



THE DJIBOUTI CITY – ADDIS ABABA TRANSIT AND TRANSPORT CORRIDOR

TURNING DIAGNOSTICS
INTO ACTION





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This corridor diagnostic draws from the findings and action matrices of the Diagnostic Trade Integration Study (DTIS) of Ethiopia and Djibouti as well as of previous work done on assessing the performance of the corridor, and so builds on an already significant body of knowledge.

In addition, insight and advice has been provided by Dr. Taffere Tesfachew, former Director of ALDC. Significant contributions were made by Eyob Tekalign Tolina and Mwansa James Musonda, who were part of the team who prepared the time release study for the Ethiopian Galafi border post financed by the African Development Bank through the Common Market for Eastern and Southern Africa in 2017.

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As is normal practice, any errors in the study are the responsibility of the author.

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Abbreviations

CAD	Cash against Delivery
COMESA	Common Market for Eastern and Southern Africa
CSIR	Centre for Scientific and Industrial Research
CVTFS	Common Market for Eastern and Southern Africa Virtual Trade Facilitation System
DCT	Doraleh Container Terminal
DECMA	Djibouti -Ethiopia corridor management authority
DMP	Doraleh Multipurpose Port
DPFZA	Djibouti Ports and Free Zones Authority
DWT	Dead Weight Tons
EACCIA	East African Chamber of Commerce, Industry, and Agriculture
ECAE	Ethiopian Conformity Assessment Enterprise
ECCSA	Ethiopia Chamber of Commerce & Sectoral Association
EIC	Ethiopian Investment Commission
ERCA	Ethiopian Revenue and Customs Authority
ERPA	Ethiopian Radiation Protection Authority
ESLSE	Ethiopian Shipping and Logistics Service Enterprise
FMHACA	Food, Medicine, and Health Care Administration and Control Authority
FTA	Federal Transport Authority
GPS	Global Positioning System
GVM	Gross vehicle mass
HTL	Horizon Terminals Limited
ICD	Inland Container Depot
INSA	Information Network Security Agency
IRI	International Roughness Index
L/C	Letter of Credit
LANAA	Ministry of Agriculture and Livestock
LDCs	Least Developed Countries
MCIT	Ministry of Communication and Information Technology
MCLI	Maputo Corridor Logistics Initiative
MOANR	Ministry of Agriculture and Natural Resources
MOI	Ministry of Industry
MoLF	Ministry of Livestock and Fishery
MoMPNG	Ministry of Mines, Petroleum, and Natural Gas
MOT	Ministry of Trade
MTSE	Maritime Transit Services of Ethiopia
NBE	National Bank of Ethiopia
NCTA	Northern Corridor Transit Agreement
NCTTCA	Northern Corridor Transit and Transport Coordination Authority
OIASC	Oromia Islamic Affairs Supreme Council
PK	Point Kilometre
PMAESA	Port Management Association of Eastern and Southern Africa
PPP	Public Private Partnership
RN	Route Nationale
RSDP	Road Sector Development Programme
SA	Port de Djibouti
SADC	Southern African Development Community
SDTV	Société Djiboutienne de Gestion du Terminal Vraquier
T1	Transit Document
TEU	Twenty-foot equivalent container units
TTCMS	Trade and Transport Corridor Monitoring System
UNCTAD	United Nations Conference for Trade and Development
UNDP	United Nations Development Programme
VAT	Value Added Tax
VDFACA	Veterinary Drug and Feed Administration and Control Authority
WBCG	Walvis Bay Corridor Group

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1. Introduction

Under the Enhanced Integrated Framework, a joint effort by international organizations to bring together resources to help the world's least developed countries use trade to enhance economic growth and reduce poverty, UNCTAD was assigned to prepare Diagnostic Trade Integration Study updates for Djibouti and Ethiopia. Both updates have been presented and validated.

UNCTAD noted that the challenges and opportunities related to trade policy, trade facilitation, and transport components of the diagnostic studies for Ethiopia and Djibouti could only be properly addressed through a sub-regional approach to make the trading environments of both countries more efficient. It was noted that if the Ethiopia-Djibouti corridor, as the main trade artery for both countries, functions with increased efficiency, that will bring significant benefits to both nations.

- Landlocked Ethiopia needs a liberal trade policy and an efficient and reliable transport and logistics network if it is to meet the targets of the country's Second Growth and Transformation Plan. The targets include expansion of the manufacturing sector, value-addition in all productive sectors, and a three-fold increase in the values of exports. Currently, opportunities created by Ethiopia's low-cost inputs (labour and energy) are cancelled out by factors relating to trade logistics. For example, the labour costs of making a T-shirt in Ethiopia are one-third those of China, but the logistics expenses of exporting the T-shirt mean that the Ethiopian-made shirt sells for the same price as a Chinese shirt on international markets.
- Ethiopia's growth strategy has been driven by a massive public investment programme which reached almost a quarter of the country's gross domestic product in 2014 and has accounted for around half of all growth in the economy since 2011. Spending on roads has been about 4 per cent of GDP every year over the last five years, and the Addis Ababa-Djibouti Railway has cost Ethiopia about \$3.4 billion. However, without this expenditure on infrastructure there would be limited scope for improving logistics, and without such progress, Ethiopian manufacturers and other producers will not be price-competitive in most regional and international markets. The Ethiopia-Djibouti corridor provides Ethiopia's only significant commercial access to the sea.
- The Port of Djibouti has, since 1998, handled almost all of Ethiopia's maritime traffic. To accommodate this, the port has invested in providing improved

trade and transit facilities. Djibouti has invested just under \$900 million in its portion of a standard gauge railway connecting the port with Addis Ababa. It also has invested heavily in new port infrastructure, as it is a shareholder of the Doraleh Container Terminal (of which the firm DP World is the other shareholder and manager) and is the main shareholder and manager of the Doraleh Multi-Purpose Port. With the railway and these new port facilities in Djibouti, Ethiopia will be able to channel more cargo through Djibouti, and Djibouti will be able to handle this additional traffic.

As a follow-up exercise to the Diagnostic Trade Integration Study update, UNCTAD arranged a workshop between Ethiopia and Djibouti on 2-3 November 2016, in Djibouti, to discuss and agree on follow-up actions arising from the update matrices for the two countries. The main aim was to follow up on trade-facilitation aspects of the study and to undertake what improvements could be made in the logistical performance of the section of the Djibouti-Ethiopia corridor that links Addis Ababa with Djibouti City and the ports of Djibouti. The workshop came up with a series of proposals for further work. These include:

- Taking stock of what has been achieved by Ethiopia and Djibouti so far in terms of improvements to trade-related legislation, infrastructure, and trade and transportation measures;
- Examining best practices as they may apply to establishing a corridor management agency/ authority, and making recommendations as to what model should be followed in creating such an authority;
- Recommending the mandate, composition, and financing of such a corridor management agency/ authority and its secretariat;
- Carrying out an enhanced time release study and, based on this, assessing what may be missing in the following categories:
 - » Infrastructure;
 - » Legislation, administrative structures, and coordination mechanisms;
 - » Operating procedures; and
 - » Trade and transport facilitation components and coordination mechanisms;
- Assessing existing transport regulations and agreements; and
- Designing a corridor monitoring and reporting system.

A consultant was recruited to implement the above mentioned actions agreed on and to prepare a study and a draft project proposal for the establishment of a management authority for the Djibouti-Ethiopia corridor.

A second workshop was organized by UNCTAD on 10-11 May 2017 in Addis Ababa with the participation of the EIF Secretariat and the Ethiopian H.E.M. Bekele Bulado, Minister of Trade, Ethiopia, and S.E.M. Hassan Houmed Ibrahim, Minister of Trade Djibouti to discuss the findings of the above-mentioned study. In particular the workshop was called to validate the refined and more detailed roadmap associated with a related technical assistance proposal taking into account the following:

- a. the technical assistance needs of the respective countries to ensure a proper functioning of the Djibouti/Addis corridor.
- b. the existing technical assistance, Aid programs, and activities of other entities and donors pursuing similar or related objectives.
- c. the design of a strategy by the respective Governments of Djibouti and Ethiopia to coordinate the implementation of the action matrices at national and bilateral level on issues related to transit, transport and trade facilitation, possibly through a common management of the Djibouti-Addis corridor.

At the end of the workshop the roadmap contained in the study was validated by the respective Ministers and stakeholders with a number of comments and suggestions that were later included in the final version of the present study.

The present study is the culmination of a series of activities to implement the actions (terms of reference) agreed on and to prepare a project proposal for the establishment of a management authority for the Djibouti-Ethiopia corridor.

While the study for such a management authority was conducted, World Customs Organization time release studies also were carried out for both Ethiopia and Djibouti by the Common Market for Eastern and Southern Africa (COMESA), financed by the African Development Bank. The overall conclusions of the time release studies have been included in the findings and recommendations of this study.¹

After the validation workshop was held, a short, second phase of the mission was implemented which resulted in the following:

- A review of the results of the missions previously carried out and of the results of the validation workshop held to assess best practices for a common corridor management system;
- The drafting of options for a management structure for the Ethiopia-Djibouti corridor, with the options being flexible enough to include other countries that have made commitments to participate in the use of the corridor;
- The drafting of a document to qualify for an Enhanced Integrated Framework Tier 2 project that will build upon/fill existing gaps in the technical assistance provided by different donors identified during the mission (Tier 2 projects are aimed at assisting in the implementation of priority projects identified in a Diagnostic Trade Integration Study action matrix); and
- The delivery of findings from the workshop held jointly with the governments of Ethiopia and Djibouti.

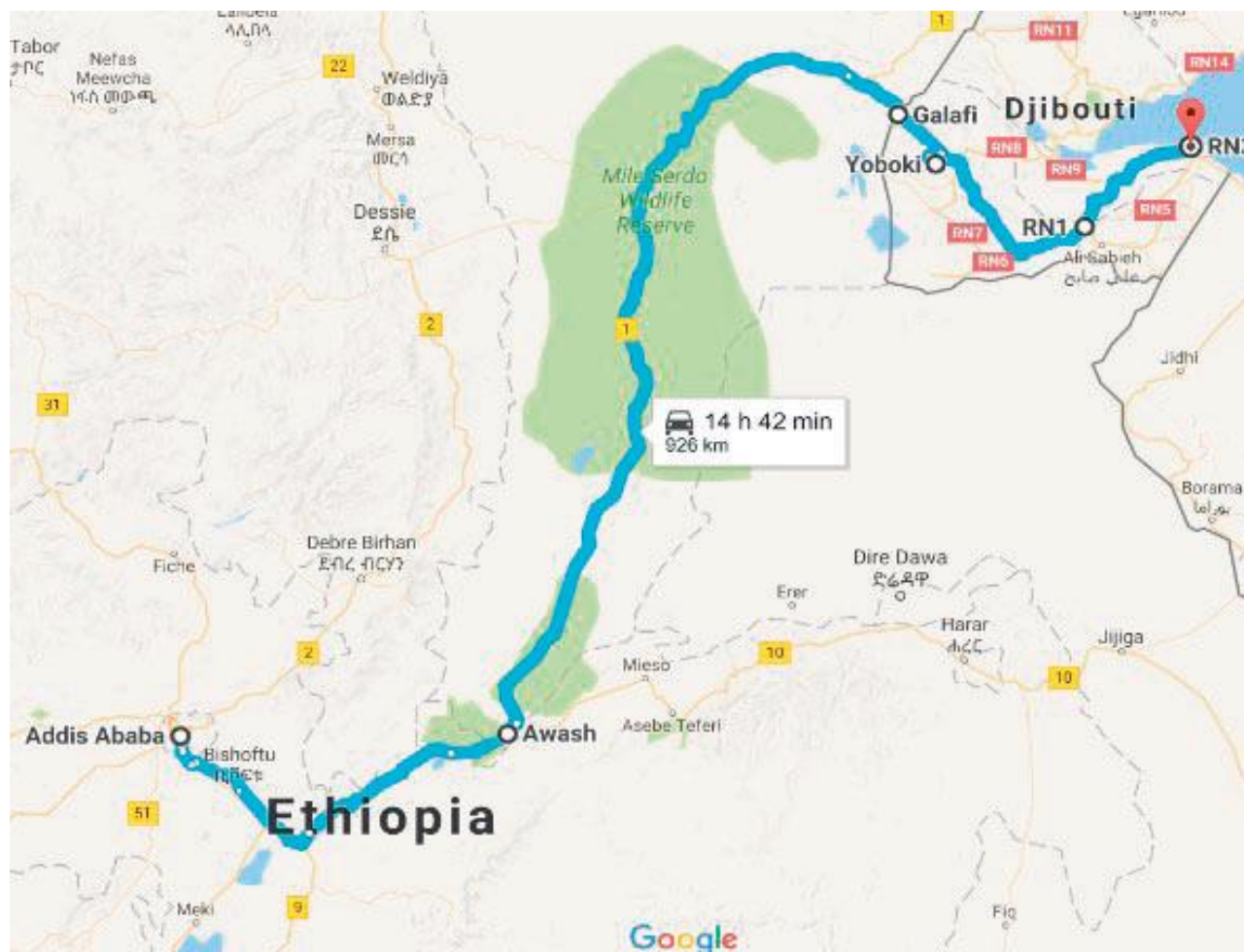
This study addresses the first and second sets of the terms of reference above, but does not address the drafting of a project document as per the Tier 2 structure and guidelines of the Enhanced Integrated Framework that will build upon/fill existing gaps in the technical assistance provided by different donors identified during the mission.

