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Market study Lake Tanganyika

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Lake Tanganyika Market Study

Trade potential in the Eastern Democratic Republic of Congo

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Abbreviations and Acronyms

3TG	Tin, Tungsten, Tantalum and Gold
AfCFTA	African Continental Free Trade Area
COMESA	Common Market for Eastern and Southern Africa
COPETANG	Coopérative des pêcheurs du Tanganyika
COVID-19	Coronavirus disease 2019
DANIDA	Danish International Development Agency
D.R. Congo	Democratic Republic of Congo
EAC	East African Community
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortization
ECCAS	Economic Community of Central African States
ETD	Entité territoriale décentralisée
FAO	Food and Agriculture Organization
FARDC	Forces armées de la république démocratique du Congo
FCC	Front commun pour le Congo
FDLR	Forces démocratiques de libération du Rwanda
FEC	Fédération des entreprises du Congo
FILTISAF	Société de filatures et tissages africains
FOMIN	Fonds Minier pour le Générations futures
FPI	Fonds de Promotion de l'Industrie
FRF	Forces republicaines fédéralistes
GDP	Gross Domestic Product
GIZ	Gesellschaft für Internationale Zusammenarbeit
IDP	Internally Displaced Person
IMF	International Monetary Fund
IPIS	International Peace Information Service
ISCOS	Intergovernmental Standing Committee on Shipping
JICA	Japan International Cooperation Agency
LTA	Lake Tanganyika Authority
MSME	Micro-, small-, and medium-sized enterprises
MV	Motor vessel
PICAGL	Projet intégré pour la croissance agricole dans les Grands Lacs
PRODAP	Programme intégré de développement et d'appui à la pêche
Ro-Ro	Roll-on/roll-off
RVF	Régie des Voies Fluviales
RVO	Rijksdienst voor Ondernemend Nederland (Netherlands Enterprise Agency)
SA	Société anonyme
SADC	Southern African Development Community
SARL	Société à responsabilité limitée
SCTP	Société commerciale des transports et des ports
SNCC	Société nationale des chemins de fer du Congo
SOCEARUCO	Société civile environnementale et agro-rurale du Congo
SPS	Sanitary-and phytosanitary measures
TAZARA	Tanzania-Zambia Railway Authority
TFTA	Tripartite Free Trade Area
TMEA	Trademark East Africa
UDPS	Union pour la Démocratie et le Progrès Social
USAID	United States Agency for International Development

Executive Summaries

Executive Summary

This market study assesses opportunities for maritime trade on Lake Tanganyika, with a specific focus on the Eastern Congo, that is Tanganyika province, the south eastern part of South Kivu province (Fizi and Uvira territory) and the easternmost part of Maniema province (Kabambare territory). It follows in the footsteps of a previous market study (RVO, 2019), which at the time focused on Zambia and to a lesser extent Burundi and Tanzania.

The major cities and ports are Kalemie, the capital of Tanganyika, and Uvira and its port Kalundu in South Kivu. Smaller ports are in Moba and Baraka. Further inland are the population centres of Nyunzu, as well as Kabalo and Kongolo along the Lualaba River. These are also the key agricultural areas of the region. The region has only recently emerged from the devastations of the Second Congo War and is still fragile, with armed groups being present in some parts of the region. In Tanganyika stability has emerged under governor Zoé Kabila, the brother of the former president Joseph Kabila. However, his governorship came to an end in 2021 when Kabila was impeached by the provincial assembly.

The region's economic structure is dominated by agriculture and mining. Agriculture is mainly subsistence, with only limited trade between the hinterland and the lakeshore. The region is also dependent on food imports, including humanitarian food aid. Mining activities focus on gold, cassiterite and coltan and are artisanal in nature. With these three minerals being high-value, low-volume they create no significant demand for maritime transport. In the past, light manufacturing was also an important sector, with a cement plant north of Kalemie, as well as agri-processing plants near Uvira. Currently some of these plants are rehabilitated.

While the region can be described as an island, isolated from the rest of the D.R. Congo, the isolation is not absolute. Important trade routes connect the key ports in Kalemie and Kalundu with Bujumbura in Burundi, Mpulungu in Zambia, and Kigoma in Tanzania, thereby also providing connectivity to the sea ports in Dar es Salaam and Mombasa. The connections also link the region to ports in Mozambique, South Africa and Namibia. Via these trade routes a wide range of products are imported, in particular agricultural products such as rice, sugar, vegetable oils, and wheat flour, as well as cement and construction material, manufactured products and mineral fuels.

Both ports also connect to smaller ports and landing sites along the lake shore. Noteworthy are particularly agricultural exports from Moba to Kalemie. Land connectivity to the hinterland is hampered by the extremely poor state of road and railway infrastructure. Nonetheless, to a limited extent agricultural products are brought into Kalemie from the agricultural areas around Nyunzu, Kabalo and Kongolo, and consumer products from Lubumbashi, via the railway line and roads. Some consumer products imported through these transport modes originate from Zambia. Uvira and the port in Kalundu are relatively well-connected by road to neighbouring Burundi and Bukavu in South Kivu, and from there to Goma in North Kivu, and Rwanda and Uganda.

Very little is exported from the Democratic Republic of Congo via the Lake, owing to limited productive activities in the region. However, this might change in the future if opportunities in agriculture, mining and light manufacturing are exploited. This includes in particular the rehabilitation of a cement plant near Kalemie as well as a sugar refinery near Uvira, both having the potential to serve the wider region. An important development is also a planned lithium mine near Manono, in the South of Tanganyika province. Lastly, the new roll-on/roll-off ferry MV Amani is potentially a gamechanger for transport on the lake. If a reliable sailing schedule can be established, it would allow for the easy shipment of non-bulk goods across the lake.

Résumé exécutif

Cette étude explore les opportunités de commerce maritime sur le lac Tanganyika, plus particulièrement sur les provinces de l'Est du Congo : le Tanganyika, le Sud-Kivu (la partie sud-est de la province territoire de Fizi et Uvira), ainsi que la partie la plus orientale de la province du Maniema (territoire de Kabambare). Elle s'inscrit dans la continuité d'une étude conduite en 2019 (RVO, 2019) qui se concentrait sur la Zambie et, dans une moindre mesure, sur le Burundi et la Tanzanie.

Les villes et ports les plus importants de la région sont Kalémie (capitale du Tanganyika) et son port, et Uvira, qui abrite le port de Kalundu (Sud-Kivu). On retrouve également des ports plus petits le long du lac Tanganyika, tels que ceux de Moba ou de Baraka. Vers l'intérieur des terres se trouvent les agglomérations de Nyunzu, et celles de Kabalo et de Kongolo, deux villes situées le long de la rivière Lualaba. Ce sont également les principales zones agricoles de la région. La région n'est sortie que récemment des ravages de la deuxième guerre du Congo et elle reste fragile. Des groupes armés sont encore présents dans certaines parties de la région. La direction du gouverneur Zoé Kabila a apporté de la stabilité dans la région du Tanganyika. Cependant, son gouvernorat a pris fin en 2021 lorsque Kabila a été destitué par l'assemblée provinciale.

La structure économique de la région est dominée par l'agriculture et l'exploitation minière. L'agriculture est principalement utilisée à des fins de subsistance, et le commerce entre l'arrière-pays et la rive du lac reste encore limité. Néanmoins, la région est dépendante des importations de produits alimentaires, y compris de l'aide alimentaire humanitaire. Les activités minières se concentrent sur l'extraction artisanale d'or, de cassitérite et de coltan. Ces trois minéraux sont de grande valeur, mais les volumes extraits restent faibles et l'extraction ne crée pas de demande significative pour le transport maritime. Il fut un temps où l'industrie légère était également un secteur important pour la région, avec une cimenterie au nord de Kalémie et que des usines d'agro-transformation près d'Uvira. Aujourd'hui, certaines de ces usines sont en cours de réhabilitation.

Si la région peut être décrite comme une île isolée du reste de la R.D. Congo, cet isolement n'est pas absolu. On y retrouve les ports-clés de Kalemie et de Kalundu. Ces ports sont reliés par des routes commerciales aux villes de Bujumbura (Burundi) et de Kigoma (Tanzanie), offrant par ce biais une connexion aux ports de Dar es Salaam et de Mombasa. Ces routes relient également la région aux ports d'Afrique Australe en Mozambique, en Afrique du Sud et en Namibie. Ces routes permettent d'importer un large éventail de produits, en particulier des produits agricoles tels que le riz, le sucre, les huiles végétales et la farine de blé, ainsi que du ciment et des matériaux de construction, des produits manufacturés et des combustibles minéraux.

Les ports de Kalémie et de Kalundu sont aussi reliés à des ports plus petits et à des sites de débarquement le long des rives du lac. Ceci permet, par exemple, un flux important de produits agricoles de Moba vers Kalemie. Par ailleurs, la connectivité terrestre avec l'arrière-pays est entravée par l'état médiocre des infrastructures routières et les perturbations sur les voies ferroviaires. Néanmoins, dans une mesure très limitée, des produits agricoles sont acheminés à Kalémie depuis les zones agricoles de Nyunzu, Kabalo et Kongolo, et des produits de consommation sont exportés depuis Lubumbashi et depuis la Zambie, via la ligne ferroviaire et les routes. En outre, Uvira et le port de Kalundu sont relativement bien connectés par voie terrestre au Burundi voisin et à Bukavu, au Sud-Kivu. À partir de Bukavu, il est possible d'accéder à Goma, au Nord-Kivu, au Rwanda et à l'Ouganda. Certaines marchandises provenant du port de Mpulungu, en Zambie, sont destinés à Goma.

À ce jour, les exportations depuis la RDC via le lac restent faibles en raison des activités productives limitées de la région. Mais ceci pourrait changer si les opportunités présentes dans l'agriculture, les mines et l'industrie légère sont exploitées. Ces opportunités incluent notamment la réhabilitation de la cimenterie de Kabimba, près de Kalemie, et d'une raffinerie de sucre près d'Uvira. Ces deux usines pourraient, potentiellement, desservir l'ensemble de la région. Un autre développement important est le projet d'une mine de lithium près de Manono, dans le sud de la province du Tanganyika. Enfin, le nouveau ferry MV Amani pourrait changer la donne en matière de transport sur le lac. Si un calendrier de navigation fiable est établi, le MV Amani permettrait d'expédier facilement des marchandises non-conteneurisées sur le lac.

Introduction

This study follows a previous study that focused on Burundi, Tanzania and Zambia (RVO, 2019). Like the previous study, this one aims to identify and quantify the export and import potential between the economy of the Eastern Congo and neighbouring countries, via Lake Tanganyika. It thus also aims to answer the question whether deeper economic integration, infrastructure improvements and private sector development can go hand in hand and foster regional economic development. The study was conducted in parallel to a study focused on corridor development and port infrastructure around Lake Tanganyika (RVO, 2021). Both studies complement each other, providing on one side an assessment of trade and investment opportunities, and on the other side of infrastructure bottlenecks and opportunities.

Tanganyika Province

Capital: Kalemie

Webpage: <http://tanganyika.gouv.cd>

	Population	Area in km ²
Kabalo	339,201	15,850
Kalemie	763,373	30,512
Kongolo	670,931	13,408
Manono	804,435	34,198
Moba	723,800	24,500
Nyunzu	525,990	17,275
	3,827,730	135,743

South Kivu Province

Capital: Bukavu

Webpage: <http://www.sudkivu.cd>

Territories:

	Population	Area in km ²
Fizi	1,093,926	15,789
Uvira	1,165,092	3,146

Maniema Province

Capital: Kindu

Webpage: not available

	Population	Area in km ²
Kabambare	758,451	19,513

Source: <https://www.caid.cd>

This study relied on a mix of desk and field research. Desk research included the review of previous studies, media reports and statistical data. Field research included interviews and data collection in Kalemie, Moba and Kalundu, as well as remote interviews with other stakeholders. The study encountered various challenges. First, the vastness of the region and poor transport infrastructure limited our research to three locations. Second, there is a lack of robust and reliable information, even among stakeholders. Reasons for this are manifold, including the size of the region, the lack of digital records and statistical data collection or the absence of a robust media environment. Third, while most stakeholders were supportive and helpful, not always was information shared freely. Reasons include the sensitivity of some sectors and areas (e.g. mining), or consultant fatigue.

General background

Note: See Appendix A for overview maps of the region

Lake Tanganyika is far from an isolated backwater. The second-largest lake in the world by volume and stretching almost 700 kilometres from North to South, Lake Tanganyika plays a critical role in linking parts of the eastern Democratic Republic of Congo (D.R. Congo) among themselves and with the rest of the world. The importance of Lake Tanganyika as a transport corridor has long been recognised, particularly in the last few years. National and regional governments as well as international donors look into ways to rehabilitate the maritime infrastructure, and to promote productive activities as well as trade across and around the lake.

These activities build on a past history, where the Lake as well as the railway line from Kalemie to Kindu (Maniema province) and Lubumbashi (Haut-Katanga province) connected East and Central Africa, and where the Eastern Congo was an exporter of agricultural and manufactured products.

This study focuses on the areas of the D.R. Congo that surround Lake Tanganyika, i.e. all of Tanganyika province, the south eastern part of South Kivu province (Fizi and Uvira territory) and the easternmost part of Maniema province (Kabambare territory). About 6.8 million people live in this area of about 175 thousand square kilometres. The region is thus sparsely populated, with the population density of about 40 people per square kilometre being comparable to the overall population density of the D.R. Congo.

Relatively densely populated is the lakeshore, in particular around the major cities of Kalemie (capital of Tanganyika), Uvira and its port in Kalundu, Baraka (both in South Kivu) and Kirungu and its port in Moba (Tanganyika). Raising from the lake, the Itombwe Mountains at the northern end of the lake and the Marungu highlands at the southern end are relatively sparsely populated.¹ Further inland are the population centres of Nyunzu, as well as Kabalo and Kongolo along the Lualaba River (itself a source of the Congo River). While mining activities are mainly concentrated in the mountainous parts of the region², agricultural lands are mainly along the Lualaba River in the hinterland and to some extent along the lakeshore³.

The region has only recently emerged from the devastations of the Second Congo War and is still fragile. It is plagued by armed conflict and inter-community tensions. Armed militias (Mai-Mai in Swahili) are present in and control various parts of the region, in particular in South Kivu, in the areas around Uvira and Baraka (Fizi territory).⁴ In Tanganyika province inter-communal conflicts are particularly prevalent in the areas between Manono and Pweto, near Lake Mweru, on the border with Zambia.⁵ However, other territories are also affected, such as Kabalo, Moba or Nyunzu. These conflicts are often centred around issues such as land ownership, food security, political disagreements, ethnic or social discrimination, or access to natural resources such as water or minerals.⁶

In general, all provinces are decentralised, with semi-autonomous provincial governments headed by a governor. However, the central government in Kinshasa has a say, in particular in major decisions involving taxes and revenue. In particular, the 2018 Mining Code allocates 50 percent of mining royalties to the central government, 25 percent to the provincial government and 15 percent to the local authority (ETD - Entité territoriale décentralisée). The remaining ten percent are allocated to a planned Mining Fund for Future Generations (FOMIN – Fonds Minier pour le Générations futures).⁷

Power dynamics between the central government and the provinces are complex. Since 2019 Tanganyika province was headed by Zoé Kabila, brother of the former President Joseph Kabila and son of the late President, Laurent-Désiré Kabila. Popular in his province and ambitious in his goal to develop the region, he reportedly also had higher ambitions in national politics. The party of his brother Joseph Kabila, the Common Front for the Congo (FCC – Front commun pour le Congo) has been in a coalition with President Félix Tshisekedi's Union for Democracy and Social Progress (UDPS – Union pour la Démocratie et le Progrès Social). However, this coalition eventually dissolved, with Kabila being the only provincial governor who refused to sign-up to President Félix Tshisekedi's Sacred Union. On May 6th, 2021 this conflict came to a head, when Kabila was impeached by the provincial assembly.⁸

Other governors in the region also came to power on the ticket of Joseph Kabila's party, the Common Front for the Congo (FCC – Front commun pour le Congo). However, all of them have signed up to Tshisekedi's Sacred Union. This includes the governor of South Kivu, Théo Ngwabidje Kasi, who survived a vote of no confidence in the provincial assembly just one day after Kabila's impeachment.⁹ Lastly, the governor of Maniema, Auguy Musafiri, was disposed on May 21st, 2021 under the allegation of having embezzled funds.¹⁰

¹ See <http://luminocity3d.org/WorldPopDen/#7/-6.375/30.872>

² See <https://www.ipisresearch.be/mapping/webmapping/drcongo>

³ See <https://croplands.org/app/map?lat=-6.1624&lng=29.454345703125004&zoom=7>

⁴ See Kouider and Toussignant-Miller (2018, page 13ff.) and <https://suluhu.org/congo/mapping>

⁵ Ibid.

