Ministry of Foreign Affairs

# *Maritime Trade on Lake Tanganyika*

## *Trade Opportunities for Zambia*

*Commissioned by the Netherlands Enterprise Agency*

*>> Sustainable. Agricultural. Innovative. International.*

# Maritime Trade on Lake Tanganyika

## Trade Opportunities for Zambia

# Maritime Trade on Lake Tanganyika

Trade Opportunities for Zambia

Rotterdam, July 2019

ECORYS

# Table of contents

# Preface

This market study was prepared by Ecorys for the Netherlands Enterprise Agency (RVO). The study provides information on trade opportunities between the countries on the shores of Lake Tanganyika, with a particular focus on Zambia and the port in Mpulungu. As such this study fills a gap, as previous studies were mostly focused on the infrastructure and logistics aspects of maritime trade on Lake Tanganyika.

***

The study was prepared by Michael Fuenfzig (team leader & trade expert), Mutale Mangamu (national expert), Marten van den Bossche (maritime transport expert). We also thank Niza Juma from Ecorys Zambia (PMTC) for her support. This study is based on desk research, the analysis of trade statistics, and site visits and interviews with stakeholders around Lake Tanganyika. In Zambia Lusaka, Kasama, Mbala and Mpulungu were visited, in Tanzania, Kigoma and Dar es Salaam, and in Burundi, Bujumbura.

The study team highly appreciates all the efforts made by the RVO, the Netherlands Ministry of Foreign Affairs and other stakeholders. Without their cooperation and valuable contributions this report would not have been possible. We would also like to thank Robin Nieuwenkamp and Frank Buizer (RVO), Nkuruma Chama Kalaluka (Dutch Representative Zambia), Esther Loeffen and Gérard Muringa (Embassy of the Netherlands in Bujumbura) and Ulrich Juhudi (Embassy of the Netherlands in Dar es Salaam). We also thank the many stakeholders in government agencies, the private sector and international organisations that made themselves available for interviews.

Contact information

**Netherlands**

Michael Fuenfzig
Ecorys Netherlands
Watermanweg 44
3067 GG Rotterdam
Netherlands

Email:
michael.fuenfzig@ecorys.com

**Zambia**

Mutale Mangamu
PMTC (Ecorys) Zambia
Plot No. 124 Kudu Road
Kabulonga, Lusaka
Zambia

Email:
Mutale.Mangamu@ecorys.com

# Abbreviations and Acronyms

| | |
|---|---|
| AfCFTA | African Continental Free Trade Agreement |
| CCTTFA | Central Corridor Transit Transport Facilitation Agency |
| COMESA | Common Market for Eastern and Southern Africa |
| DANIDA | Danish International Development Agency |
| D.R. Congo | Democratic Republic of Congo |
| DRIVE | Development Related Infrastructure Investment Vehicle |
| EAC | East African Community |
| GPSB | Global Port Services Burundi |
| HS | Harmonized Code |
| IDC | Industrial Development Corporation |
| JICA | Japan International Cooperation Agency |
| LTA | Lake Tanganyika Authority |
| MSCL | Marine Services Company Limited |
| MV | motor vessel |
| nes | not elsewhere specified |
| PPP | public-private partnership |
| RV | research vessel |
| RVO | Rijksdienst voor Ondernemend Nederland |
| SADC | Southern African Development Community |
| SAGCOT | Southern Agricultural Growth Corridor of Tanzania |
| SNCC | Société Nationale des Chemins de Fer du Congo |
| SOP | series of projects |
| TAZARA | Tanzania-Zambia Railway |
| TEU | twenty-foot equivalent unit |
| UNDP | United Nations Development Programme |

# 1 Introduction

One of the African Great Lakes, Lake Tanganyika is stretching almost 700 kilometres from North to South and more than 70 km from East to West. Its shoreline is divided between Burundi, Zambia, the Democratic Republic of Congo and Tanzania. Exact numbers for the population living around the lake are not known, but have been estimated to be at around ten million in 2000.[1] Assuming population growth of two to three percent in the region, in 2018 the population around the lake should be at around 14 to 17 million people. This population is heavily concentrated towards the Northern end of the lake, with the highest lakeshore population densities in Burundi, and around Kigoma, Kalemie and Moba. Other areas around the lake are typically very sparsely populated.[2]

As Lake Victoria and other Great Lakes, Lake Tanganyika is used for transport and trade. This includes small-scale or informal trade along the lake shore, typically on smaller wooden boats and encompassing a wide range of goods and products, from fish over beverages to second-hand clothes. It also includes formal trade, on larger bulk carriers, plying primarily between the larger ports and transporting mainly cement, sugar and maize.[3] Infrastructure is often dated, and in some cases is harking back to colonial times, as for example the cranes in the Port of Bujumbura (from 1958) or the MV Liemba (from 1913).

Lake Tanganyika used to play an important role for linking the Eastern Congo and Burundi to seaports in East and Southern Africa.[4] However, due to the deteriorating infrastructure and the increased competition from other transport corridors, in recent years trade on Lake Tanganyika is mainly of a domestic or regional nature. For Zambia this includes informal or small-scale trade along the lake shore, both domestically, within Zambia, and regionally, up to the Port of Moba on the Congolese side. Formal

**The Northern Province of Zambia**

While the population of Zambia is slightly above 16 million, only 1.39 million people live in the Northern Province. The province is sparsely populated; with an area of 77,650 square kilometres it is almost double the size of the Netherlands. The Great North Road and the Old Great North Road link the province and the Port of Mpulungu with Lusaka and with the border with Tanzania at Nakonde. The TAZARA railway line provides further connectivity to the province. Kasama airport has normally scheduled flights to Lusaka, while discussions are ongoing to open the military airport in Mbala for civilian flights.

The Northern Province is predominantly rural and agricultural. Manufacturing is extremely limited. The main crops are maize, cassava, beans, among others. Around or close to the lake, livestock is of importance in Mbala and Mungwi district, and fishing in Mpulungu and Nsama district. Agrofood processing is mainly limited to milling and beverage companies in the provincial capital Kasama, and fish processing in Mpulungu.

While small-scale farming dominates, a few larger commercial agribusinesses exists, focusing on coffee (Olam International), sugar (Kasama Sugar) and aquaculture (Miracle Fisheries). The two key challenges faced by agriculture in the Northern Province both relate to the remoteness of the province; a lack of market access and limited availability of supplies such as for example fertilizers.

Source: Central Statistics Office (2018), and http://www.nor.gov.zm

[1] The same number of ten million is cited by both older and newer reports and studies. The number of ten million can be traced to UNDP/Global Environmental Facility (2000).

[2] See http://luminocity3d.org/WorldPopDen/#7/-6.375/30.872

[3] However, it is also important to emphasize that there is not always a clear boundary between informal and formal trade. Furthermore, while informal trade tends to be small scale and formal trade tends to be large-scale, this is not always the case.

[4] We distinguish between domestic trade within countries; regional trade, between countries of the region; and international trade, with countries outside the region. For example, trade between Zambia and Burundi would fall under regional trade, whereas trade between South Africa and Burundi transiting through Zambia would fall under international trade.

regional trade for Zambia is mostly between the Port of Mpulungu and the ports of Bujumbura and Kalemie.

### Trade opportunities

Could improved infrastructure and other supporting measures boost trade on Lake Tanganyika, and particularly so for Zambia? For the foreseeable future major exports from the Eastern Congo and Burundi will remain limited to minerals, coffee and other commodities.[5] For these only limited regional markets exist. Consequently, for the Eastern Congo and Burundi Lake Tanganyika is predominantly a potential transport corridor to sea ports and thus international markets. In this role, Lake Tanganyika faces strong competition from other transport corridors. In particular for Burundi the Northern and Central Corridor are viable land transport corridors. This also highlights the importance for the Lake Tanganyika corridor (via Kigoma or Mpulungu) to be competitive in terms of efficiency, costs and reliability.

In the other direction, Lake Tanganyika is a potential transport corridor for imports into the Eastern Congo and Burundi.[6] While the export basket of Zambia and Tanzania is also skewed towards commodities (copper respectively gold), they are nonetheless more diversified economies, with agribusiness products, construction material and consumer products among their potential regional exports. Agribusiness products are of particular interest, given the abundance of agricultural land and the potential for agribusiness, in the Northern Province of Zambia and in Southwest Tanzania, in the Southern Agricultural Growth Corridor of Tanzania (SAGCOT).[7] Given the potential to produce close to the lake, this also means that the competition from other transport corridors is less intense.

Production facilities for construction material and consumer products are typically far away, closer to the population centres of Zambia and Tanzania, Lusaka and the Copper Belt, respectively Dar es Salaam and the sea coast.[8] In principle, the remoteness and the lack of connectivity of the Eastern Congo, and to a lesser extent Burundi, renders Zambian and Tanzanian exports via the lake competitive. However, there is also strong competition from other transport corridors, mainly by road, via the northern and central corridor. Furthermore, in contrast to agribusiness products the potential for production in the Northern Province.

Furthermore, exports from further afield, from South Africa or overseas, are and could use the lake as a transport corridor to the Eastern Congo and Burundi, and beyond, to Kivu province or Rwanda. This includes first and foremost the intermodal link between the ports of Bujumbura and Kalemie and the seaport of Dar es Salaam, via the central railway line and the Port of Kigoma. While this corridor is in use and cost effective, its use and competitiveness depends on whether the central railway line is functioning or not.

Less developed is the intermodal link between seaports in Southern Africa and the ports of Bujumbura and Kalemie via the Port of Mpulungu. While the distances between Mpulungu and Durban, Walvis Bay, Lobito and Beira are massive, reportedly international trade was routed through these corridors in the past. Reportedly, reasons for this decline include the improved performance of other transport corridors, at least relative to the performance of the Lake Tanganyika transport corridor with its deteriorated infrastructure. However, even today, the

[5] While fish is exported from the Eastern Congo and Tanzania to Zambia, most of this trade is local and informal.

[6] And potentially beyond, to Kivu province in the Eastern Congo, or Rwanda, Uganda and South Sudan.

[7] SAGCOT is a public-private partnership developing agribusiness clusters in Southern Tanzania. The first two clusters, the Ihemi and the Mbarali cluster, are to the East of Mbeya. Of particular interest would be the planned Sumbawanga cluster, at the south-eastern shore of Lake Tanganyika. (Source: http://sagcot.co.tz)

[8] These are massive distances of about 1000 kilometres between Lusaka and Mpulungu, and 1200 kilometres between Dar es Salaam and Kigoma. For comparison, the road distance between the Northern end of the lake and South Sudan is approximately 1400 kilometres.

occasional consignment coming from Southern Africa or ports in Southern Africa is routed through the Port of Mpulungu to Burundi or the Eastern Congo.[9] In general, for transit trade from third countries competition is intense, especially with land-based transport corridors, and to a lesser extent between the ports of Mpulungu and Kigoma itself.

Lastly, given the political instability of the region, Lake Tanganyika can also play an important role in providing redundancy. For example, the recent closure of the border between Burundi and Rwanda (or, in another instance, Rwanda and Uganda) also closed or affected important transport corridors, and thus the overall connectivity of the region. Lake Tanganyika as an alternative transport corridor can thus strengthen the overall connectivity, in a region that is in general poorly connected.

### Enabling factors

The competitiveness of Lake Tanganyika as a transport corridor thus depends on the competitiveness of exportable products, whether these products can be sourced from close to the lake or only from farther away, and the competition from other transport corridors. For promoting trade this means that not only improvements to the efficiency, cost and reliability of lake transport matter, but also efforts to promote and develop local and regional production of agribusiness and other products. Such efforts would be closely related, as private sector development would benefit from a competitive Lake Tanganyika transport corridor. Conversely, investments into a more competitive transport corridor also depend on successful private sector development.

The competitiveness of Lake Tanganyika transport corridor does not depend on maritime and port infrastructure alone. It also depends on other infrastructure investments, into warehouses and storage, or into land-side access, among others. It also depends on the strength and quality of policies, ranging from high level issues such as trade policy coordination between EAC and SADC to issues such as visa policy or the availability of cross-border finance. The quality and capabilities of supporting institutions also matter, including, for example, the ability of regional and local chambers of commerce to support traders and exporters.

### Policies and activities

The potential of Lake Tanganyika is recognized by national governments, regional authorities and international development partners. Without claiming to offer a comprehensive overview, a few key policies and activities are worth highlighting. These policies and activities face and address a range of challenges. First, the remote location of the lake, far away from national capitals and thus possibly the minds of policymakers.[10] Second, the lake is at the boundaries of several macroregions, located between Eastern, Central and Southern Africa, between franco-and anglophone Africa, and between the EAC and SADC. This is a further challenge as existing regional institutions or regional donor programmes not always cover all four neighbouring countries. Third, as with most regional integration activities the costs of infrastructure improvements tend to accrue to one country, while the benefits accrue also to regional partners. This creates a challenge, as without strong cooperation countries tend to invest less than is optimal from a regional point of view.

The *Convention on the Sustainable Management of Lake Tanganyika* was adopted in 2003 and entered into force in 2005. With all four neighbouring countries party to the convention, it provides the legal framework for regional cooperation between Burundi, the D.R. Congo, Tanzania and

[9] For example, during the consultant's visit four reefers with fish from Walvis Bay in Namibia were waiting to be unloaded at the.

[10] Except for Burundi. However, reportedly even in Burundi mind sets tend to focus on the hilly interior, as also highlighted by the recent move of the capital from Bujumbura to Gitega. For the D.R. Congo, while the lake is more than 1,500 km from Kinshasa, Moba at Lake Tanganyika was the hometown of Laurent-Désiré Kabila. Even under the new government decision makers hail from the region around the Lake, as for example the new chief of staff, Vital Kamerhe, from Bukavu.

Zambia. Article 23 of the convention created the Lake Tanganyika Authority (LTA) in 2008. Based in Bujumbura and financed by all four countries and international development partners, the authority manages and coordinates the implementation of the convention. (Norris et al., 2012)

The convention and consequently the work of the LTA is focused on environmental and fisheries management. This focus is reflected in the staffing of the LTA, and the LTA's national counterparts, which typically are ministries of environment or fisheries, but not of trade or transport. Regarding trade and transport the convention provides limited and very general coverage under article 12, guaranteeing freedom of navigation and equal treatment, while also limiting cabotage (i.e. the transport of passengers and goods between two domestic ports by a foreign operator). Despite this lack of expertise and operational experience in the area of trade and transport, the LTA is nonetheless in a unique position, with a legal mandate and the experience of coordinating not only with all four national government, but also regional authorities around the lake.

International development partners are also active around Lake Tanganyika. Of particular relevance are the *Lake Tanganyika Transport Corridor Project* by the African Development Bank and the *Lake Tanganyika Transport Program* by the World Bank. The project by the African Development Bank is focused on Zambia and Burundi, aiming to promote trade and transport by improving port facilities in Mpulungu and Bujumbura, jointly with JICA (Japan), the Africa Investment Facility (EU) and RVO DRIVE (Netherlands). Two feasibility studies on port improvements in Mpulungu and Bujumbura have been completed in 2016 respectively 2018.

In contrast, the project by the World Bank is focused on Tanzania (SOP1) and Burundi (SOP2), with the Central Corridor Transit Transport Facilitation Agency as a key implementing partner. The project aims to promote trade and transport across and to the lake, by improving port facilities in Kigoma and Karema, improving access infrastructure in Burundi and Tanzania, and strengthening the policy framework, among others. So far grant funding has been provided for several studies, on dredging, on the feasibility of a ferry service, on the feasibility of a search and rescue service, on the impact of climate change, and on the environmental and social impact of the project. This project also involves other development partners, including DFID and potentially JICA, possibly financing a passenger terminal in Kigoma.

Other development partners include Trademark East Africa, having previously financed dredging activities and a study on navigational safety (Cornell Group, 2013), and as shown a renewed interest in promoting the lake as a transport corridor. The World Food Programme is interested in the lake as a transport corridor for humanitarian aid, and driven by this interest is active in bringing together stakeholders and donors.

Various bilateral donors are also active in the region around the lake. DANIDA has financed the rehabilitation of the MV Liemba in the early 1990s, but pulled out of providing further support to Marine Services Company Limited (MSCL) in 2014, due to a lack of institutional capacity and poor financial performance of MSCL.[11] Similarly, the German embassy in Tanzania and the Federal Ministry for Economic Cooperation and Development have been in ultimately unsuccessful discussions with Tanzanian authorities to finance a rehabilitation of the MV Liemba.