2. Infrastructure

2.1 Road infrastructure

Figure 2.1

Map of main trunk road between Addis Ababa and Djibouti City



Source: Google Maps.

The main trunk road — meaning the road that has the most traffic — between Addis Ababa, Ethiopia, and Djibouti City passes through the Ethiopian towns of Awash and Mille, crosses the border at Galafi, joins the route nationale 1 (RN1) in Djibouti, passes through Yoboki, continues just north of Ali-Sabieh, and then enters Djibouti City. The route is shown in 2.1. This section of the Djibouti-Ethiopia road corridor carries about 1,000 trucks per day, mostly six-axle truck/trailer combinations, with those carrying wet bulk — mainly fuel tankers — comprising about 35 per cent of the heavy goods traffic and the remaining 65 per cent consisting of dry bulk and container trucks.

The other route between Addis Ababa and Djibouti City branches off at Awash and passes through the Ethiopian towns of Dire Dawa and Dewele before crossing the border; it continues into Ali Sabieh, Djibouti, before joining the RN1 about 80 km out of Djibouti City.

This is the route that the new standard gauge railway follows, but, at the time of the field work for this study (the first quarter of 2017), this trunk road was in very poor condition and was not used by most truckers moving between the Djibouti ports and Addis Ababa.

For the purpose of an analysis of its physical infrastructure, the main trunk road between Djibouti and Addis Ababa has been divided up into the following sections and nodes:

- Section of the RN1 between Djibouti City and the turn-off to Dire Dawa (approx. 80 km).** This is a new carriageway with single lanes in each direction and the pavement still in “good”² condition. The road was recently (within the last two years) reconstructed with a grant from the European Union. However, although the pavement is in good condition, the road is single carriageway with a standard lane

width of about 3.65 m and no climbing lanes. The standard maximum (international) width of a vehicle (not including specialized trailers used for abnormal loads) is 2.6 m. In Europe, the United States, Japan, and other countries, mainly for the sake of safety, lane widths are 3.65 m or 3.7 m, with a hard shoulder of about 1.8 m, making a single-lane carriageway 11 m wide, which is wide enough for trucks to comfortably and safely pass each other while moving at speed in opposite directions, and also wide enough to accommodate vehicles stopped on the hard shoulder. The road from Djibouti City to the Dire Dawa turn-off has sections that have steep gradients and bends to reduce the gradients. This has the effect of significantly slowing traffic to the speed of the slowest vehicle. This is both dangerous (as trucks overtake on blind bends to avoid losing momentum while going up hills) and inefficient, as it generally slows the queue to a crawling pace which is not good for the road surface³ or the amount of fuel used.

- **Dire Dawa turn-off to Yoboki (90 km).** In general, the road pavement is surfaced with bitumen but is in “very poor” to “poor” condition (estimated International Roughness Index, or IRI, of 0-2), with sections where the road has failed completely, meaning there is no road structure left and the pavement, base, and sub-base have worn away.
- **Yoboki to Galafi (border) (40 km).** The structure of this section of the road has failed for almost the entire length. There is, in effect, no “road” left. Trucks make their own tracks on either side of where the pavement used to be. The formerly paved route is mainly deep ruts and gullies. This section is crossed at very slow speeds, as it damages the suspensions and tyres of trucks. It also is dangerous.

- **Galafi (border) to Mille (170 km).** The pavement of this section is generally in “fair” to “good” (estimated IRI of 2-4) condition, although there are sections on hills where there is wheel-rutting and, as for most of the road between Addis Ababa and Djibouti, the carriageway is narrow and usually there are either no hard shoulders, or the hard shoulders are not paved, or the shoulders are very narrow. The road width widens where it passes through towns. Where it passes through Mille, for example, it is largely a dual carriageway.
- **Mille to Awash (300 km).** The pavement condition is generally “fair” to “good”, although there are sections on hills where there is rutting, with a narrow carriageway and shoulders that are narrow, unpaved, or lacking entirely. The road widens where it passes through towns.
- **Awash to Adama (125 km).** “Fair” to “good” pavement. The terrain is reasonably flat, and the absence of hills means there is little to no rutting. The carriageway is narrow in most parts, but widens where it passes through towns.
- **Adama to Addis (80 km).** A new expressway has been built and is in “very good” condition (IRI of 4-5). It is a six-lane dual carriageway — three lanes in each direction — and those who use it pay tolls. There are sections that need resurfacing, and at the time of this study maintenance work on the surface was taking place, although the road had only been open for about a year. It is not clear why these sections needed to be replaced. The road is not as heavily trafficked as one would expect; the reason, according to drivers consulted, is because of the tolls and associated costs. 2.2 shows a section of this highway.

Figure 2.2

Photo of a section of highway between Addis Ababa and Adama



Source: Taken by Author.

2.2 Rail infrastructure

The 752.7 km electrified, standard-gauge Addis Ababa-Djibouti Railway, completed in 2016 and in the process of opening for commercial traffic, is jointly owned by the governments of the two countries and was constructed by the China Railway Group and the China Civil Engineering Construction Corporation. Chinese staff will manage operations on the line for five years, during which time local employees will be given specialist training so that they subsequently can manage operations.

The project budget was around \$4 billion, with the Ethiopian section costing \$3.4 billion, of which 70 per cent was financed through the Export-Import Bank of China and 30 per cent by Government of Ethiopia. The cost of the Djibouti section was \$878 million, with the money coming from the Government of Djibouti.

The railway line has double-track for 115 km, from Addis Ababa to Adama, and single track for the remaining 600 km to Djibouti. Power is supplied through 20 distribution stations – 17 in Ethiopia and three in Djibouti.

2.3 Port infrastructure

Significant improvements have been carried out at ports in Djibouti, the main improvements being as follows:

- **Port Autonome International de Djibouti.** The Port Autonome International de Djibouti is the oldest surviving port facility in Djibouti. It handles containers, bulk cargo, and cargo which can be off-loaded by gear carried on ships gear rather than by cranes or gantries on the pier. The Port Autonome International de Djibouti is due to be closed, and all of its operations moved to the Doraleh Multipurpose Port.
- **The Doraleh Container Terminal (DCT)** is a joint venture between DP World and the Djiboutian Government, based on an agreement signed in 2006. The DCT was inaugurated in 2009. DP World has a 30-year concession to manage the port. DCT has capacity designed to handle 1.6 million twenty-foot-equivalent units (TEU), or standardized shipping containers. It has 1,050 meters of quay length, eight Super Post Panamax quay cranes (with twin lift capacity), and 18 meters of draft at the quay.
- **The Doraleh Multipurpose Port (DMP)** opened in May 2017. The multipurpose port has been built for the Djiboutian Government by a Chinese construction

firm at a cost of about \$590 million for Phase 1 and Phase 2 of the project, with Phase 2 still to be completed. When completed, the facility will have the capacity to handle 8.8 million tons of goods per year. The port will have 15 berths that are 1,200 m long with a depth of 16-18 m at quayside, so that they will be able to accommodate “Cape Size” (100,000 dead weight ton) vessels. The port includes a container storage yard.

- **The Horizon Djibouti Terminals Ltd** is an oil terminal. Horizon Djibouti Terminals Ltd is part of Horizon Terminals Limited (HTL), which is wholly owned by Emirates National Oil Company of the United Arab Emirates. The terminal handles petroleum products, liquified petroleum gas, chemicals, and edible oils. It has 31 tanks with a total capacity of 399,300 m³. It has two berths, one able to accommodate ships of 80,000 dead weight tons (DWT), 18 m draft, and 244 m in length, and the other able to accommodate ships of 30,000 DWT, 10 m draft and 180 m in length. The facility has 12 truck loading bays (top and bottom loading) for petroleum products and one truck loading bay (top loading) for chemicals and edible oil.

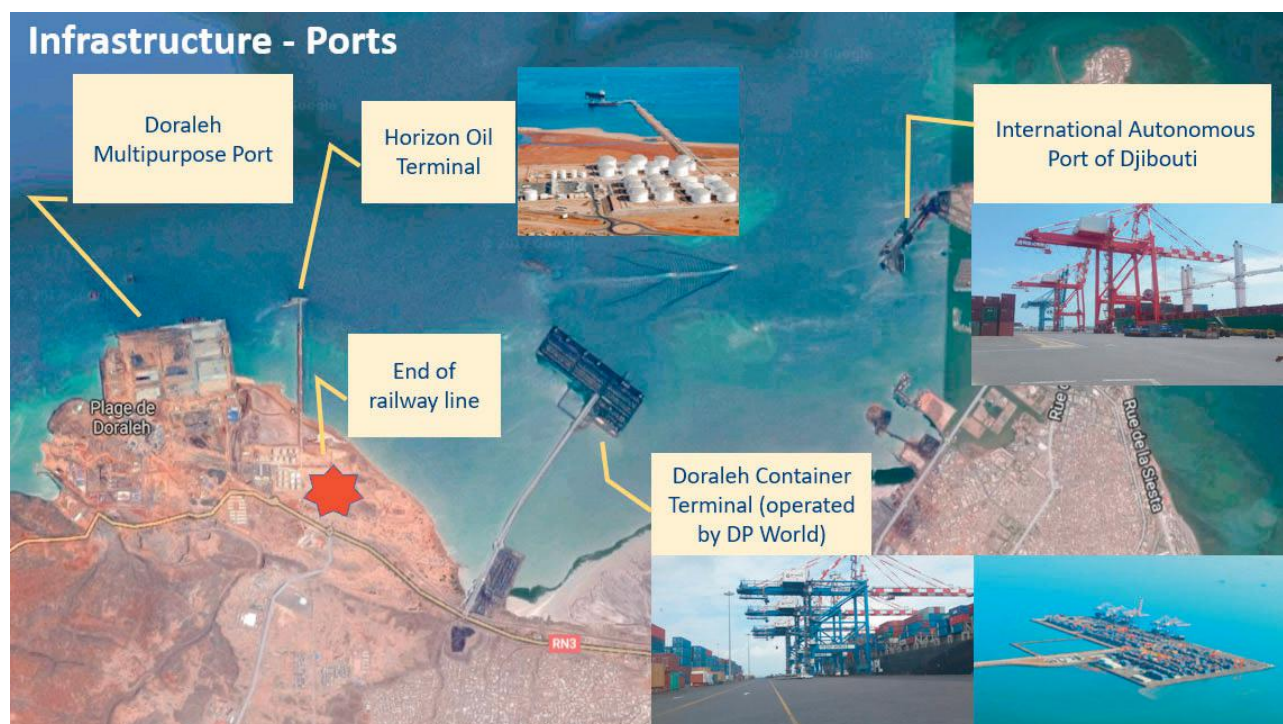
Figure 2.3 shows the locations of the above-mentioned ports.

Other ports under construction, or about to be fully operational, include:

- **Damerjog livestock port.** Damerjog is a dedicated livestock port which is expected to cost about \$70 million. It is designed to have a quay 655 m long, which will accommodate up to five livestock-carrying vessels. It will have an animal collection area of 50 hectares, with a capacity of 150,000 head of livestock, and an embankment with four sections between the terminal and the reception area. It will have modern veterinary facilities and a quarantine area. It is designed to have a total capacity of 10 million head of livestock per year and is expected to be fully operational in 2017.
- **Port of Tadjourah.** The port of Tadjourah, which has cost about \$78 million, is designed as a dedicated port for export of potash. It has two linear quays of about 455 m in length and with 12 to 15 m draft that can accommodate general cargo vessels of 65,000 dead weight tons. It also has a roll-on – roll-off (Ro-Ro) terminal with a quay 190 m in length and 12 m draft.