⁶ See Irengé (2017, page 9ff.)

⁷ See IMF (2019) and The Resource Governance Index (2020)

⁸ See <https://www.politico.cd/la-rdc-a-la-une/2021/05/06/tanganyika-zoe-kabila-destitue.html/83035>

⁹ See <https://www.politico.cd/encontinu/2021/05/07/sud-kivu-la-motion-de-defiance-contre-le-gouverneur-theo-ngwabidje-rejetee.html/83189>

¹⁰ See <https://www.politico.cd/encontinu/2021/06/18/maniema-le-gouverneur-dechu-auguy-musafiri-aux-arrets.html/86765>

Economic situation

The Democratic Republic of Congo is predominantly exporting mining products such as metals, ores and diamonds. This narrow export basket is complemented by limited exports of timber and agricultural products such as cocoa or coffee. In contrast, imports span a wide range of products, from consumer goods to fuel and machinery. Mining is a key contributor to GDP, contributing about forty percent to GDP, but less than ten percent to overall employment. In contrast, agriculture contributes less than twenty percent to GDP, but provides about two-thirds of employment, even if mainly in subsistence agriculture.

While no exact statistical data is available for economic activities and trade at the provincial level, all available evidence indicates that Tanganyika and South Kivu mirror this overall pattern. The bulk of employment is in (subsistence) agriculture, while mining activities are the key driver of the economy, responsible for the majority of exports and value-addition. Furthermore, commerce is of importance in the larger cities, in particular Kalemie and Uvira. Light manufacturing is currently almost non-existent. However, this might change in the near future with new projects such as the rehabilitation of the cement plant in Kabimba or the sugar refinery in Kiliba.

There is thus little the region can export. And while in principle the region has to import almost everything, low incomes and living standard also limit import demand. No recent statistics are available on incomes at the provincial level. However, it is clear that large parts of the population live of subsistence agriculture or are internally displaced persons (IDPs), dependent on humanitarian food aid. Both groups are largely outside the formal economy, with little to no income to spend on imports.

Furthermore, food insecurity is the major challenge faced by the region, a challenge that is further aggravated by the impact of COVID-19. In a survey in June 2021 almost 80 percent of surveyed localities across Tanganyika reported that the majority of the population had not access to sufficient food. Food insecurity is the major issue in all territories, even if some territories with relatively strong agriculture (e.g. Kongolo or Moba) or easier access to resources (e.g. Kalemie) are slightly less affected. Overwhelmingly the reason for food insecurity is the poor state of agriculture, with farmers lacking seeds or tools.¹¹

The region is often described as an island, due to the lack of transport infrastructure isolating it from the rest of the D.R. Congo. However, this isolation is not absolute. Important economic linkages exist between Tanganyika and Katanga province (Lubumbashi) as well as Uvira and Bukavu. In terms of infrastructure, these linkages are the railway line (which also connects Kalemie with Kindu in Maniema province) respectively the road between Uvira and Bukavu. Air connections exist between Kalemie and Bukavu and Lubumbashi. Furthermore, there are economic, financial and administrative linkages, with Uvira as part of South Kivu being linked with Bukavu, and Kalemie being more oriented towards Lubumbashi and Katanga province.¹²

This study is structured as follows. In the next chapter we discuss the state of the transport and logistics infrastructure, including ports and the fleet of vessels, the navigational infrastructure as well as hinterland connectivity. We then discuss the economic activities in the region as well as regional trade flows, between ports and between ports and the hinterland, as well as international corridors and sea ports. Lastly, we present the most recent developments, and the opportunities these present. We conclude with a list of recommendations.

¹¹ See REACH (2021, page 2)

¹² Prior to the 2015 restructuring of provinces (“decoupage”), Tanganyika province was part of Katanga province (comprising Tanganyika, Upper Katanga, Upper Lomami and Lualaba), while South Kivu was part of Kivu province (comprising South Kivu, North Kivu and Maniema).

Transport and Logistics

Given the precarious state of roads and the railway line, Congolese ports and cities around Lake Tanganyika are often described as islands. In contrast, Lake Tanganyika is often described as a highway, providing both domestic and international connectivity to ports and cities along the lakeshore. However, this connectivity is affected by the poor quality or the absence of maritime infrastructure.

Port infrastructure

Note: See Annex B for satellite photos of the major ports

In general, only the ports of Kalemie and Kalundu have a developed port infrastructure. While most of the available infrastructure is in serious need of repair, the key limiting factors are often the length of quays, limiting the number of vessels that can be simultaneously handled, as well as the port depth, limiting the size of vessels. Other factors also play a role, such as a lack of functioning cranes and warehousing. The efficiency of ports is also affected by soft factors such as port management and the availability of specialised skills.

The **Port of Kalemie** is the busiest port on the Congolese shore of Lake Tanganyika. The port does not only serve the largest Congolese city on the lake, but also serves as a trans-shipment hub, with intermodal and transmodal connectivity. The former connects Kalemie to the hinterland via roads or the railway, and the latter connects Kalemie with smaller ports and landing sites along the lake shore. The port also serves passenger transport, typically as an add-on to freight transport, with passengers travelling on cargo vessels.

The port is owned by the national railway company SNCC (Société nationale des chemins de fer du Congo), and managed by just eight employees. SNCC as a state-owned enterprise operates most of the railway network in the D.R. Congo¹³, as well as inland ports and parts of river transport. An implication of this ownership structure is that with SNCC as a national company, headquartered in Kinshasa, a key asset of the region is not under the control of the province itself.

The port has one long quay measuring 388 metres, and in principle five winch cranes and one mobile crane with a capacity of 60 tons. There are several warehouses and a ship yard and dry dock. The port has a railhead, in theory allowing for the trans-shipment of goods via the port to Lubumbashi or Kindu. However, the infrastructure is dilapidated, either unusable or only usable with severe limitations or safety risks. The quay has largely disintegrated due to heavy use. The winch cranes are currently not functioning and in need of repair. Warehousing space is dilapidated and barely usable for the safe storage of goods. The port is also affected by sedimentation, limiting its accessibility to vessels. Likewise, the dry dock, ship yard and railhead are in serious need of repair.

The port has regular connections to Kigoma, Kalundu and Moba, with about two to three boats going to each destination every week. This number varies, as there are no regular sailing schedules, with vessels typically waiting to be filled to full capacity before leaving the port. On average about seventy larger cargo vessels and about twenty smaller wooden boats berth in Kalemie every month.

¹³ The Commercial Society for Transport and Ports (Société commerciale des transports et des ports – SCTP) operates the railway line between Kinshasa and the Atlantic ocean port Matadi as well as ports and river transport in the Western part of the country.

Loading or unloading a boat takes about two days for smaller vessels below 600 tons, while larger vessels with more than 600 tons typically take six days to unload.¹⁴ The port authority charges a berthing fee of 95 US-dollar for two days, and correspondingly more if the vessel stays longer.¹⁵ Currently loading and unloading has to be done manually, as the cranes are non-functional. This has greatly affected the capacity of the port, with vessels often having to wait for three to six days before they can be unloaded.

The **Port of Kalundu** is strategically important because of its location and its hinterland connectivity. The port serves the city of Uvira, but is also an important trans-shipment port, with hinterland connectivity to Bukavu and Goma, as well as neighbouring Burundi and close-by Rwanda. Compared to other ports in the Eastern Congo, Kalundu has relatively good road connectivity, to Bukavu as well as Burundi and Rwanda. However, this does not mean that road infrastructure is good, as even the access road connecting the port with Uvira is in a poor state, in danger of collapsing into the lake. The road to Bukavu is not only in poor state, but also insecure due to the presence of armed groups. It takes about eight to ten hours to drive the 130 kilometres to Bukavu.

Kalundu has two berths with a total length of 311 metres, a mobile crane and three transit warehouses, two with a capacity of 1,500 square metres and the other with a capacity of one thousand square metres. Up to eight vessels of 500 to 1,000 tons can berth and be unloaded at the same time. However, due to sedimentation from the nearby Ruzizi and Kamongola rivers, in practice only vessels up to 500 tons can currently use the port. Like Kalemie, infrastructure in Kalundu is in disrepair, including the quays themselves, the crane and the warehouses.

Kalundu has regular connections with Kalemie, Kigoma, Moba and Mpulungu. On average about 26 vessels arrive in Kalundu per month, not counting smaller wooden boats. With only one mobile crane, most loading and unloading has to be done manually, in conjunction with limited berthing space limiting the capacity of the port. While the cost of unloading by crane is set at 2.5 US-dollar per ton, vessel owners typically prefer manual unloading as it is not only faster, but also cheaper.

The **Port of Moba** can barely be called a port. However, it is of great importance to Moba as well as the city of Kirungu, about ten kilometres inland from the port. Port infrastructure is limited to one quay, which is in a state of disrepair and is at times almost completely submerged.¹⁶ The port is owned and managed by the Moba Maritime Commission and employs five stevedores, for the loading and unloading of vessels. The port has no handling equipment or any other infrastructure.

The port receives vessels from Kalemie and Uvira, as well as Kigoma and Mpulungu. Due to the almost non-existing infrastructure in Moba, most of these vessels are small. In the first two months of 2021 the port counted 32 departures of vessels to other ports and landing sites in the D.R. Congo, and four to ports in neighbouring countries. While this is to some extent affected by COVID-19 related restrictions, in general most communication is with other Congolese ports.

The **Port of Mshimbakye** serves Baraka in Fizi territory and is located between Kalundu and Kalemie. It is not a major port, but it might become more critical as the city of Baraka is growing in terms of population. Currently there is no port infrastructure to speak of, as the port is completely submerged by floods. Reportedly the port is also used to trade redwood (legal and illegal).¹⁷ There are at least twice weekly departures to Kalundu.

¹⁴ Hamburg Port Consultants (2018) estimated the daily handling capacity at 500 tons (or 182,500 tons per year), well above the current volumes currently handled. Other estimates, by the World Food Programme, are a bit higher, at 220,000 tons per year.

¹⁵ These fees are in line with fees charged at other ports. For example, in Mpulungu the fee ranges from 40 to 100 US-dollar, depending on the size of the vessel. See <https://dlca.logcluster.org/display/public/DLCA/2.1.1+Zambia+Mpulungu+Harbour>

¹⁶ In recent years floods have increasingly become an issue. These are caused by climate change, in combination with deforestation and soil erosion.

¹⁷ See SOCEARUCO (2020)

The **Port of Kabimba** was built during the colonial era to transport the cement produced in the Kabimba cement plant.¹⁸ The port is located between Mshimbakye (Baraka) and Kalemie. It is currently not used, but will be rehabilitated as part of the rehabilitation of the cement plant itself.

Table 1 Summary of port infrastructure

	Kalemie	Kalundu	Moba	Mshimbakye	Kabimba
Berths	1 quay, length of 388 metres	2 quays, total length of 311 metres	partially submerged	fully submerged	1 quay, length of ca. 100 metres
Maximum ship size	1,500 metric tons	500 metric tons	limited	limited	unknown
Cranes	Five dock cranes (not functional) Mobile crane (60 tons)	Two dock cranes (not functional) Mobile crane (50 tons)	none	none	none
Warehouses	6,000 – 10,000 m ² (depending on the source)	4000 m ² in three warehouses	none	none	none

Source: own research and RVO (2021)

Fleet and lake navigation

RVO (2019) noted that three types of boats and vessels operate on Lake Tanganyika – bulk carriers, barges and oil tankers; combined passenger/cargo ships, and smaller wooden boats. Smaller wooden boats mainly serve informal transportation needs and are used by fishers. Bulk carriers, barges and oil tankers are less numerous, operate between the major ports and vary in capacity between 300 and 1,500 tons. Information on the number, types and status of vessels is often contradictory and should thus be seen as approximate.

Around 35 vessels on the lake are owned by Congolese operators, compared to around 18 vessels owned by Burundian operators and four by Tanzanian operators.¹⁹ The largest operator is the national railway company SNCC, which operates nine vessels and barges, even if currently only four are in working condition. Consequently, of the 29 vessels calling at Kalemie in 2020, only the 500 ton MV Tembwe belonged to SNCC.

Table 2 SNCC fleet on Lake Tanganyika, 2021

Name of Boats and Barges	Capacity	Current situation
Vessels		
Remorqueur Zongwe	2,500 tons	Good condition
Lukuga	600 tons	Not working
Yungu	unknown	Not working
Tembwe	450 tons	Not working
Barges		
Katumbi	850 tons	Not working
Marungu	550 tons	Good condition
Petroleum barges		
Kalonda	112 m ³	Not working
VUA	900 m ³	Good condition
Ruzizi (Wimbi)	900 m ³	Good condition

Source: Director of the Customs Authority at the Port of Kalemie

¹⁸ The colonial era plan is presented at <https://www.e-periodica.ch/cntmng?pid=bts-002:1953:79::136>

¹⁹ See also RVO (2021, Appendix 1)

There are also 28 private Congolese vessels and barges that operate on Lake Tanganyika. Furthermore, the MV Amani is a new roll-on/roll-off ferry, capable of transporting 3,500 tons of goods and 500 passengers. The vessel is the largest on the lake. Still relatively new it is not yet operating according to a fixed sailing schedule, instead operating depending on freight demand and needs (see also the chapter on current developments for more information).

Kalemie has the highest frequency of departures, with two to three boats going to the major ports (Kalundu and Moba, and Kigoma and Mpulungu) every week. Other ports and landing sites have lower frequencies. There is hardly a regular sailing schedule, as most vessels leave when full. Travel times vary between twelve hours for Kalemie to Kigoma or Moba and up to three days for Kalundu to Mpulungu. The cost of transport varies between 20 and 25 US-dollar per ton, and is only loosely related to the distance.

In contrast, ticket prices for individual passengers vary with distance, ranging from 25 to 70 US-dollar per person (Table 3). While high in comparison to average incomes in the region, the absence of transport alternatives provides little alternative to travellers. Furthermore, most passengers are traders and thus finance the transport cost out of their proceeds.