[11] See http://openaid.um.dk/en/projects/DK-1-224516

# 2 Transport and Logistics

Freight and passenger transport and logistics on Lake Tanganyika face a multitude of infrastructure challenges. Port infrastructure is limited and under-capacitated, and often outdated. There is a lack of moorings, cranes are often inadequate or, due to their age, prone to breakdowns, and warehousing space is limited. These issues are further exuberated by operational issues, such as the lack of trained port workers or a limited number of work shifts. Similarly, navigation on the lake is challenging, with navigational charts being outdated, no navigational aids being installed, and safety being compromised by a lack of maritime weather forecasts or a search and rescue service. Boats and vessels are limited in numbers and in their capacity, and are often outdated or poorly maintained.

## Ports and landing sites

There are six major ports around Lake Tanganyika, and several dozen smaller landing sites. The major ports are Mpulungu in Zambia, Kigoma and Kasanga in Tanzania, Kalemie and Uvira in the D. R. Congo, and Bujumbura in Burundi. The major ports are often closely linked to informal landing sides, as for example Ngwenya market right next to the Port of Mpulungu, or Kibirizi and the Port of Kigoma at the opposite ends of a bay. While informal landing sites exclusively serve small-scale and informal trade and passenger transport, the major ports often serve both formal, large-scale and informal, small-scale trade.

**Zambia**

The Port of Mpulungu is the only Lake Tanganyika port in Zambia. In close proximity to the port is Ngwenya market, a landing site and market, serving mostly informal trade. Several other smaller landing sites exist in Zambia. The port mainly serves Bujumbura and ports in the Eastern Congo, while Ngwenya market mainly serves domestic landing sites, and landing sites in Tanzania and D.R. Congo, up to Kasanga respectively Moba. About one thousand kilometres from Lusaka, Mpulungu is connected to the rest of Zambia via the Great North Road.

Under discussion is also a railway line, branching of the TAZARA line at Nseluka and planned to be build as a public-private partnership (PPP). This line would cover a distance of about 192 kilometres and would reportedly cost about 990 million US-dollar, or about five million US-dollar per kilometre.[12] However, questions remain about the feasibility of this investment, given limited economic activity in Mpulungu district and maritime trade that even under an optimistic scenario currently does not exceed 45 million US-dollar per year. Given these realities, it thus seems unlikely that this railway line will materialize in the foreseeable future.

The port is owned by the Government of Zambia through the Industrial Development Corporation (IDC), and managed by the Mpulungu Harbour Corporation Ltd. IDC integrated various state-owned enterprises in sectors such as agribusiness, cement, fertilizers, mining, among others, and has the mission to promote industrial development and job creation. The port used to be managed by AgroFuel Investments, a Lusaka-based transport and logistics operator, from 2000 to 2009. While the concession was initially for 25 years, it was withdrawn prematurely by the Government of Zambia.[13]

[12] See https://www.railwaysafrica.com/projects/nseluka-mpulungu-rail-project

[13] The view point of the Government of Zambia on AgroFuel Investments' concession is described in Government of Zambia (2005).

The port has one main berth, in overall good state, two secondary berths and an oil jetty. While the main berth can be used for loading and off-loading cargo, the secondary berths can only be used for loading and off-loading via a trestle. While there are warehouses in the port, they have insufficient capacity. No cold storage is provided. Port equipment includes a newer crawler cranes, two older and poorly maintained crawler cranes, a reach stacker and several forklifts. The available equipment is not always used, with trucks being unloaded manually.

In contrast, Ngwenya market only provides basic infrastructure, geared towards small-scale informal trade. There are no jetties or other maritime infrastructure at the market itself (although there are a few jetties directly adjacent to Ngwenya market). Directly at the lake shore is a covered market, used to sell and trade fish and agricultural commodities. Landside are shacks, some used as warehouses, others to sell various products. Some of these warehouses are used to produce ice in standard commercial freezers, used to freeze or cool fish traded on the market.

**Figure 1 Port of Mpulungu and Ngwenya market, Zambia**


Source: Bing Maps

**Tanzania**

The Port of Kigoma and the much smaller Port of Kasanga are the two major ports in Tanzania. Kibirizi landing site, near Kigoma is the major landing site used for informal trade. Various other landing sites exist along the Tanzanian lakeshore. About 1,200 kilometres from Dar es Salaam sea port, the Port of Kigoma is connected by road to Dar es Salaam and Bujumbura. Unique among lake ports, the Port of Kigoma has also rail connectivity via the Central Railway Line. While of decisive importance for the port, the railway line has deteriorated significantly in recent years. Delays are common, with travel times from Dar es Salaam sea port ranging from three to ten days. An ongoing project aims to replace the railway line with a standard gauge railway line by 2024, but is initially focused on the link between Dar es Salaam and Dodoma, and onwards to Mwanza at Lake Victoria.

The Port of Kigoma is owned and managed by the Tanzania Ports Authority, as most other ports in Tanzania. On its western side the port has a harbour basin, which is used for ship repair. Currently the MV Liemba and the MV Mwongozo are anchored on the western side of the port. At the eastern side of the port is a long quay, with cranes, warehousing facilities and the railway yard. According to Hamburg Port Consultants (2018), cranes include a relatively new cantilever and rail-mounted jib

crane. Other rail-mounted jib cranes are severely damaged. An oil jetty as well as oil storage is is to the north of the port.

With the Port of Kigoma mainly serving as a transshipment hub, for cargo originating from Dar es Salaam sea port, Kigoma district has also potential in agribusiness sectors. Furthermore, plans are underway to create the Kigoma Special Economic Zone, to support agrofood processing, light manufacturing, among others. The zone would particularly focus on logistics, with an eye on connecting Kigoma to markets in Burundi and the D.R. Congo. However, to date the Special Economic Zone is not yet live, even if it has been under discussion since at least 2013.

A recent feasibility study for the Tanzania Port Authority (Royal HaskoningDHV, 2016) assessed the current capacity of the Port of Kigoma for bulk cargo at 85,000 tons per year and for containers at 3,000 TEU per year. It suggests, based on traffic forecasts and an assessment of the current situation in the port, to increase the capacity in the short-term to 200,000 tons respectively 25,000 TEU per year, by improving the efficiency and maximizing the utilization of the current infrastructure. In the medium-term, through investments of ten million US-dollar, the capacity can be further increased to 250,000 tons respectively 64,000 TEU per year. Critical for the viability of these investments are external developments, including improvements to the Central Railway Line, competing transport corridors (i.e. a direct railway line from Tanzania to Burundi), and the development in other ports, including Mpulungu.

**Figure 2 Port of Kigoma, Tanzania**

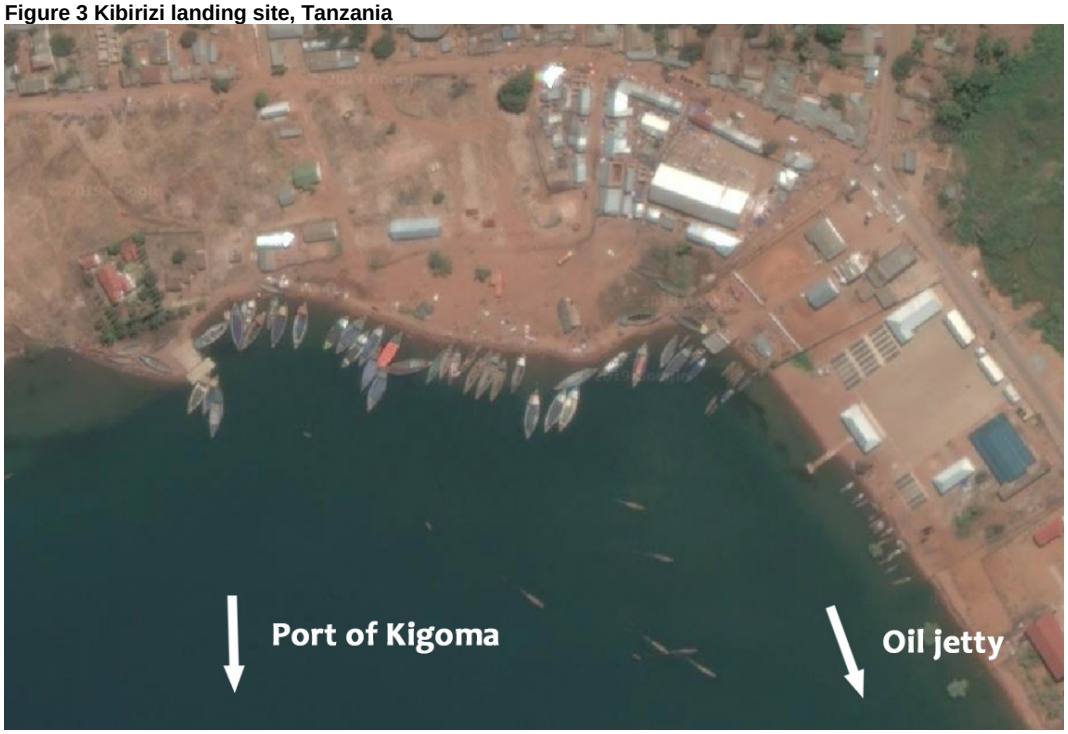

Source: Google Maps

Kibirizi landing site near Kigoma, at the opposing end of the Bay of Kigoma, is a major landing site, of importance mainly for domestic trade and informal trade with the D.R. Congo and Burundi. Significantly larger than Ngwenya market in Mpulungu, Kibirizi mainly serves informal trade with the D.R. Congo and Burundi. The landing site provides rudimentary maritime infrastructure in the form of a pontoon mooring. Behind the landing site is a well-developed market, with stores of various size, warehousing space and a makeshift ice block factory. Reportedly Kibirizi landing site is preferred by some traders to the Port of Kigoma due the latter's high fees and charges.

The landing site is owned by the Kigoma-Ujiji Municipal Council and since 2018 operated by the Kibirizi Landing Site Company Limited, a public-private partnership company. Represented on the

board of the company are the municipal council, associations of the users of the landing site, and the Local Investment Climate, a DANIDA-financed private sector development programme. This DANIDA programme has so far invested about 300,000 Euro in improved infrastructure. This intervention has mainly aimed at creating a cold chain, by providing access to ice blocks and refrigerated storage, thereby reducing losses and facilitating long-distance trade. Further interventions are planned, including improvements to the drying capacity for sardines.[14] However, it also seems that these interventions do not explicitly target informal trade with the D.R. Congo or Burundi.

**Figure 3 Kibirizi landing site, Tanzania**




Source: Google Maps

Kasanga port at the southern end of the lake is much smaller than Kigoma. It is connected by an unpaved road to the rest of the country, via Sumbawanga. This road is currently in the process of being paved by a Chinese construction company. According to Hamburg Port consultants (2018), the port provides a short quay and a loading and off-loading area, and limited warehousing space. Reportedly, an expansion of the port is planned, in conjunction with the procurement of a new combined passenger/cargo ship, under a contract with a Korean contractor (Siyame, 2018).

**Burundi**

The Port of Bujumbura is the only port in Burundi. South of Bujumbura is the Rumonge landing site, the only major landing site in Burundi. Both the port and the landing site serve not only Burundi, but also destinations in the Eastern Congo. Previously, when the border to Rwanda was still open for trade, the Port of Bujumbura also served destinations in Rwanda. Sitting right next to the centre of the economic centre and former capital of Burundi, the port is well-connected by road. Key competitors for the port are road transportation from Tanzania and a planned railway line from Tanzania to Rwanda and possibly Burundi. The port is state-owned and managed by the private company Global Port Services Burundi (GPSB), under a concession agreement with the Burundi Maritime, Port and Railway Authority.

[14] See http://www.lic.or.tz/uploads/Brief%20No%2001%20ENGLISH-5c94bbc86afa3.pdf

The port is relatively well-developed, with a main quay of about 360 metres length, several secondary berths, four rail-mounted gantry cranes and significant warehousing space. The port has also several forklifts. An oil jetty and oil storage is to the north of the port. A key issue for the port is the close proximity to a sewage channel, leading to sedimentation and necessitating regular dredging.

**Figure 4 Port of Bujumbura, Burundi**

Source: Bing Maps

### D.R. Congo

The D.R. Congo has two main ports, Kalemie and Kalundu (near the town of Uvira). There arre also numerous landing sites, of which Moba (near the town of Kirungu) is probably the most important. While in general only limited information about these ports and landing sites is available, some insights can be pierced together from Hamburg Port Consultants (2018), World Food Programme (2018), and the World Food Programme's Logistics Capacity Assessment. The Port of Kalemie and the Port of Kalundu are both managed by the National Railway Company of the Congo (SNCC).

The Port of Kalundu is close the border to Burundi and to Bujumbura, and is competing with the Port of Bujumbura for traffic destined for South and North Kivu, and beyond. The port has two quays, warehousing space, and used to have two dock cranes. According to Hamburg Port Consultants (2018), the port has a mobile container crane, financed by the European Union.

**Figure 5 Port of Kalundu, D.R. Congo**

Source: Bing Maps

The Port of Kalemie serves the largest city and capital of Tanganyika province. Kalemie and the port are connected by railway to Lubumbashi. It appears that the railway is running, albeit in poor condition and prone to long delays. Kalemie is also connected to Bukavu in the North and Lubumbashi in the South (via Pweto, at the land border to Zambia) by reasonably well-maintained roads.[15] According to Hamburg Port Consultants (2018), the port has one long quay, with one new jib crane and five older, almost non-functional jib cranes. Sedimentation is an issue, limiting the accessibility of the port to vessels. The port also features a ship yard and a dry dock. Warehousing space is dilapidated and requires rehabilitation.

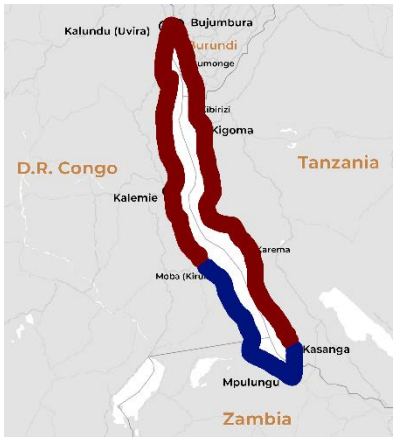
[15] See https://dlca.logcluster.org/display/public/DLCA/2+Democratic+Republic+of+Congo+Logistics+Infrastructure

**Figure 6 Port of Kalemie, D.R. Congo**

Source: Bing Maps

### Fleet and transport operators

Three types of boats and vessels operate on Lake Tanganyika – wooden boats, bulk carriers, barges and oil tankers, and combined passenger/cargo ships, i.e. the MV Liemba and the MV Mwongozo. Boats not serving transportation include mainly small wooden boats used for fishing, and a few specialized vessels such as the RV Tanganyika explorer, a research vessel. One might be tempted to distinguish between two distinct transport systems. The formal transport system consisting of the major ports, bulk carriers and oil tankers, and the MV Liemba on one side, and the informal transport system consisting of the landing sites and wooden boats on the other side. But in practice there is no such clear distinction, as traders and passengers, and formal and informal trade, uses formal ports and informal landing sites, as well as all three types of vessels interchangeably.[16]




Among all boats and vessels small wooden boats are the most numerous. They operate mostly from informal landing sites such as Kibirizi near Kigoma or Ngwenya market in Mpulungu. They have a limited range, as depicted in the map to the left. From Mpulungu wooden boats go as far as Moba (blue), from Kibirizi as far as Rumonge or Kalemie (red). Wooden boats vary in capacity, from about five to ten tons, as seen in Ngwenya, to boats observed in Kibirizi that might have twice or triple the capacity. These wooden boats transport passengers and cargo, and traders travelling with their merchandise. Wooden boats carry all kinds of goods and products, including fish, agricultural commodities, consumer goods, construction material, among many other.

[16] In many cases, they transport passengers and smaller consignments of agricultural commodities, consumer goods, among others, is essential an informal side business of bulk carrier crews.

Several bulk carriers, barges and oil tankers operate on the lake. These operate from the major ports, and vary in capacity between 300 and 1500 tons. While mainly transporting bulk goods such as cement, sugar and maize, in practice these vessels also transport passengers and smaller consignments of various agricultural or consumer goods. These vessels are operated by a small number of shipping companies, predominantly from Burundi and the D.R. Congo, to a lesser extent Tanzania, and none from Zambia.

While the number of such vessels is relatively small, the available information on the exact number of operational vessels is contradictory. One reason is that due to age and the poor state of most vessels, vessels regularly stop operating, or are in limbo regarding their operational status. Furthermore, the unregulated nature of the transport industry in the D.R. Congo as well as safety-related accessibility issues pose a challenge to quantify the size of the Congolese fleet. Consequently, the numbers below should be seen as an approximation.