Figure 2.3

Map showing ports and ports under construction in Djibouti



Source: Google Maps and Author.

2.4 Infrastructure at borders, internal container depots, and transit points

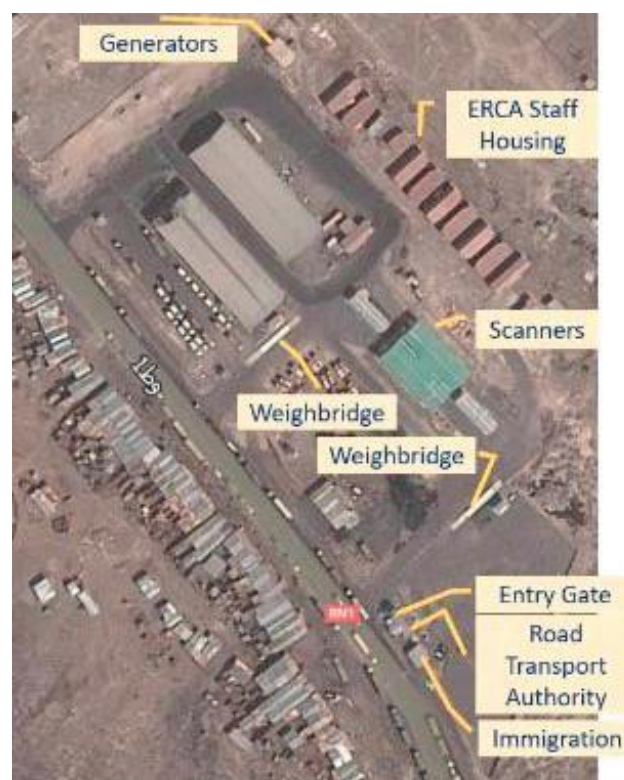
2.4.1 Galafi border posts (Djibouti and Ethiopia)

Djibouti's Galafi border post has offices for customs, a barrier, and an in-lane booth where documentary checks are made. The in-lane booth is equipped with networked computers running the ASYCUDA World computerized customs management system, and so is linked to ASYCUDA World's central servers. There are no facilities for vehicle inspections, and there is no weighbridge (scale) to determine the weight of trucks. If a truck does need to be inspected, or if there is a problem with the paperwork, the truck remains in the queue until the issue is sorted out, and this causes what could be regarded as unnecessary delays to other goods in transit. An inspection zone and a parking could contribute to reduce these delays.

Infrastructure at the Ethiopia's Galafi border post is more substantial in that it includes a customs yard with entry and exit gates, two scanners, two weighbridges, offices, staff accommodation, warehouses, a staff canteen, and generators. (2.4 shows the layout of the Ethiopian Galafi border post.) However, the infrastructure is not in good condition and the working environment is poor, with significant amounts of litter, scrap metal, used tyres, and other debris on site, with no obvious rubbish disposal, and with no public toilets.

Figure 2.4

Galafi border post (Ethiopia) layout



Source: Google Maps and Author.

In addition, the quality of the office accommodation is poor, as the buildings, including washrooms, have not been completed. The Ethiopian Revenue and Customs Authority (ERCA) staff quarters in the control zone are in need of repair and upgrading⁴; and the control zone working environment is very dusty, as the property is not paved.

Ethiopia's Galafi border post has computerized systems at its entry and exit gates, at the cargo tracking office, at the scanner, and in the ERCA office where transit documents (T1s) are issued, but these computerized systems are not linked.

There are two generators on site – necessary, as there are frequent power failures – but one generator appears not to be operational at all and the other overheats and cuts out after about half an hour of operation. When there is no power and when the internet is down, ERCA cannot issue transit documents and cannot scan cargo, which means that no trucks entering Ethiopia at Galafi can be processed. On those occasions, over the course of a few hours, a queue of trucks can develop that mounts into the hundreds. Delays at Galafi are mainly caused by no power and no internet.

An additional problem is that the two platform digital weighbridges that have been installed at Galafi have never been commissioned and so do not function.

Finally, although the border operates around the clock, there is no lighting in public areas.

2.4.2 Mille and Awash customs checkpoints

The Ethiopian Revenue and Customs Authority has two customs checkpoints between the Galafi border and

the Modjo internal container depot, those being at Mille and at Awash.

At these checkpoints, the customs authority records the registration and container numbers of the trucks and does physical inspections of the cargo – checking for damage and checking that container and cargo seals are intact. The process does not take more than 10 minutes, but the queues that develop can be exceedingly long. At Awash, queues of more than 300 trucks build up daily, with drivers spending four to five hours in line. The infrastructure at Awash is still being built, and it remains to be seen whether the completion of the facilities will reduce the waiting times.

2.4.3 PK12, PK13, and PK51 (Djibouti)

- PK12 (Point Kilometre 12) is a holding area for trucks about 12 km inland from the Djibouti ports on the road to Galafi. PK12 has offices used by agents and representatives of trucking associations and is a very large unpaved truck yard. It was provided by the Djiboutian authorities to avoid congestion around the port areas and to avoid having trucks parked at the side of the road while waiting for their loads. Trucks come in from Ethiopia and wait at PK12 until they are assigned loads or until they are given gate passes which allow them to proceed to the port to collect their loads; Once the goods are loaded, the trucks heading to Ethiopia are waiting in the same area for the “Print-out” of the Ethiopian customs.

There are many different ways in which a truck driver can be assigned a load. Among them:

Figure 2.5

Layout of PK12 and PK13, Djibouti



Source: Google Maps and Author.

- Arriving at PK12 “on spec” and waiting for a load from one of the brokers operating there. This results in drivers waiting with their trucks at PK12 for days, weeks, and even months.
- Paying a broker to be assigned a load. In this case, the driver will call at PK12 to get the details of the load he is to collect from the port, and to obtain permission to enter the port.
- Contracting to collect a load, either through a private client or through the Ethiopian Shipping and Logistics Services Enterprise (ESLSE). These drivers also usually call at PK12 to receive details

of the loads they are to collect and to obtain entry passes to the port.

PK13 is a holding area for new vehicles destined for Ethiopia. It has offices used by Djibouti Customs and a very large unpaved area where new vehicles are parked, waiting to be transported into Ethiopia.

PK51 is a checkpoint that is 51 km from Djibouti City. At this checkpoint a documentary and cargo-seal check is done on goods in transit. This zone is equipped with a weighbridge and an inspection area.

3. Agencies and departments involved in import-export

3.1 Ethiopian agencies

Table 3.1 outlines the Ethiopian agencies and government departments involved in the import and export of goods, and lists their functions, responsibilities, and the permits they issue.

The two main agencies involved in Ethiopian importing and exporting are the Ethiopian Shipping and Logistics Services Enterprise and the Ethiopian Revenue and Customs Agency.

3.1.1 Ethiopian Shipping and Logistics Service Enterprise (ESLSE)

ESLSE is a public-sector company that provides logistics shipping services (sea transport, agency services, stevedoring, and shore handling); clearing and freight forwarding by its MTS representation in Djibouti (customs clearance, port clearance, and road freight); and port and terminal services (receiving and delivering cargo, cargo loading and unloading, filling and emptying of containers, etc.).

ESLSE controls what is referred to as multimodal shipping services, meaning that its activities start at the port of origin (Shanghai, for example) and finish at an internal container depot within Ethiopia such as Modjo, and that the process uses both ships and roads as modes of transport — hence multimodal. All importers into Ethiopia who access their foreign exchange through the National Bank of Ethiopia (the country's central bank) have to use ESLSE if they are importing through Djibouti. If they are importing by air and using foreign exchange through the National Bank, then they must use the services of Ethiopian Airlines. Conversely, if a client has been provided with foreign exchange through the bank, then ESLSE cannot refuse to provide that client with service. There are exceptions, however, where the bank and ESLSE can give exemptions from using the services of ESLSE.

About 65 per cent of the dry bulk and container cargo⁵ imported through Djibouti uses the ESLSE multimodal system — and dry bulk and container cargo account for about 95 per cent of Ethiopia's imports.

In the first nine months of the 2016-17 financial year, ESLSE earned over 10 billion Birr⁶, (about \$500 million) but reported that, because there had been a scarcity of foreign currency during this period, imports had been lower than for the same period the previous year. In the 2015-2016 financial year, ESLSE earned 15.1 billion Birr, mainly from revenue earned from ships owned by ESLSE and from selling slots on ships owned by other companies.

ESLSE provides the following main services:

i) Sea transport services

ESLSE provides shipping services to and from the Port of Djibouti through ports in the Persian Gulf and Indian sub-continent, China, the Republic of Korea, Japan, Singapore, South Africa, and Indonesia, using its own ships and slot chartering with various global maritime carriers. ESLSE owns 11 vessels, most of them purchased recently using a facility of the Export-Import Bank of China, although two of those ships, both oil tankers, are leased to another shipping company. Over the first nine months of 2016-2017, ESLSE handled about 3 million tons of cargo, while over the first nine months of 2015-16, it handled 5 million tons. ESLSE accounted for 120,000 twenty-foot equivalent container units (TEU) over the first three quarters of 2016-17, as compared to 180,000 TEU over the first three quarters of 2015-16. About 200,000 tons of cargo were exported by ESLSE over the first nine months of 2016-17.

ii) Agency services

ESLSE's Djibouti office takes care of import formalities at the Port of Djibouti, notifies port authorities of ship arrivals, and provides for their ships and crews. It also provides booking and canvassing services for Ethiopian export goods.

One of the major achievements reported by ESLSE is a reduction in the time that cargo stays in port at Djibouti. The average has fallen from 9.5 days in 2016 to 7.24 days in 2017.

iii) Stevedoring

ESLSE is one of the major providers of stevedoring at the Port of Djibouti. It discharges various types of import cargo from ships, provides a "stuffing" service — the process of loading cargo into empty containers — and collects empty containers.

iv) Shore handling

This service includes safe storage of discharged cargo from vessels at the Port of Djibouti until it can be transported to destinations within Ethiopia.

v) Freight forwarding

Freight forwarding services include the following:

- Multimodal transport: a door-to-door cargo service with a single administrative document from the point of origin to the point of destination.

Table 3.1

Ethiopian agencies and departments involved in importing and exporting

No.	Regulatory Agency	Area regulated (related to imports and exports)	Responsibilities and permits issued
1	Ministry of Trade (MOT)	All import and export goods	• Issues import release permits • Issues import release permits for legal-metrology instruments • Issues export release permits
2	Ethiopian Investment Commission (EIC) and regional investment bureaux	Goods imported and exported by investors	• Issues and renews investment permits • Issues customs duty-free permission letters
3	National Bank of Ethiopia (NBE) and commercial banks	Foreign currency	• Registers sales contract agreements • Issues export bank permits • Issues foreign currency approvals • Issues bank import permits for letters of credit and advance payments • Approves purchase orders for cash against documentation (CAD)
4	Ministry of Agriculture and Natural Resources (MOANR)	Import of plants, seeds, plant products, pesticides, and fertilizers Export of animal feed, live animals, and meat	• Issues phytosanitary certificates for re-export • Issues veterinary health certificates • Issues export permits for animal feed • Issues pre-import permits for plants and plant products • Issues pre-import permits for fertilizers and pesticides • Issues import release permits for plants and plant products • Issues import release permits for goods on the list of registered pesticides
5	Ministry of Industry (Mol)	Incentives related to manufacturing	• Issues duty drawback authorization letters • Issues and renews export trade duty incentive scheme certificates • Issues and renews second schedule certificates, which provide import privileges such as reduced taxes on selected goods • Approves raw-material-supply contract agreements
6	Ministry of Mines, Petroleum, and Natural Gas (MoMPNG)	Export of mineral products	• Issues export permits • Issues customs duty and tax-free support letters
7	Ethiopian Conformity Assessment Enterprise (ECAE)	Conformity with accepted standards	• Issues laboratory test reports • Issues inspection reports
8	Federal Transport Authority (FTA)	Import of vehicles	• Issues pre-import permits • Issues import release permits
9	Ethiopian Radiation Protection Authority (ERPA)	Import of radiation- emitting equipment and machinery	• Issues pre-import permits • Issues import release permits • Issues export release permits and transport licenses
10	Oromia Islamic Affairs Supreme Council (OIASC)	Export of meat	• Issues Halal certificates
11	Food, Medicine, and Health Care Administration and Control Authority (FMHACA)	Import and export of drugs, medical supplies and instruments, baby food, supplements, food, and cosmetics	• Issues pre-import permits and/or special import permits • Issues export permits • Issues import release permits • Issues free sale certificates/letters • Issues health certificates • Issues list of registered drugs
12	Veterinary Drug and Feed Administration and Control Authority (VDFACA)	Import and export of veterinary drugs and animal feed	• Issues pre-import permits • Issues import release permits • Issues re-export permits • Issues list of registered drugs
13	Information Network Security Agency (INSA)	Import of communication and security equipment	• Issues pre-import permits • Issues import release permits • Issues re-export permits
14	Ministry of Communication and Information Technology (MCIT)	Import and export of telecommunication and network equipment	• Issues pre-import permits • Issues import release permits • Issues export and re-export permits • Issues customs duty and tax-free permits
15	Ministry of Livestock and Fishery (MoLF)	Import of live animals, animal products, and export of animal feed	• Issues pre-import permits for live animals and animal products • Issues import release permits for live animals and animal products • Issues international veterinary health certificates for cattle, sheep, and goats, meat and meat products, hides and skins • Issues export permits for animal feed
16	Ethiopia Chamber of Commerce & Sectoral Association (ECCSA)	Goods exports to Common Market for Eastern and Southern Africa (COMESA) and to countries trading on a most favoured nation (MFN) basis	• Issues COMESA certificates of origin • Issues ordinary certificates of origin

Source: Adapted from Ethiopian Customs Guide 2017.