Table 3 Average travel times and frequency

Route	Travel time	Frequency	Cost cargo	Cost passenger	
Kalemie	Kalundu	24 hours	3x per week	20 US\$ per ton	35 US\$ per person
	Moba	12 hours	2x per week	25 US\$ per ton	50 US\$ per person
	Kigoma	12 hours	2x per week	-	-
	Mpulungu	-	-	-	-
Kalundu	Moba	36 hours	-	-	-
	Kasanga	-	-	25 US\$ per ton	50 US\$ per person
	Kigoma	12 hours	-	20 US\$ per ton	25 US\$ per person
	Mpulungu	72 hours	-	25 US\$ per ton	70 US\$ per person
Moba	Kigoma	24 hours	-	-	-
	Mpulungu	24 hours	-	-	-

Source: Interviews in ports

While maritime transport is the safest and fastest way to travel in the region, safety on the lake remains an issue. A case in point are recent disasters, such as the capsizing of a boat in June 2021 near Baraka (with 13 feared dead) or near Moba (with seven feared dead).²⁰ Causes of such disasters are poor safety standards (e.g. overloading) and the poor conditions of vessels and boats, on a lake with high waves. Furthermore, there are few services available, such as accurate weather forecasts, communication networks or a search and rescue service.

Hinterland connectivity

The **road network** in the hinterland is limited. There are few motorised roads to access the main port cities, and the existing ones are often in poor condition and not well-maintained. As a result, these roads are often impassable, especially during the rainy season or during poor weather conditions. For example, the only road between Bukavu and Uvira was indefinitely closed to all vehicles in April 2021 due to landslides following heavy rains.²¹ Consequently the lake plays an important role in connecting places along the lakeshore. At the same time the ports cannot fully function as effective trans-shipment hubs to the hinterland. This means that

²⁰ See <https://actualite.cd/2021/05/04/rdc-baraka-au-moins-13-morts-depuis-fevrier-suite-la-montee-des-eaux-du-lac-tanganyika> and <https://actualite.cd/2021/06/10/tanganyika-trois-morts-suite-au-nauffrage-dune-pirogue-moba>

²¹ For more information, the website <https://logcluster.org/ops/drc> provides live updates on transportation infrastructure in the DRC. The closure of the road between Bukavu and Uvira was published on April 6, 2021.

Lastly, the region is also connected by air, via the **airport in Kalemie**. Between 2014 and 2019 the airport authority invested about 44 million US-dollar in the modernisation of the airport, financed through levies on travellers. The rehabilitation included a lengthening and widening of the runway, an extension of the tarmac, the construction of a passenger terminal and the installation of a runway lighting system.²⁵ Currently the airline Compagnie Africaine d'Aviation provides non-stop flights to Bukavu and Lubumbashi only.²⁶ With ticket prices of more than 400 US-dollar to Bukavu or Lubumbashi air transport is accessible only to a small part of the population.

²⁵ See <https://deskeco.com/2020/05/25/rdc-la-modernisation-de-laeroport-de-kalemie-beneficie-de-plus-de-44-millions-usd-venant>

²⁶ See <http://www.caacongo.com/horaires-08jun-2021.pdf>

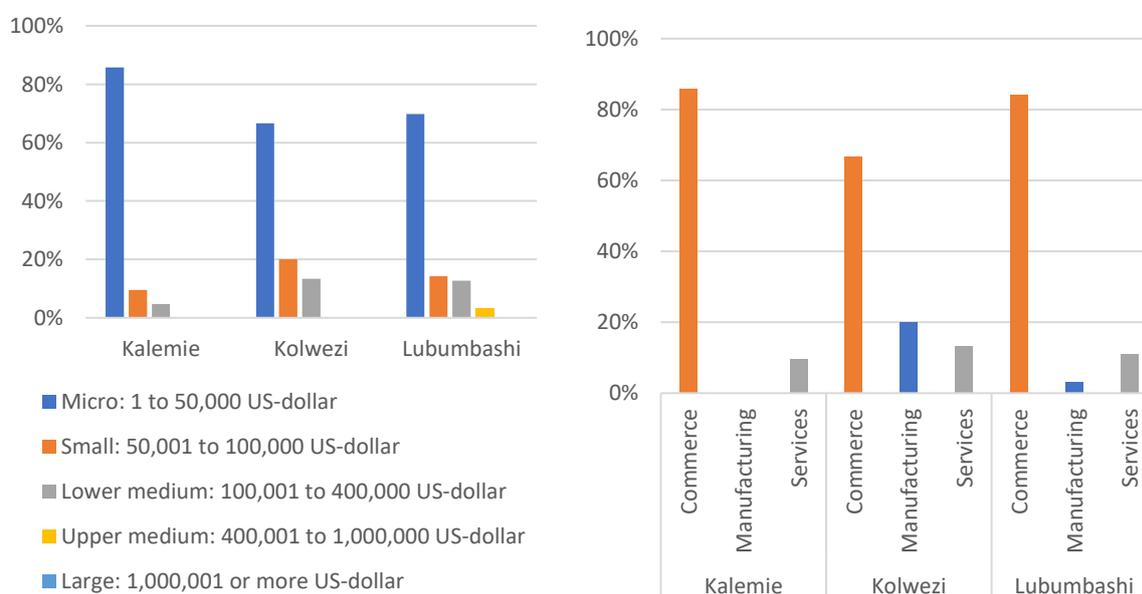
Economic Activities and Trade

Economic activities on the Congolese lakeshore focus on agriculture, fisheries, mining and to a very limited extent light manufacturing. The region is dependent on imports, in particular fuel, transportation equipment and consumer goods, with exports consisting mainly of mineral products. Consequently, domestic trade, with the hinterland, and international trade, across the lake, is limited and imbalanced.

Very little statistical data is available on the economic structure and performance of the region. One of the few sources is a survey conducted by the Fund for Financial Inclusion (Fonds pour l'inclusion financière en RD Congo – FPM) in 2015 among 903 firms in Kalemie, Kolwezi and Lubumbashi, the latter two in what is today Upper Katanga province.²⁷ Some changes might have taken place. Furthermore, Kalemie is almost certainly not representative of other cities, let alone rural areas in the region. Nonetheless, the survey offers some insights into the economic structure of the region.

The vast majority of firms in Kalemie are micro enterprises, with annual revenues below 50,000 US-dollar. Furthermore, there are almost no large firms, in contrast to Lubumbashi, and very few medium-sized firms, in contrast to both Kolwezi and Lubumbashi. Almost all firms are in commerce, very few in services and virtually none in manufacturing. Taking all three cities together, within commerce most firms are active in the trading and sales of food and beverages (20 percent), textiles and clothing (15 percent), as well as pharmaceuticals (8 percent), spare parts (6 percent) and construction material (5 percent).

Figure 1 Firms by annual revenue [left], Firms by sector [right], both June 2015



Source: FPM (2016, page 20)

Most firms rely on local wholesalers (50 percent), followed by firms that rely on wholesalers abroad (30 percent), local retailers (23 percent), and wholesalers in the wider region (18 percent). In contrast, only seven percent relied on wholesalers in Kinshasa, highlighting that the wider region is quite isolated from the rest of the D.R.

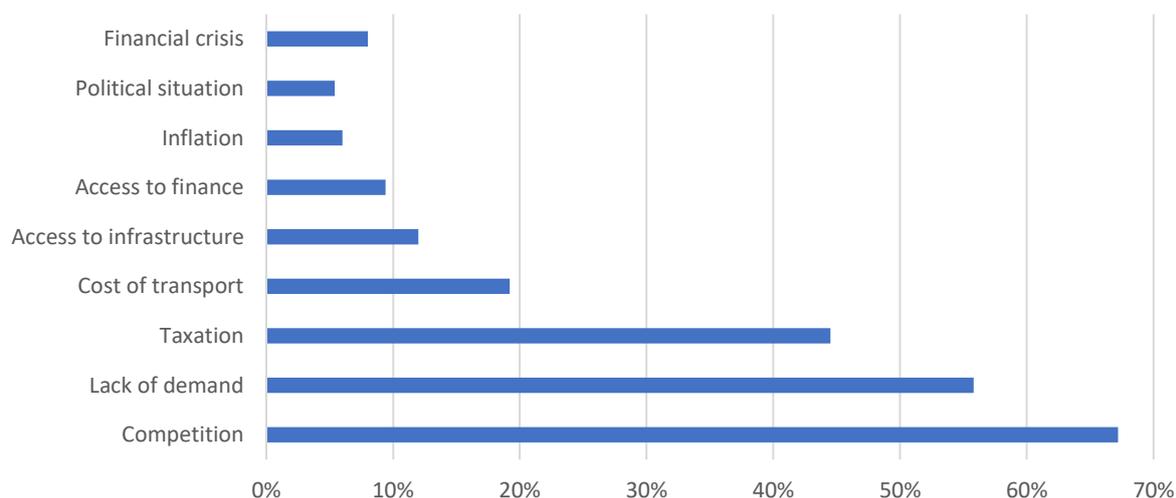
²⁷ See FPM (2016, 20ff.) for a summary of the survey. Our discussion in this chapter is based on this summary.

Congo.²⁸ Of those firms in Kalemie, Kolwezi and Lubumbashi that trade internationally, most trade with Tanzania (47 percent), Zambia (28 percent)²⁹, United Arab Emirates, i.e. Dubai (11 percent) and China (9 percent).

To summarize, this indicates an economic structure that is fairly simple, with very little manufacturing or even service activities. Instead, the focus is on commerce. Firms source either locally or internationally, but less so domestically, within the wider region or the D.R. Congo. This indicates the issue the region and the D.R. Congo in general face. While basic products can be sourced locally, beyond those one has to rely on imports. And furthermore, even if products could be sourced from other parts of the D.R. Congo, poor transportation infrastructure renders this often cost-prohibitive.

Firms were also asked about the challenges they faced. Again, these numbers are aggregated across Kalemie, Kolwezi and Lubumbashi, and are thus not necessarily representative for firms in Kalemie, let alone in other, less urban parts of the region. The key issues, as identified by firms are what could be summarized as the limited size of the market – too many firms for too little demand. Taxation is also an issue, also in light of corruption. However, contrary to what one might expect, the cost of transport, access to finance and political uncertainty are perceived as lesser issues.

Figure 2 Challenges faced by firms, June 2015



Source: FPM (2016, page 23)

This, however, does not need to be a contradiction. We noted that most firms are very small and are concentrated in just one sector – commerce. This would indicate a crowded space, with seemingly few firms able to break out, to grow, let alone move into manufacturing or other sectors. Within this crowded space firms face these challenges – lack of demand and competition, as well as taxation. These are thus the challenges that are encountered and felt by these firms. Yet, to break out of this crowded space would require to overcome other barriers, such as access to finance, poor market access (and thus the cost of transport), political uncertainty, among others.

These, however, are challenges that are extremely difficult to address, also because they are inter-related. Political uncertainty and armed conflict through the risk channel affects access to finance, both the kind of finance needed to fund large-scale investments into infrastructure, as well as access to finance through the (largely non-existent) banking system to micro-, small-and medium-sized enterprises (MSMEs).. Conversely, the

²⁸ As firms can rely on more than one wholesaler or retailer, the percentages add up to more than 100 percent.

²⁹ We would expect that most or all of those firms trading with Zambia are based in Lubumbashi, due to the proximity to the border crossing in Kasumbalesa.

lack of transportation infrastructure stokes fragmentation and thus conflict, as does the lack of economic opportunities.

Economic activities

Agriculture, fisheries and forestry

Agriculture is a key activity in the region. Agriculture is mainly at the subsistence level, with mostly small-scale and family based production. Agricultural areas are mainly in the hinterland, in the areas around Nyunzu and Kongolo, as well as around Moba. Although these regions have substantial agricultural potential, due to the abundance of fertile land, the region is also not self-sufficient in food and large parts of the population face persistent food insecurity. There is no large-scale commercial agriculture and only limited local trade. Barriers include in particular the poor transportation infrastructure, the lack of processing activities and other barriers such access to finance.

Production in the region is focused on cassava, maize, rice, peanuts and palm oil. Cassava and maize are the two most important crops and the most important staples in the diet of the population. While the region is self-sufficient in cassava, it depends on imports for maize.³⁰ Cassava production has averaged more than 400,000 tons between 2013 and 2016, while maize averaged around 140,000 tons.³¹ Maize production used to be higher, but has steadily declined in the last 30 years, due to a shift from maize to the production of rice and bananas (in the region around Kalemie), rice and cassava (in Moba, Manono and Nyunzu) and rice (in Kongolo).³²

Rice has become an important staple food in the region. With the production of rice being still modest at on average about 1750 tons per year between 2013 and 2016³³, the gap is served by imports from abroad, mainly from Tanzania, China and Pakistan. These imports have steadily increased over the past years, from only about 200 tons in 2000 to more than 800 tons in 2015.³⁴

Value chains are relatively short, also given the absence of local agri-food processing facilities and the dominance of subsistence agriculture. Important actors are not only wholesalers, but also humanitarian organisations, as importers of staple foods (and occasionally also as buyers of local production). The typical value chain for local production involves rural collectors, artisanal processors, wholesalers and retailers. The typical value chain for imported goods involves wholesalers and retailers only.³⁵

The production of higher value crops, such as tea, coffee³⁶, moringa (horseradish tree) or palm oil has mostly ceased. This is due to a focus on crops that require less investment and have a shorter crop cycle, as well as the lack of processing facilities and market access. There are however projects and investments that aim to change this situation, such as for example a new sugar refinery near Uvira or the World Bank project PICAGL (see the next chapter for more details). The focus of these projects are commodities such as cassava, rice, sugar as well as livestock and dairy. These are then also the most promising commodities, at least in the near-term.

In general, agriculture does not create significant demand for maritime transport on Lake Tanganyika, except for some limited trade between Moba and Kalemie. One reason is the agricultural areas around Nyunzu and

³⁰ See https://reliefweb.int/sites/reliefweb.int/files/resources/DRC_SMO_January2018.pdf

³¹ See <https://reliefweb.int/sites/reliefweb.int/files/resources/WFP-0000098937.pdf>

³² Konrad-Adenauer-Stiftung (2017)

³³ See https://reliefweb.int/sites/reliefweb.int/files/resources/DRC_SMO_January2018.pdf

³⁴ Konrad-Adenauer-Stiftung (2017)

³⁵ See Famine Early Warning Systems Network (2015)

³⁶ There are some attempts to reintroduce coffee production in South Kivu, see <https://nestle-nespresso.com/news/nespresso-invests-in-the-democratic-republic-of-congo>

Kongolo are far from the lake, even more so in the face of poorly developed roads and railway lines. The other reason is that agriculture is mostly at the subsistence level, hence creating limited demand for imported agricultural inputs and limited surplus production that could be traded or exported.

Fisheries are, like agriculture, a key activity that is predominantly at the subsistence level, with industrial, large-scale fishing being absent. The annual catch is estimated to be around 280,000 tons, while the potential of the Congolese part of the lake is estimated to be between 300,000 and 450,000 tons. Furthermore, about 156,000 tons of fish were imported (in 2017), implying that the full potential of the fishery sector is not exploited.³⁷

Emblematic for the sector and its value chain is Kamko, a landing site in Kalemie, producing around 6150 tons of fish per year. Of the more than 5000 people working in the sector, 4726 are fishermen (all of them men), 700 are fishmongers (mostly women) and 50 are processors (mostly women). Processing mainly entails smoking and drying, to extent the shelf life. Value chain actors face challenges, in particular the lack of cold storage both on fishing vessels and on land, as well as limited market access, beyond Kalemie town.³⁸

Value chain actors have organized themselves into various cooperatives. These are federated under the umbrella of COPETANG (Coopérative des pêcheurs du Tanganyika). These collectives promote the interest of fishermen and provides their members with storage facilities, equipment to produce smoked and dried fish and commercialization services, among others. Furthermore, at least two donor programs currently target the sector, PICAGL (see also the next chapter) and the Integrated Development Program for Fish (PRODAP – Programme intégré de développement et d'appui à la pêche). The latter aims to develop the sector through training, infrastructure improvements and the harmonization of fishery legislation in all four riparian countries.