Three Burundi shipping companies dominate shipping on Lake Tanganyika. *Arnolac Cargo Shipping* operates seven barges and four tugboats and two oil tankers, able to carry about 5,000 tons respectively 535 cubic meters in total. *Batralac* operates three cargo vessels, the Rwegura with 500 tons, the Tora with 1,100 tons, and the Teza with 1,500 tons of capacity. The newer operator *Rad Marines* operates two vessels with 560 tons (MV Bihanga) respectively 1,500 tons (MV Byamwezi) of capacity. (Hamburg Port Consultants, 2018)

Burundian operators face strong competition from Congolese operators, with claims that less regulation in the D.R. Congo allows Congolese operators to undercut their competitors from Burundi. The largest shipping company on the Congolese side is the national railway company, the Société Nationale des Chemins de Fer du Congo (SNCC). At some point it operated three vessels, ten barges, and two tugboats. However, today most of these are not operational. (Hamburg Port Consultants, 2018) Around twenty other vessels, of varying size are operated by smaller Congolese operators.[17]

The dominant operator on the Tanzanian side is Marine Services Company Limited (MSCL), operating vessels on Lake Victoria, Lake Nyasa, and Lake Tanganyika. On Lake Tanganyika MSCL operates six vessels, including an oil tanker, and two combined passenger/cargo ship, the MV Liemba and the MV Mwongozo. While the MV Mwongozo has not been operational in a long while, the MV Liemba has been in operation, on and off, up until last year. Built in 1913 it is the oldest vessels on the lake, and in fact, one of the oldest still operating vessels in the world. While the MV Liemba was fully refurbished in the 1990 with the support of DANIDA, a renewed request to DANIDA was declined in 2015, on grounds of MSCL lacking the institutional capacity and a healthy financial performance.[18]

Today the MV Liemba is awaiting a full refurbishment, which reportedly will take place in late 2019. There are also reports that a second combined passenger/cargo ship will be built by a Korean contractor for the Tanzanian government, with a capacity of 600 passengers and 200 tons of cargo, and built in conjunction with an expansion of Kasanga port (Siyame, 2018). Similarly, it is also reported that the Zambian government is discussing with a Seychellois company to build a shipyard in Mpulungu and to build and operate two (likely combined passenger/cargo) ships (Tembo, 2019). However, while these and similar reports indicate a strong interest in additional fleet capacity, they can also not be easily be verified and should be taken with a grain of salt.

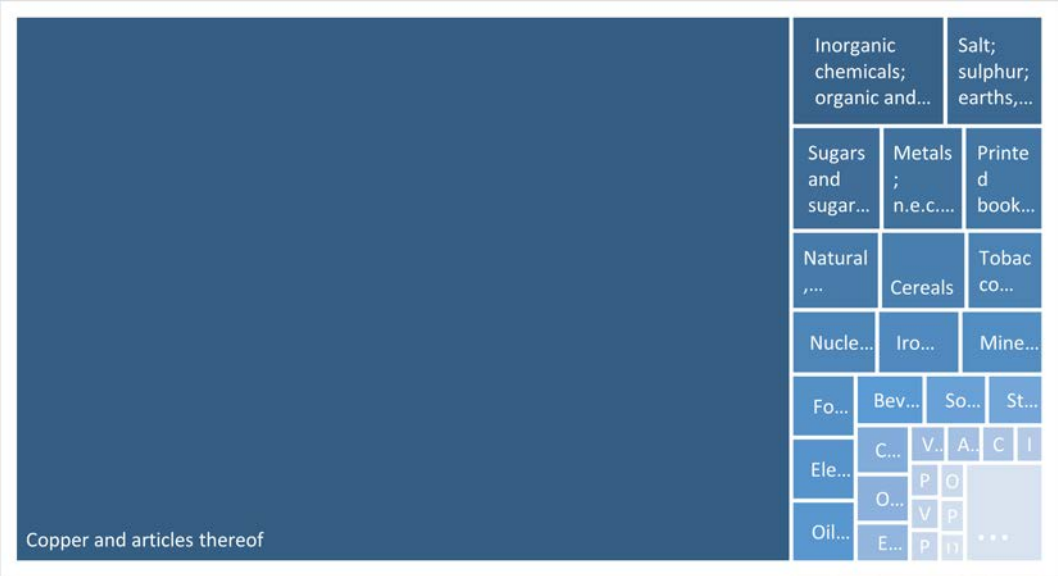
[17] See https://dlca.logcluster.org/pages/releaseview.action?pageId=10126734
[18] See http://openaid.um.dk/en/projects/DK-1-224516

The MV Liemba was of outsized importance for transport on Lake Tanganyika. Despite its age, the value of the MV Liemba is in transporting both passengers and cargo, across the whole distance of the Lake, serving all major ports and landing sites. As such, the MV Liemba was particularly important for informal trade, filling a niche between the wooden boats (with limited capacity and range) and bulk carriers (with a higher capacity and a focus on bulky cargo). The MV Liemba is also relatively independent of port infrastructure, as she has her own crane or can rely on loading and offloading cargo and passengers via smaller tender boats.

# 3 International and Regional Trade

Exports of all countries are dominated by raw materials and agricultural commodities. More than 75 percent of Zambia's exports are copper. More than 65 percent of Burundi's exports are coffee or precious stones or metals. More than 95 percent of the D.R. Congo's exports are various metals, metal ores and precious stones. Only Tanzanian exports are somewhat more diversified, but even here the top five exports account for more than two thirds of all exports. Furthermore, with the exception of exports of textiles almost all of Tanzanian's exports are either raw materials or agricultural commodities.

**Figure 7 Exports of Zambia, 2017**



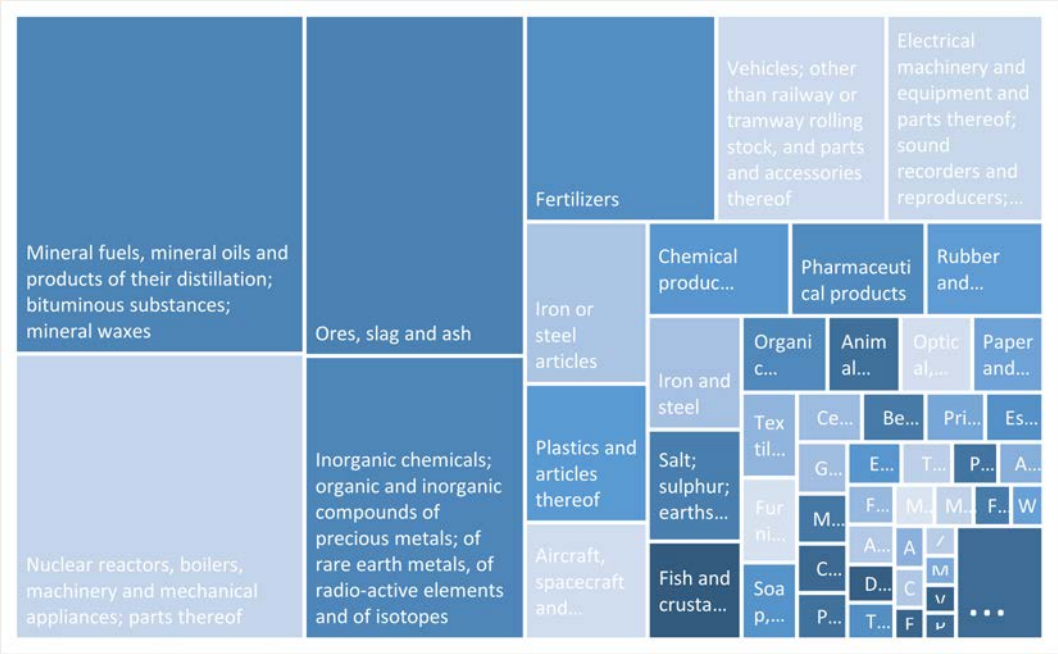

Note: Total exports of goods are 8.157 million USD

Source: UN Comtrade at https://comtrade.un.org/data

Imports are far more diversified, with countries importing almost everything else. Ignoring imports of various inputs and raw materials used in the cooper industry, such as ores or chemicals, Zambia's import basket is fairly typical. Key imports are mineral fuels, fertilizers, transport equipment, pharmaceuticals, various consumer products, or plastics, steel, rubber, among others. At the same time, Zambia's key imports do not prominently feature in the export baskets of the countries around Lake Tanganyika, indicating already that actual and potential regional trade is limited.[19] The import baskets of Burundi, the D.R. Congo and Tanzania is fairly similar to Zambia. However, for Burundi agricultural commodities and food products are somewhat more prominent, reflecting the scarcity of agricultural land and the specialization on the export crops coffee and tea in Burundi.

[19] However, actual and potential transit trade, for example, through Tanzania to Zambia, or through Zambia to the D.R. Congo, is substantial.

**Figure 8 Imports of Zambia, 2017**

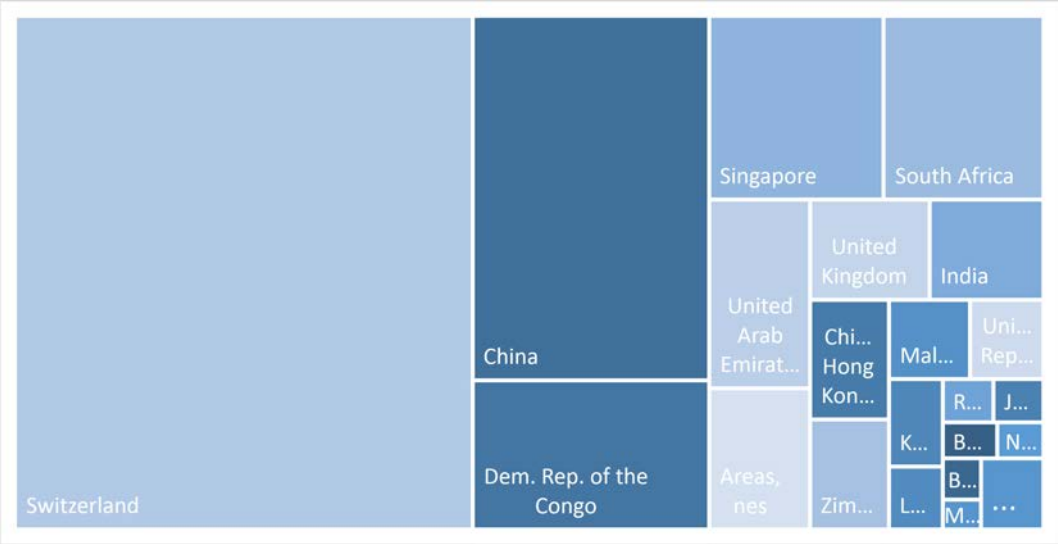



Note: Total imports of goods are 8.774 million USD

Source: UN Comtrade at https://comtrade.un.org/data

Given this non-alignment of export and import baskets, regional trade is limited. For Zambia, the major export destinations are mostly outside the region, in the EU, China, South Africa or the Middle East.[20] While the D.R. Congo is an exception, as the third most important export destination, a sizeable chunk of Zambian exports to the D.R. Congo are likely re-exports or transit goods, via the Kasumbalesa border crossing.

**Figure 9 Export destinations of Zambia , 2017**




Source: UN Comtrade at https://comtrade.un.org/data

How limited regional trade is can also be seen from bilateral trade figures. In general, these should be seen as a rough approximation. Reasons include the prevalence of re-exports or transit trade, which sometimes are recorded as exports. There are major discrepancies between what the exporting and importing country report. For example, while Tanzania reports exports of 46 million

[20] That Switzerland is the most important destination for Zambian exports is explained by copper being purchased and marketed by Swiss trading companies such as Glencore.

US-dollar to Zambia, Zambia reports imports from Tanzania of 165 million US-dollar.[21] There is also considerable fluctuation over time. For example, Zambian exports to Burundi range from just 15 thousand US-dollar in 2005 to 28 million US-dollar in 2011. And lastly, and discussed in more detail subsequently, official trade statistics do not cover informal trade, and importantly do not indicate whether exports were routed via Lake Tanganyika.

**Figure 10 Regional trade, 2017**

| | Imports into: | | | | |
|---|---|---|---|---|---|
| **Exports from:** | Zambia | Burundi | D.R. Congo | Tanzania | Total exports |
| Zambia | - | 30 (0.4 %) | 544 (6.7 %) | 54 (0.7 %) | 8,158 |
| Burundi | 0 (0.1 %) | - | 27 (17.8 %) | 0 (0.2 %) | 149 |
| D.R. Congo | 1,804 (25.0 %) | 1 (0.0 %) | - | 1 (0.0 %) | 7,230 |
| Tanzania | 165 (4.0 %) | 56 (1.4 %) | 154 (3.7 %) | - | 4,178 |
| Total imports | 8,734 | 783 | 4,640 | 7,765 | - |

Note I: Exports and imports in million US-dollars; in parentheses the percentage share of exports in the exporting country's total exports (e.g. Zambian exports to the D.R. Congo constitute 6.7 percent of Zambia's total exports)

Note II: There are some discrepancies between the exports reported by one country, and the imports reported by the importing country. In this table we present those figures reported by the importing country, as import figures are typically more reliable. For the D.R. Congo, due to a lack of data, import figures are the trade partner's export figures.

Source: UN Comtrade at https://comtrade.un.org/data

Nonetheless, bilateral trade figures indicate that regional trade is limited. The two marked exceptions, exports from the D.R. Congo to Zambia, and from Burundi to the D.R. Congo, are likely to be explained by re-exports or transit trade (and the latter might as well include exports from Mpulungu to the Kivu region, via Bujumbura port). But otherwise, bilateral trade between the countries of the region is very limited, as far as official trade figures indicate.

### Formal trade on Lake Tanganyika

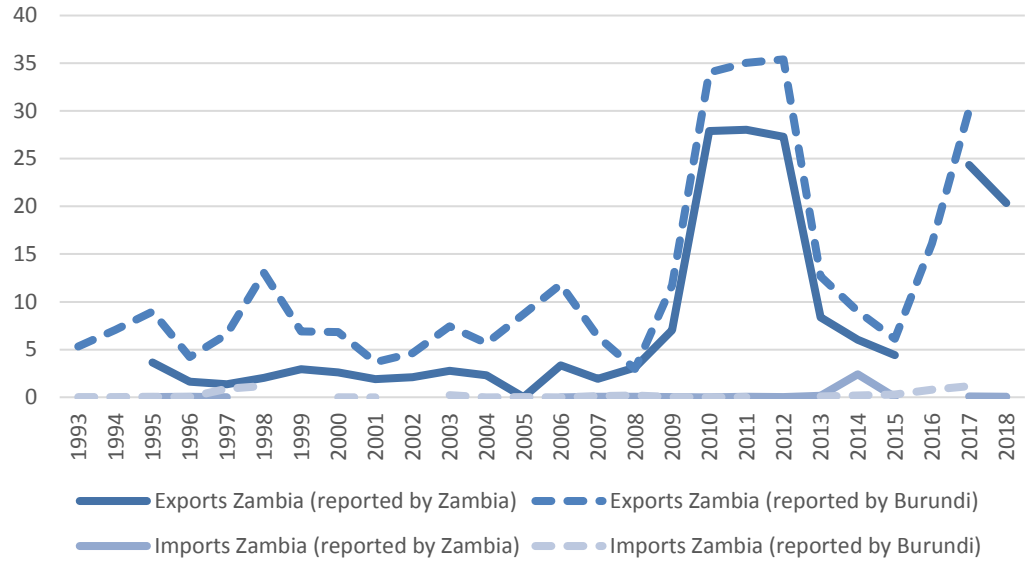
Official statistics do not provide an indication what share of regional trade is routed via Lake Tanganyika. Official statistics also do not include informal trade, which potentially is sizeable and, importantly, often of outsized importance for local communities. This leaves us with two questions. First, what is the volume of formal and informal trade on Lake Tanganyika? And second, what goods and products are traded? While the latter is fairly straightforward to answer, providing an answer to the former is challenging.

In the case of trade between Zambia and Burundi, one can reasonably assume that most trade between the two countries is routed via Lake Tanganyika. Consequently, official trade statistics are offering a reasonable approximation to the actual (formal) trade between the two countries that is routed via the lake. Importantly, some or even a very sizeable share of Zambian exports to Burundi are re-exported to the D.R. Congo, and, previously, to Rwanda, in times when the border between Burundi and Rwanda was still open.

[21] Explanations for this discrepancy include the poor recording of re-exports, or more generally, of export flows.

Bilateral trade between Zambia and Burundi fluctuates considerably, from a low of around 3 million US-dollar in 2008 to a high of around 30 million US-dollar between 2010 and 2012, and again in 2017. Bilateral trade also seems to have undergone a structural change, with very limited trade before 2009, and volatile, but much higher trade thereafter. Trade is one-sided, with significant exports from Zambia, but barely any imports from Burundi. While there are non-negligible discrepancies between trade figures reported by Zambia respectively Burundi, at least changes tend to track each other.