Cargo is shipped from port of origin via the Port of Djibouti to destinations within Ethiopia (mainly to the Modjo dry port).

- Unimodal transport: this import service ends at the Port of Djibouti, after which the consignee chooses his/her agent for transport of the cargo to its final destination.
- Customs and port clearing: for multimodal imports, ESLSE processes cargo through port and customs formalities on behalf of clients.
- Trucking: ESLSE uses its own trucks⁷ or contracted trucks to transport multimodal imports from the Port of Djibouti into Ethiopia, mainly to Modjo dry port.

vi) **Port and terminal services**

ESLSE's port and terminal facilities are points of destination for Ethiopia's imports and points of consolidation for exports, where goods are loaded and unloaded and customs formalities are completed. Goods are temporarily stored there, placed into or taken out of containers, made ready for transport, and dispatched to their final destinations.

ESLSE controls seven dry ports in different parts of the country, the largest ones being Modjo and the roll-on – roll off (Ro-Ro) dry port at Gelan. The Ethiopian Government recently acquired a \$150 million loan to upgrade the Modjo dry port. Two more dry ports are being built – at Woreta and Hawassa – and more are planned.

3.1.2 Ethiopian Revenue and Customs Authority (ERCA)

The Ethiopian Revenue and Customs Authority (ERCA) is the body responsible for collecting revenue from customs duties and domestic taxes. In addition to raising revenue, it is responsible for protecting society from the adverse effects of smuggling and contraband. It seizes such goods and takes legal action against the people involved in smuggling; prosecutes those involved in tax evasion and avoidance; and facilitates the legitimate movement of goods and people across borders.

ERCA is led by a Director General (with the rank of minister) with direct accountability to the Prime Minister. There is an advisory board to the Director General for advice on policy issues.

There are five divisions directly reporting to the Director General, each headed by a Deputy Director General:

- i) Domestic Tax Development and Support Division;
- ii) Customs Programs Development and Support Division;

- iii) Tax Law Enforcement Division;
- iv) Modernization and Corporate Division; and
- v) Addis Ababa City Tax Programs Development and Support Division.

ERCA has the following objectives:

- To establish a modern revenue assessment and collection system and to render fair, efficient, and quality service;
- To assess, collect, and account for all revenues in accordance with tax and customs law as set out in legislation;
- To enforce tax and customs law equitably by preventing and controlling contraband, tax fraud, and tax evasion;
- To collect in timely and effective fashion all federal and Addis Ababa tax revenues generated by the economy; and
- To provide support to Ethiopia's regional states so that federal and regional tax administration systems can be harmonized.

The vision is that by 2025, ERCA will be a leading example in Africa of a fair and modern tax and customs administration, and that government expenditures will be fully financed through domestic tax revenue collection.

ERCA's mission is to contribute to economic progress and social welfare by developing an efficient and effective administration and by employing professional and highly skilled staff who promote voluntary compliance among individuals and businesses and who take swift action against those who do not comply with tax and customs laws and regulations. Among the authority's focuses are creating efficient revenue collection, establishing reliable data and statistics, facilitating trade, and establishing efficient management, enforcement, security, and good governance.

3.2 Djiboutian agencies

The Djiboutian agencies and government departments involved in importing and exporting goods into and out of the country through the nation's ports include the following:

- i) Djibouti Customs
- ii) The Djibouti Ports and Free Zones Authority (DPFZA)
- iii) Port terminal operators
- iv) The Harbour Master's Office (Port Authority)
- v) Freight forwarders
- vi) Shipping agents

- vii) Transporters
 - viii) Financial institutions
 - ix) Ship chandlers
 - x) Rail operators
 - xi) The Ministry of Health (Pharmaceutical Licensing Department)
 - xii) The Ministry of Health (pharmaceutical certificates)
 - xiii) The Ministry of Agriculture and Livestock (Direction de l'élevage)
 - xiv) The Ministry of Transport and Equipment (Direction des bâtiments)
 - xv) The Ministry of Agriculture and Livestock (LANAA)
 - xvi) The Ministry of the Interior (Direction des mines)
- The two agencies most involved with importing and exporting are Djibouti Customs and the Djibouti Ports and Free Zones Authority.

3.2.1 Djibouti Customs

Djibouti Customs, known formally as the General Directorate of Customs and Indirect Duties, is part

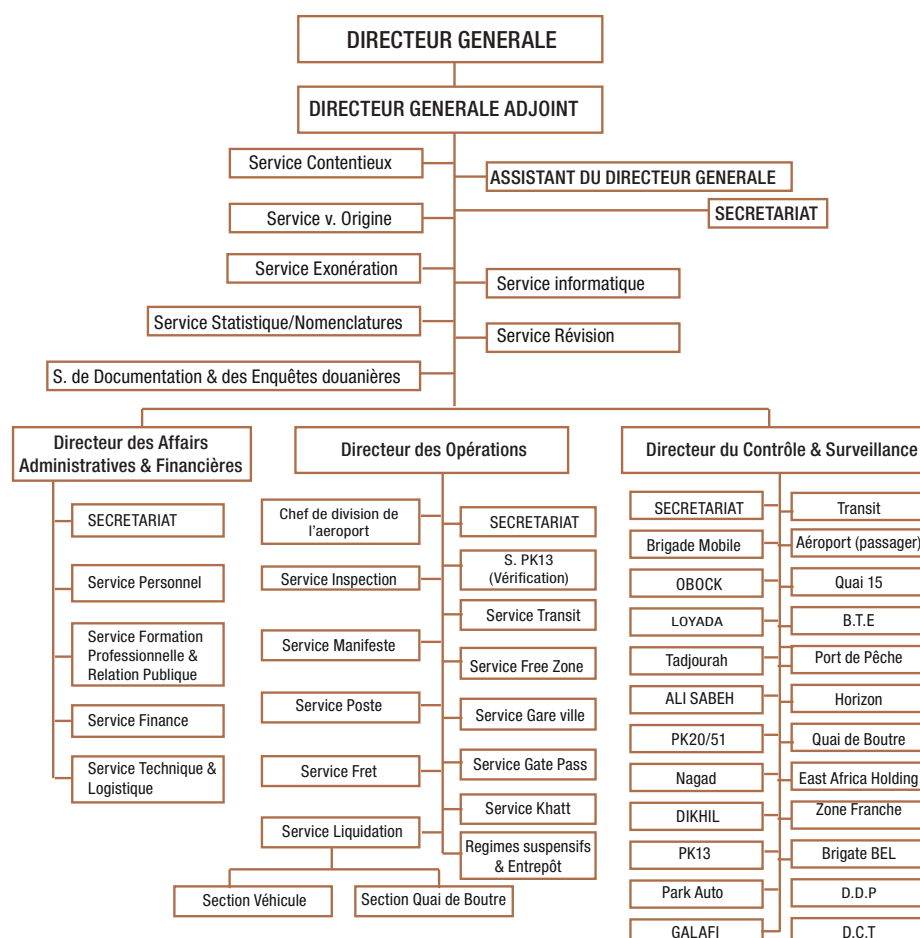
of the Ministry of Budget. It participates in economic development, provides numerous forms of support to other administrations, and actively contributes to the security of people and property. It is charged with enforcing laws and regulations applicable to the movement of goods in and out of the national territory. Among its responsibilities:

- The monitoring of the import, export, and transit of goods, and the collection relevant duties (customs revenue is an important contributor to the state budget);
- The combating of fraud and of the smuggling of heavily taxed products such as alcohol and tobacco;
- The bonding of goods both in transit and in warehouses; and
- The protection of the economy from unfair practices such as import dumping and counterfeiting.

Figure 3.1 shows the organization of Djibouti Customs.

Figure 3.1

Djibouti Customs organogram



Source: Djibouti Customs.

3.2.2 Djibouti Ports and Free Zones Authority

The Djibouti Ports and Free Zones Authority (DPFZA) is the governing authority that sets the rules, directives, and overarching principles for the smooth and efficient running of current and future ports and free zones in Djibouti. It is also responsible for the enforcement and implementation of these principles and directives. It is the sole authority in charge of the administration and the control of free zones and ports, and plays an instrumental role as the interface between free-zone companies and government bodies. DPFZA falls under

the direct authority of the Djibouti Presidential Office.

DPFZA has the following mandates:

- Promotion of Djibouti ports and free zones as commercial and logistics platforms;
- Establishment of a business-friendly environment in these locations, with a business-oriented legal framework;
- The regulation of ports through the DPFZA; and
- The creation of new ports and free zones.

4. Transit, border-clearance, and warehousing processes

4.1 Ethiopian import processes

The process for importing goods into Ethiopia is as follows⁸:

- An import license must be obtained.
- An application form for a license must be obtained from the Ministry of Trade, completed, and presented in person, supported by a tax identification number. Private and limited-share companies must provide a Memorandum of Association and Articles of Association. Also required of applicants are proof of a physical office, proof of sufficient funds, and photographs of the person seeking the license. If the applicant is a foreign investor, he must show his investment and residence permits and a valid business registration certificate.
- For restricted goods, a pre-import permit must be obtained.
- Imports of some goods, such as pharmaceuticals, medicines, veterinary drugs, information and communication technology (ICT) equipment, and vehicles, are restricted for safety, security, environmental, health, or other reasons, and can only be brought into the country if the importer has such a permit. Once it is obtained, the importer still must obtain a standard import permit.
- Foreign currency must be obtained through a commercial bank⁹ and then payment arrangements agreed upon with the importer's bank.
- To secure foreign payment, the importer must first have an account with the commercial bank to which he is applying for foreign exchange. He must accompany his application with a valid business license and a pro-forma invoice from the supplier. The bank will provide the importer with a Letter of Credit (L/C) or a Cash against Delivery (CAD) document, or will provide the supplier with an advance payment, usually via SWIFT transfer. The importer must not be listed on the National Bank of Ethiopia's delinquent list.
- Release must be obtained from the relevant port in Djibouti.
- The goods are shipped and usually arrive at one of the Djibouti ports. If they are containerized and not shipped on ESLSE vessels, the containers will be off-loaded at Doraleh Container Terminal. If the cargo is being transported by ESLSE vessels with the vessels' own lifting gear, or is break bulk cargo, the goods will be off-loaded at the Port of Djibouti (which soon will be replaced by port facilities at the Doraleh Multipurpose Terminal). The Ethiopian importer must select a Djiboutian clearing agent who will clear the goods through the port and out of the port area. If the goods are being imported using the multimodal system, then ESLSE acts as the Djiboutian clearing agent. ESLSE is the only Ethiopian company that is accepted as a clearing agent by Djiboutian authorities.
- Transit is carried out through Djibouti and Ethiopia:
 - i) The Djiboutian freight forwarder registers and validates the import declaration ("IM8") and generates the transit document T1 through the SydoniaWord System from its headquarters.
 - ii) The Djiboutian customs authority verifies this document, validates it, and issues three copies that are then transmitted to the Djiboutian freight forwarder.
 - iii) The driver receives copies of the T1 with the custom's seal for each means of transport and submits the T1 at the exit gate of the port, at checkpoint PK51 and at different checkpoints on national territory.
 - iv) At the checkpoints, the Djiboutian Customs verify the compliance of the T1 with the means of transport, the container and the seals. Then, the T1 is scanned with a barcode reader. The T1 is cleared at the Galafi-Gallile border.¹⁰
 - v) The truck with its cargo then crosses no-man's land (a few kilometres) and enters into the Ethiopian Galafi customs control zone. At the Galafi border the following processes are performed:
 - If the goods are not containerized:
 - » Department of Immigration checks that the driver is cleared to enter the country.
 - » The road transport authority checks that the necessary permits are in place and that the vehicle is insured.
 - » ERCA assigns a risk level to the goods.
 - » The truck and cargo enter the customs yard and Customs enters the particulars of the cargo and truck onto an Excel sheet at the control zone entry gate.
 - » The driver will then drive to the physical inspection area where the seals will be checked and the truck inspected.
 - » The truck will then drive to the exit gate where his particulars and time of departure are recorded.