Given the challenges related to cold storage and market access, fresh fish is mainly sold locally. In contrast, fish trade is focused on salted, smoked or dried fish. This fish is traded with the hinterland, as far as Kasai-Central and Oriental or Katanga, as well as Burundi, Tanzania and Zambia. To a very limited extent fresh fish is also sent to Kinshasa and Lubumbashi by plane. Some trade in fish is also taking place between Moba and Mpulungu, with fish being used as a quasi-currency by Congolese traders, wishing to buy fast moving consumer and agricultural products in Zambia.

Timber and charcoal are important economic activities in the region. Regions in South Kivu with logging activities include the Fizi Territory as well as the Itombwe mountains (where logging is illegal, due to the mountains being a natural reserve). The trade in timber and charcoal in this region is controlled by the Mai-Mai Yakutumba armed group. Trade in timber is lucrative, with the Yakutumba selling a metre of planked wood for about \$0.9 to \$2.25, while traders in Bukavu and Uvira sell the metre for about \$9 to \$15 to exporters. This wood is exported via Kalundu to Burundi and via Kalemie to Zambia.³⁹ Some of this exported timber and charcoal is also destined for international markets, in Asia or Europe, at least according to reports from 2012.⁴⁰

Logging is also an important activity in Tanganyika. In the hinterland, west of Kalemie, timber is logged, and either made into wooden planks or charcoal and to be sold in Kalemie. A bag of charcoal selling for ca \$8 in the hinterland would sell for \$22 on the market in Kalemie.⁴¹ However, in both provinces logging has a significant environmental impact, with deforestation, as in other parts of the D.R. Congo, increasingly being a problem.

³⁷ See Bungubetshi (2020)

³⁸ Ibid.

³⁹ Group of Experts on the Democratic Republic of the Congo (2020, paragraph 73-75). However, our own informants could not confirm that timber is trade through Mpulungu.

⁴⁰ WWF Uganda (2012)

⁴¹ See <https://clubunescontchenko.wordpress.com/2019/03/24/la-deforestation-en-province-du-tanganyika-une-menace-serieuse>

Mining

Mining is the predominant sector in the region, as in the D.R. Congo overall.⁴² In South Kivu and Tanganyika artisanal mining is predominant, with a focus on coltan⁴³, gold and cassiterite⁴⁴. To a lesser degree, tourmaline⁴⁵, copper and wolframite⁴⁶ are also found. These are also known as 3TG, for tin (cassiterite), tungsten (wolframite), tantalum (coltan) and gold. Gold is mainly found in a corridor stretching from north of Kalemie over Fizi to Bukavu (Panafrikan Gold Province), the western parts of South Kivu and the eastern parts of Maniema (Kibaran Gold Province)⁴⁷, as well as around Moba and Nyunzu. Cassiterite is found deep in the hinterland of Tanganyika, near Manono in the south west, as well as in the North of South Kivu. Coltan is predominantly found in the hinterland west of Kalemie.⁴⁸

These minerals are of critical importance for key industries and technologies, such as computer chips or electric vehicles⁴⁹. There is thus an immense demand for these mineral by the major economies, including the European Union, the United States, China and other East Asian countries.⁵⁰ At the same time, these minerals also breed conflict, due to their high-value, and the relative ease with which they can be mined and smuggled. Consequently, efforts have been underway to facilitate the traceability of conflict minerals, such as for example through the EU Conflict Minerals Regulation.⁵¹ The Netherlands has been active in promoting traceability and responsible value chains, for example through the Madini programme in Ituri and South Kivu, currently implemented by the Netherlands Embassy in Bujumbura.

The International Peace Information Service (IPIS) regularly surveys mines in the Eastern Congo.⁵² However, not all mines are visited regularly and, furthermore, the size of these mines can significantly change over short periods of time.⁵³ The data thus provides a snapshot of individual mines at specific points in time, but has limitations with regards to the overall size of the mining sector in the region. There are about 383 mines in the region, with each mine having a median number of workers of 80. By far the largest number of mines are in Fizi territory (South Kivu). A large number of mines are also located in the territories of Kalemie, Manono and Nyunzu (Tanganyika) as well as Kabambare (Maniema). While the median number of workers per mine is comparable across territories, Manono stands out with a median number of 300 workers per mine. (see Figure)

⁴² With the mining sector being sensitive, robust information and data are not always available. Likewise, interview partners were typically reluctant to share information. The situation of the sector, as sketched in this section should thus be seen as approximate.

⁴³ A metallic ore also known as tantalite and composed of niobium and tantalum. The tantalum extracted from coltan finds widespread use in the electronics industry.

⁴⁴ A tin oxide mineral, cassiterite is a source of tin. Tin is used in the electronics industry and as an alloy, among others.

⁴⁵ A semi-precious gemstone, mostly used for jewelry.

⁴⁶ An ore mineral and the main source of the metal tungsten, which is used mostly for electric filaments and armour-piercing ammunition.

⁴⁷ See Bundesanstalt für Geowissenschaften und Rohstoffe (2019, page 4-5)

⁴⁸ See <https://www.ipisresearch.be/mapping/webmapping/drcongo>

⁴⁹ While typically not seen as a conflict mineral, there is also a geopolitical competition for lithium, to be mined near Manono, in the South of Tanganyika.

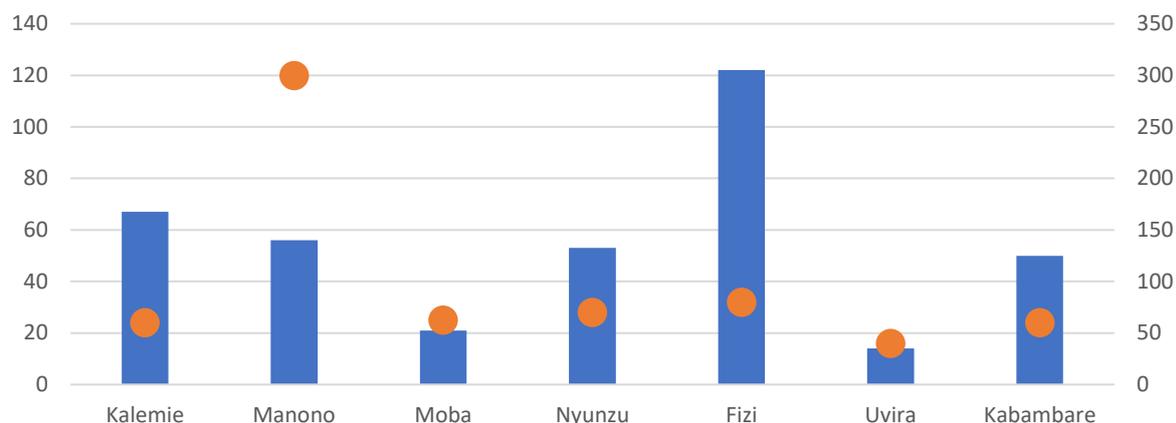
⁵⁰ See Kalantzakos (2019 on the geopolitics of conflict minerals).

⁵¹ See <https://ec.europa.eu/trade/policy/in-focus/conflict-minerals-regulation/regulation-explained>

⁵² See <https://ipisresearch.be/home/maps-data/open-data> for the raw data. This section largely draw on our analysis of this data.

⁵³ For example, the Akyanga mine in Fizi Territory was visited on four occasions between 2009 and 2015. Over this time period the number of workers fluctuated between 1500 to 6000.

Figure 3 Number of mines (blue bars, left axis) and median number of workers per mine (orange dots, right axis)



Note: No mines in Kabalo and Kongolo

Source: own calculations based on <https://ipisresearch.be/home/maps-data/open-data>

Mining is overwhelmingly informal and artisanal, with the miners being self-employed, using their own resources and in most cases working without any machinery. Most miners are men; however, women are increasingly drawn into mining, into auxiliary activities such as the washing and sales of the minerals in the mining camps. They often face serious risk of sexual exploitation, violence, and also a lower pay than men. Children are also found to be working in the mines, especially in South Kivu, in 36 percent of the mines. In contrast child labour is reported only for 4 percent of mines Tanganyika and none in the Kabambare territory in Maniema.

Armed groups are a regular presence at mines, including the armed forces FARDC (Forces armées de la république démocratique du Congo) and non-state actors such as Raïa Mutomboki, Mai-Mai, FDLR and the FRF. This is particularly so in South Kivu, with armed groups being present at around 75 percent of mines in Fizi and Uvira territory. In contrast, armed groups are far less present in mines in Tanganyika (around 30 percent of mines) and Kabambare territory in Maniema (only one mine out of 50 reporting the presence of an armed group).

The supply chains of minerals start with the miners ('creuseurs'), who mine the various minerals. The washers ('laveurs') wash the minerals at the mine. Then, local middlemen ('négociants') purchase the minerals at the mine and transport them to the main trading hubs, such as Bukavu, Goma, Kalemie or Lubumbashi. There the minerals are treated, sorted, smelted and refined in the trading houses ('entités de traitement'). Finally, the processed minerals are exported by international traders.

An interesting situation occurred in the supply chain of minerals from Maniema province. With minerals from North and South Kivu having a tainted reputation as conflict minerals, it was reported in 2013 that mineral exports from Maniema were diverted from Bukavu or Goma, to go through Kalemie instead, thereby benefiting from the better reputation of Tanganyika.⁵⁴

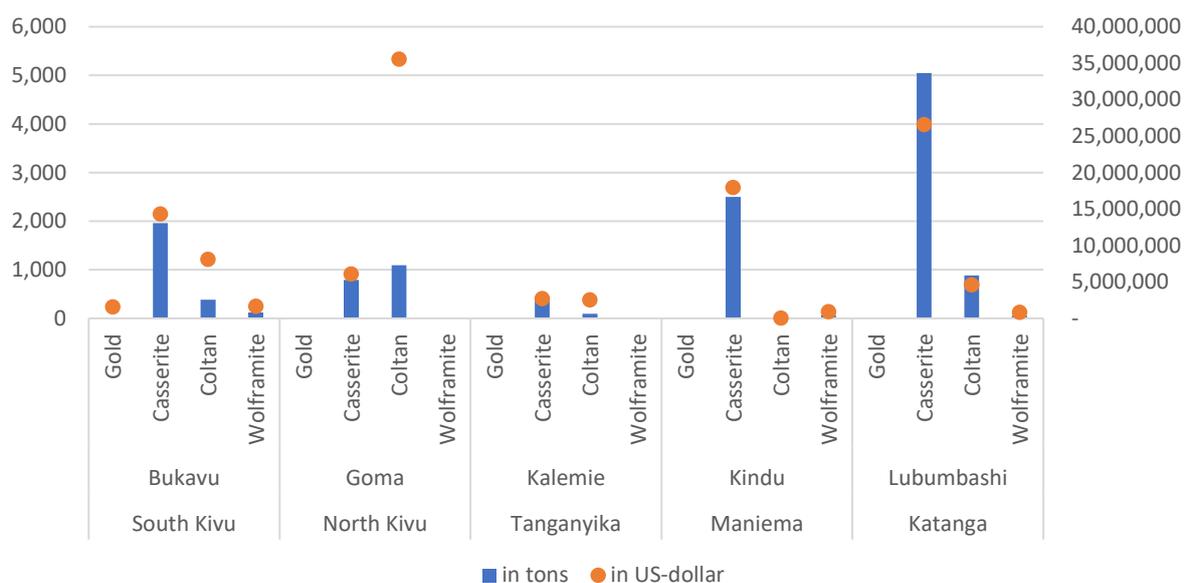
While most mines are small and artisanal, a few larger mines exist. This includes in particular the Namoya gold mine in Maniema. Up until 2021 it was owned by Canadian Banro Corp., and was sold due to security concerns to Shoma Resources, a Sino-Congolese consortium.⁵⁵ The production of this gold mine has precipitously fallen in recent years, to less than 50 kg in 2020, down from more than 3.5 tons in 2016.⁵⁶ Furthermore, two potentially game-changing developments are large-scale mining developments, a gold mine near Moba and a lithium mine near Manono (see the next chapter for more details).

⁵⁴ See also Matthysen and Montejano (2013, page 24)

⁵⁵ See <https://www.reuters.com/article/us-congo-mining-idCAKBN23U1T9>

⁵⁶ See <https://mines-rdc.cd/fr/les-statistiques-minieres>

Figure 4 Artisanal mineral exports by city and province, in tons (blue bars, left axis) and US-dollar (orange dots (right axis)



Source: own calculations based on <https://mines-rdc.cd/fr/les-statistiques-minieres>

Official statistics on mineral exports should be approached with caution, as exports of minerals from artisanal mining operations are likely undercounted. Nonetheless, these statistics paint a picture of relatively limited mineral exports from Tanganyika, as well as Maniema and South Kivu (including territories not neighbouring Lake Tanganyika). Exports of most minerals from Bukavu, Kalemie and Kindu are typically below one thousand ton respectively ten million US-dollar per year. These relatively low reported volumes and value stand also in contrast to the exports reported from large-scale mines. For example, Alphamin Bisie Mining in North Kivu produced more than 17,500 tons of cassiterite in 2020, several times the total cassiterite production of all artisanal mines in all provinces combined.

To summarise, mining is a major economic activity, creating incomes along the value chain and thus demand for traded and imported consumption goods. At the same time, currently mining does not substantially create specific demand for maritime transport on Lake Tanganyika. One reason is the artisanal nature of mining, implying a limited direct demand for imported machinery and equipment.⁵⁷ The other reason is that mining is concentrated on high value, low volume minerals; minerals that can be transported by air or that do not create a significant and stable demand for bulk maritime transport. At the same time, it has been suggested that for the trafficking of minerals the lake is the preferred option, as the level of monitoring is lower on the lake.⁵⁸

Light manufacturing

Light manufacturing is very limited in the region. However, this has not always been the case. In the past, and especially before the 1990s, several large industrial enterprises existed in both Tanganyika and South Kivu. This past industrial base is not merely of interest for nostalgic reasons, but also because efforts are underway to build on this past and revive several light manufacturing sectors. These past activities focused on agri-food processing, construction materials and textiles, include:

⁵⁷ An exception are explosives, which are – beyond cement, sugar and maize – among the more significant exports from Mpulungu port. See RVO (2019, page 26).

⁵⁸ See Falisse (2019, page 4)

- ▶ In Kalemie, the textile producer FILTISAF (Société de filatures et tissages africains – African Spinning and Weaving Company), operated from 1947 until its bankruptcy in 1991. The company was vertically integrated, involved in growing cotton in the hinterland and producing textiles in Kalemie.⁵⁹
- ▶ Kalemie previously also had two shipyards, one owned by the Waterway Authority (RVF – Régie des voies) and the other one by the railway company SNCC. While both shipyards have not been operational for years, with the construction of the MV Amani the SNCC shipyard has come back to life.
- ▶ North of Kalemie, in Kabimba, the Interlacs SARL cement factory was operational until 2016, with a capacity of 0.5 million tons per year.⁶⁰ It was majority owned by HeidelbergCement, a German multinational company.⁶¹ The factory is currently rehabilitated by Chinese investors, aiming to produce more than two million tons of cement per year (see the next chapter for more details).
- ▶ Near Uvira several agri-food processing plants existed until the 1990s. These included a peanut oil processing plant, a cotton ginnery and the Kiliba sugar refinery (Sucrerie du Kivu). The latter has been rehabilitated and has started operating in early 2021 (see the next chapter for more details).