**Figure 11 Bilateral trade between Zambia and Burundi (in million US-dollar)**

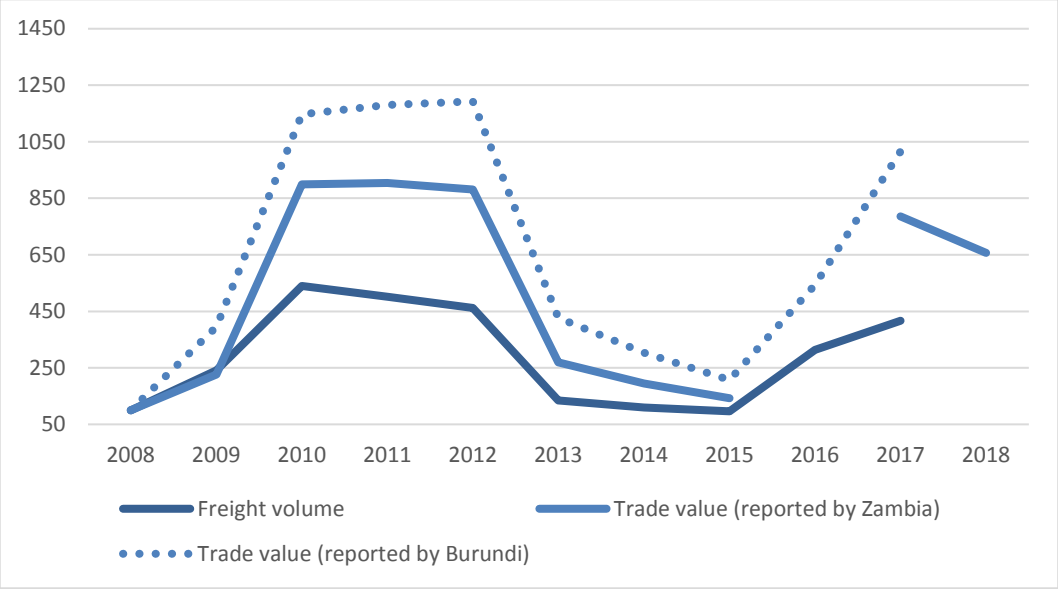



Note: Exports and imports are presented twice, with figures reported by both Zambian respectively Burundian authorities

Source: UN Comtrade at https://comtrade.un.org/data

Can we trust these figures? Hamburg Port Consultants (2018) provide data on traffic volumes between all major ports around Lake Tanganyika, for the last ten years. In principle, these figures include both formal and informal trade. However, given the difficulty of tracking informal trade across all ports and landing sites, these numbers should be used with caution. While traffic volumes (in tons) cannot be directly compared to trade values (in US-dollars), overall the evolution of traffic volumes tracks the evolution of trade values. That trade volumes are at times decoupled from traffic volumes should not come as a surprise, with changes in relative prices as a major driver of trade.

**Figure 12 Freight volumes and trade value between Burundi and Zambia (index 2008=100)**



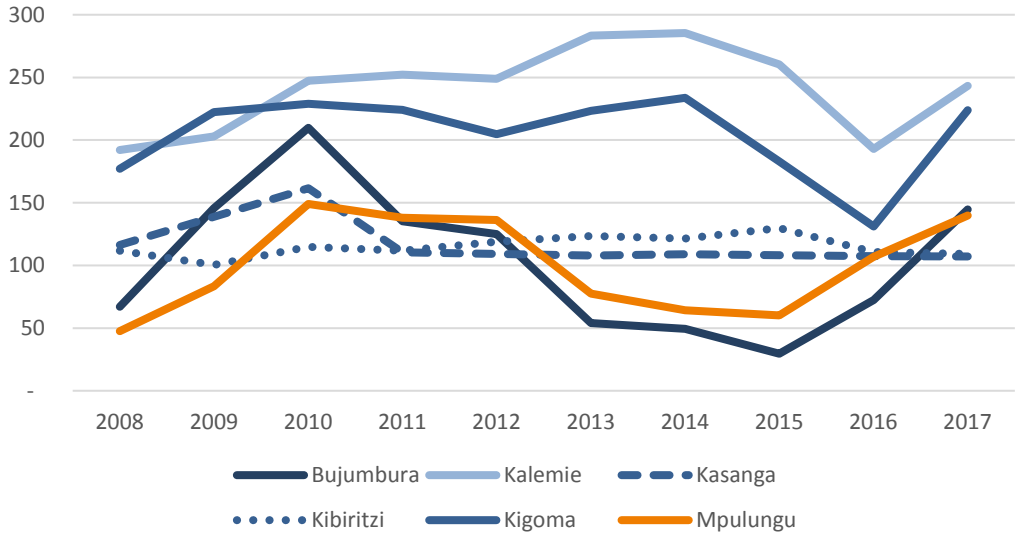

Note: Freight volumes (in tons) and trade value (in US-dollar) normalized to 100 in 2008

Source: Own calculations, UN Comtrade at https://comtrade.un.org/data, and Hamburg Port Consultants (2018)

For the specific case of trade between the ports of Mpulungu and Bujumbura official statistics on bilateral trade between Zambia and Burundi offer a reasonable approximation. Conversely, in the case of trade between Zambia and the D.R. Congo respectively Tanzania, official trade statistics offer little guidance, as the majority of trade is routed via the land borders at Kasumbalesa respectively Nakonde. Traffic figures from Hamburg Port Consultants (2018) indicate that there is virtually no traffic between Mpulungu and Tanzanian ports, including Kigoma and Kibirizi. Conversely, trade between Mpulungu and Kalemie is significant and stable, steadily growing from 26 thousand tons in 2008 to 53 thousand tons in 2017. This traffic thus compares and in some years even exceeds traffic between Mpulungu and Bujumbura. Assuming that trade with Kalemie is comparable in composition and value to trade with Bujumbura, the value of trade with Kalemie should thus range from a low of almost 4 million US-dollar in 2008 to almost 15 million US-dollar in 2013 and again in 2017.

Overall, the Port of Mpulungu is one of the larger ports around Lake Tanganyika, trading mainly with Bujumbura and, to a lesser extent, with Kalemie port. Kalemie port is the largest port by traffic volume, followed by Kigoma port. However, the combined traffic of Kigoma port and the Kibirizi landing site exceeds the traffic volume of Kalemie port by a significant margin. Comparing routes, the largest traffic volumes are between Kigoma and Kalemie, with about 205 thousand tons in 2014. This is followed by the Mpulungu to Bujumbura route, with a maximum of about 112 thousand tons in 2010. The third most important route is completely within Tanzania, between Kasanga and Kibirizi, with about 82 thousand tons in 2017. Importantly, in the last ten years the route from Kigoma to Bujumbura experienced highly volatile traffic volumes, from about 56 thousand tons in 2009 to virtually zero tons in 2015 and 2016, and a strong recovery to about 50 thousand tons in 2017. (Hamburg Port Consultants, 2018)

**Figure 13 Traffic volumes in thousand tons per year**




Note: Not including Kalundu, Lagosa and Moba port and other smaller ports, with traffic volumes below 25,000 tons per year

Source: Own calculations, Hamburg Port Consultants (2018)

That traffic on this route is so highly volatile, and even collapsed to virtually zero in some years, can be traced back to the poor and worsening performance of the central railway line. That traffic to Kalemie did not collapse, can be explained by the fact that Bujumbura, but not Kalemie can be served by other transport corridors, including the Northern and Central corridor. This emphasizes that the Lake Tanganyika transport corridor both depends on hinterland infrastructure, and in particular the central railway line. And, and at the same time, faces competition from other transport corridors and alternative modes of transportation, such as trucking.

**Rwanda**

Rwanda is a significant market in East Africa, with imports of more than 1.1 billion US-dollar in 2017. In the past decade Rwanda has experienced rapid economic growth, with GDP having almost doubled since 2010. Furthermore, the Government of Rwanda has ambitious industrialization plans, as highlighted, for example, by the recent investment of Volkswagen into a new automotive assembly plant and a provider of innovative mobility solutions. Rwanda could thus be an attractive market for Zambian exporters, and conversely, a competitor in the wider region.

Current imports of Rwanda from Zambia are mainly sugar and maize. Sugar imports were worth 37 million US-dollar in 2016, but have in the years before typically been around three to six million US-dollar. Maize imports were worth around 1.5 million US-dollar in 2016, and have been around one to three million US-dollar in the years before. Other imports, as well as exports from Rwanda to Zambia are negligible.

However, political difficulties have lead to border closures and an impact on trade between Zambia and Rwanda. Since 2016 the border between Burundi and Rwanda has been closed. Similarly, in February 2019 the Katuna border crossing between Rwanda and Uganda was closed. It is unclear when this border crossing will be reopened. One consequence of these border closures is that the Rwandan market is now served not via Lake Tanganyika, but via Nakonde and road transport through Tanzania. For example, one Zambia trader reportedly exported 40,00 tons of sugar to Rwanda via Mpulungu, but has now shifted to road transportation. Similarly, in the past construction material as well as other goods were shipped from South Africa via the ports of Mpulungu and Bujumbura to Rwanda.

A re-opening of the borders, as uncertain as it is, might rejuvenate trade between Zambia and Rwanda via Lake Tanganyika. However, in the meantime other transport corridors have improved their performance, raising questions marks about the ability of Lake Tanganyika to compete. Most importantly, these developments include the new Kigali logistics hub and dry port, operated by DP World (formerly Dubai Ports Authority and Dubai Ports International), and providing direct connectivity to the sea ports in Mombasa and Dar es Salaam.

### Informal trade on Lake Tanganyika

Official statistics on trade values do not include informal trade. In principle, traffic volumes should account for both formal and informal trade, but some caution is required. One of the countries in the Great Lakes region that systematically collects data on informal cross-border trade is Uganda. Informal exports average about 15 to 20 percent of formal exports, while informal imports average only about one percent of formal imports.[22] Most informal trade is with the D.R. Congo, and is in products such as shoes, clothing, fish, beans, maize, among others. They survey did not cover any of the ports at Lake Victoria, and has thus little to say about the role of lake transportation. (Uganda Bureau of Statistics, 2017)

While these figures do not necessarily apply for informal trade across Lake Tanganyika, they would nonetheless indicate that informal trade is significant, but not of game-changing significance. While there is informal trade between Mpulungu and Bujumbura, with bulk carriers informally carrying both passengers and smaller consignments of various goods, given the long distance, overall informal trade on this route is likely limited. Particularly so now that the MV Liemba is not operational, as an important means of transport for small-scale and informal traders. Informal trade with Kalemie is likely similarly, and the lack of transportation other than larger bulk carriers.

Likely more significant is informal trade using wooden boats, between Ngwenya market in Mpulungu and the D.R. Congo and Tanzania. This trade is over a relatively short distance, up to and including Kasanga in Tanzania and Moba in the D.R. Congo, respectively. Stakeholders at the Ngwenya market indicated that about ten boats arrive from Tanzania every day, and about five to seven boats form the D.R. Congo during full moon. With each boat holding approximately five to ten tons, this would equate to up to 36,000 tons per year with Tanzania and up to 15,000 tons with the D.R. Congo per year.

[22] Much lower figures for informal imports might also be due to methodological issues – informal importers might be far more reluctant to participate in an officially administered survey than informal exporters.

However, it has to be emphasized that these are the most optimistic estimates and that actual traffic volumes are likely considerably lower. As a point of comparison, traffic volumes between Kibirizi (which by all appearances as a landing site is substantially larger and more developed than Ngwenya market) and Kalemie (which is the largest town in Tanganyika province) are hovering around 20 and 40 thousand tons per year.

**Estimated formal and informal trade from Mpulungu**

The table summarizes this discussion, providing a conservative and an optimistic estimate. These are based on the assumptions and calculations made above. Needless to say, these estimates are extremely rough. The optimistic estimate is almost certainly overestimating trade by a significant margin, in particular for informal trade. Furthermore, the years 2016 and 2017 were years in which at least officially recorded trade was doing particularly well. Whether 2016 and 2017 are part of an upward trend of growing trade across the lake is hard to say. Nonetheless, the large up-and down-swings of trade in the past twenty years would further indicate that the optimistic estimate is indeed optimistic.

**Trade, Mpulungu and Ngwenya market, ca. 2017 (approximate estimates)**

| | Conservative estimate | | Optimistic estimate | |
|---|---|---|---|---|
| | **Value** | **Volume** | **Value** | **Volume** |
| **Formal trade** | | | | |
| Mpulungu to/from Bujumbura | 25 | 87 | 30 | 87 |
| Bujumbura to Mpulungu | 0 | 0 | 0 | 0 |
| Mpulungu to Kalemie | 12 | 53 | 15 | 53 |
| Kalemie to Mpulungu | 0 | 0 | 0 | 0 |
| Mpulungu to/from Kigoma | 0 | 0 | 0 | 0 |
| *Total formal trade:* | *37* | *140* | *45* | *140* |
| **Informal Trade** | | | | |
| Mpulungu to ports beyond Moba and Kasanga | 0 | 0 | 5 | 12 |
| Mpulungu to Kasanga (and south) | n/a | a few thousand tons | n/a | 36 |
| Moba (and south) to Mpulungu | n/a | a few thousand tons | n/a | 15 |
| *Total informal trade:* | | *5* | | *63* |
| **Total trade:** | | **145** | | **203** |

Note: Trade value in million US-dollar, traffic volume in thousand tons

### What products are traded?

Formal trade on Lake Tanganyika is dominated by three products – cement, sugar and maize. For exports from Zambia to Burundi official trade statistics indicate that more than 95 percent of trade is in these three products. These three products share common characteristics – they are bulky and heavy, and are produced in Zambia. Other products that are traded in significant quantities include prepared explosives and, before 2015, iron and steel products. Interviews with stakeholders indicate that trade between Mpulungu and Kalemie has a comparable composition. In the other direction, from Burundi or the D.R. Congo to Mpulungu very little to nothing is traded.[23]

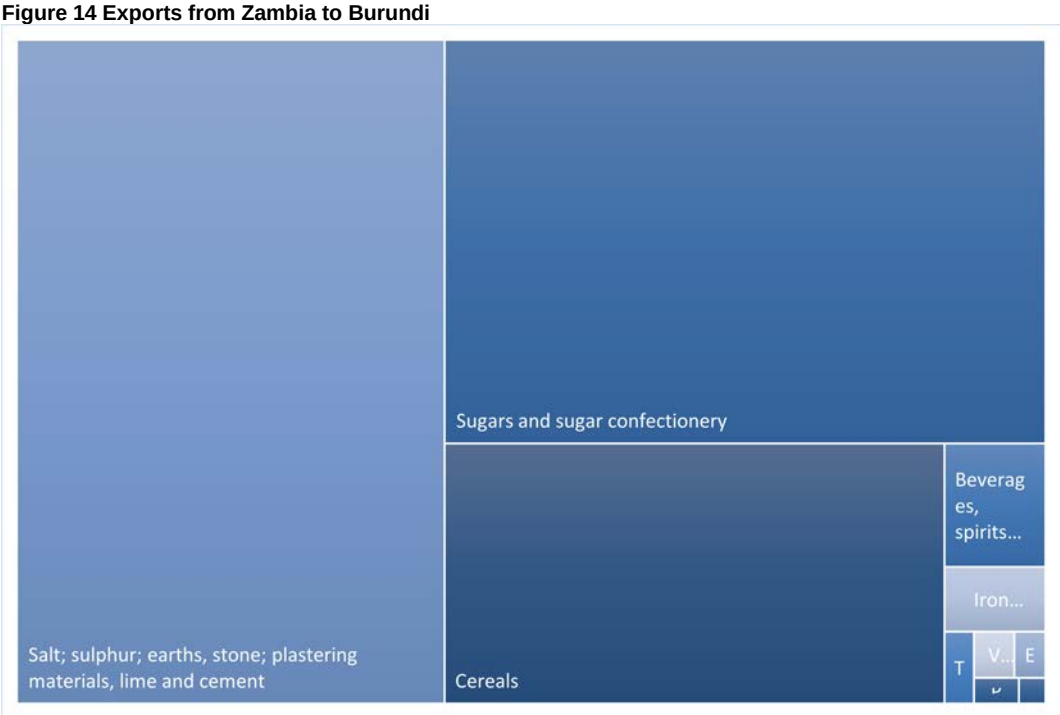
Important actors in formal trade between Zambia and Burundi are producers, such as for example Dangote cement. These typically ship very large quantities on bulk carriers. Owing to their large size these companies are likely to be adept at overcoming bureaucratic and other barriers. Volumes shipped by individual producers can be significant. One cement producer indicated that about 5,500

[23] The same applies for trade from Burundi or the D.R. Congo to Kigoma, with the exception of some limited exports of timber from the D.R. Congo.

tons of clinker and cement are shipped per month, whereas another clearing agent indicated that for his client alone about two thousand tons of clinker and cement are shipped per month.[24]

The World Food Programme is also a major actor, shipping humanitarian aid from Zambia to Burundi and onwards to the Eastern Congo. In 2017 this included 66 thousand metric tons of maize from Zambia, a significant quantity, compared to the 140 thousand tons of cement, sugar, maize and other products handled by the Port of Mpulungu in 2017. However, it is unclear whether all 66 thousand tons were shipped via Lake Tanganyika, as some might also have been transported by road.

