) projects in the PPP pipeline. The three projects identified in the transport sector are the Adama-Awash Expressway (125 km), the Awash-Mieso Expressway (72 km) and the Mieso-Dire Dawa Expressway (160 km), all being upgrading of the existing road to an Expressway.

The PPP proclamation also establishes the provisions for project development and approval procurement (including open bidding, two-stage bidding, competitive dialogue, direct negotiations and unsolicited proposals) and implementation of the PPP agreement.