If the goods are containerized:

- » The driver presents his travel documents to Immigration, his Yellow Card (indicating participation in the third-party vehicle-insurance scheme run by the Common Market for Eastern and Southern Africa) to the road transport authorities, is assessed for the level of customs risk, and then enters the control zone.
- » Customs enters the particulars of the cargo and truck onto an Excel sheet at the control zone entry gate.
- » The driver then drives to the scanner and enters the scanner.
- » Once the truck and cargo are scanned, ERCA issues the driver with a T1 for Ethiopia (if the goods are being imported through the unimodal system) or checks the driver's T1 if the goods are being imported through the multimodal system.
- » If the truck is part of the cargo tracking pilot, his tracking device is activated.
- » The truck then proceeds to the exit gate where the particulars and time of departure are recorded.
- If the goods are break bulk cargo, steel, or liquid (mainly fuel), then:
 - » The driver presents his travel documents to Immigration, his Yellow Card to the road transport authorities, and Customs assesses the risk level.
 - » The driver does not enter the control zone but parks on the roadside.
 - » Customs enters the particulars of the cargo and truck onto an Excel sheet at the control zone entry gate.
 - » The cargo and truck are then physically inspected on the roadside and, if the truck is "clean," the particulars and time of departure are recorded at the exit gate.
- vi) On leaving Galafi, the cargo travels to the first customs checkpoint at Mille. The truck enters the customs yard, the seals and the particulars of the cargo and truck are inspected, and the time is recorded. The truck then leaves the yard. If the cargo consists of vehicles, the vehicle transporter does not enter the customs yard. Instead, inspectors check all the engine numbers and chassis numbers

of the vehicles on the transporter and, when this is done, the truck departs.

- vii) On leaving Mille, the truck proceeds to Awash, where the truck and cargo are weighed on a weighbridge. The truck and cargo then proceed to the customs checkpoint, where the particulars of the cargo and truck, and the time, are recorded. (The customs checkpoint was still being constructed in early 2017, and so the recording systems were manual and the queuing time and checking time amounted to four to five hours.)
- viii) On leaving Awash, the truck and cargo proceed to an inland container depot, either Modjo or Kaliti, on the outskirts of Addis Ababa. There, the clearance and warehousing process takes place.

4.1 is a schematic diagram of the import process into Ethiopia through Djibouti.

4.2 Ethiopian export processes

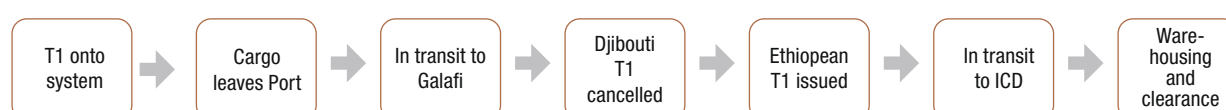
According to Ethiopia's Regulation 270/2012, exports of raw coffee, chat, oil seeds, pulses, hides, and skins bought from the Ethiopian market, and live sheep, goats, and cattle not raised or fattened by the investor, are exclusively reserved for domestic investors. Foreign investors cannot be involved in exports of these items from Ethiopia.

Exporters must do the following:

- i) Obtain an export permit from a commercial bank which can be received once the potential exporter has a signed seller/buyer contract, a seller's invoice, an export license valid for the year, a tax registration certificate, and an export permit application form. The customer's name should not appear on the list of delinquent exporters issued by the National Bank of Ethiopia for the period. If the name appears, the exporter's name will need to appear on a subsequent list indicating that the given customer has cleared all outstanding obligations to the bank.
- ii) Apply, where necessary, for quality testing and certification so as to obtain an Export Authorization Certificate from the Quality and Standards Authority of Ethiopia.
- iii) Register for value added tax (VAT) and pay the VAT on goods exported from Ethiopia (although it should be noted that all exports of goods and services

Figure 4.1

Schematic of the import process into Ethiopia through Djibouti



Source: Author.

are zero-rated for VAT and an exporter is entitled to reclaim the VAT on all the goods and services purchased to produce the related exports – meaning that this is, in essence, a registration process).

- iv) Hire a clearing agent to complete a customs declaration (which requires an export permit, a copy of the customs declaration annex form, the Ethiopian Customs declaration form, and other relevant supporting documents such as a certificate of origin, and any special movement forms/certificates needed, for example, by Europeans for export into the European Union).
- v) Arrange for a transporter to collect the goods and transport them to a port in Djibouti. The following process then occurs:
 - a. The truck collects the goods from the exporter, and the Ethiopian Revenue and Customs Authority (ERCA) seals the goods.
 - b. The truck proceeds to the Galafi border post, passing through Awash and Mille.
 - c. The truck arrives at the Ethiopian side of the border, is given a gate pass, and enters the control zone. Once in the facility, the vehicle stops at a checkpoint where it and the accompanying papers are inspected.
 - d. If all is in order, the truck proceeds to the exit gate, checks out of the control zone, and proceeds to the Djibouti Galafi border.
 - e. Approaching the Djiboutian side of border, the truck generally queues to reach the border, where Djibouti Customs does a documentary inspection and a visual inspection of the truck and cargo seals and issues a manual T1 accordingly. The truck then enters Djibouti.
 - f. The truck either proceeds through PK51 to PK12 to get details of when the driver must deliver his cargo to the port, or, if this is known, proceeds directly to the port.
 - g. The driver enters the port, drops off his cargo, and, most probably, picks up another load.

5. Transport logistics

5.1 Road logistics

Ethiopia's road network has been improving year by year. As of the end of 2015, Ethiopia had 110,414 km of all-weather roads. In 2011, the country embarked on its fourth Road Sector Development Programme (RSDP Phase IV), a strategic pillar of Ethiopia's Second Growth and Transformation Plan. According to the 2014 United Nations Development Programme (UNDP) Human Development Report, Ethiopia has invested Birr 142 billion (\$7.1 billion) in road construction projects over the past 16 years, out of which \$5.4 billion (77 per cent) has been financed by internal sources. During the Second Growth and Transformation Plan period, covering 2015/2016 through 2019/2020, the government anticipates a further expansion of the country's road network to 220,000 km.

5.1.1 Axle loads and vehicle operating costs

As previously noted, the most common mode of transport used on the Addis Ababa-Djibouti road transport corridor is the six-axle truck/trailer combination, as shown in 5.1. As can be seen from the photograph, this is not the most optimum mode of transport for containers. The containers cannot be locked onto the bed of the truck, so they are kept in place by the high sides of the trailers. This is not what the trucks and trailers are designed for. In addition, the high sides make it difficult to load the containers onto the trailers using a reach-stacker. If the reach-stacker

operator is not skilled and careful, he can damage the high sides when putting the 20-ton containers in place.

These common truck/trailer combinations also are not purpose-built to carry bulk goods such as cement. It is not uncommon to see loaded trucks where the loads have moved and are unstable, meaning that the cargos need to be manually unpacked and repacked before the trucks can continue on their journeys.

There is evidence to suggest that the vehicles plying the Addis Ababa – Djibouti corridor section are carrying heavier loads than the trucks and trailers are designed to carry, and that the truck loads may exceed the design capacities of the roads in Ethiopia.¹¹ The allowed gross vehicle mass (GVM) -- meaning the combined weight of truck, trailer, and cargo -- is 58 tons, with eight tons on the single steering axle of a six-axle vehicle and 10 tons each on the five double axles. Assuming the weight of the empty truck and trailer, called the tare weight, is 18 tons (and this would be a minimum), then the weight of the cargo should be a maximum of 40 tons or 400 quintals, which is what truckers spoken to say their loads are. If the load weight of the cargo is 40 tons and the truck weighs 20 tons, the GVM of the truck is still within an acceptable 5 per cent error margin.

A GVM of 58 tons for a six-axle truck is very high compared to regional averages. For the Common Market for Eastern and Southern Africa (COMESA)

Figure 5.1

A six-axle truck/trailer combination



Source: Taken by Author.

and the Southern African Development Community (SADC), the average is 48 tons, and for the East African Community (EAC), it is 50 tons. Having such heavy axle loads implies that structural damage to roads will take place faster than the design life of the roads assumes, meaning that the roads will fail faster than they are designed to and will need much higher levels of maintenance than they were designed to receive. Carrying such heavy loads also may exceed the design capacities of the trucks and trailers, thus stressing their tyres, braking systems, and suspensions. Weight at such levels makes the trucks less safe and increases risks of accidents, which can result in significant economic costs to the country where they occur.

In Djibouti there is a weighbridge (truck scale) at PK20, about 20 km from Djibouti City on the main road (RN 1) to Ethiopia. The location of the weighbridge seems to be well chosen in that it is on the RN1, which is the principal route used by trucks moving from ports in Djibouti to Addis Ababa, as well as to most locations in Djibouti. However, currently the weighbridge is not in use because there are no rules or regulations for enforcing axle load limits. Discussion is taking place in Djibouti¹² as to whether the maximum allowable axle load should be 13 metric tons or 11 metric tons, the latter being closer to the current allowable loads used in Ethiopia for double-axle trucks.

There is significant financial pressure for truckers to move with such heavy cargos, and even to function while overloaded. Until recently, and according to truckers spoken to, the chances of being caught for overloading were very small and the fines were quite low compared to regional averages.

The benefit of heavier loads is that the cost of transport per ton/kilometre is reduced. If this saving is not passed on to the client, then the truck owner benefits. If it is passed on to the client, then the client benefits. But if the cost saving is passed on to the final consumer, then the entire economy benefits – as long as the cost of damage to the road is discounted.

The cost of overloading (to the owner of the truck and trailer) is that it will reduce the life of the transport equipment, reduce tyre life, and reduce safety. The cost of overloading to the economy is the damage caused to roads and bridges, along with the cost of reduced safety. The damage to roads caused by overloading is exponential. In a study titled “The Damaging Effect of Overloaded Heavy Vehicles on Roads,” the Centre for Scientific and Industrial Research (CSIR) in Pretoria, South Africa, estimated that an axle load that was two times heavier than the legal load (in South Africa) of nine tons, meaning an axle load of 18 tons, has 18 times the damaging effect of a legal axle load.

Figure 5.2

An unstable load



Source: Taken by Author.

Reducing the weight of the payloads, and so reducing axle loads, and strict regulation of that standard, would result in more vehicles moving along the road to carry the equivalent cargo and would increase the cost of moving any given weight of goods for road haulers, which may counteract the gains associated with reduced wear and tear on roads. However, studies¹³ done on this lead to the conclusion that a reduction in overloading will lead to savings in the cost of road maintenance (a cost borne by the Governments of Ethiopia and Djibouti) that will be considerably more than the increased costs incurred through additional vehicles being used to transport the same weight of freight.

The study team calculated, from information collected from drivers, that, currently, the real costs of transport from a port in Djibouti to a dry port in Addis Ababa are about equal, if not slightly greater, than the amount charged. One can conclude from this that:

- There is some pressure for transport equipment owners to overload and so to charge more than Birr 38,000 per round trip;
- It is very difficult to be profitable on this route if the truck and trailer are bought new; and
- Money can be saved by reducing expenditures on tyres and maintenance, but this will, in turn, reduce the reliability and safety of the transport equipment.

Probably the only way for a truck/trailer owner to increase revenue would be to reduce the time taken

per round trip. This would involve investments by the governments of Djibouti and Ethiopia in infrastructure (roads, border posts, truck stops, internal container depots, etc) and in services (improved logistics services through improvements in the customs-management system of Ethiopia, electronic single windows, cargo tracking, more competition in freight forwarding and customs clearance services, improved electronic payment systems, paperless systems, etc.).