**Figure 14 Exports from Zambia to Burundi**




Note: Total exports of goods are 317 million USD

Source: UN Comtrade at https://comtrade.un.org/data

Informal trade is far more diverse. Exports from Zambia include fish, vegetables, other agricultural products, beverages, charcoal, consumer goods such as detergent or cosmetics products, clothes, shoes, mattresses, among many others. Trade in these goods is small scale, mostly on wooden boats, and limited to ports and landing sites in close distance to Ngwenya market – Kasanga in Tanzania and Moba in the D.R. Congo. Exports from the D.R. Congo to Zambia are mainly composed of dried fish, whereas exports from Tanzania are more varied, including not just fresh fish, but also agricultural commodities or consumer goods.

While informal trade is small-scale, there are different types of traders and providers of support services. Traders operating directly from Ngwenya market include (mainly) market women selling and buying fish and other agricultural products. There are porters, who also meet incoming boats to buy fish, often on behalf of the market women and traders. Behind the immediate landing site operate market merchants, who typically specialise one product, such as, for example, second-hand clothes, shoes or beverages. These merchants sell mainly to Congolese traders arriving on the wooden boats.

[24] It is unclear however whether these numbers are reliable. If true these two shippers alone would ship 90 thousand tons per year, which compared against the 140 thousand tons handled by the Port of Mpulungu in 2017 does not seem plausible.

Lastly, there are also various merchants with much larger stores and warehouses in Mpulungu town itself. These again specialize on one product or product category. For example, one trader specializes in mattresses, buying these in Lusaka and then selling them to Congolese traders. While there are established contacts with Congolese traders, there are no formal distribution networks or attempts to actively market products in the D.R. Congo itself.

The types of products exported by Zambia – both formally and informally – are comparable to what Tanzania exports to the D.R. Congo, and on-and-off to Burundi via Lake Tanganyika.[25] Given this lack of complementarities, Tanzania is thus mainly a competitor for Zambia, in serving markets in the D.R. Congo and Burundi. Exports from the D.R. Congo respectively Burundi via the lake to Tanzania, or onwards to a sea port are limited. Reportedly, some limited exports of timber from the D.R. Congo via the Port of Bujumbura and the Northern Corridor to China are taking place. In the past, cement was exported from the D.R. Congo to Burundi, from the Interlac S.A. cement plant in Kabimba near Kalemie – the current status of which is unknown.

Potentially, the Eastern D.R. Congo could also exports minerals and other raw materials across the Lake to seaports in Dar es Salaam (via Bujumbura, Kigoma or Mpulungu) or Mombasa (via Bujumbura). As a precedent, in the past, copper has been transported across Lake Mweru from the Dikulushi copper mine in the D.R. Congo to the Port of Nchelenge in Zambia and then onwards to South Africa.[26] Currently, most mining in Tanganyika province is artisanal and focused on high value minerals such as gold and coltan.[27] However, there is a potential for the formal mining sector in the Eastern Congo, including, in particular, lithium at the Manono mine in the interior of Tanganyika province.[28]

Significant exports of minerals from the D.R. Congo would be of particular interest, as they would reduce imbalances. With traffic flows currently predominantly in one direction, from Mpulungu or Tanzania to the Eastern Congo and Burundi, there is a backhaul problem in the Lake Tanganyika transport system. For example, Burundian transport operators indicate their willingness to provide free or at least significantly discounted transport from Bujumbura to Mpulungu.

[25] Given the strong competition from the Northern and Central Corridor, and recurring issues with the Central railway line to Kigoma, exports from Tanzania to Burundi across the lake are fluctuating from year to year.
[26] See https://dlca.logcluster.org/display/public/DLCA/2.1.2+Zambia+Port+of+Nchelenge
[27] See http://www.ipisresearch.be/mapping/webmapping/drcongo and https://maps.congomines.org/map
[28] See https://www.mindat.org/loc-4333.html

# 4 Trade Opportunities

The large fluctuations of trade volumes and traffic, over longer time periods, but also year to year, indicate the fragility of trade across Lake Tanganyika. Reasons include the lack of diversification, with only three products dominating trade, volatile market conditions in importing countries, a range of challenges, from infrastructure to trade policies, and intense competition with alternative transport corridors. This implies that by itself past and current trade and traffic figures do not necessarily provide an indication of trade potential and trade opportunities – it cannot be taken for granted that future growth will be just a continuation of past growth trends.

Trade potential and opportunities also depend on what measures are taken to diversify exports, to systematically address challenges and to improve the overall performance of lake transportation. Market conditions in importing countries equally matter, even if they are largely outside the influence of Zambian policy makers. Any such efforts should be seen in the broader context of efforts to diversify the Zambian economy, away from copper, and similar efforts to promote regional integration.

### Trade forecasts

Several previous studies provided traffic forecast for freight and passengers on Lake Tanganyika. This includes the port master plan for Burundi (JICA, 2012), the feasibility study for the Port of Mpulungu (Ministry of Transport and Communication, 2016), a report for the Lake Tanganyika Transport Corridor Development project (African Development Bank, 2018), and the ongoing feasibility study for a ferry service on Lake Tanganyika (Hamburg Port Consultants, 2018). In general, these forecasts rely on an extrapolation of traffic volumes, based on expected GDP and population growth, and assumptions on the share of traffic the lake is able to attract, in competition with alternative land-based transportation modes. These assumptions on the future share of lake transport might sometimes reflect the impact of anticipated future infrastructure improvements. However, the impact of these improvements is generally not explicitly modelled.

While this is a well-established and credible method of forecasting traffic volume, in the case of Lake Tanganyika there are also several potential issues. First, with traffic volumes fluctuating significantly from year to year, estimates will be sensitive to the choice of the base year. Second, even if an average over several years is used, the volatility of traffic itself indicates that traffic is fragile, implying that forecasts have a significant margin of error.

Lastly, estimates based on past performance and extrapolation from GDP and population growth cannot easily capture the impact of game-changing developments. For example, major investments into the Port of Mpulungu such as container-handling facilities might lead to a substantial shift in market shares, away from land transportation modes. It might also lead to substantial trade creation, for example, by inducing agribusiness in Zambia to enter new foreign markets. Conversely, with formal trade being highly concentrated in just three products – cement, sugar and maize. While GDP and population growth might also raise demand for these three products, the lack of diversification also implies that trade is potential fragile, as also evidenced by the large fluctuations of trade flows.

Table 4-1 presents the various traffic forecasts. Unfortunately these differ considerably, highlighting the difficulty of forecasting traffic volumes in an environment as difficult for forecasting as Lake Tanganyika. For example, JICA (2012) predicts a cargo volume of 220.9 thousand tons in 2020 between Mpulungu and Bujumbura. But the actual cargo volume in 2018 has barely reached 90

thousand tons. For passengers, we note that one forecast estimates 33 thousand passengers in 2030, whereas another forecast estimates around 236 thousand. In short, while these traffic forecasts have a clear underlying methodology, the large differences raise the question whether these methodologies provide robust forecasts in the case of transport on Lake Tanganyika.

**Table 4-1 Traffic forecasts for the Port of Mpulungu**

| | | 2017* | 2018* | 2020 | 2025 | 2030 | 2045 |
|---|---|---|---|---|---|---|---|
| | **Mpulungu to all destinations** | | | | | | |
| African Development Bank, 2018 | Cargo (thousand tons) | 172.0 | 150.2 | 191.1 | 294.7 | 422.4 | |
| | Container (TEU) | | | 1,531 | 4,197 | 8,698 | |
| Hamburg Port Consultants, 2018 | Cargo (thousand tons)** | 139.9 | 147.0 | 164.1 | 211.5 | 240.9 | 411.0 |
| | Container (TEU)** | | 0 | 0 | 0 | 0 | 0 |
| | Passengers (thousand)*** | 21.2 | 22.2 | 23.7 | 29.0 | 33.2 | 50.3 |
| Ministry of Transport and Communication, 2016 | Cargo (thousand tons) | | | 60.0 to 110.0 | 125.0 to 167.0 | 174.0 to 260.0 | |
| | Container (TEU) | | | 9,000 | 12,000 | 16,000 | |
| | Passengers (thousand) | | | 41.0 | 91.0 | 236.0 | |
| | **Mpulungu to Bujumbura** | | | | | | |
| African Development Bank, 2018 | Cargo (thousand tons) | 124.6 | 104.7 | 143.0 | 235.1 | 348.1 | |
| | Container (TEU) | | | Not separately modelled for the Mpulungu to Bujumbura route | | | |
| Hamburg Port Consultants, 2018 | Cargo (thousand tons) | 86.8 | 90.6 | 103.7 | 131.0 | 141.1 | 256.3 |
| | Container (TEU) | | 0 | 0 | 0 | 0 | 0 |
| | Passengers (thousand) | 1.2 | 1.9 | 2.7 | 5.2 | 5.9 | 9.1 |
| JICA, 2012 | Cargo (thousand tons) | | | 220.8 | | 397.9 | |

Note: * actual traffic in 2017 and 2018; ** mainly Kalemie and Bujumbura; *** to Moba, Baraka, Kalemie and Kalundu

### Barriers and challenges to trade

There is a wide range of challenges to trade, related not just to infrastructure but also to issues such as lack of market information or awareness, tariff and non-tariff barriers, and various

miscellaneous issues such as visa policies or availability of cross-border finance. Some of these issues have already been raised in previous studies, with a particular focus on infrastructure-related issues. While it is straightforward to provide a long list of such issues, it is much harder to provide a prioritized list of issues and corresponding actions, for two reasons.

First, it is often unclear what the real constraints are. For example, a lack of vessel capacity has been mentioned by shipping agents as a constraint. But the root cause of this constraint might as well be an inefficient use of existing vessel capacity, for example, due to a lack of berths or cranes in ports, or a lack of navigation aids on the lake. Conversely, a lack of vessel capacity might aggravate other constraints, such as a lack of warehousing space. At the same time, this complex interplay also implies that it is unlikely that there is just one single constraint that needs to be relaxed. Rather, several constraints need to be addressed in a coordinated manner.

Second, traders compensate constraints, for example, by shifting between formal and informal trade, by trading only specific products, or by shifting from the larger, formal ports to informal landing sites. The current configuration of trade across Lake Tanganyika is shaped by the various constraints, with the most successful traders being those who are most adept at compensating or circumventing constraints. For example, cement is often exported by the producers themselves, companies large and resourceful enough to overcome many of the prevalent constraints. Informal traders in Mpulungu typically do not have the resources to address the myriad of constraints involved in exporting to and distributing in the D.R. Congo. However, they are able to circumvent these constraints by relying on Congolese traders travelling to Zambia.

In what follows we thus do not provide a strong prioritization of constraints and actions. Instead, we emphasize the need to work on several constraints at once. Trivially, this includes the need to work on improving several ports at once, instead of isolated improvements in just one port. Given the inherent difficulty of addressing several constraints at once, all this also implies that smaller interventions might be preferable to larger interventions. For example, the construction of various facilities in one port is unlikely to do any good, if other ports remain unimproved, and if no supporting actions are taken to promote trade and thus the usage of the port.

Some challenges related to **port infrastructure** and **fleet** have already been noted in Chapter 2. A recent mission by the World Food Programme (2018) identified several key challenges, as follows: In terms of capacity, the ports in Bujumbura, Kalundu and Kigoma are underutilized, while the port in Kalemie is overutilized. Furthermore, the ports in Mpulungu and Kalemie are also unlikely to meet future demand without investments. The lake fleet is already almost fully utilized, and would thus require investment to meet future growth. This imbalance in capacity and utilization across prots already suggests that interventions need to be coordinated across ports, and with any potential modernization of vessels.

Ports and the fleet are inefficient for a variety of reasons, including poor usage and deployment of human resources, insufficient water depth in ports, due to sedimentation (Serrat-Capdevila et al., 2018), insufficient safety and security in ports, lack of warehousing space, and old and inefficient cranes and vessels. The cranes in the Port of Mpulungu are a particular cause of concern, as they are prone to frequent breakdowns, delaying the loading of vessels, and, when resorting to manual loading, indirectly increasing breakage.

These challenges and inefficiencies affect trade via four different impact channels. First, they directly affect trade costs, thereby affecting mainly the volume of trade. Second, they increase the time in transit, particularly affecting more time-sensitive or perishable products. Third, they affect

the reliability of transport services. Lastly, the also affect the safety of goods in transit, and thus mainly products that are easily damaged or of high value.

Nonetheless, despite all these shortcomings, transportation costs on Lake Tanganyika are seemingly cost competitive. For maize World Food Programme (2017) finds that transhipments costs in the Port of Mpulungu, Kigoma respectively Bujumbura (13.50, 17.68 respectively 31.03 USD per ton) are comparable or below transhipment costs in the Port of Dar es Salaam (32.40 USD per ton). Similarly, transportation costs from Mpulungu to Bujumbura (30 USD per ton) or Kigoma (35 USD per ton) are far below land-based transportation from Dar es Salaam to Bujumbura (100 USD per ton). These costs do not include the cost of transporting to Mpulungu itself, costs that are consequently decisive.[29]

Where port infrastructure and fleet might have a strong impact on trade is in the type of products that are traded. That currently mainly products such as cement, sugar and maize are traded is no coincidence. These are products that a better-suited for slow but inexpensive water transportation, given that they are heavy and bulky, are not time-sensitive, are not easily damaged, and are traded in large quantities. Other products, such as agribusiness or consumer products, are not well-served by the existing port infrastructure and fleet. These products are typically not bulky, might require refrigeration, and are traded in smaller consignments (but might be traded more frequently). For these types of products the absence of container handling capacity in ports, the absence of multi-purpose or container vessels, the absence of a cold chain and regular liner services is an issue.

There are also challenges related to **access infrastructure** and **intermodal infrastructure**.[30] Both are crucial for ensuring hinterland connectivity and the seamless transfer of goods from trucks or railway to vessels. They are particular important for ensuring the competitiveness of Lake Tanganyika as a transport corridor compared to other transport corridors. Their importance is highlighted by the impact of recurring problems on the Central Railway Line on traffic between Kigoma and Bujumbura. In principle, the combination of railway and lake transportation is cheap and highly competitive. However, in years in which the railway line essentially stopped operating, traffic on the lake essentially ceased, too, being overtaken by transport by truck between Dar es Salaam sea port and Burundi.

This has also implications for the Port of Mpulungu. While Mpulungu is served by a sealed road, Mpulungu is also far away from the economic centres of the country, Lusaka or the Copper Belt. This distance alone reduces opportunities for exports from Zambia via Lake Tanganyika, and implies that the key potentials are in sectors in which the Northern Province holds potential, such as for example agribusiness. A consideration is also the lack of alternative access roads, with the recent destruction of a bridge between Mbala and Mpulungu highlighting this lack of redundancy as a potential issue.

A lack of **market information and awareness** is a key challenge. Businesses and traders in Zambia have little awareness of markets in the Eastern Congo, Burundi and beyond. With very few exceptions, Zambian exporters have no distribution and marketing networks in the countries around the lake. For example, even large exporters rely on orders being filled from Burundi, instead of actively marketing their products. Similarly, even larger informal traders in Mpulungu rely on

[29] That mainly products produced in Zambia are traded (cement, sugar and maize) would indicate that products that have to be sourced from farther afield are too expensive once they arrive in Mpulungu. However, as discussed later in this study, the absence of containerization, among others, might also be an important factor in explaining why exports from Mpulungu are not well-diversified.

[30] At the same time, weak land-based infrastructure also offers opportunities, as it leaves lake transportation as the only viable mean. This is particularly true for the Eastern Congo and Tanganyika, which lacks connectivity to Katanga Province, leaving the lake as the only viable connection to sea ports.

Congolese traders to visit Mpulungu, instead of pursuing a more active marketing strategy. However, there are also exceptions. Reportedly, there is at least one regional ethnic trading network of an Omani trading family, with family members being strategically placed in ports and towns around the lake. This lack of awareness is also an issue in the transport sector, with, for example, the World Food Programme (2018) noting that there is a lack of communication between different lake ports.

Explanations include the economic, cultural and political orientation of Zambia towards Southern Africa and the SADC, and not East or Central Africa, the divide between anglo-and francophone countries, incompatibilities between SADC and EAC, or the lack of transportation links other than the lake. The security situation, corruption and bureaucracy in the Eastern Congo is furthermore an important reason, as Zambian traders are reluctant to physically travel to the Eastern Congo. Lastly, it should also be noted that Zambian citizens currently require a visa to visit both Burundi and the D.R. Congo.