However, currently almost no light manufacturing exists. In Kalemie there are a few small workshops, in wood processing or metal fabrication. Noteworthy are also two small-scale producers of mineral water, Imani and Source. Nonetheless, in the absence of significant light manufacturing almost all consumer goods are imported, typically across the lake.

Service industries

Service industries in the region are focused on retail and wholesale trade, transport, construction, and financial services. There is also the ambition to develop (mainly domestic) tourism in the region, drawing in particular on the attractiveness and beauty of the lake shore.

- ▶ The retail sector is fragmented. While a few medium-sized stores exist in Kalemie, outside the city there are only small stores and markets. There are neither foreign owned brand retail stores nor shopping malls in the region.
- ▶ This commercial structure is also reflected in wholesale trade, which is dominated by three companies. Some of these trading companies operate out of Bukavu or Goma, and often integrated trade, transport and logistics. One such example is a trading company headquartered in Bukavu with offices in Goma, Kalemie, Uvira. The trading house is owned by a family originating from South Asia, with access to ethnic trading networks across the East African region and in South Asia.
- ▶ The transport sector includes transport and logistics companies. The latter includes Bolloré, providing logistics support services, currently mainly for humanitarian shipments of food aid. In contrast, demand for logistics support by commercial traders and businesses is currently very limited, presumably also because large-scale traders operate an integrated business, combining transport, logistics, wholesale and retail.
- ▶ The construction sector has recently undergone a small boom in Kalemie, creating also demand for imported construction materials. Causes of this boom include the relative peace in the region, income generated by mineral exports and the ambitions of the (former) governor Zoé Kabila. A Polish architectural firm also designed a master plan for Kalemie, which, if realised, would expand the city to the northeast.⁶²

⁵⁹ See <https://gouv.tanganyika.cd/index.php/2020/11/29/visite-du-gouverneur-de-province-zoe-kabila-a-lusine-de-la-filtisaf> and <http://www.filtisaf.be/estagricole.htm>

⁶⁰ See Lavenex (1953) for the colonial era plans of the cement plant.

⁶¹ See <https://www.heidelbergcement.com/en/node/1463>

⁶² See <http://www.openarchitekci.com/en/projekty/uzytecznosc-publiczna/kalemie-projekt-miasta-dr-konga-afryka>

Business support system

Likewise, the business support system is weakly developed. Access to finance and financial services is limited. While some national or regional banking or microfinance institutions have a presence in Kalemie, outside Kalemie only few branches exist.⁶³ This absence also reflects a lack of demand for financial service, given the relatively simple economic structure of the region. At the same time this also poses a challenge for businesses and entrepreneurs. In particular, interview partners in the trading sector indicated that cross-border payments and the provision of letters of credit are a key problem in their international trading activities. Given the sparsity of local supplies and production, most traders import or would like to. However, there is considerable uncertainty about any payments that are not based on physical contact between the supplier and buyer. If not for traditional trade finance services by banks, a solution might lie in mobile payment platforms such as MoMo in Zambia or M-Pesa in East Africa.

There are also various formal and informal business associations (such as for example COPETANG for the fisheries sector), providing support to their members. The national Chamber of Commerce, the Federation of Enterprises of Congo (FEC – Fédération des entreprises du Congo) has a presence in Kalemie, close to the port, but has, however, to cover the whole province with just three employees.

Domestic, regional and international trade flows

Maritime trade on Lake Tanganyika plays an outsized role for trade flows in the region, with interview partners often calling Kalemie an island and Lake Tanganyika the *boulevard de la region*. There are two different, but also overlapping types of trade flows: Large-scale trade, of a diverse set of products, originating from outside the region, and mostly cross-border. This type of trade is focused on the route between Kalemie and Kigoma, and to a lesser extent also routes connecting Kalemie and Kalundu on the Congolese side with Bujumbura and Mpulungu. The second type of trade flows is small-scale trade, focused on a narrow set of agricultural and fishery products, originating from the region, and mostly domestic or short-distance. This type of trade is focused on connecting both larger and smaller ports and landing sites along the lake shore.

The overall role of the lake and trade patterns are shaped by several factors, including:

- ▶ The geography of the region, with the lake as a natural conduit for trade, connecting landlocked Tanganyika, South Kivu and Maniema with the seaports of Dar es Salaam and Mombasa, as well as connecting cities and villages along the lakeshore.
- ▶ A land transport infrastructure that is poorly developed and in serious need of rehabilitation, on one side raising the relative importance of the lake as the often only viable transport option, but on the other side also limiting the full potential of the lake in providing connectivity to the hinterland.
- ▶ An economic structure that is geared towards subsistence, and whose key exportable, minerals, is high-value, low volume. Trade flows are consequently one-sided, with the region importing goods via the lake, but not exporting much in return.

Robust statistics on regional trade flows are not readily available. An issue in our field research was that different stakeholders reported conflicting numbers.⁶⁴ Furthermore, given the lack of digitization, past trade figures had to be manually retrieved by stakeholders from archived ledgers. Table 4 below highlights the key statistics of the ports of Kalemie, Kalundu and Moba. Kalemie is by far the most important port, followed by Kalundu. While small in comparison, remarkable is the significant trade originating from Moba, emphasizing both the agricultural potential of the region as well as the critical importance of the lake as the only viable transport option.

⁶³ See FPM (2016, page 27), identifying one bank in Kalemie and in Kongolo, respectively. Our own research found that in 2021 this has grown to at least three banking institutions in Kalemie.

⁶⁴ We cross-checked by comparing trade figures reported by corresponding ports.

The range of products traded is relatively limited, even if Kalemie exhibits a somewhat more diverse basket of products. Agricultural products are dominant, in particular rice, sugar, vegetable oil and wheat flour. These imports of agricultural products are often humanitarian food aid. Other important imports include cement and construction material, as well as manufactured products⁶⁵. For the Port of Kalemie (which naturally is not representative of other ports and landing sites) agricultural products constitutes 36 percent of incoming trade, manufactured products 29 percent, cement and construction materials 24 percent and mineral fuels 11 percent.

Table 4 Key trade statistics for Kalemie, Kalundu and Moba, in 2020

Port	Direction	Quantity in metric tons	No. of vessels arriving/departing	Main products
Kalemie	Incoming	79,090	580	Rice, salt, sugar, vegetable oil, wheat flour, beverages (alcoholic and non-alcoholic), cement & construction materials, manufactured products, mineral fuels
	Outgoing	up to 1,500 ⁶⁶		Minerals, redwood timber
Kalundu	Incoming	48,438	350–400	Rice, sugar, vegetable oil, wheat flour, manufactured products, cement & construction materials
	Outgoing	3,900		Alcoholic beverages (from Bukavu to Kalemie) (occasionally quinine, approximately 200 tons per year)
Moba	Incoming	1,000–1,500	200–250	Vegetable oils, sugar, cement, manufactured products
	Outgoing	5,500		Cassava, garlic, maize, potatoes

Source: own field research, Customs Authority (Kalemie) and Port Authorities (Kalundu and Moba)

Importantly, trade volumes in 2020 are considerably lower than what was reported in previous studies. RVO (2019, page 23ff.), based on Hamburg Port Consultants (2018), reports a trade volume of between 200 to 300 thousand metric tons between 2008 and 2017 for the Port of Kalemie. It is unclear what can explain this discrepancy. Trade might have dropped in 2020, due to factors such as the breakdown of cranes in the port, reducing capacity, or the impact of falling commodity prices and thus reduced incomes. However, falling trade alone is unlikely to explain such a sharp drop in reported trade volumes. The most likely explanation seems to be that the numbers previously reported are inflated. One indication is the numbers reported for 2020 are roughly in line with what the Port of Mpulungu reports.

Data for agricultural trade is available from the quarantine inspection service (see Annex E). This data is the best available, however, it is not entirely clear how reliable and robust the data is.⁶⁷ Furthermore, the data does not explicitly distinguish between exports and imports. Consequently, the table in Annex E is also based on our assessment whether a product was imported or exported. As corroborated by other sources, the key imports are maize, rice, salt, sugar, vegetable oil and wheat flour. Important as an import is also juice. Furthermore, there are significant fluctuations over time, for both key commodities and minor products.

⁶⁵ Manufactured products include, vehicles and spare parts, heavy equipment for construction or mining, among others.

⁶⁶ Maximum annual export capacity, see <https://scooprdc.net/2021/04/02/rehabilitation-et-modernisation-du-port-de-kalemie-le-fpi-et-china-gezhouba-international-engineering-signent-le-contrat-dexecution-des-travaux>

⁶⁷ One indication of its robustness is the comparison with data from customs authorities in Kalemie. The latter report that 36 percent of imports are agricultural products, corresponding to approximately 28,472 tons in 2020. The data of the quarantine inspection services would indicate imports of at least 21,245 tons, not including imports of livestock (which are not reported in terms of their weight).

For the Port of Kalemie statistics on the origin of imports are available (Table 5). As expected, the most important origin of incoming trade is Kigoma, followed by Kalundu and Bujumbura. The latter two ports thus also play an important role, by providing access to Bukavu, Burundi, Rwanda and thus indirectly the wider region. However, we also note that the discrepancy between what the customs authority in Kalemie and the port authorities in Kalundu report (15,516 vs. 3,900 tons). There is no straightforward explanation, and this discrepancy thus again highlights the extent to which we lack reliable and robust statistics on trade in the region.

Table 5 Origin of incoming trade in 2020, Port of Kalemie

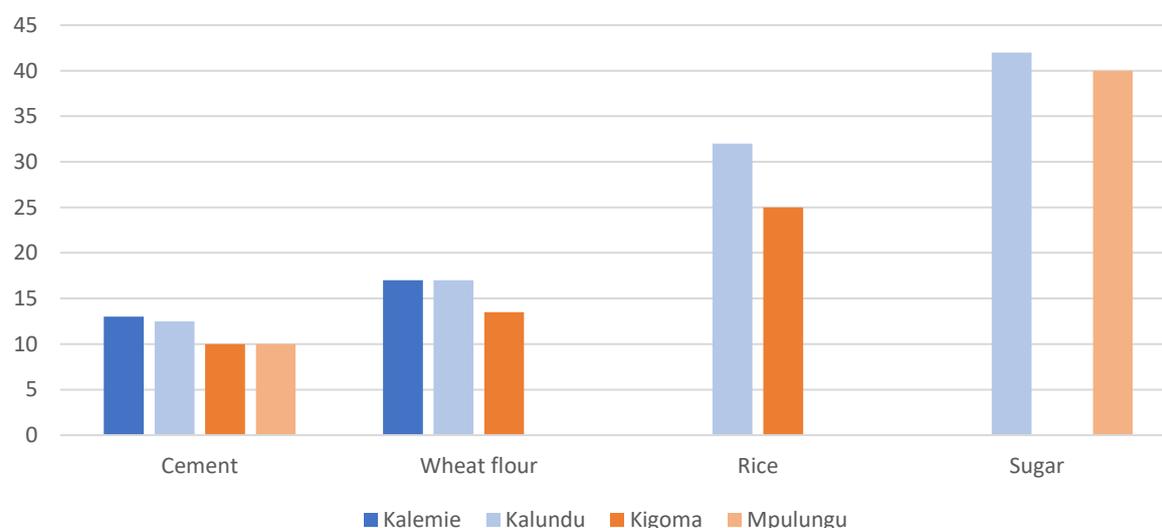
Country	Port	Quantity in metric tons	Main products
D.R.	Kalundu	15,516	-
Congo	Moba	5,379	Cassava, garlic, maize, potatoes
Burundi	Bujumbura	13,144	Mineral fuels
Tanzania	Kigoma	36,486*	Rice, wheat flour, vegetable oils, salt beverages, construction material, vehicles, manufactured products
	Kasanga	3,021	
Zambia	Mpulungu	5,544	Sugar, cement

Note: The (provincial) Ministry of Economy, Finance and Commerce reports a slightly different quantity, i.e. 33,465 tons
Source: Customs Authority, Kalemie

However, regardless of whether trade volumes are undercounted or not, they are very low. A comparison are volumes typically handled at sea ports, typically in the million of metric tons. Or taken the reported trade volume at the Port of Kalemie of 79,090 metric tons in 2020, this would equate to just 20 kilogram per person per year in Tanganyika province. This alone would indicate that the full potential of trade via Lake Tanganyika is nowhere near being exploited to the full.

An indication for the potential of trade are also the price differentials for key commodities between different ports and countries. These are pronounced, with cement, wheat flour and rice being about 25 to 30 percent more expensive in Kalemie respectively Kalundu (see Figure). Reportedly, price differences for fast moving consumer goods are even more pronounced. There are a variety of reasons for these price differentials, including poor transportation infrastructure, lack of competition in both transport and distribution services, but also limited market size, with large parts of the population being either subsistence farmers or being dependent on food aid.

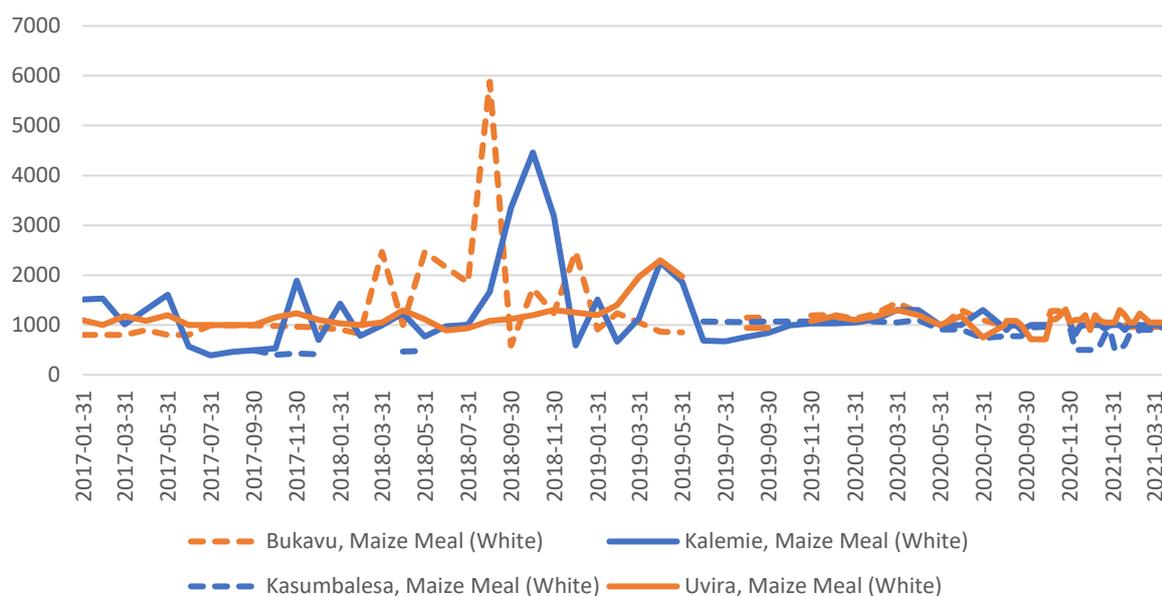
Figure 5 Retail prices of selected commodities, per 50 kg bag, in 2020