5.1.2 Trade/transit/transport facilitation systems

Road user charges

It is normal for a foreign carrier operating on another country's roads to pay a road-user charge which contributes to financing maintenance, construction, and re-construction of the nation's trunk roads. Nationally registered trucks will usually contribute to the fund through taxes on vehicles as well as through a portion of the fuel tax, which generally goes to the road fund. Djiboutian registered trucks pay a road-user charge in Ethiopia, and Ethiopian registered trucks pay a road-user charge in Djibouti, depending on the distance travelled.

Third-party vehicle insurance

Both Djibouti and Ethiopia have made it mandatory to use the Common Market for Eastern and Southern Africa's Yellow Card, which is the regional cross-border third-party vehicle insurance scheme.

Bond guarantees

It is normal practice for customs authorities to demand a customs bond equivalent to the value of the duty and charges of equivalent effect on cargo transiting through customs territories. This bond is collected by Customs if there is no evidence that the goods in transit have left the customs territory within a specified period of time. However, in the case of Djibouti, it appears that goods in transit to Ethiopia are not required to take out customs bonds. This would save costs for Ethiopian goods in transit and, if Djibouti Customs estimates the risk of goods in transit being diverted into the Djiboutian economy as minimal, it will also result in savings for Djibouti, as transaction costs will be less.

Electronic cargo tracking

Ethiopia is, in theory, piloting two electronic cargo-tracking systems along sections of the Djibouti-Ethiopia corridor. One is a national system being piloted on a voluntary basis by members of some trucking associations and is being implemented by the Ethiopian Revenue and Customs Authority. Staff at the Galafi border post are able to determine whether a truck that is part of the pilot is in the Galafi control zone, and, if the driver does not come to the office to get the tracking device initialized, then the office staff

can, in theory, find the truck and activate the tracking device. This tracking system is not cross-border, and so is only activated from the time the truck crosses into Ethiopia at Galafi. It is deactivated at the internal container depot.

The other system reportedly being piloted along the corridor, according to the website of the Common Market for Eastern and Southern Africa, is the COMESA Virtual Trade Facilitation System (CVTFS), which is a cross-border cargo-tracking system using the Global Positioning System (GPS). The system works using "smart-locks" that are attached to containers and can monitor where the container is and whether it has been opened, among other things. However, the CVTFS pilot project in fact has not yet started in Ethiopia, but was tested in Djibouti on the portion of the road leading to the border.

5.2 Rail logistics

Both Ethiopia and Djibouti and their related railway companies signed an agreement in January 2017 to implement a joint venture company to manage the Addis Ababa-Djibouti Railway, which is about to begin commercial operations. It is understood that the joint venture will enter into a contract with a Chinese consortium to carry out the actual management of the railway.

Cargo trains operating on this rail network will have the capacity to carry 3,500 to 4,000 tons of freight each, which is equivalent to 100 to 200 truckloads, meaning each train will be able to replace 100 to 200 trucks. The Ethiopia Railway Corporation is anticipating the line will carry 6 to 7 million tons of cargo in its first year of operation, with the total ultimately increasing to 10 million tons per year.

At present, road-transport traffic from Djibouti to Addis Ababa each day is about 1,000 trucks. Of this total, roughly 350 trucks are fuel tankers with a capacity of 30,000 litres, 500 are vehicles carrying containers, and 250 are break bulk carriers. If one assumes that the railway will carry all fuel and all bulk cargo and 50 per cent of the containers, this would imply that each day trains will transport 175 fuel wagons (each wagon having a capacity of 60,000 litres), 125 wagons of break bulk cargo (each wagon carrying 80 tons), and 250 wagons of containers, meaning that there will be about 550 wagons moving from Djibouti to Addis Ababa daily just to cater for existing cargo.

The capacity of the trains is more dependent on the number of wagons than on the capacity of the locomotives to haul wagons. And the length of the trains is dependent on the length of the passing loops where there is a single track — which means the

section of line between Awash and Djibouti City. It is understood that the passing loops can accommodate a maximum of 50 wagons. If this is the case, then to cater for the existing cargo transport needs for fuel and break bulk and half of the containers, a total of 11 trains, each with 50 wagons, will need to move from Djibouti to Addis Ababa every day. The same number of trains will need to return to Djibouti even if they are empty, as the wagons and empty containers must be available for reloading.

To load, unload, assemble, and de-assemble 11 trains consisting of tanker cars, break bulk carriers, and containers each day, and to keep track of the contents, is a major logistical exercise, and it is by no means clear that sufficient systems — either software or hardware — are in place to ensure that the process is managed effectively.

5.3 Port logistics

5.3.1 Utilization agreement for Djibouti ports

In 2006, Ethiopia and Djibouti signed a multi-modal transport agreement which enables the effective utilization of the port of Djibouti by Ethiopia for the coming 20 years, along with door-to-door cargo transit between the two countries. According to the agreement, L'Association transitaire de Djibouti, of

which the Maritime Transit Services of Ethiopia (MTSE) is a member, would be the only interlocutor of the carrier (which includes the Ethiopian Shipping Lines), for clearing and forwarding activities at the port of Djibouti.

5.3.2 Port performance

The Port of Djibouti has two terminals — the Port Autonome International de Djibouti, managed by Port de Djibouti (SA), and the Doraleh Container Terminal, managed by the international conglomerate DP World.

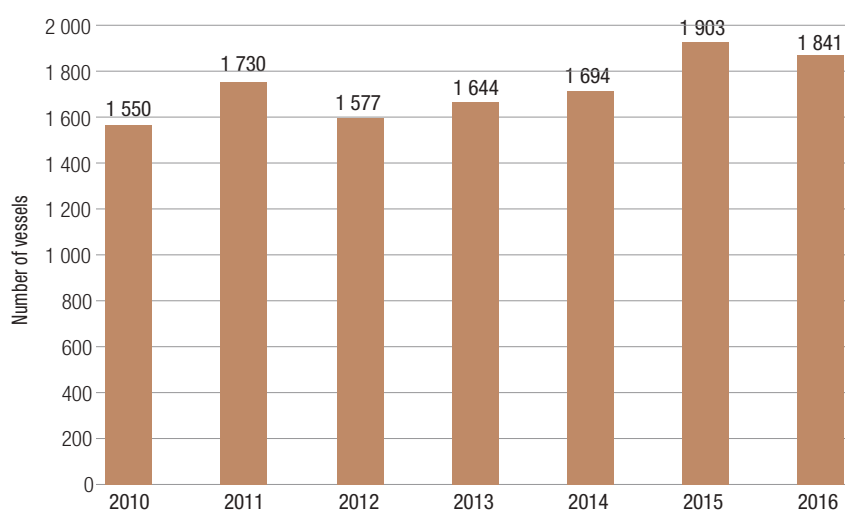
The Port of Djibouti includes a container terminal, a bulk terminal (managed by Société Djiboutienne de Gestion du Terminal Vraquier, or SDTV), and general cargo, livestock, and dry-port facilities, along with marine and engineering-related services. SDTV handles break bulk cargo, including fertilizer and grains.

At the Doraleh Container Terminal (DCT), DP World has achieved crane productivity of 37 moves per gross crane hour, which makes DCT one of the more efficient ports in Africa. That, in turn, allows shipping lines to maintain their schedules and to avoid costly delays.

5.3 shows the number of vessel calls at Djibouti per year from 2010-2016. 5.4 shows the amount of containerized and non-containerized traffic per year for the same period.

Figure 5.3

Vessel calls to Djibouti 2010-2016: Total number of vessels



Source: Port De Djibouti S.A., Statistics.

Figure 5.4

Vessel calls to Djibouti 2010-2016: Containerized and non-Containerized cargo traffics



6. Proposal to establish a Djibouti-Ethiopia corridor management authority

6.1 Rationale

The economies of Ethiopia and Djibouti depend on imports into and exports out of Ethiopia. These depend, in turn, on an efficient logistics system along the entire length of the Djibouti-Ethiopia transport and transit corridor. Both Ethiopia and Djibouti have made significant investments in trade and transport/transit infrastructure, and the results of these investments are impressive. However, high-quality infrastructure, while necessary, is not sufficient for achieving efficient logistics. If the benefits of upgraded port, rail, road, and internal container depot infrastructure are to be fully realized, logistics systems must be established that will allow users to maximize the facilities' potential.

There are multiple stakeholders involved as service providers and providers of infrastructure along the corridor, but there is no body to coordinate their activities. Unless there is coordination, there will be no improvement in transport and transit-service delivery -- and that will reduce the economic growth rates of both countries.

6.2 Legal basis of a corridor management authority

In Eastern and Southern Africa, there are three main types of transport corridor management authorities in operation:

i) Private-sector-owned corridor management agencies

The best example of this model is the Maputo Corridor Logistics Initiative (MCLI), a non-profit organization comprising infrastructure investors, service providers, and other stakeholders from Mozambique, South Africa, and Swaziland, all of them focused on the promotion and further development of the Maputo Development Corridor as the region's primary logistics transportation route. MCLI is incorporated in South Africa as a Section 21 (non-profit) membership organization.

MCLI carries out the following activities:

- Coordination of initiatives and engagement with the relevant authorities so as to contribute to the planning of service and infrastructure improvements;
- Organization of events, fact-finding missions, forums, and meetings;
- Communication about progress and corridor development via electronic newsletters and the media;

- Promotion of positive attitudes and perceptions of the Maputo Development Corridor and of the logistical benefits the corridor offers;
- Facilitation of training opportunities, including industry cross-training of public and private stakeholders, to ensure full understanding of the supply chain;
- Steps to put users in touch with service providers, and the provision of information to both on how to use and benefit from the corridor;
- Development of a corridor supporter and service provider directory and website;
- Organization of quarterly forums on strategy; and
- Organization of service provider forums.

ii) Public-private partnerships (PPP)

The best example of this structure is the Walvis Bay Corridor Group (WBCG). The members of the WBCG are mainly Namibian private-sector logistics associations; government agencies (such as the Namibian Port Authority and Roads Authority Namibia); and Namibian government ministries and departments (such as Immigration, Transport, Customs and Excise, and Trade and Industry).

The WBCG mainly promotes the use of corridors that terminate at Walvis Bay, Namibia, including the Trans-Kalahari, the Trans-Cunene, the Trans-Oranje, and the Trans-Capri. It also promotes the use of the Port of Walvis as a competitive alternative to South African ports for shipping and transport services for traders in Zambia, the Democratic Republic of the Congo, Botswana, Malawi, and southern Angola.

The WBCG offers to its members such services as business development and marketing and cross-border facilitation. It also promotes infrastructure development and road safety, and provides an HIV/AIDS helpdesk.

iii) Inter-governmental authorities

The best example of a corridor management authority based on an inter-governmental agreement is the Northern Corridor Transit and Transport Coordination Authority (NCTTCA), which has its secretariat in Mombasa, Kenya.

To overcome transport constraints, the governments of Burundi, Kenya, Rwanda, and Uganda negotiated the Northern Corridor Transit Agreement (NCTA),

which aims to promote an efficient, cost-effective, and reliable transit and transport system. The NCTA, signed in 1985, came into force in 1986 after ratification. The Democratic Republic of the Congo became the fifth member after acceding to the agreement in 1987.

The Northern Corridor is unique in that it is a treaty involving multiple countries and governing transit and transport operations that provide access to and from the sea.

The NCTTCA is the institution responsible for management of the corridor. The authority's three key organs are its Council of Ministers, Executive Board, and Executive Secretariat. In addition, there are specialized technical committees.

The overall mandate of the NCTTCA is the removal of all obstacles to the flow of trade and services along the Northern Corridor. The objectives of this mandate, as specified in a 2007 agreement, include the following:

- The facilitation of trade and the movement of persons, vehicles, and goods in domestic, regional, and international transport;
- The stimulation of economic and social development in the territories of the contracting parties;
- The transformation of the corridor into a “development corridor” which, in addition to offering safe, fast, and competitive transport and transit services that secure regional trade, will stimulate investments, encourage sustainable development, and reduce poverty; and
- The implementation of strategies to accelerate economic and social growth along the corridor while ensuring environmental sustainability.