This lack of market information and awareness is a fundamental barrier, not only as it implies that opportunities are not taken up, but even worse, that no one has a vested interest in removing and addressing other barriers and challenges. This lack of market information and awareness might also be driven by a lack of concrete and real opportunities. However, as this lack of market information and awareness is strongly driven by deeper historical and political factors, would suggest that a lack of market information and awareness, is a real barrier, and not merely an outcome.

Specifically for Zambia, a challenge is also the embryonic nature of the **maritime industry eco-system** of policymakers, businesses and investors, and experts, with an interest in and expertise on maritime issues and opportunities. While this is a challenge for all riparian countries, it is a particular concern in Zambia.[31] This lack of strong interest and expertise has implications. Most importantly it might have an impact on investment into maritime infrastructure and fleets, as domestic investors lack the expertise and awareness to identify promising investment opportunities.

Lastly, there are also **tariff and non-tariff barriers**. These include tariffs, but also customs formalities, barriers related to standards, including phyto-sanitary standards, issues related to a non-availability of cross-border finance, or the need for Zambia nationals to apply for a visa to visit the D.R. Congo or Burundi. These issues are potentially compounded by a lack of alignment of trade policies, even if these issues are to be resolved through COMESA and the African Continental Free Trade Agreement (AfCFTA).

The issue is not so much that these barriers exist, as they would do so even in the most ideal situation. The issue is rather there is no regional platform that would allow to discuss and to address these barriers. This closely relates to the lack of market information and awareness, which implies that there are few who have a vested interest in addressing these barriers. Furthermore, those currently active in trade on Lake Tanganyika are not necessarily fully aware of these barriers. The larger businesses and traders involved in formal trade have the capacity to overcome these barriers, or might not even face them. The smaller, informal traders can ignore many if not most of these barriers, by virtue of trading informally, below the radar.

### Trade opportunities and potential

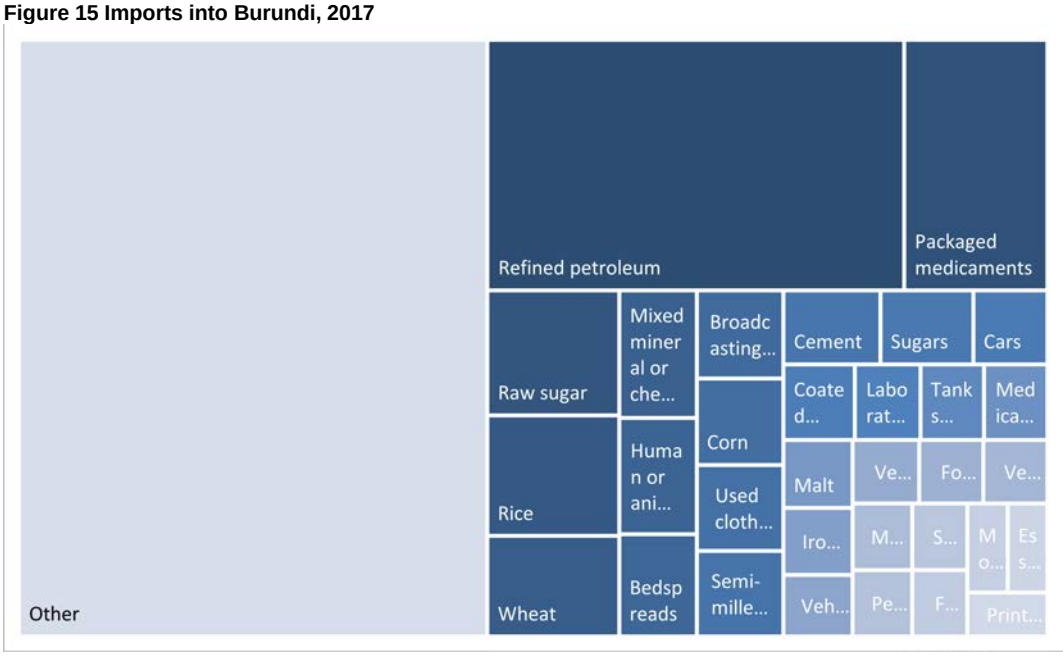
We noted already that current trade as well as the various trade forecasts are not necessarily providing strong guidance on future trade opportunities. In this respect it is instructive to look at

[31] It is also for this reason that the option of opening a maritime school or training program in Zambia is explored.

current imports by Burundi.[32] These are limited in value, with Burundi only importing goods worth about 773 million US-dollar in 2017. Imports are spread over a wide variety of products, with only seven product categories recording imports exceeding ten million US-dollar, and only 25 exceeding five million US-dollar. Cement, sugar and maize are among these leading imports categories.

However, with Zambia having a narrow export base, many products in Burundi's import basket cannot be sourced in Zambia. Those that can be sourced in Zambia, are typically imported by Burundi (or the Eastern Congo) only in relatively small quantities. This creates a challenge for a lake transportation system that is geared towards bulky and heavy cargo, shipped in large quantities on bulk carriers. Containerization as well informal trade could potentially fill this gap, being more geared towards smaller quantities, and less heavier and bulkier goods.

**Figure 15 Imports into Burundi, 2017**




Note: Import data is drawn from a combination of Burundian and mirror statistics (i.e. the export statistics of Burundi's trade partners); total imports of goods are 773 million USD – the slight discrepancy to Figure 10 can be explained by the different sources

Source: Observatory of Economic Complexity at https://atlas.media.mit.edu/en/profile/country/bdi/

In what follows we analyse and match Burundi's worldwide imports with Zambia's worldwide exports by product category. This methodology provides estimates of the trade potential for Lake Tanganyika at the product level. The underlying idea is that if Burundi imports in a specific product category, and Zambia exports in the same category, some potential for bilateral trade across Lake Tanganyika might exist. This methodology avoids some of the disadvantages of more traditional demand and traffic forecasting, which extrapolates current trade based on future GDP and population growth.

At a more philosophical level, our methodology, by focusing on trade potential, emphasizes that growth in trade requires the active promotion and exploitation of trade potential. More practically, this methodology offers rich detail at the product level, and in particular, is able to assess trade

[32] The composition of imports of the D.R. Congo is broadly comparable. While we do not have import figures for Tanganyika Province or other provinces in the Eastern Congo, presumably these are a lower than for Burundi, as indicated by traffic figures in Hamburg Port Consultants (2018).

potential in those areas where currently no bilateral trade exists. It thus avoids the issue of having to extrapolate from current bilateral trade.

The analysis is based on data from the Observatory of Economic Complexity, which in turn is based on the BACI International Trade Database by CEPII. We selected 2017 data at the HS six digit level. Total Burundian imports in categories in which Zambia is exporting amount to about fifty percent of Burundi's total imports of 774 million US-dollar. We simplified our analysis by excluding all product categories in which Burundi imports or Zambia exports less than 1 million US-dollar.[33]

Importantly, there might trade opportunities even in product categories that are below this threshold. First, products that would transit through Zambia (e.g. from South Africa) and thus do not show in Zambia's export statistics. Second, smaller opportunities in niche products that can be exploited by entrepreneurial traders. However, for traders to be able to fully exploit this wide range of smaller opportunities containerization is crucial.

The detailed results are presented in Annex B. This includes those products, marked in red, that currently dominate trade between the two countries and thus trade across Lake Tanganyika – cement, sugar and maize. The import market size for these products in Burundi is at about 49 million US-dollar in 2017. With current trade between Zambia and Burundi at about 25 to 30 million US-dollar, this would suggest that Zambia has already a dominant market share in these three product categories. However, there might be potential for further increasing the market share, as some exporters interviewed for this report indicate that they face constraints in the available fleet and transport capacity.

However, there are also products which currently are not traded in significant numbers, but for which our methodology suggests that some trade potential might exist. Ignoring those products which are trade statistics flukes[34], leaves the following broad product categories, with an estimated (import) market size in Burundi of almost 32 million US-dollar:

- **Iron and steel**, worth 15.4 million US-dollar. Products in this category are already traded across Lake Tanganyika, even if trade values are minimal. For example, in 2017 only 93 thousand US-dollar of iron and steel products were traded between Zambia and Burundi. Burundi mainly imports iron and steel products from Uganda, Turkey, the United Arab Emirates, Kenya, China, Tanzania and Rwanda in this category. There might be some potential for Zambia to increase its market share, given the cost-competitiveness of lake transportation for heavy and bulky iron and steel products. However, this cost competitiveness is negatively affected by the distance between Mpulungu and production facilities in Lusaka or the Copper Belt. This category includes
    - Flat rolled iron or non-alloy steel, coat/zinc, corrugated, w >600m, nes;
    - Bar/rod, iron or non-alloy steel, indented or twisted, nes;
    - Tube/pipe/hollow profile, iron/steel, riveted/open sea.

- **Fast moving consumer goods**, worth 12.1 million US-dollar. Products in this category include processed food as well as detergents and sanitary articles. These products are already traded informally, at least between Mpulungu and nearer ports in the D.R. Congo and Tanzania. Burundi mainly imports from Kenya, Tanzania and Uganda in this category. This is a significant

[33] Instead of a threshold for Zambian exports we could also focus on those products where Zambia has a revealed comparative advantage, i.e. exports more than the world average would suggest. However, this would further reduce the number of product categories in which Zambia might be able to export via Lake Tanganyika.

[34] These are likely re-exports or driven by (accounting) transactions – oils petroleum, bituminous, distillates, except crude , transmit-receive apparatus for radio, TV, etc.; diesel powered trucks weighing > 20 tonnes; special purpose motor vehicles nes; and documents of title (bonds etc.), unused stamps etc.

market, and with fast moving consumer goods being highly differentiated (in particular by brand), there is a potential for Zambian exporters. However, in the absence of container transport, lake transportation is not as cost competitive for these types of products as it is for bulkier and heavier goods such as cement, sugar or maize.[35] Furthermore, the consumer-centric nature of this market, the need for marketing and a sound understanding of local distribution channels, implies that market entry can be particularly challenging. This category includes:

  - Food preparations nes;
  - Sweet biscuits, waffles and wafers;
  - Sugar confectionery not chewing gum, no cocoa content;
  - Sanitary articles of paper, sanitary towels, diapers;
  - Washing and cleaning preparations, retail.

- **Tobacco**, worth 3.3 million US-dollar. Tobacco is a major export for Zambia. However, Burundi already imports virtually all its tobacco from Uganda. In order to break into this (small) market, Zambia would have to compete against a competitor that likely can serve Burundi via land as cost-competitive as Zambia could via Lake Tanganyika. This category includes mainly:
  - Tobacco, unmanufactured, stemmed or stripped.

- **Plastics and packaging**, worth 3.1 million US-dollar. This is not a major export industry for Zambia, and Burundi is not a large market, with imports mainly coming from Uganda and Kenya. A key challenge is again the lack of container transport, which would be needed to effectively transport these products. This category includes
  - Plastic carboys, bottles and flasks, etc.;
  - Cartons, boxes & cases, of corrugated paper or board.

Overall, there is thus a combined import market of 81 million US-dollar in Burundi in products, for which Zambia is already an exporter. Assuming a comparable demand structure in the Eastern Congo, and given that the population of Burundi (11.5 million)[36] is about five times the size of Tanganyika Province in the Eastern Congo (1.9 million)[37]. This would suggest that the trade potential of the Eastern Congo is about one fifth, and possibly slightly more if also South Kivu is a potential market.[38]

However, in comparison to Burundi, Tanganyika Province is poorly connected by land. Wee would thus expect the export potential for Zambia, via Lake Tanganyika, to be higher than what is suggested by population numbers alone. Traffic figures, in terms of weight and not value, by Hamburg Port Consultants (2018) indeed suggest that exports to the Eastern Congo are about two thirds of exports to Burundi. Furthermore, with our methodology based on official trade statistics and thus ignoring informal trade, we might further want to adjust the estimate of trade potential upwards. However, as previously noted, those countries that collect also statistics on informal cross-border trade (i.e. Uganda) report that informal imports average only about one percent of formal imports.

Taken together this would suggest a hypothetical trade potential of at most about 120 million US-dollar. Unrealistically, this would assume that Zambia is able to capture a hundred percent market share in all product categories with trade potential. More realistically, the real **trade potential** might be at most one third to fifty percent of 120 million, or **roughly about 40 to 60 million US-dollar**.

[35] Fast moving consumer goods are also more susceptible to theft, pilferage and spoilage, another reason why container transport is essential for this product category.
[36] See http://www.isteebu.bi/index.php/economie-en-bref
[37] See http://tanganyika.gouv.cd/page-d-exemple. It is, however, unclear how up to date this population number is.
[38] However, some of Burundi's imports might already be re-exported to South or North Kivu.

These numbers, in fact, would correspond to our earlier estimates of current exports via the Port of Mpulungu, of between 37 and at most 45 million US-dollar per year. (Page 26)

Forecasts of future trade would follow from this rough estimate of trade potential, in two ways. First, with improvements to the Lake Tanganyika transportation system or efforts to boost exports and private sector development in Zambia, a larger share of trade potential might be captured by Zambia. Second, trade potential itself will increase as Burundi and the Eastern Congo grow. However, one should be careful to take as given that GDP or population growth alone will translate into a growing (import) market size, given large fluctuations in imports by Burundi over the past ten years.

Table 2 below presents a more detailed assessment of specific opportunities in various product categories, based on stakeholder interviews and supplementing the data-driven analysis above. Worth highlighting are in particular opportunities related to maize exports, as a commodity in which Zambia enjoys a strong competitive advantage and is thus able to competitively serve not only Burundi and the Eastern Congo, but also markets beyond. Furthermore, the intent of the World Food Programme to more intensively use Lake Tanganyika as a transport corridor for shipments of maize further bolsters the business case for this specific commodity.

**Table 2 Trade opportunities for Zambia**

| | Cement | Sugar | Maize | Agribusiness | Fish | Consumer goods | Minerals | Timber | Other |
|---|---|---|---|---|---|---|---|---|---|
| **Trade Pattern** | | | | | | | | | |
| **Destination** | Burundi, D.R. Congo | Burundi, D.R. Congo | Burundi, D.R. Congo; Possibly also South Sudan, North Kivu | Burundi, D.R. Congo | Regional | Burundi, D.R. Congo | International | International | Burundi, D.R. Congo |
| **Origin** | Zambia | Zambia | Zambia, international | Zambia | Regional | Zambia, international | D.R. Congo | D.R. Congo | Zambia |
| **Current trade** | up to 10-15 million USD | up to 5-10 million USD | up to 5 million USD | unknown | unknown | unknown | none | none | none |
| **Nature of trade** | Large scale and formal | Large scale and formal | Large scale and formal | Small scale and informal | Small scale and informal | Small scale and informal | n/a | n/a | n/a |
| **Opportunities** | | | | | | | | | |
| **Trade opportunities** | Volatile trade, but cement is consistently traded across the lake for at least the last two decades. Growth potential depends on strong and sustained economic growth in Burundi and D.R. Congo. Current traders report constraints related to fleet capacity, resolving these might further boost trade. | Volatile trade, but consistently traded across the lake for at least the last two decades. Growth potential depends on strong and sustained economic growth in Burundi and D.R. Congo. | Significant growth potential, both on a commercial basis and as humanitarian aid. The World Food Programme could potentially transport about 210,000 tons across the lake. Commercial supplies could reach up to 70,000 tons per year. | In principle significant growth potential, as Burundi is an importer of most agricultural good, a situation likely to worsen as the population keeps growing. | Limited potential for trade in locally caught fish or fish imported or exported beyond the region | Potential for growth, if production in Zambia is cost-competitive and trade costs for relatively small, non-bulky consignments are reduced, for example through containerization. | Significant volumes if exports from the D.R. Congo can be routed through Mpulungu and if mining in the Eastern Congo shifts from artisanal mining of high value minerals such as gold toward large-scale mining of other minerals such as lithium ores | Unclear | Key products in this category are iron and steel, but possibly also construction material or fertilizers. The data analysis would suggest that only iron and steel has potential.<br><br>These products are currently not traded in large quantities, even if the demand in Burundi exists. Some of these products are produced in Zambia, while others would have be sourced via Southern Africa. |
| **Investment** | Market already | Market | Potential for | Potential for | | Some, but even | Limited potential | Limited | |

| | Cement | Sugar | Maize | Agribusiness | Fish | Consumer goods | Minerals | Timber | Other |
|---|---|---|---|---|---|---|---|---|---|
| **opportunities** | well served by incumbent cement producers | already well served by incumbent sugar producers | maize production in Northern Zambia | agribusiness in Northern Zambia | | with increased trade exports are likely limited compared to the demand on the Zambian market. | for value-addition in Zambia. | potential for value-addition in Zambia. | |
| **Strengths and Weaknesses** | | | | | | | | | |
| **Competitive advantages** | Lake transport highly suitable given the heavy and bulky nature of cement; Well-established and competitive cement industry in Zambia. Zambian cement is perceived as being of high quality | Lake transport highly suitable given the heavy and bulky nature of sugar; Zambia is a low-cost producer of sugar | Low cost of Zambian maize; Cost competitiveness of lake transport | Agribusiness potential in Northern Zambia, in close proximity to the Port of Mpulungu; Cost competitiveness of lake transport | | | Limited alternatives to export minerals from Tanganyika province; Cost competitiveness of lake transport for low value, high weight minerals | | |
| **Challenges and constraints** | | | Lack of transport capacity; Inconsistent and volatile maize policy in Zambia | Lack of containerization and a cold chain reduces opportunities to export. | Lack of a cold chain | Limited production in Zambia; Transport system not geared towards transporting relatively small, non-bulky consignments | Currently only artisanal mining in Tanganyika province | | The transport system is not geared towards transporting relatively small consignments. |
| **Competition** | Domestic production, Tanzania | Tanzania, international imports via the Northern and Central | Tanzania, international imports via the Northern and Central Corridor | Domestic production, Tanzania, international imports via the | Domestic fishing | Tanzania, international imports via the Northern and Central Corridor | Exports via the Northern and Central Corridor | Exports via the Northern and Central Corridor | |

| | Cement | Sugar | Maize | Agribusiness | Fish | Consumer goods | Minerals | Timber | Other |
|---|---|---|---|---|---|---|---|---|---|
| | | Corridor | | Northern and Central Corridor | | | | | |
| **Threats** | Emergence of domestic cement production in D.R. Congo and Burundi, somewhat mitigated by the non-availability of clinker in Burundi; Expansion of cement production in Tanzania, for example, through the Chinese investment in a cement plant in Tanga, worth one billion US-dollar. | | | | Overfishing | | Strong competition with other transport corridors | Strong competition with other transport corridors; Deforestation | |

# 5 Recommendations and Action Plan

There are opportunities for increasing trade on Lake Tanganyika. While improved transportation infrastructure is important, other measures and supporting policies are equally needed to exploit these opportunities. Improved transportation infrastructure in the form of containerization is particularly promising, as it would open opportunities for trading non-bulky products as well as opportunities for smaller traders. A comprehensive approach is needed that would tackle both transportation infrastructure challenges as well as challenges related to regional cooperation, market information and awareness, among others. Such an approach would be well in line with much needed efforts to bolster Africa's regional integration.