Source: own field research

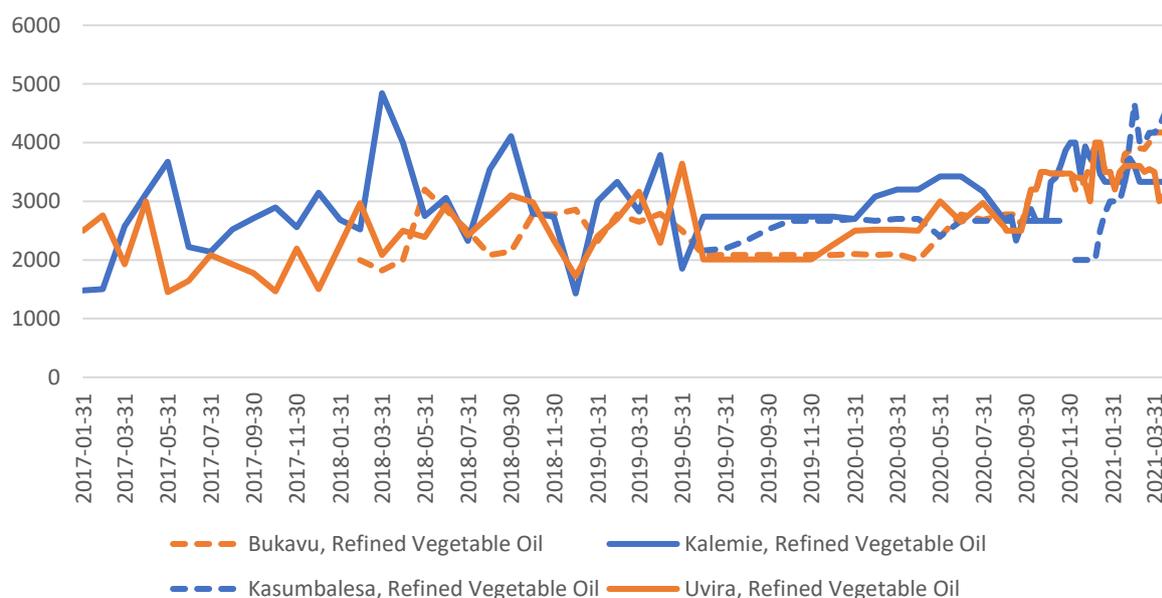
However, while prices differ substantially between Kalemie and Kalundu, and Kigoma and Mpulugnu, compared to other locations in the D.R. Congo, price in Kalemie and Uvira (Kalundu) are not particularly high. Maize meal, as one of the most important staple foods in Tanganyika and South Kivu is just one example. Figure tracks the evolution of the retail price of white maize meal in Kalemie and Uvira, as well as Bukavu at Lake Kivu and Kasumbalesa, the border post to Zambia near Lubumbashi. We would expect that prices in Kasumbalesa are lower than in most other parts of the D.R. Congo, as this place is one of the best-connected in the country, with direct access to Zambia and thus Southern Africa.

Figure 6 Evolution of the retail price of maize meal (white), per kg in Congolese Franc



Source: Famine Early Warning Systems Network, Staple Food Price Data, available at <https://fews.net/fews-data/337>

Figure 7 Evolution of the retail price of refined vegetable oil, per litre in Congolese Franc



Source: Famine Early Warning Systems Network, Staple Food Price Data, available at <https://fews.net/fews-data/337>

A few observations are in order. First, prices in Kalemie and Uvira are not necessarily higher than in other locations, including Kasumbalesa (note that for Kasumbalesa some observations are missing). Second, there is considerable volatility, in particular in 2018. Prices can triple or quadruple within weeks, but tend to recover equally quickly. Third, prices are not closely synced between different locations, indicating that indeed places such as Kalemie or Uvira are islands, poorly connected to other parts of the D.R. Congo.

Trade between the Eastern D.R. Congo and Zambia

Trade flows between Zambia and the Eastern D.R. Congo are of two distinct types. First, maritime trade via Lake Tanganyika, focused almost entirely on cement and sugar. And second, trade in (fast moving) consumer goods, reaching Kalemie from Zambia via the land border at Kasumbalesa and then by railway or road from Lubumbashi.

Most maritime trade between the two countries occurs through Kalundu, followed by Kalemie. Furthermore, some maritime trade is destined for Bukavu via Kalundu, and thus possibly also beyond Bukavu, to Goma, Rwanda or Uganda.

Table 6 Trade between Zambia and the D.R. Congo via Mpulungu

Year	Bukavu (via Kalundu)	Baraka	Kalemie	Kalundu	Total	% total exports
2019	5,220	2,378	7,784	18,887	34,270	18.8 %
2020	5,470	6,404	6,228	15,061	33,296	17.9 %

Source: Port of Mpulungu

While most exports from Mpulungu are cement and sugar, there are also non-traditional exports, in smaller, non-bulk quantities. Some of these shipments are very small, and can be considered one-offs. Others are larger, such as for example frozen chicken, suggesting a continuity of trade. Many of these non-traditional exports are commodities carried by grocery stores, suggesting these as the key driving force of this trade.

Table 7 Non-traditional exports from Mpulungu to the D.R. Congo

Commodity	D.R. Congo		Burundi	
	2019	2020	2019	2020
Apples			7	40
Beverages & wine		30	20	70
Chicken (frozen)	392	157		
Construction material	2			
Explosives	237			
Fish (frozen)	264	189		
Fish feed	104		104	
Pork (frozen)	27			
Potatoes (frozen)	25			
Salt	136			
Seed			80	184
Steel	457	61	152	61

Source: Port of Mpulungu

Land-based trade faces the challenge of a poor road and railway infrastructure. There are no navigable rivers, except for some short stretches of the Lualaba river. Kalemie is connected to the hinterland by road and railway. In principle, these should provide connectivity to key agricultural areas in the hinterland, and in particular around Kongolo and Kabalo, and Nyunzu. In practice, only limited trade takes place, owing to the poor state of the roads and the railway line. Furthermore, the railway should also provide connectivity to Kindu and Lubumbashi, and thus by extension to the Zambian Copperbelt and Lusaka. While some fast moving consumer goods sold in Kalemie are imported from Zambia via this route (and not via Mpulungu port), trade via roads and the railway line is overall very limited. The reality of Kalemie is thus one in which the city and region is more integrated into the economies of the countries bordering Lake Tanganyika than the rest of the D.R. Congo.

In contrast, Uvira and its port in Kalundu are connected by a good (and short) road to Burundi as well as a serviceable road to Bukavu. This provides onward connectivity, to Rwanda and Uganda via Bukavu, as well as to Goma via Lake Kivu. However, this road is affected by armed conflict and is not in a good condition. Before the border between Burundi and Rwanda closed, travellers between Uvira and Bukavu often used

to travel through Burundi and Rwanda instead. Uvira thus also serves as a trans-shipment port, connecting Kalemie and other ports and landing sites with the wider Great Lakes region.

While marred by armed conflict, the borderlands between the D.R. Congo and Burundi play an important role in cross-border trade. The border is porous, with communities on both sides being closely related and frequently interacting. Trade encompasses formal trade, mainly via the largest border crossing at Gatumba. This border

post handles around sixty percent of all trade flows between the D.R. Congo and Burundi. This trade includes large-scale trade by wholesalers, in particular beer from the Heineken-owned brewery in Bujumbura, bottled mineral water, sugar or livestock. And it includes small-scale trade, by Burundians purchasing maize, potatoes, taro⁶⁸ and textiles in the D.R. Congo, and Congolese traders selling textiles, in particular the traditional Congolese fabric *pagne*⁶⁹, and buying fruits and vegetables.⁷⁰ A report from 2009 estimated the value of this informal trade across the Gatumba border post at 355 thousand US-dollar per month in 2009.⁷¹

Trade policies and regional cooperation

The D.R. Congo is a member of several trade agreements, COMESA (Common Market for Eastern and Southern Africa), the Economic Community of Central African States (ECCAS) and the Southern African Development Community (SADC). The D.R. Congo has also signed, but not yet ratified the African Continental Free Trade Area (AfCFTA).⁷² Also awaiting ratification is the Tripartite Free Trade Area (TFTA), which would combine COMESA, SADC and the East African Community (EAC). However, none of these trade agreements is currently providing a comprehensive coverage of the Lake Tanganyika basin region. COMESA does not include Tanzania, ECCAS does not include Tanzania and Zambia, and SADC does not include Burundi.

However, this might change with the TFTA and even more so with the AfCFTA. Furthermore, the D.R. Congo has applied for membership in the East African Community (EAC). This application should be seen in the broader context of Felix Tshisekedi's engagement and reconciliation strategy with the eastern neighbours Kenya, Rwanda and Uganda.⁷³ This strategy, which also includes the construction of new roads and infrastructure, might also boost trade, even if mainly involving provinces to the north of Lake Tanganyika.

Nonetheless, even more important is the actual implementation of trade policies on the ground. This is of particular relevance in the D.R. Congo, given the country's reputation for corruption (whether warranted or not). Since February 2021 a single window is operational in Kalemie, and all imports are supposed to go through this single window. The single window is not necessarily well-received by traders. For example, a recent conflict ensued on the issue of traders having to pay a fee for laboratory tests (presumably for agricultural imports), while in fact no laboratory exists in Kalemie.⁷⁴ No such single window exists in other ports, including Kalundu. This might change, however, as the national policy for revenue mobilisation is progressing in its implementation.

At the land border between the D.R. Congo and Burundi a simplified trade regime is in place. The COMESA Simplified Trade Regime facilitates trade by small-scale traders for consignments less than 2,000 US-dollar in value. While the D.R. Congo is not an official party to the COMESA scheme, through a bilateral agreement with Burundi the regime effectively applies to traders between the two countries. A trade information office has been set-up at the Gatumba border post between Bujumbura and Uvira to facilitate the application of the simplified trade regime. So far the STR is of little relevance for maritime trade, due to the absence of trade information offices in the ports as well as the fact that maritime trade tends to exceed the value threshold. However, if this

⁶⁸ An edible root.

⁶⁹ The informal trade and smuggling of fabrics is driven by high protective tariffs, trying to protect the Burundian textile industry, and in particular the local producer Afritextile SA. For more details see <https://centrefordevelopmentgreatlakes.org/2021/03/16/burundi-quand-les-frais-de-dedouanement-accroissent-la-fraude-des-pagnes>

⁷⁰ Based on Falisse (2019)

⁷¹ International Alert (2009), cited from Muhire (2020)

⁷² See <https://www.tralac.org/resources/infographic/13795-status-of-afcfta-ratification.html>

⁷³ See <https://africanarguments.org/2021/06/can-kinshasas-changing-relations-mark-a-new-chapter-for-eastern-drc>

⁷⁴ See <https://zoom-eco.net/economie/tanganyika-124-declarants-en-douane-du-port-de-kalemie-en-greve-pour-non-respect-des-textes-legaux-par-locc>

changes due to new vessels (e.g. the MV Amani) driving down the cost of small-scale trade, a simplified trade regime will raise in relevance for maritime trade.

There are already efforts underway to coordinate activities around the lake. The Lake Tanganyika Authority, based in Bujumbura, has the mandate for regional cooperation around the lake. However, the authority is focused on natural resource and environmental management, and thus lacks the capacity in areas such as trade or transports. Other organisations have consequently filled this gap. The Intergovernmental Standing Committee on Shipping (ISCOS) is a regional organisation with Tanzania and Zambia, as well as Kenya and Uganda as its member states. ISCOS recently organised a workshop on transport and trade on Lake Tanganyika, convening stakeholders from all riparian countries. Similarly, the Central Corridor Transit Transport Facilitation Agency has a long-standing interest in facilitating transport to and across the lake. And lastly, Trademark East Africa as a donor-funded organisation takes an explicit regional perspective on transport and trade in the region.

Current Developments

In recent years the region has developed dynamically. Case in point are developments such as the construction of the MV Amani, as the first roll-on/roll-off vessel on the lake, the rehabilitation of the sugar factory in Kiliba and the cement factory in Kabimba. These developments are expected to have a marked impact on trade flows across the region. However, there is also a marked absence of coordination.

The poor state of the infrastructure and the basic structure of the regional economy are perennial issues. Recent investments and new initiatives aim to improve the infrastructure and invest into promising economic activities. However, these developments should be interpreted with caution, given a history of failed investments and initiatives, as well as of announcements that ultimately did not materialise. This is a particular problem in an environment in which rumours easily spread, and in which media is weak and not always checking facts.⁷⁵

Furthermore, many of these investments and initiatives do not appear coordinated or spring from a grand strategy. Among the reasons for this lack of coordination are the interests and objectives of the different actors in the region. These are not always aligned, as in the case of the provincial government(s) and the central government⁷⁶, and certainly so in the case of the various national and regional governments in the riparian countries.

This relative lack of coordination does not only apply to public authorities and international donors, but potentially also to international investors. China has become an increasingly important investor in the region. However, it does not appear that these investments are coordinated and aligned. For example, Chinese investors are active in the cement industries in Tanzania and Zambia. The mega-cement plant currently under construction in Tanga, Tanzania aims to serve the wider region, including the D.R. Congo.⁷⁷ However, as such it will also compete against the cement plant in Kabimba, which Chinese investors currently rehabilitate. This is not necessarily an issue, as this competition between different investments will eventually yield a winner. However, it potentially is an issue if overcapacity leads to lobbying for market protection.

Lastly, coordination among international donors is challenging, as already noted in RVO (2019). A key issue is that Lake Tanganyika, being part of East, Central and Southern Africa, does not easily integrate into the priorities of donors who focus on individual countries or macro-regions such as East or Southern Africa. However, instructive in this regard is the example of Trademark East Africa (TMEA). Initially focused on the East African Community (EAC), TMEA has expanded into neighbouring countries, thereby recognising that trade transcends the EAC's boundaries.

Transport and logistics

The central piece of infrastructure in the region, the **Port of Kalemie** is in dire need of rehabilitation and upgrading. In April 2021 a memorandum of understanding was signed between the Industry Promotion Fund

⁷⁵ A case in point are rumours on an electronics factory in Kalemie, which would beneficiate the coltan mined in the region. These rumours are not true, as no such factory is planned. See <https://factuel.afp.com/non-le-gouverneur-congolais-zoe-kabila-ne-va-pas-ouvrir-une-usine-de-batteries-electriques-en-rdc>

⁷⁶ Although this might be less relevant after the ouster of Zoé Kabila as provincial governor.

⁷⁷ See <https://constructionreviewonline.com/news/tanzania/plans-for-construction-of-sinoma-cement-plant-in-tanzania-forges-ahead>

(FPI) and China Gezhouba Group Company Limited for the rehabilitation and expansion of the port in Kalemie, for an estimated value of 127 million US-dollar. This investment aims to increase the export capacity of the port from 1,500 to 15,000 tons per month, by facilitating the berthing of larger barges and vessels as well as by building a container terminal. However, funding is still uncertain, even if it is expected that funds will be raised in China.⁷⁸ In contrast, already underway are upgrading works at the **Port of Kalundu**, focused on dredging works and the modernisation of warehouses, pavement and fencing. This project is far more modest, costing only slightly more than three million US-dollar and is funded by TMEA.⁷⁹ Other work in and near Kalundu include repairs to the warehouses, funded by the European Commission, as well as improvements to the access road, funded by the central government.

A game-changing development is the construction of the **MV Amani**.⁸⁰ Constructed at a cost of approximately ten million US-dollar over a period of four years, the MV Amani is the first roll-on/roll-off ferry and the largest vessel ever to operate on Lake Tanganyika. The ferry is operating since June 2020 and has a capacity for up to 3,500 tons of goods and 500 people. The ferry is a very significant upgrade on the MV Liemba, an hopelessly outdated combined passenger/cargo vessel, in service since 1915 and currently out of commission (although reportedly there are plans for repairs). The MV Liemba used to mainly operate on the Eastern shore of Lake Tanganyika between Tanzania and Zambia.