To achieve the above objectives, the contracting States have agreed to undertake the following measures:

- Establishment and management of transport and communication systems that are viable, reliable, and efficient, with the private sector being eligible to operate and manage such systems;
- Implementation of a policy featuring non-discrimination, reciprocity, equal treatment, and fair competition for operators and users of the transport and communications systems;
- Cooperation in investment planning, development of transport and transit facilities, and the pursuit of financing for corridor projects;
- Harmonization of national standards and procedures for design, construction, operation,

and maintenance of the corridor's transport infrastructure, transit facilities, and equipment;

- The taking of measures needed to promote the role of the corridor as a development corridor;
- Encouragement of the private sector to participate in the financing of the construction and maintenance of transport infrastructure and facilities;
- Harmonization of privatization policies relating to the management of transport facilities and services;
- Facilitation of the smooth and rapid movement of persons and goods between national territories and in transit, through the simplification and harmonization of relevant documentation and procedures;
- Work towards the eradication of customs fraud and tax evasion; and
- The carrying out of mutual consultations with other contracting parties prior to effecting any changes in laws, regulations, and procedures concerning the movement of persons, vehicles, and goods, except in emergencies.

It is suggested that the Djibouti-Ethiopia corridor adopt the NCTTCA model.

6.3 Proposed mandate for a Djibouti-Ethiopia corridor management authority

An effective mandate for a Djibouti-Ethiopia corridor management authority (DECMA) could be derived from a bilateral treaty between the governments of the two countries. This treaty could allow other countries, such as Sudan and Somalia, to be parties to such a treaty at a later date, should they express interest.

The proposed mandate, which is partially based on the NCTTCA mandate (excluding the development corridor mandate), could have the following components:

- **Overall mandate:** Removal of all obstacles to the flow of trade and services along the Djibouti-Ethiopia Corridor.
- **Specific mandates:** The facilitation of trade and the movement of persons, vehicles, and goods in domestic, regional, and international transport through the improvement of infrastructure and logistics services; and

The stimulation of economic and social development in the territories of the contracting parties, while ensuring environmental sustainability.

6.4 Structure and composition of a proposed corridor management authority

It is suggested that the structure and composition of a Djibouti-Ethiopia corridor management authority (DECMA) follow the structure and composition of the NCTTCA, which is a tried and tested formula that has proved itself over many years.

Figure 6.1 shows the structure of the NCTTCA. The Council of Ministers is the decision-making body. Below it is the Executive Committee, which consists of senior government officials at the permanent secretary level. Technical work is done by four technical committees: a Public-Private Partnership (PPP) Committee, an Infrastructure Development and Management Committee, a Customs and Trade Facilitation Committee, and a Transport Policy and Planning Committee. Supporting these policy organs is a permanent, full-time secretariat.

The NCTTCA also has collaborative arrangements with institutions and organizations such as the East African Chamber of Commerce, Industry, and Agriculture (EACCIA), the Kenya Maritime Authority, the Kenya Ports Authority, and the Port Management Association of Eastern and Southern Africa (PMAESA).

6.5 Guiding principles

Guiding principles for a Djibouti-Ethiopia corridor management authority could be the following:

- Establishment and management of transport and communication systems for the corridor that are viable, reliable, and efficient, with the private sector

being eligible to operate and manage such systems;

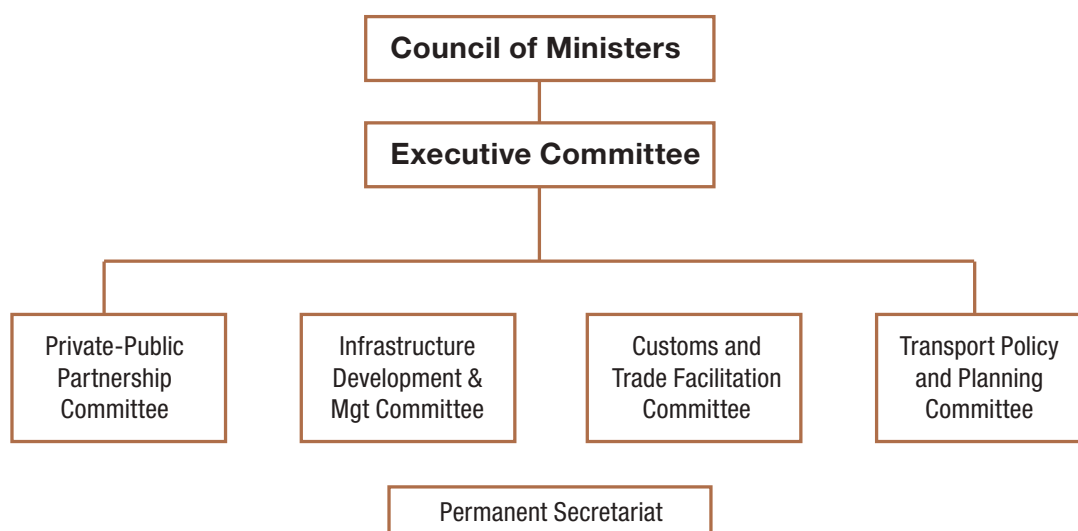
- Implementation of a policy featuring non-discrimination, reciprocity, equal treatment, and fair competition for operators and users of the transport and communications systems;
- Cooperation in investment planning, in the development of transport and transit facilities, and in the pursuit of financing for carrying out corridor projects;
- Harmonization of standards and procedures for the design, construction, operation, and maintenance of corridor transport, transit facilities, and equipment;
- Facilitation of the smooth and rapid movement of persons and goods between member countries' territories and in transit, through the simplification and harmonization of relevant documentation and procedures; and
- The carrying out of mutual consultations with other contracting parties prior to effecting any changes in laws, regulations, and procedures concerning the movement of persons, vehicles, and goods, except in emergencies.

A Djibouti-Ethiopia corridor management authority would be limited to a convening and coordinating role. For example, it would be able to convene government agencies and departments and the private sector to take decisions on infrastructure and operating procedures, but it would be the responsibility of the agencies concerned to implement the decisions taken.

The secretariat could be based in Addis Ababa, with an office in Djibouti City. The secretariat would be kept small, but with a budget for funding inputs from specialists.

Figure 6.1

Structure of Northern Corridor Transit and Transport Coordination Authority (NCTTCA)



Source: NCTTCA.

Such a corridor management authority could be headed by a Council of Ministers jointly chaired by the Prime Ministers of Ethiopia and Djibouti. Council members could consist of the countries' Ministers of Trade, Transport, and Finance.

The authority's Executive Committee could consist of the heads of the agencies, departments, and

associations that are members of the authority. The authority's various committees could include officials and private-sector players of the relevant stakeholders shown in Table 6.1.

The permanent secretariat would be staffed by civil servants.

Table 6.1

Possible organizations represented on a DECMA Executive Committee and related committees

Ethiopia	Djibouti
Ethiopia Revenue and Customs Authority (ERCA)	Djibouti Customs Authority
Ethiopia Maritime Affairs Authority	Djibouti Ports and Free Zones Authority (DPFZA)
Ethiopian Roads Authority	Ministère De Transport et de l'équipement
Ethiopian Railway Corporation	Ministère de l'Économie et des Finances chargé de l'Industrie et de la Planification
Ministry of Transport and Communications	Ministry of Trade and Industry
Ministry of Trade	Clearing agents and freight forwarders
Ethiopian Shipping and Logistics Services Enterprise (ESLSE)	Truckers' associations
Clearing agents and freight forwarders	Chamber of Commerce
Truckers' associations	
Chamber of Commerce and Sectoral Associations	

6.6 Proposed activities

6.6.1 Bilateral treaty for a Djibouti-Ethiopia corridor management authority

The first activity needed to establish a corridor management authority would be the preparation of a bilateral agreement approved by the two governments. Once such a treaty was agreed to at the highest levels, then the governments would need to ratify and incorporate it into the national legal framework.

6.6.2 Road infrastructure

The main Addis Ababa-Djibouti road varies considerably in quality, from areas of complete failure in Djibouti to the new, six-lane (three lanes both ways) tolled expressway in part of Ethiopia. The majority of the road in Ethiopia is in fair condition, although much of it is narrow and single-lane. In Djibouti the road, apart from the 80 km stretch coming out of Djibouti City recently constructed using EU funds, is in poor condition. Steps by a corridor management authority could include:

- Working with the departments and agencies responsible for road infrastructure to carry out a physical assessment of the trunk road (that is, excluding municipal roads) between Addis Ababa and Djibouti City;
- Making recommendations on what needs to be done to improve road infrastructure over the entire route between Addis Ababa and Djibouti City, including necessary widening of sections of the

road; the design standard could be a lane width of 11 m, with dual lanes in heavily trafficked and slow sections such as hilly areas and within settlements;

- Examining options on how to finance upgrades of the corridor road, including the option of maintaining the road as a public good, financed from the public sector (which would include funding for regular maintenance), and the option of a public-private partnership such as a long-term concession using revenue collected through tolls, with the infrastructure belonging to the two States but the concessionaire responsible for maintenance; and
- Working with the departments and agencies responsible for road infrastructure to prepare a cost-benefit analysis of proposed upgrades and to assist in coordinating the relevant authorities in Ethiopia and Djibouti as they seek to secure financing and implementation for such infrastructure projects.

6.6.3 Railway logistics

The secretariat of a Djibouti-Ethiopia corridor management authority could convene a task force to design operating procedures for rail cargo at nodes such as the rail terminal at Djibouti and at internal container depots in Ethiopia. Such a task force could work with the relevant authorities to address the following issues:

- Possible restrictions that might be placed on which types of cargo can be moved by which type of transport mode; and

- Details on the movement of cargo from ports (the Doraleh Container Terminal and the Doraleh Multipurpose Port) to the rail terminal; this would involve determining how an internal container depot at the rail terminal should work and would provide answers to the following questions:
 - » Will containers and dry bulk be moved from the port stacks and storage-in-bond locations to storage at the railhead, or will they be put onto trains in the port areas?
 - » Will internal container depots outside the port areas be owned and operated by the private or the public sector, or by both?
 - » How will the Addis Ababa-Djibouti Railway charge for transport?
 - » How will the railway allocate space?
 - » Who will be responsible for loading and off-loading?
 - » Who will regulate the railway and set the tariffs?
 - » Will the internal container depot operators, the railway itself, or private operators be responsible for off-loading and on-loading cargo from the wagons and into the container depots?
 - » Will there be other options for customers to collect cargo other than from internal container depots, and how would such an arrangement work?

6.6.4 Harmonization of transport legislation

i) Gross vehicle mass and axle loads

To ensure that trucks can run unhindered between Addis Ababa and Djibouti, legislation on vehicle standards and axle loads must be harmonized. In Ethiopia, the type of vehicle used is almost exclusively the six-axle truck-trailer combination. The gross vehicle mass (GVM) and axle loads that apply to such a vehicle are eight tons on the steering axle and 10 tons on all other axles, for a total of 58 tons. The limits set by the Common Market for Eastern and Southern Africa are eight tons on all axles, whether they be in groups of two, three, or four, for a total of 48 tons.

It is recommended that a proposed corridor management authority study GVM and axle-load issues and agree on a standard axle load, standard gross vehicle mass, and standard bridge formula for various vehicle types and axle combinations, with the standards to be applied throughout the corridor. The aim would be to establish standards that are both economically viable and protective of road and bridge infrastructure.

ii) Cross-border road transport agreement

It is recommended that Ethiopia and Djibouti develop a cross-border road transport agreement to assist with the harmonization of vehicle standards. Such an agreement could cover the following matters:

- Development of a uniform system for transport operator registration, backed by uniform, computerized national information systems in Ethiopia and Djibouti;
- Development of a regional transport information technology system to permit harmonization and coordination of road transport between Ethiopia and Djibouti initially, but subsequently to be rolled out to other countries in the region;
- Harmonization of standards for vehicle dimensions;
- Harmonization of vehicle specifications and equipment;
- Harmonization of standards to be used by vehicle testing stations and during inspection procedures;
- Harmonization of procedures for the training and testing of drivers;
- Development of training standards and skill enhancement related to qualification for a professional driver's permit;
- Development of standards for the “training of trainers”, examiners, and driver-testing officials;
- Harmonization of standards, procedures, and support systems for the transport of abnormal loads; and
- Development of management and control systems to support the use of weighbridges (truck scales) so as to prevent truck overloading.

6.6.5 Harmonization of customs procedures and the use of pre-clearance

Djibouti Customs has made the transition to ASYCUDA World, while Ethiopia has opted to implement a new customs management system developed for them by the Webb Fontaine Group, a private-sector company. It is important for the smooth functioning of the corridor to ensure that the two customs management systems are harmonized and can interact with each other.