However, there are also risks, as regional integration requires cooperation between countries and a corresponding willingness to give and take. This cannot be taken for granted, as so far formal regional cooperation on trade and transport across Lake Tanganyika is minimal. Furthermore, Burundi and the Eastern Congo are still fragile. As evidenced by past fluctuations, a worsening of the situation in Burundi or the Eastern Congo could well lead to a collapse of trade across Lake Tanganyika. Furthermore, a narrow focus on export opportunities for Zambia only, as opposed to trade and development opportunities in all riparian countries, could perpetuate fragility in the region. At the same time, Lake Tanganyika and Mpulungu port can also serve to strengthen resilience, by offering an alternative transport corridor for Burundi and the Eastern Congo, thus lessening the reliance on the Central and Northern Corridor.

All this already indicates that the challenges are considerable, requiring cooperation between all four countries in a wide range of areas, requiring significant investments and commitments, and, given the need for donor contributions, coordination among donors themselves. Given these very significant challenges, an approach that focuses on low hanging fruits and on interventions that can be implemented by Zambia alone might thus be recommendable.

In what follows policy recommendations are grouped into four broad areas – port infrastructure and fleet, regional cooperation, market information and awareness, and supporting policies and flanking measures.

### A Port infrastructure and fleet

The feasibility studies on the ports in Mpulungu and Bujumbura, as well as the recent work by the World Bank and the World Food Programme provide already a list of prioritized interventions to improve port infrastructure and the lake fleet. In addition, several actions are needed to strengthen these interventions:

**A1.** **Donor coordination** is crucial, in particular between projects aiming to improve the North-South corridor between Mpulungu and Bujumbura (e.g. African Development Bank), and those aiming to improve the East-West corridor between Kigoma and the Eastern Congo and Bujumbura (e.g. World Bank). This importance stems not only from the general interconnectedness of lake transportation, but also from the fact that as far as lake transportation is concerned Zambia and Tanzania are competitors.

**A2.** There is a comparatively a limited **focus on the Eastern Congo**, mainly due to the security situation and thus the difficulty of working there. However, given its importance as a market. the Eastern Congo is crucial for the commercial viability of infrastructure projects. A concerted effort to

comprehensively assess the situation in the Eastern Congo, including not only the port in Kalemie, but also other ports and landing sites, might thus be advisable. This assessment would have to cover infrastructure, and the situation and opportunities related to trade and business.

**A3.** Guided by the existing feasibility studies and the work of the World Bank and the World food Programme, **maritime infrastructure improvements** would target ports, fleets and lake navigation. Given the interconnectedness of lake transportation, improvements to port infrastructure need to be coordinated. Efforts in one port need corresponding efforts in other ports and in the fleet to have a strong impact on trade. However, given the significance of this undertaking and uncertainty about the actual trade potential and the needs of traders and businesses, small and phased improvements are advisable. Such a phased approach will avoid risks and will facilitate learning on what works and what not as the projects progress.

**A4.** Learning should particularly focus on what **new, non-traditional transport services** might work. While there is a rich experience with bulk cargo, to promote trade in new products new service offering such as a container transport, roll-on/roll-off, a cold chain, among others, need to be considered and explored.

**A6.** Informal trade matters and consequently the **interests of informal traders** should be taken into account. Of particular relevance in this respect is the replacement or refurbishment of the MV Liemba, as it was an important conduit of informal trade. The strength of the MV Liemba was in its flexibility, combining passenger with cargo transport, with its own shipboard crane and thus no reliance on port infrastructure. A replacement could also explore the possibility of a small refrigerated cargo hold, to facilitate trade in fish and other perishable products. On land, improvements to port infrastructure should strongly consider the interests of informal traders. The experience of DANIDA in improving the infrastructure for fishermen and fish traders at the Kibirizi landing site can offer guidance. This intervention could be considered as a low-hanging fruit, requiring only limited investments and providing concrete benefits by itself.

### B Regional cooperation

Regional cooperation is crucial for coordinating activities and interventions, and for addressing barriers and challenges. Regional cooperation is hampered by the absence of relevant regional organisations. The Lake Tanganyika Authority is an exception, includes all four countries and focuses on Lake Tanganyika. However, currently the authority is almost exclusively focused on environmental and fisheries issues.

**B1.** Build the capacity of the **Lake Tanganyika Authority** in the areas of trade and transport, by providing the authority with a mandate and by providing capacity building assistance. This intervention could be considered a low-hanging fruit, requiring in the beginning only limited investments into, for example, one full-time position of a trade and transport advisor. Furthermore, such an initial investment into expanding the mandate and strengthening the capacity could generate large pay-offs in the long-run, by creating ownership and momentum.

**B2.** Under the auspices of the Lake Tanganyika Authority build a **regional platform** that involves public and private sector stakeholders, and that serves as a forum to discuss barriers and challenges, possible solutions and improvements, and builds a consensus on key issues. The public sector should include provincial and regional authorities, as well as national governments in the capitals. Similarly to capacity building, such an intervention could generate large self-sustaining pay-offs in the short-and long-run, by creating awareness and by connecting participants.

**B3.** Develop a **legal and regulatory framework** for maritime trade and transport, building on the Lake Tanganyika Convention. This work could be led by the Lake Tanganyika Authority and be strongly supported by the regional platform. Similarly, harmonize and integrate administrative procedures in all major ports around the lake, including documentary requirements, administrative processes, software, among others.

### C Market information and awareness

A lack market information and awareness is a barrier to trade on the lake, affecting mainly the entry of new traders or new products. Improving market information and awareness is a crucial flanking measure to infrastructure and fleet improvements.

**C1.** The regional platform under the auspices of the Lake Tanganyika Authority will contribute to **improving market information and awareness**. To maximize its impact it is critical that a broad range of private sector stakeholders is included, in particular regional business associations. Outreach efforts to informal traders, who might not be well represented in traditional business associations might be further needed to achieve full inclusiveness.

**C2.** Build **business development capacity** in port authorities, through trainings, mentoring and other activities. These should enhance the ability of ports to proactively explore and identify business opportunities, to negotiate with potential customers, among others. Capacity building should also include awareness raising about the competitive position of the port vis-à-vis other ports and transport corridors.

**C3.** Develop **information material** such as export guides or catalogues of businesses. These should cover all four countries, and potentially also include neighbouring countries or regions such as Rwanda or North Kivu in the D.R. Congo. The information material should be multilingual, should be updated regularly and should have strong local ownership, possibly by regional chambers of commerce or the proposed regional platform.

**C4. Trade missions** of business people and policy makers can be helpful for creating awareness and establishing contacts. Such trade missions could also play an important role in creating and promoting the proposed regional platform. This intervention could be seen in conjunction with the recommendation to form a regional platform (B2), and is thus an intervention that could generate large pay-offs in the short-and long-run, by creating awareness and connecting participants.

### D Supporting policies and flanking measures

To further promote trade on the lake, supporting measures should address and reduce existing barriers, and should build the export capacity of the private sector. While the recommendations below focus primarily on Zambia, similar measures might also be recommended for the other countries. Importantly, a situation might not be politically sustainable in which trade is heavily unbalanced, with some countries only exporting but not importing via the lake. It is also for this reason, that similar efforts are need to improve the export capacity of the Eastern Congo and Burundi.

**D1.** The proposed regional platform should play a crucial role in identifying barriers and challenges, developing corresponding policy recommendations and thereby **improving market access**. These efforts should be linked to similar efforts by other organisations, such as for example the Central Corridor Transit Transport Facilitation Agency (CCTTFA) or COMESA.

**D2.** With limited evidence available on trade, trade costs and barriers, a systematic **corridor assessment** of Lake Tanganyika transport routes should collect data on trade volumes and costs and bottlenecks along the whole corridor, starting in Lusaka or the Copper Belt. A role model for such efforts could be the Central Corridor Transport Observatory report (CCTTFA, 2018).

**D3.** Develop the private sector in the Northern Province. Importantly, **private sector development** should not specifically be aimed at export opportunities via Lake Tanganyika. Rather, it should build on opportunities in Zambia and the wider region, with exports via Lake Tanganyika as only one of several potential markets. This approach reduces risks and improves the viability of businesses. Given the endowments of the Northern Province, agribusiness opportunities are particularly promising. In this respect, potential linkages with the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) should be explored.

**D4.** Maize is a particularly promising agricultural commodity for exports to Burundi and the D.R. Congo. However, frequent changes and inconsistencies in the **Zambian maize policy** hamper efforts by the private sector to produce for export markets. With maize being an essential commodity for food security in Zambia, resolving this issue is unlikely to be straightforward. However, given the export potential, not just via Lake Tanganyika, a revision of the maize policy and targeted promotion of this sector might be advisable. For example, land in the Northern Province might be set aside for the purpose of growing maize for exports, with maize produced in these areas being exempted from any export bans or quotas.

**D5.** The World Food Programme is active in the region, and is able to underwrite steady and large purchases of food, in particular maize, in Zambia, for the provision of food aid to Burundi, the Eastern Congo and regions beyond. Providing a critical mass of exports via the Lake, **food aid** can thus play critical role in moving the lake transportation system to the next level. Consequently, the World Food Programme could have a catalytic role in efforts to improve the Lake Tanganyika transport corridor.

## Action plan

| Intervention | Priority | Timescale | Responsibility | Core stakeholders |
|---|---|---|---|---|
| **A1. Donor coordination** | High | Short-run | ▪ t.b.d. | ▪ International donors<br>▪ National governments<br>▪ Lake Tanganyika Authority |
| **A2. Focus on the Eastern Congo** | Medium | Short-run | ▪ t.b.d. | ▪ Government of the D.R. Congo<br>▪ International donors |
| **A3. Maritime infrastructure** | Medium | Medium-run | ▪ t.b.d. | ▪ International donors<br>▪ Port authorities<br>▪ Transport operators<br>▪ Traders and business community |
| **A4. New transport services** | Low | Long-run | ▪ t.b.d. | ▪ International donors<br>▪ Transport operators<br>▪ Traders and business community |
| **A5. Informal trade** | High | Medium-run | ▪ t.b.d. | ▪ International donors<br>▪ Transport operators<br>▪ Traders and business community |
| **B1. LTA capacity building** | High | Medium-run | ▪ t.b.d. | ▪ International donors<br>▪ National governments |
| **B2. Regional platform** | High | Medium-run | ▪ t.b.d. | ▪ International donors<br>▪ Local and national governments<br>▪ Port authorities<br>▪ Transport operators<br>▪ Traders and business community |
| **B3. Legal and regulatory framework** | Medium | Medium-run | ▪ t.b.d. | ▪ International donors<br>▪ National governments |

| Intervention | Priority | Timescale | Responsibility | Core stakeholders |
|---|---|---|---|---|
| | | | | ▪ Port authorities<br>▪ Transport operators<br>▪ Traders and business community |
| **C1. Improving market information and awareness** | High | Medium-run | ▪ t.b.d. | ▪ International donors<br>▪ National governments<br>▪ Local authorities<br>▪ Port authorities<br>▪ Transport operators<br>▪ Traders and business community |
| **C2. Business development capacity** | Medium | Medium-run | ▪ t.b.d. | ▪ Port authorities |
| **C3. Information material** | Low | Long-run | ▪ t.b.d. | ▪ International donors<br>▪ National governments<br>▪ Local authorities<br>▪ Port authorities<br>▪ Transport operators<br>▪ Traders and business community |
| **C4. Trade missions** | Medium | Medium-run | ▪ t.b.d. | ▪ International donors<br>▪ Port authorities<br>▪ Transport operators<br>▪ Traders and business community |
| **D1. Improving market access** | High | Long-run | ▪ t.b.d. | ▪ International donors<br>▪ National governments<br>▪ Local authorities<br>▪ Port authorities<br>▪ Transport operators |

| Intervention | Priority | Timescale | Responsibility | Core stakeholders |
|---|---|---|---|---|
| | | | | ▪ Traders and business community |
| **D2. Corridor assessment** | Medium | Medium-run | ▪ t.b.d. | ▪ International donors<br>▪ Port authorities<br>▪ Transport operators<br>▪ Traders and business community |
| **D3. Private sector development** | Medium | Long-run | ▪ t.b.d. | ▪ International donors<br>▪ Local authorities<br>▪ Business community |
| **D4. Maize policy** | Medium | Long-run | ▪ t.b.d. | ▪ International donors<br>▪ Agribusiness community |
| **D5. Food aid** | High | Medium-run | ▪ t.b.d. | ▪ Port authorities<br>▪ Transport operators<br>▪ Agribusiness community |

# References


African Development Bank, 2018. *Project Preparation Report for Multinational (Zambia/Burundi) – Lake Tanganyika Transport Corridor Development Project.* Prepared by Koichi Miyake, Overseas Coastal Area Development Institute of Japan.

CCTTFA, 2018. *Annual Performance Monitoring Report 2017.* Dar es Salaam, Tanzania.

Central Statistical Office, 2018. *Zambia in Figures 2018.* Lusaka, Zambia.

Cornell Group, 2013. *Study on Improvement of Navigation Safety along the Central Corridor Water Way on Lake Tanganyika.* For: Trademark East Africa. Fairfax, VA.

Government of Zambia (2005). *Mpulungu Harbour and Port: A Summary of Competition Issues.* In OECD, Global Forum on Competition, Abuse of Dominance in Regulated Sectors: Case Submitted by Zambia. DAF/COMP/GF/WD(2005)21, at https://www.oecd.org/daf/competition/prosecutionandlawenforcement/34285468.pdf

Hamburg Port Consultants, 2018. *Assessment of the Potential for Enhanced Ferry Services and Private Operation on Lake Tanganyika: Second Monthly Progress Report.* For the World Bank. Hamburg, Germany.

JICA, 2012. *Master Plan for Port Sector in the Republic of Burundi.* Prepared by Padeco, Nippon Koei and International Development Center of Japan. Bujumbura, Burundi.

Ministry of Transport and Communication, 2016, *Feasibility Study and Detailed Engineering Design for Mpulungu Port Development.* Lusaka, Zambia.

Norris, Hilary, Henry Mwima, Maaria Curlier, and Theressa Etmanski, 2012. *In-Depth Case Study of the Lake Tanganyika Convention.* Global Environmental Facility International Waters Project.

Royal HaskoningDHV, 2016. *Improvement Study for Kigoma Port: Final Report*. For Tanzania Ports Authority. Amersfoort, Netherlands.

Serrat-Capdevila, Aleix, Marie Laure Lajaunie, Laura Bonzanigo, Pedro Figueira, and Reynaldo Bench, 2018. *Port Access in the Lake Tanganyika: Key Challenges and Recommendations.* World Bank Working Paper, Washington, D.C.