Several factors speak for the MV Amani.⁸¹ First, as a ro-ro ferry it is less dependent on port infrastructure and would greatly facilitate the transport of non-bulk goods. To this end it also carries a mobile crane, to be deployed at ports or landing sites with no functioning cranes. Second, with its significant passenger carrying capacity it would also facilitate small-scale trade, by traders that travel with their goods. And lastly, given its size, speed and safety the MV Amani promises to reduce the cost of travel and transport on the lake. First signs are encouraging, with our consultant observing a shipment of construction machinery on the ferry from Mpulungu to Kalemie.

Nonetheless, it is still too early to fully assess the impact of the MV Amani on trade across the lake. One concern is that there are also reports that the MV Amani is not seaworthy, a concern given that Lake Tanganyika can be a rough environment. The second concern is that to date no reliable schedule seems to have been established, beyond symbolic port calls to Kigoma and Mpulungu. A particular challenge is also the length of the MV Amani, exceeding the length of most berths or quays at the various ports. This implies that the MV Amani will often block the port for other vessels, with implications for port revenue and thus the attractiveness of hosting the MV Amani.

Economic Activities

The potential of the region is attested by the interest of investors in mining, light manufacturing and agri-processing. The interest of investors builds on the region's natural resources as well as past industrial strengths, as in the case of a cement plant or a sugar refinery. Furthermore, initiatives are underway to promote and upgrade agriculture. However, notwithstanding the potential of agriculture in the region, with a predominance of subsistence agriculture and fragile food security these efforts are donor driven.

⁷⁸ See <http://congovirtuel.org/rehabilitation-du-port-de-kalemie-le-contrat-dexecution-des-travaux-enfin-signe> and <https://www.youtube.com/watch?v=37824bKzowM> (statement of the Ministry of the Industry and the Managing Director of the Industry Promotion Fund)

⁷⁹ See <https://www.trademarka.com/project/kalundu-port-infrastructure-upgrade>

⁸⁰ See <https://www.facebook.com/R%C3%A9servation-de-billet-en-ligne-de-bateau-Lac-Tanganyika-108915380469838> as the quasi-official webpage of the MV Amani. For an interview with the CEO of the MV Amani see <https://www.facebook.com/watch/?v=139993364704491>.

⁸¹ These factors are also the reason why the previous market study (RVO, 2019) recommended to explore the launch of such a vessel.

While economic development and increased trade is sorely needed in a region that faces severe poverty, there are also potential risks and drawbacks. These are mainly related to existing issues, such as fragility, food insecurity, communal conflict and environmental degradation. First, development that is not inclusive risks stoking existing communal conflict over land and natural resources. Second, increased revenue from mining exports might lead to conflict between local communities and the provincial or national government over revenue allocation. And third, in a region that faces environmental challenges increased exports of some goods, such as for example agricultural products, fish or timber, might lead to an overexploitation of natural resources.

Agriculture

The largest and most ambitious agricultural project in the region is the **Great Lakes Integrated Agriculture Development Project** (PICAGL – Projet intégré pour la croissance agricole dans les Grands Lacs), funded by the World Bank through a grant from Japan.⁸² This five-year, 150 million US-dollar project started in 2018 and aims to support selected agricultural value chains in a corridor from Kalemie over Uvira to Bukavu, with the Ruzizi plains near the border to Burundi as a focus area. The programme is regional in its nature, as after its first year it has also added Burundi as second country. The value chains targeted by the project are rice, cassava as well as livestock and dairy.

The project intends to achieve its objectives through four components:

- ▶ Agricultural value chain development, by enhancing productivity and strengthening market linkages, and creating the necessary infrastructure (including road infrastructure);
- ▶ Developing a private agri-industrial sector, by improving the business environment and access to finance, and creating commercially viable agri-industrial parks;
- ▶ Promoting regional cooperation, including the joint management of natural resources and conducting regional agricultural research.

PICAGL is an ambitious project in a challenging environment. As such it has encountered delays, in particular with regards to the road infrastructure sub-components. At the same time, to date it has also achieved productivity increases in the selected agricultural value chains, mainly through the provision of seeds and trainings of farmers.⁸³ This projects highlights the opportunities, but also the challenges of agriculture in the region, including insecurity, access to finance, skills and market access. However, while Lake Tanganyika and maritime transport could potentially play a role in improving market access, the focus of PICAGL is on road transportation. This also reflects the fact that agriculture is subsistence oriented as well as the general lack of security in the region.

With funding by USAID and implemented by the non-profit Food for the Hungry, **Tuendelee Pamoja II**⁸⁴ aims to assist vulnerable populations, by improving food and income security and reducing communal conflict and sexual gender-based violence. This five year project with a budget of 71 million US-dollar started in 2016, and is building on two similar predecessor projects. The project is implemented in Kalemie and Moba territory as well as the northern parts of South Kivu, in Walungu territory.

While broadly comparable to PICAGL, a key difference is the focus of Tuendelee Pamoja II on agricultural development as a mean to enhance food security and reduce communal conflict. Furthermore, in contrast to PICAGL the project also covers the fishery sector. Tuendelee Pamoja II has a rather wide portfolio of agricultural interventions, including agricultural extension services, the promotion of improved agricultural techniques, the distribution of seeds, the construction of irrigation and draining infrastructure, among others. However, this

⁸² See World Bank (2016) as well as <https://projects.worldbank.org/en/projects-operations/project-detail/P143307> for a description of the project.

⁸³ See <https://documents1.worldbank.org/curated/en/358061618880356348/pdf/Disclosable-Version-of-the-ISR-AFR-RI-Regional-Great-Lakes-Integrated-Agriculture-Development-Project-P143307-Sequence-No-12.pdf>

⁸⁴ Meaning *moving forward together* in Swahili.

wide range of interventions is also one of the reasons this project so far is not on track to achieve its objectives.⁸⁵

Among other current or recent projects targeting agriculture is the project **Food and nutrition security in Tanganyika Province** of GIZ. With a budget of slightly above five million Euro, the project ran from 2016 to 2019 and was implemented in Kalemie and Moba territory. As the other two projects, this one included interventions such as the distribution of improved seeds, the promotion of modern agricultural techniques, the provision of market information and infrastructure, among others.⁸⁶

Similar to the GIZ and USAID projects, other projects also focus on food security and resilience. The World Food Programme and the Food and Agriculture Organization (FAO), with the financial support of Sweden and Norway implement the project **Strengthening value chains for smallholder farmers in the DRC**. Implemented from 2016 to 2021, this project is focused on households in Kabalo and Nyunzu, providing support such as strengthening community organisations, value chain development, improved transport and storage infrastructure, women empowerment, and access to finance. Of particular interest are activities that seek to diversify income sources, beyond subsistence agriculture. Such income-generating activities include bread-or soap-making, among others.⁸⁷

There are also grassroots initiatives in the region. For example, the cooperation of the **Collective of Fishers of Lake Tanganyika** (COPETANG – Collectif des pêcheurs du Lac Tanganyika) and **Slow Food Tanganyika**. COPETANG works directly with 22 cooperatives of fishers (representing around 4400 fishers), supporting through advocacy, awareness campaigns, training, and the purchase of equipment. For example, COPETANG purchased refrigerating units to be used by its members in Kalemie for the storage of their catch. Slow Food Tanganyika is part of a global network of organisations that promote local and traditional food. They are currently aiming to create a regional association of fishers in the Great Lakes Region.

Mining

We noted that artisanal mining is dominant, especially so with the Namoya gold mine in Maniema being largely dormant these days. However, this situation is likely to change with two major mining projects in the pipeline, the Manono lithium mine and a proposed gold mine near Moba.

The first project, the **Manono lithium mine** is now very likely to become operational in the near future, with the first exports already expected towards the end of 2022. Located near the city of Manono, in the southwest of Tanganyika province, the proposed mine is about 450 kilometres southwest of Kalemie and 500 kilometres north of Lubumbashi. With proven reserves of 44.6 million tons of lithium ores and another 48.5 million tons of probable reserves, this mine will be one of the largest lithium mines in the world.⁸⁸ Furthermore, the lithium extraction process will also produce tin and tantalum in significant quantities.

The mine is majority-owned by the Australian mining company AVZ Minerals Limited, with the Congolese state-owned companies La Congolaise d'Exploitation Minière (Cominière) and the private company Dathomir Mining Resources SARL holding minority shares. Investment is estimated to reach 545 million US-dollar, which also includes upgrades to the transportation infrastructure as well as the rehabilitation of a hydroelectric power plant. Once operational, the mine is expected to produce around 700,000 tones of lithium ores⁸⁹, around

⁸⁵ See the mid-term evaluation (IMPEL, 2020) for more information on this project.

⁸⁶ See https://www.giz.de/projektdaten/projects.action?request_locale=en_GB&pn=201618420

⁸⁷ See <https://reliefweb.int/sites/reliefweb.int/files/resources/WFP-0000129054.pdf>. For a media report on the project see <https://www.independent.co.uk/news/drc-how-soapmaking-is-bursting-the-bubble-of-conflict-b1867222.html>.

⁸⁸ Based on proven reserves Manono would rank as the 7th largest mine in the world. See also <https://www.mining-technology.com/features/top-ten-biggest-lithium-mines>.

⁸⁹ In technical terms lithium ores are lithium spodumene concentrate with 6% lithium oxide content.

45,000 tons of lithium sulphate and around 1,400 tons of tin concentrate. The mine is expected to be highly profitable, at 380 million US-dollar annual earnings before interest, taxes, depreciation, and amortization over the life of the mine.⁹⁰

With the definitive feasibility study concluded in 2020, AVZ Minerals is currently preparing the engineering designs, as the final step before starting with the construction works of the processing plant and the hydroelectric power plant. The company has also secured buyers for the lithium, that is, Ganfeng Lithium, Shenzhen Chengxin Lithium Group and Yibin Tianyi, all based in China.⁹¹

A challenge for the project is the poor accessibility of Manono. This is less of an issue for artisanal mining, needing little machinery and being focused on high value, low volume minerals, the 3TG (tin, tungsten, tantalum and gold). It is an issue for Manono, being at an industrial scale, with very significant transport needs, both inwards and outwards. AVZ minerals considered different transport options (see page 75 of the feasibility study). These included transport via Lake Tanganyika or Lake Mweru. The former would have entailed road transport from the mine to Kalemie, from there via the lake to Kigoma and then onwards by train to the sea port in Dar es Salaam. The latter would have used Lake Mweru to connect the mine with the road network in Zambia.

However, in the end it was decided to use the existing railway line originating from Lubumbashi. The current plan is to connect Manono by road to the railway junction at Kabondo Dianda in Haut-Lomami province, to the west of Tanganyika. From there the railway would provide a connection to the sea ports in Lobito, Angola or Dar es Salaam. The former would use the Benguela railway line, connecting the copper belt of the D.R. Congo with Benguela and Lobito in Angola. The latter would make use of the TAZARA railway line, connecting Zambia and Tanzania. While the route to Lobito would cost approximately 229 US-dollar per ton, the route to Dar es Salaam would cost 275 US-dollar per ton. To this end an intermodal terminal will be constructed in Kabondo Dianda and the road to Kabondo Dianda will be rehabilitated.⁹²

The second project is not yet certain. The **Moba gold and copper mine**, 35 km from Moba is currently owned by the Tanganyika Lake Mining Company, employing seven engineers and several hundred diggers in what is essentially an artisanal mine, with little machinery in use. However, the company plans to develop the mine, by setting up a processing plant, with connectivity via the port being critical for the project's viability. The project would thus require a rehabilitation of the port, to allow the mining operator to bring in equipment and export mineral ores. The company is also planning to invest into infrastructure in the region, in particular into a hydroelectric dam and roads. The exploration rights for this mine were previously owned by the Australian mining company Prospect Resources, until Prospect Resources sold the exploration rights in 2019.⁹³

Light manufacturing

Two important investments into light manufacturing, the Kabimba cement factory and the Kivu sugar refinery, have the potential to strongly impact trade on the lake. These two investments build on the industrial history in the region, rehabilitating two plants that were previously operational. However, beyond these two investments no indication of similarly concrete plans and investments were encountered during our field research.

The **Kabimba cement plant** (see also Annex B for a satellite photo) near Kalemie operated until 2016 under the ownership of HeidelbergCement. Ownership of the defunct plant changed to Groupe Taverne, owned by the

⁹⁰ This section is based on information from the feasibility study. See AVZ Minerals Limited (2020) for more details.

⁹¹ See <https://www.miningreview.com/battery-metals/avz-minerals-chartering-manonos-path-to-construction>

⁹² See the feasibility study (page 75ff.) and <https://www.miningreview.com/battery-metals/avz-minerals-secures-site-for-kabondo-dianda-intermodal-staging-station>

⁹³ See <https://www.asx.com.au/asxpdf/20160404/pdf/4368h1hnbvs8q2.pdf> and <https://www.prospectresources.com.au/sites/default/files/asx-announcements/6930873.pdf>

current president of the Congolese Senate, Modeste Bahati Lukwebo. In 2020 the plant was acquired by Great Lakes Cement, together with a cement plant in Katana, near Bukavu in South Kivu. Great Lakes Cement was a joint venture of the Chinese cement producer West China Cement, and African Equities, a holding company owned by the Belgian businessmen Philippe de Moerloose. In May 2021 Philippe de Moerloose sold his share to West China Cement, as the joint venture was struggling to attract the funding to rehabilitate the plant. Furthermore, until African Equities sold its share to West China Cement the joint venture also owned Makala Coal Co, a coal mine and deposit near Kalemie.⁹⁴

Currently Great Lakes Cement is planning to invest around 400 million US-dollar and to create about 2000 jobs in the region. This plan has three components. First, the rehabilitation and expansion of the cement plant itself. The plant is expected to produce 6,000 tons per day or more than two million tons per year by the end of 2022.⁹⁵ Second, the construction of a **thermal power plant**, to provide the cement plant with electricity. And third, for the **Makala coal mine** to provide coal to the thermal power plant and to use the ash as a component or additive in the cement production process. In addition, it is planned to source limestone locally, as an important input for cement production.

This is an ambitious project. As noted, funding has been an issue and it is not clear whether it has been fully secured. The aim is to produce cement not only for the Eastern Congo, but also the wider region. If so, Lake Tanganyika would play a critical role, as the rehabilitated port right next to the cement plant would allow for the export of cement via the lake. In some ways this would be a return to the situation before the 2010s, when the Congo was the chief exporter of cement in the region, with the cement from Kabimba still having a reputation for high quality. However, it would also pose a challenge to cement producers in Tanzania or Zambia.⁹⁶

The other major investment in the region is the **South Kivu Sugar Refinery** (Sucrerie du Kivu) in Kiliba, about 15 kilometres north of Uvira. Like the cement plant, this refinery builds on the refinery that existed until 1996. Owned by the Super Group of Companies, a Tanzanian conglomerate and as a minority shareholder, the Congolese government, the sugar refinery started operations in March 2021.⁹⁷ The refinery already employs around one thousand workers. The plan is for a fully integrated sugar refinery, with the sugar fields of the refinery expanding from their current 800 hectares to 6500 to 7000 hectares. Like the cement plant, if successful this sugar refinery has the potential to change trade flows on Lake Tanganyika, threatening in particular Zambian sugar exports to the D.R. Congo and Burundi.