It also would save time and money if the goods going into Ethiopia from Djibouti could be pre-cleared in Djibouti.

The two countries' customs management systems should allow customs officers to move from the front line into the back office. This involves clearing agents entering data into the systems and customs officials checking this information through post-clearance

audits and by using risk-assessment systems (including profiling) to improve efficiency.

It is recommended that the proposed corridor management authority convene with customs authorities from the two countries to determine how they and the management authority can work together to harmonize and streamline processes.

It is also recommended, based on the results of time release studies, that customs officials evaluate the full customs clearance process and make reforms that will allow the process to be an instrument of trade facilitation.

6.6.6 One-stop border posts

On both sides, the border posts at Galafi have insufficient infrastructure and resources to operate effectively. The systems in place at Galafi Djibouti are probably adequate, but the challenge is providing sufficient space. Particularly for trucks entering into Djibouti at Galafi, there is no room to take “problem” trucks out of the line of traffic. This, rather than the customs clearance system, is the cause of the frequent and lengthy queues that occur there.

At Ethiopia Galafi, the challenge is both infrastructure and the systems in place. The infrastructure is dilapidated -- especially the buildings -- and the weighbridges do not work. There are two scanners that work and are maintained by a technician from China who lives on-

site; and there are two diesel generators that are not reliable as backup power sources.

A case probably could be made to build new border posts, and it is recommended that the option of a one-stop border post be seriously considered. In creating such a facility, it should be possible to decide on the standard operating principles needed and then design the infrastructure to meet the requirements of those principles. (Often in such cases the operating principles must be retro-fitted around the infrastructure that is chosen.)

Such a one-stop post should be fully automated, with a weight-in-motion weighbridge and a digital platform weighbridge as a back-up; with automatic gates to filter traffic using an automated risk-management system; and with other efficient features.

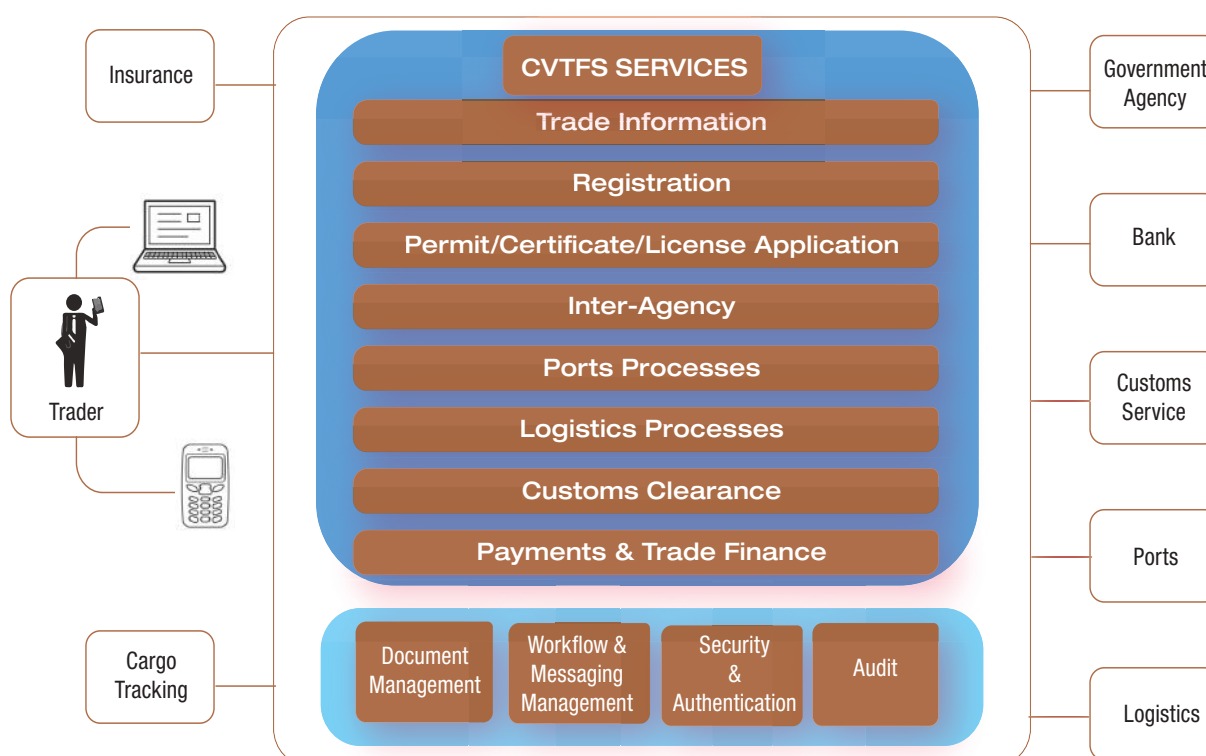
6.6.7 The Common Market for Eastern and Southern Africa Virtual Trade Facilitation System

It is recommended that the proposed corridor authority consider using a regional cargo tracking system (that is, one that works across borders) such as the COMESA Virtual Trade Facilitation System (CVTFS).

Such a cargo tracking system would be useful in many ways, including for monitoring customs compliance, monitoring compliance with vehicle standards (including safety and axle loads), and monitoring the logistical efficiency of the corridor.

Figure 6.2

Layout of the CVTFS



Source: COMESA website.

7. Corridor monitoring and reporting system

The secretariat of the proposed Djibouti-Ethiopia corridor management authority could be tasked with putting in place a system to monitor and report on the logistical performance of the corridor. To do this, the system would need to measure both the physical condition of infrastructure and the performance of the transit and trade services provided.

The four dimensions of corridor performance, as described by World Bank supply-chain expert Olivier Hartmann,¹⁴ are volumes; time and uncertainty; prices and costs; and services and infrastructure; as shown in 7.1.

The corridor management secretariat could put in place an appropriate structure for collecting this data and so design and implement a trade and transport corridor monitoring system (TTCMS) comprising a combination of a business process analysis, a time release study methodology, and a time-cost-distance methodology.

In addition, the secretariat would need to monitor the service delivery of various components of corridor infrastructure:

• Road infrastructure

- » The corridor could be divided up into links and nodes (with the nodes separating the links).
- » An assessment of the physical condition of each link could then be carried out. It would be important to do this physical assessment to determine the future costs of maintaining the corridor in “good” condition, as that condition will affect both vehicle operating costs and the time required to traverse the link – a factor that has a major effect on the overall time and costs of transport.
- » Such a physical assessment could be based on an analysis of HDM-4 data --a software package that serves as a tool for analysis, planning, and

appraisal of road maintenance, improvements, and investment decisions -- where that is available. Where it is not, the assessment could be done using data collected using a bump integrator and a “right-of-way” camera. The physical assessment also should be based on estimates of average annual daily traffic for each road section, which can be obtained from the two countries’ national roads departments.

- » With the above-mentioned survey data and data from the national roads departments, the secretariat, working with the Ethiopian and Djiboutian roads Departments, could estimate the types of physical interventions needed yearly for each section to keep the overall road in “fair” to “good” condition. It also should be able to estimate the economic benefits (in terms of vehicle operating costs, improved safety, etc.) and the net present value of keeping the road in “fair” to “good” condition.

• Railway infrastructure

- » It would be important to estimate the time taken to move cargo onto, along, and off the railway, and to make recommendations on how to reduce the time.

• Ports infrastructure

- » Information would be needed on the time taken to get a ship into port, to offload the ship, to move the cargo to storage, and to shift the ship out of port, so that recommendations could be made on how these processes could be speeded up.

• Border post infrastructure

- » To get a full logistics picture of the trade and transport/transit corridor, the secretariat should examine the impact of border posts as they effect logistics along each route used. Border

Figure 7.1

The four dimensions of corridor performance

Volumes	• By corridor components (modes and nodes) • By trade types (intra-regional, transit, international)
Time and uncertainties	• Processing time; idle time • Distribution of delays and uncertainties
Prices and costs	• Cost factors of operators • Total logistics costs to the trader/shipper
Services and infrastructure	• Quality and capacity • Efficiency and capability

Source: : *Corridor Transport Observatory Guidelines*, Olivier Hartmann, November 2013, SSATP.

posts are usually the cause of most delays along a transport corridor. Delays at borders can usually be attributed to poor infrastructure and to process-related issues. Poor infrastructure can include inadequate power; inadequate information and communication technology; inadequate housing and facilities (power, water, and sewage) for border agency staff; poor design, so that traffic does not flow efficiently through the border; inadequate buildings for the use of border agencies in clearing goods; lack

of cargo scanning equipment; and inadequate parking space in the control zone and in holding areas before and after the control zone.

- **Inland container depots**

- » An estimate should be made of the time taken to get cargo into a depot, to clear the cargo, and to move the cargo out of the facility, so that recommendations can be made on how these processes can be improved.

Notes

- 1 The overall positive conclusions of the studies on the time required for issuance of a T1 at the port, which is a matter of minutes, and the overall time to cancel a T1 at Galafi, which is less than a few minutes, are taken into account by the present document.
- 2 Road condition is often based on the International Roughness Index (IRI) which measures longitudinal road profiles and infers the condition of the sub-base and base from this. The IRI is on a scale of 0 to 5, with 0-1 being very poor, 1-2 being poor, 2-3 being fair, 3-4 being good, and 4-5 being very good. The IRI is obtained using a bump integrator. The consultant did not have access to a bump integrator and so has simply estimated the IRI visually.
- 3 The rate of road pavement deterioration depends on several factors, including the volume and type of traffic, the material properties of pavement layers, the environment, and the maintenance strategy employed. Deterioration will progress more rapidly if there is an increase in the volume of heavy vehicles or if vehicle wheel loads increase. In hot climates, such as in Djibouti, wheel-track rutting of bituminous road pavements is common on uphill sections that carry slow-moving, heavily wheeled loads because of the viscoelastic properties of bitumen. See “Structural Maintenance of Road Pavements” by D. McMullen and M.S. Snaith in “Highways, Fourth Edition”, chapter 20, by C.A. O’Flaherty.
- 4 Some new staff quarters have recently been constructed at the rear of the control zone and these appear to be of a much higher standard.
- 5 Fuel is imported by the Ethiopian Petroleum Supply Enterprise (EPSE) Company. Petroleum distribution companies buy fuel from EPSE at the Port of Djibouti and transport and distribute it to all parts of Ethiopia. Ethiopia consumes about 1 million litres of petroleum, 6.5 million litres of diesel, and 2 million litres of jet fuel per day. The country has 13 fuel depots that can store 360,000 cubic meters of petroleum products. Ethiopia’s annual fuel consumption has been growing at a rate of 10 per cent per year. In 2016, EPSE imported 3 million metric tons of petroleum products valued at \$2 billion. In 2018, fuel consumption is expected to be 3.4 million metric tons.
- 6 The following figures are from an interview with Mesfin Tefera, who was at the time the Deputy CEO of ESLSE, as reported in the Capital Newspaper of 30 April 2017.
- 7 ESLSE merged in 2014 with Comet Transport SC, resulting in a combined fleet of 265 trucks, and then placed an order for an additional 215 trucks, bringing the total fleet size to 480 trucks.
- 8 For a more detailed description of the processes necessary for importing into Ethiopia, see the Ethiopian Customs Guide 2017 published by the Ethiopian Revenue and Customs Authority.
- 9 Note that if no foreign exchange is required, meaning that the importer has his own foreign exchange, a franco valuta permit is required.
- 10 There is also a border post at Dewele, but the condition of the road through Dewele is not good, so most transporters use the route through Galafi.
- 11 See, for example, “Impact of Overloading and the Role of Legal Axle Load Enforcement (Adama-Awash Trunk Road) by Daniel Legesse. Addis Ababa University Addis Ababa, Ethiopia, October 2013 <http://etd.aau.edu.et/bitstream/123456789/8036/1/Daniel%20Legesse%20.pdf>
- 12 <http://dlca.logcluster.org/display/public/DLCA/2.3+Djibouti+Road+Network;jsessionid=48ED5232B585BE7AF4D97CA303C04300>
- 13 See, for example: Odd I. Larsen, James Odeck and Anne Kjerkreit. Report no. 0805. 2007. “The economic impact of enforcing axle load regulation. The case of Zambia.”
- 14 Olivier Hartmann, “Corridor Transport Observatory Guidelines”, SSATP Working Paper Number 98. November 2013. <https://www.ssatp.org/sites/ssatp/files/publications/SSATPW98-Guidelines-Corridor-Observatory.pdf>