Siyame, Peti, 2018. *Signing of Pact for Building Lake Tanganyika Ship Soon.* In Daily News 21.02.2018, at https://www.dailynews.co.tz/news/signing-of-pact-for-building-lake-tanganyika-ship-soon.aspx

Tembo, Charles, 2019. *Seychelles Ship Firm to Invest US$16m to Build first-ever Zambian Ships*. In The Mast, 16.02.2019, at https://www.themastonline.com/2019/02/16/seychelles-ship-firm-to-invest-us16m-to-build-first-ever-zambian-ships/

Uganda Bureau of Statistics, 2017. *The Informal Cross-Border Trade Survey Report 2016.* Kampala, Uganda.

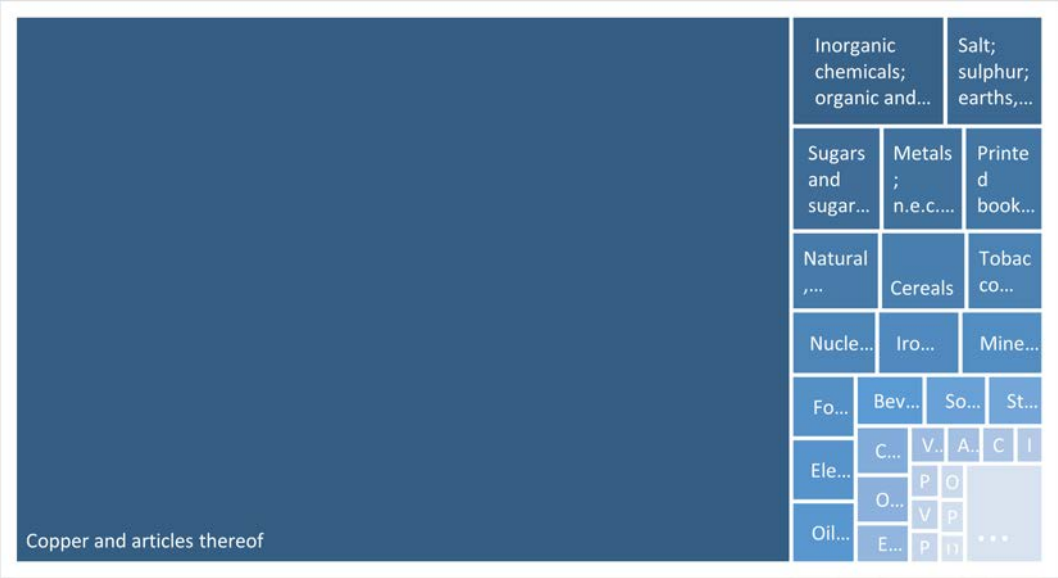
UNDP/Global Environmental Facility, 2000. *The Strategic Action Programme for the Sustainable Management of Lake Tanganyika.* Nairobi, Kenya.

World Food Programme, 2017. *Maize Supply Chain.* Map reference Gha_wfp_Maize supply chain_A2P_20170621.

World Food Programme, 2018. *Actions to Trigger and Contribute to the Revitalization of the Lake Tanganyika Transport Corridor: Study Findings and Recommendations*. Presentation Slides.

# Annex A Trade Statistics

**Figure 16 Exports of Zambia, 2017**




Note: Total exports of goods are 8.157 million USD

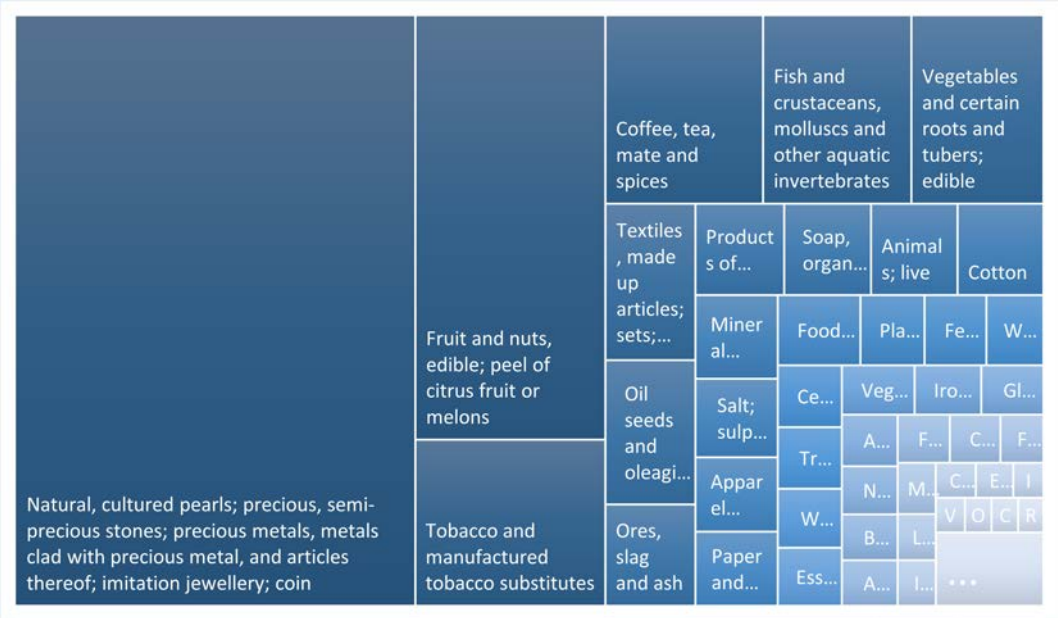
Source: UN Comtrade at https://comtrade.un.org/data

**Figure 17 Exports of Burundi, 2017**


Note: Total exports of goods are 149 million USD

Source: UN Comtrade at https://comtrade.un.org/data

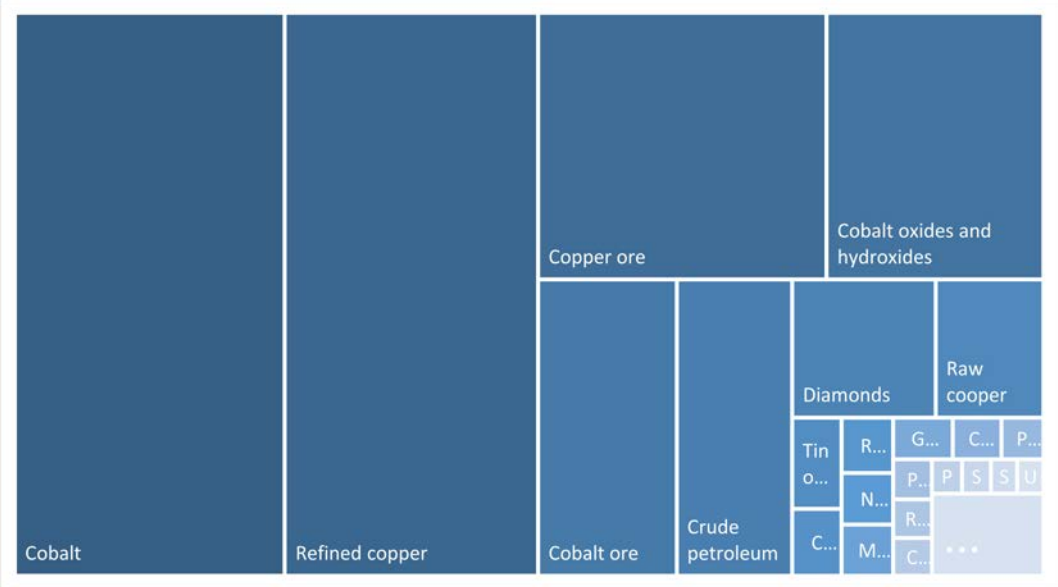
**Figure 18 Exports of Tanzania, 2017**




Note: Total exports of goods are 4.178 million USD

Source: UN Comtrade at https://comtrade.un.org/data

**Figure 19 Exports of D.R. Congo, 2017**




Note: Export data is drawn from mirror statistics, i.e. the import statistics from the trade partners of the D.R. Congo; total exports of goods are 7.225 million USD

Source: UN Comtrade at https://comtrade.un.org/data

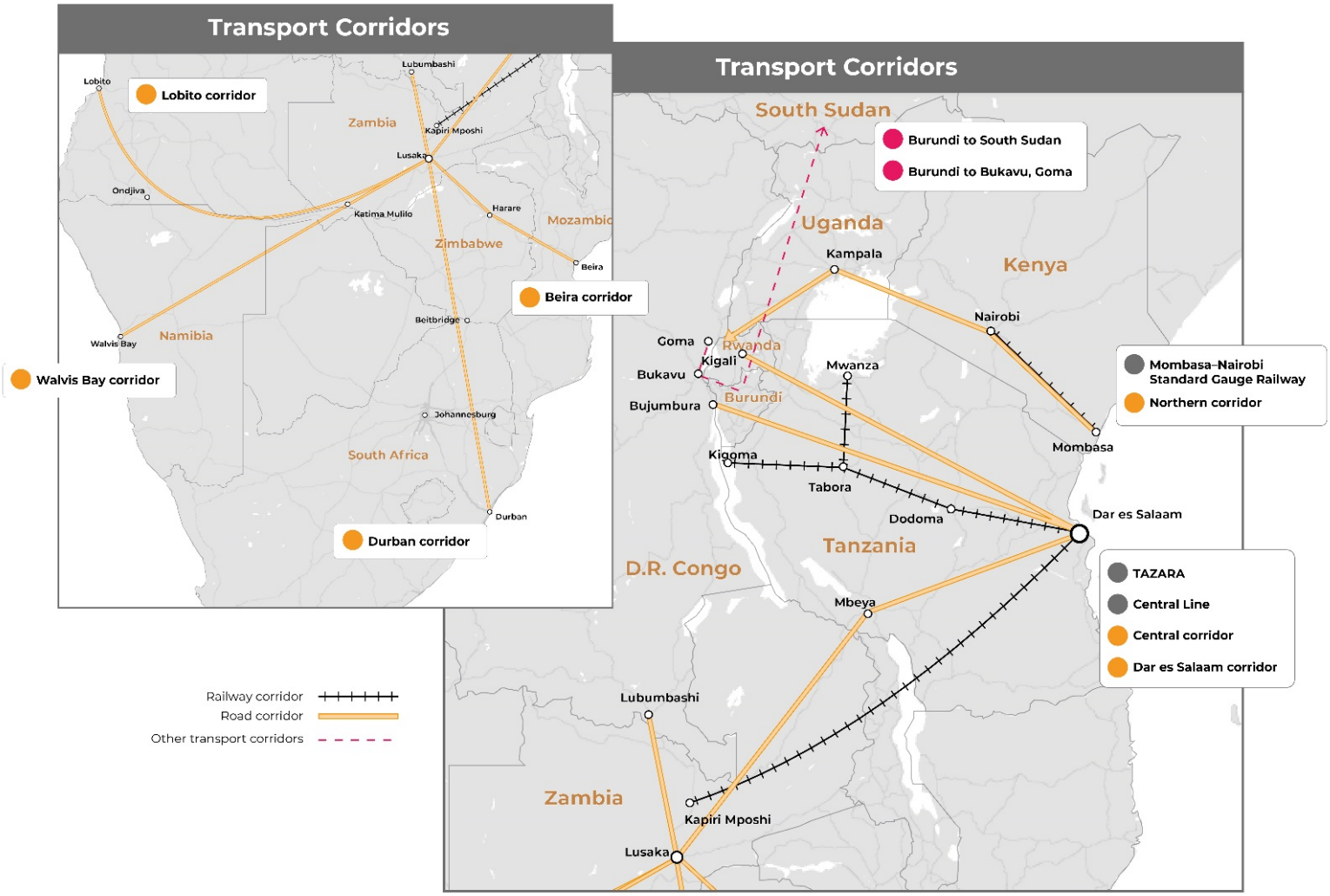
# Annex B Trade Potential

| | Product | HS Code | Burundi imports | Zambia exports |
|---|---|---|---|---|
| 1 | Oils petroleum, bituminous, distillates, except crude | 271000 | 131,652,348 | 3,172,861 |
| 2 | Refined sugar, in solid form, nes, pure sucrose | 170199 | 20,779,457 | 40,416,181 |
| 3 | Transmit-receive apparatus for radio, TV, etc. | 852520 | 9,654,742 | 28,936,130 |
| 4 | Maize except seed corn | 100590 | 9,442,016 | 61,861,926 |
| 5 | Portland cement, other than white cement | 252329 | 9,043,597 | 34,929,040 |
| 6 | Raw sugar, cane | 170111 | 8,674,941 | 90,756,016 |
| 7 | Flat rolled iron or non-alloy steel, coat/zinc, corrugated, w >600m, ne | 721041 | 6,809,868 | 2,724,342 |
| 8 | Bar/rod, iron or non-alloy steel, indented or twisted, nes | 721420 | 5,821,785 | 16,231,518 |
| 9 | Food preparations nes | 210690 | 5,136,175 | 1,430,892 |
| 10 | Diesel powered trucks weighing > 20 tonnes | 870423 | 4,537,161 | 2,051,404 |
| 11 | Tobacco, unmanufactured, stemmed or stripped | 240120 | 3,298,909 | 169,191,293 |
| 12 | Tube/pipe/hollow profile, iron/steel, riveted/open sea | 730690 | 2,816,939 | 1,015,777 |
| 13 | Plastic carboys, bottles and flasks, etc | 392330 | 2,012,877 | 1,558,020 |
| 14 | Special purpose motor vehicles nes | 870590 | 1,996,621 | 1,046,587 |
| 15 | Cement clinkers | 252310 | 1,889,807 | 3,955,329 |
| 16 | Documents of title (bonds etc), unused stamps etc | 490700 | 1,592,354 | 144,007,416 |
| 17 | Sweet biscuits, waffles and wafers | 190530 | 1,378,827 | 10,540,404 |
| 18 | Sugar confectionery not chewing gum, no cocoa content | 170490 | 1,251,403 | 9,185,257 |
| 19 | Sanitary articles of paper, sanitary towels, diapers | 481840 | 1,165,287 | 1,229,774 |
| 20 | Washing and cleaning preparations, retail | 340220 | 1,092,660 | 31,872,083 |
| 21 | Cartons, boxes & cases, of corrugated paper or board | 481910 | 1,060,562 | 1,652,301 |

# Annex C Maps


Lake Tanganyika Ports
Kalundu (Uvira)
Bujumbura
Burundi
Rumonge
Kibirizi
Kigoma
D.R. Congo
Tanzania
Kalemie
Karema
Moba (Kirungu)
Kasanga
Mpulungu
Zambia


Northern Province
Mpulungu
Mbala
Tanzania
Senga Hills
Nakonde
Zambia
Kasama


Transport Corridors
Lobito
Lobito corridor
Lubumbashi
Zambia
Kapiri Mposhi
Lusaka
Ondjiva
Katima Mulilo
Harare
Mozambic
Zimbabwe
Beira
Beira corridor
Beitbridge
Namibia
Walvis Bay
Walvis Bay corridor
Johannesburg
South Africa
Durban
Durban corridor
Transport Corridors
South Sudan
Burundi to South Sudan
Burundi to Bukavu, Goma
Uganda
Kampala
Kenya
Nairobi
Goma
Rwanda
Kigali
Bukavu
Mwanza
Bujumbura
Burundi
Mombasa–Nairobi Standard Gauge Railway
Northern corridor
Mombasa
Kigoma
Tabora
Dodoma
Dar es Salaam
Tanzania
D.R. Congo
TAZARA
Central Line
Central corridor
Dar es Salaam corridor
Mbeya
Lubumbashi
Zambia
Kapiri Mposhi
Lusaka
Railway corridor
Road corridor
Other transport corridors

P.O. Box 4175
3006 AD Rotterdam
The Netherlands

Watermanweg 44
3067 GG Rotterdam
The Netherlands

T +31 (0)10 453 88 00
F +31 (0)10 453 07 68
E netherlands@ecorys.com
Registration no. 24316726

**W www.ecorys.nl**

***Sound analysis, inspiring ideas***

This is a publication of
Netherlands Enterprise Agency
Prinses Beatrixlaan 2
PO Box 93144 | 2509 AC The Hague
T +31 (0) 88 042 42 42
E klantcontact@rvo.nl
www.rvo.nl

This publication was commissioned by the ministry of Foreign Affairs.


Publication number: RVO-088-1901/RP-INT

NL Enterprise Agency is a department of the Dutch ministry of Economic Affairs and Climate Policy that implements government policy for Agricultural, sustainability, innovation, and international business and cooperation. NL Enterprise Agency is the contact point for businesses, educational institutions and government bodies for information and advice, financing, networking and regulatory matters.

Netherlands Enterprise Agency is part of the ministry of Economic Affairs and Climate Policy.