During our field research no other reports of credible investments into light manufacturing surfaced. Reportedly a company called Cotanga (Nouvelle Cotonnière du Tanganyika) is planning to revive cotton and textile production in the region.⁹⁸ However, it is not clear how serious these plans are, also in light of the challenges of reestablishing cotton and textile production in what is now a fundamentally different competitive environment. While there are textile producers in neighbouring countries, notably Afritextiles in Burundi, they survive only through heavy protection of their domestic market.

Lastly, during the COVID-19 pandemic and facing border closures, the Bralima brewery⁹⁹ in Bukavu created an interesting initiative. While Bukavu is outside the region of interest to this study, the brewery started to source

⁹⁴ See <https://congovirtuel.com/information/rdc-les-cimenteries-de-lest-african-equities-du-belge-philippe-de-moerloose-le-chinois-west-china-cement-et-le-groupe-taverne-de-modeste-bahati-lukweboai>

⁹⁵ See: <https://gouv.tanganyika.cd/index.php/2021/02/02/evaluation-du-projet-cimenterie-de-kabimba-ce-sujet-a-ete-au-centre-des-echanges-ce-mardi-entre-le-gouverneur-zoe-kabila-et-la-delegation-dinvestisseurs-chinois-de-la-firme-great-lakes-cement-sas>

⁹⁶ Several of which are owned by Chinese investors, in particular Huaxin Cement. Huaxin has recently purchased Lafarge's operations in Zambia and ARM Cement in Tanzania.

⁹⁷ See <https://zoom-eco.net/developpement/rdc-la-sucrerie-du-kivu-a-repris-ses-activites-apres-plusieurs-annees-darret>

⁹⁸ See <https://lemaximum.cd/coton-guerres-en-perspective-biens-sans-maitres-les-installations-de-filtisaf-et-estagrico-ventues>

⁹⁹ Bralima is owned by Heineken, producing beer and soft drinks.

rice from the Ruzizi plains near Uvira as a raw material. A group of eight cooperatives have joined forces to supply the brewery in rice.¹⁰⁰ While the impact might be limited compared to the cement plant (if it materialises) or the sugar refinery, it is also these smaller initiatives that foster regional integration and value chain development.

Regional and global developments

Important developments in relation to port and maritime infrastructure are also taking place in neighbouring countries. In **Burundi** the upgrading of the port of Bujumbura seems to finally go ahead, after long delays. Based on a masterplan from 2012¹⁰¹, this upgrading project is funded through a grant agreement between the governments of Japan and Burundi worth 26 million US-dollar.¹⁰² Furthermore, the World Bank is currently looking into improving the infrastructure at the landing site and informal market in Rumonge. It is also reported that the Chinese-owned Mango Tree Group is planning to construct three new cargo vessels.

While government investments in **Tanzania** have mostly focused on Lake Victoria, recently there has been a pivot towards Lake Tanganyika. Three new ports are under construction or have recently been completed, Karema, Kabwe and Kasanga. Karema and Kabwe are both close to Moba, on the other side of the lake, whereas Kasanga is at the southern tip of Lake Tanganyika. Karema is planned to be a major port, in particular if plans to extend the railway line from nearby Mpanda materialise. The aim is for this port to facilitate mineral exports from the D.R. Congo to the sea ports in Dar es Salaam (or the planned new sea port in Bagamoyo, north of Dar es Salaam).¹⁰³ Similarly, a new port has been constructed in Kabwe, near Karema and roughly halfway between Kasanga and Kigoma. This new port has a berth, capable of handling larger vessels, as well as a warehouse, and is intended to facilitate trade in agricultural products and cement with Kalemie and Moba.¹⁰⁴ Lastly, a port is developed in Kasanga, as an alternative to Kigoma. Kasanga would in particular connect the lake to the regional capital Mbeya.¹⁰⁵ This would provide market access for agricultural products from this region as well as cement from the Lafarge Holcim plant in Mbeya. In terms of fleet development, there are reports that the MV Liemba will be renovated, a new combined passenger/cargo vessel with a capacity of 400 tons and 600 passengers¹⁰⁶ as well as a bulk carrier with a capacity of 4000 to 6000 tons will be constructed.

Comparatively few developments have taken place in **Zambia**. The Mpulungu Harbour Corporation has adopted a 2020-2024 strategic plan, aiming to upgrade the port infrastructure. Furthermore, through an agreement between the Mpulungu Harbour Association and the infrastructure developer eleQtra there are plans to build several vessels and create a shipping line.¹⁰⁷ However, these plans are currently less advanced than similar plans in Burundi and Tanzania.

¹⁰⁰ See <https://congo.rikolto.org/fr/project/les-riziculteurs-congolais-la-conquete-du-marche-local>

¹⁰¹ See JICA (2012)

¹⁰² See <https://www.mae.gov.bi/en/2019/07/03/signature-of-the-amendment-of-the-grand-agreement-for-the-project-for-the-improvement-of-the-port-of-bujumbura>

¹⁰³ Based on information shared at a workshop in Dar es Salaam as well as <https://dailynews.co.tz/news/2020-07-075f040f148ca06.aspx>

¹⁰⁴ See <https://dailynews.co.tz/news/2021-06-1660c9edd635d5a.aspx>

¹⁰⁵ See <https://dailynews.co.tz/news/2019-12-235e0064d830e67.aspx>

¹⁰⁶ See https://twitter.com/Capt_Dukundane/status/1338455907425005570/photo/3

¹⁰⁷ See <https://eleqtra.com/2020/12/03/eleqtra-announces-signature-of-a-memorandum-of-understanding-to-develop-a-marine-transport-project-on-lake-tanganyika>

Conclusions and Recommendations

Both the challenges and opportunities are clear. On one side there is the poor state of the transport infrastructure, insecurity and armed conflict, and a basic economic structure that produces little in the way of tradeable or exportable surplus (apart from mining). On the other side there is significant potential in commercial agriculture, agri-processing and in some light manufacturing industries. Some initiatives are underway, ranging from donor-funded projects in agriculture (focused on food security) to investments into sugar and cement production. However, at this point the success of these projects and investments is not certain.

For the region to develop, the challenge is that several constraints need to be addressed at the same time. With political uncertainty and armed conflict, the funding for infrastructure investments will remain hard to mobilise. Without improvements to transport infrastructure agriculture and other promising sector will continue to face market access challenge. And without real economic development, the region will continue to face food insecurity and a lack of opportunities, in turn fuelling conflict and insecurity. Beyond these major challenges, trade and private sector development in the region faces other challenges, from access to finance over skills to the availability of market information and market access.

Maritime transport on Lake Tanganyika can play an important role in overcoming some of these challenges, in particular those related to transport and market access. However, the poor state of port and maritime infrastructure is not the key constraint faced by the region. The key constraints are the poor connectivity to the hinterland, insecurity and armed conflict, and the more general challenge of moving from subsistence to commercial agriculture, and to build agri-food processing and light manufacturing from scratch.

The severity of these challenges is also evidenced by how larger companies and investors in the region tend to be integrated. For example, larger trading companies integrate trade, transport and logistics activities. Great Lakes Cement is not only rehabilitating the cement plant in Kabimba, but also developing a coal mine, power supply, access roads and port infrastructure. However, this also means that entrepreneurs and smaller companies are typically unable to address the myriad of challenges they encounter, and are thus relegated to small-scale and informal trade.

Any activities in the Eastern Congo cannot be seen in isolation from the activities in neighbouring countries. The cement plant or the sugar refinery will only be successful if they can leverage their location close to the lake and serve the wider region. This, however, will have consequences for established producers and exporters, in particular in Tanzania and Zambia. There is thus the risk that with increased competition riparian countries will resort to protectionist measures. This would be a fundamental mistake, as increased exports from the Eastern Congo also create opportunities for exports to the Eastern Congo, from neighbouring countries.

In what follows we provide policy recommendations. These follow broadly the recommendations in the previous market study (RVO, 2019), but are updated, expanded, or changed where necessary. In addition, a recent study by Erasmus University Rotterdam (RVO, 2021) on developing Lake Tanganyika as a transport corridor provides further recommendations, in particular on corridor development and governance.

In general, these recommendations fall into two camps. First, a big push, in which major investments into port and productive infrastructures provide the impetus for broad economic development. And second, smaller interventions, such as small and marginal improvements to infrastructure or small grants or loans to specific sectors, initiatives and organisations. Both are needed. The latter to provide quick wins, and the former to provide for transformational change across the lake, in the region.

Recommendations:

- ▶ **Donor coordination.** The Lake Tanganyika Maritime Platform, hosted by the World Food Programme is currently coordinating donor efforts around the lake. This coordination should continue and should cover maritime and land infrastructure in the hinterland as well as private sector development activities in the region. Furthermore, in the long-term the Lake Tanganyika Authority (LTA) would be best-placed to provide this coordination, given the authority's mandate from its member countries.
- ▶ **Stakeholder coordination.** There is also a need to create a platform for stakeholders around the lake to discuss issues of relevance to them, and in particular transport and market access challenges. This platform should convene regional authorities and the business community (including transporters, traders and entrepreneurs). If necessary, this platform could also include working groups on specific issues, such as customs and administrative barriers. As with donor coordination, with sufficient donor support the Lake Tanganyika Authority would be best-placed to host this platform.

However, it is also important for this coordination not to supersede the efforts by other organisations. That includes the activities of the Intergovernmental Standing Committee on Shipping or Central Corridor Transit Transport Facilitation Agency, among others. The coordination by the Lake Tanganyika Authority should strengthen and complement these existing activities, building on the unique strength of the Lake Tanganyika Authority, as an intergovernmental organisation with a regional mandate and with all riparian countries as its member states.¹⁰⁸

- ▶ **Capacity building of the Lake Tanganyika Authority.** While the Lake Tanganyika Authority would be the natural choice for hosting a coordination platform, the authority is also hampered by its lack of capacity on trade, private sector development and transport. Currently the authority is focused on environmental and resource management issues. Consequently, donors should consider building the capacity. This could be in the form of hiring thematic experts or by hiring an international expert for a shorter time period, tasked with building and improving the internal capacity of the authority in these topic areas.
- ▶ **Monitoring of developments.** While this study fills a gap, by providing up-to-date information on the situation and developments in the Eastern Congo, it also had to face limitations in the availability of data, statistics and other information. For example, even such basic information as the current traffic figures of major ports in the Eastern Congo has not been readily available (or available at all). This is an important gap to fill, and could be one of the mandates of the proposed stakeholder coordination platform. It is important for stakeholders around the lake. It is even more for stakeholders farther removed, including donors, national governments and traders and entrepreneurs in Dar es Salaam, Lusaka or Bukavu and Lubumbashi.
- ▶ **Focus on smaller infrastructure investments and initiatives.** While investments such as the one in the cement plant or the Port of Kalemie require hundreds of millions of US-dollar, there are also smaller investments that promise quick-wins at a fraction of the cost. Examples of such smaller, but potentially impactful investments are:
 - Rehabilitating existing infrastructure such as the cranes in the Port of Kalemie would address current capacity bottlenecks in the port at minimal costs. However, with costs being relatively minimal local users should be able to finance these small improvements. Donors should thus focus on facilitating such initiatives, for example through the proposed stakeholder coordination platform or through smaller platforms convening stakeholders in a specific sector or location.
 - Smaller ports and landing sites such as Moba or Baraka, which currently do not have any infrastructure to speak of. For example, with the landing pier in Moba partially submerged, the construction of a new pier would greatly facilitate exports of agricultural products from Moba to Kalemie and other ports around the lake.

¹⁰⁸ In contrast, other organisations do not include all riparian countries.

- Community driven improvements to the local investment and business climate, such as the one implemented by DANIDA in Kigoma. DANIDA supports fishers at the Kibirizi landing site near Kigoma through the creation of a special purpose vehicle that financed infrastructure upgrades such as improved storage and cooling facilities through revenue collected from users.¹⁰⁹
 - These investments should link to existing initiatives. Of particular interest would be the fishing cooperative COPETANG, as an existing grassroots initiative with a regional outlook. Support should focus on building the capacity for advocacy, regional networking and advisory services to members.
 - Small scale investments and initiatives also provide opportunities to specifically target women entrepreneurs. There are stark gender disparities across professions and sectors, with women, for example, being predominant in activities such as fishmongering or small scale, cross-border trade.
- **Providing support to small-scale traders.** Small-scale traders face specific challenges, related to trade barriers, market information and access to trade finance, among others. With Tanzania building and opening several new ports on the lake there is a potential for more local trade by small-scale traders, bypassing the larger ports of Kalemie, Kalundu and Kigoma. The recommendations above would benefit such small-scale trade, including the creation of a stakeholder platform or investing into smaller infrastructure improvements. Furthermore, the following interventions could address the specific challenges faced by small-scale traders:
- In the framework of the coordination platform identify and if possible address and simplify customs and administrative procedures, in particular for small-scale traders. A role model could be the COMESA simplified trade regime. For agricultural exports a potential issue are sanitary-and phytosanitary measures, also given the absence of a laboratory in Tanganyika province.
 - Provide information on customs and administrative requirements as well as market opportunities, for example through a brochure or a central webpage. However, for this effort to be relevant it is important that the information provided is accurate and relevant, thereby able to earn the trust of stakeholders. This can be a challenge and consequently such an initiative should be spearheaded by the stakeholder platform only after it has established robust contacts with all relevant regulatory agencies and private sector platforms around the lake.
 - Organize trade fairs and missions around the lake, using in particular the opportunity afforded by the MV Amani. Such a trade mission could, for example, charter the MV Amani to send delegations from Congolese ports and landing sites to their counterparts in Burundi, Tanzania and Zambia.
 - Investigate to what extent cross-border payments can be facilitated, for example through banks or mobile payment platforms. This in particular could be one of the areas to be researched by a working group of the stakeholder coordination platform, with an international donor facilitating contacts to mobile platform providers or supporting a short-term mission by an international expert on trade finance.
- **Promote large-scale investments.** As the rehabilitation of the cement plant shows there is also the potential for larger investments that specifically build on the potential of Lake Tanganyika as a transport corridor. A practical example of what investment promotion could do is the sugar refinery near Uvira, as an investment by Tanzanian investors. As a project integrating farming and processing it has transformational potential. Encouraging such investments could thus complement donor efforts to improve food security.

¹⁰⁹ See Local Investment Climate Project (2020)

To promote and identify potential investments a coordinated approach would be beneficial. The stakeholder platform could play an important role, by including a working group on investment promotion. This working group should include not only regional economic development authorities, but also national investment promotion agencies from all neighbouring countries. While Lake Tanganyika is an obvious focus for the Burundi Investment Promotion Authority¹¹⁰, for the national authorities of other countries Lake Tanganyika is not yet.

- ▶ **Environmental and social sustainability.** Climate change is threatening the lake, as is environmental degradation. Floods are already a regular occurrence, caused by the combination of climate change and erosion and deforestation.¹¹¹ The region is also affected by communal conflict, often over natural resources or land ownership. Consequently, donor efforts should take sustainability into account by assessing the impact of any intervention or initiatives. For example, rehabilitating flooded port infrastructure in Baraka could potentially lead to more deforestation, if the rehabilitation would facilitate timber exports.

¹¹⁰ The Burundi Investment Promotion Authority recently organized an event on investment opportunities related to Lake Tanganyika, see <https://www.investburundi.bi/index.php/espace-medias1/actualite/580-le-lac-tanganyika-secteur-d-investisment-presque-vierge>

¹¹¹ See <https://www.theguardian.com/commentisfree/2021/jun/22/congos-latest-killer-is-the-climate-crisis-inaction-is-unthinkable>

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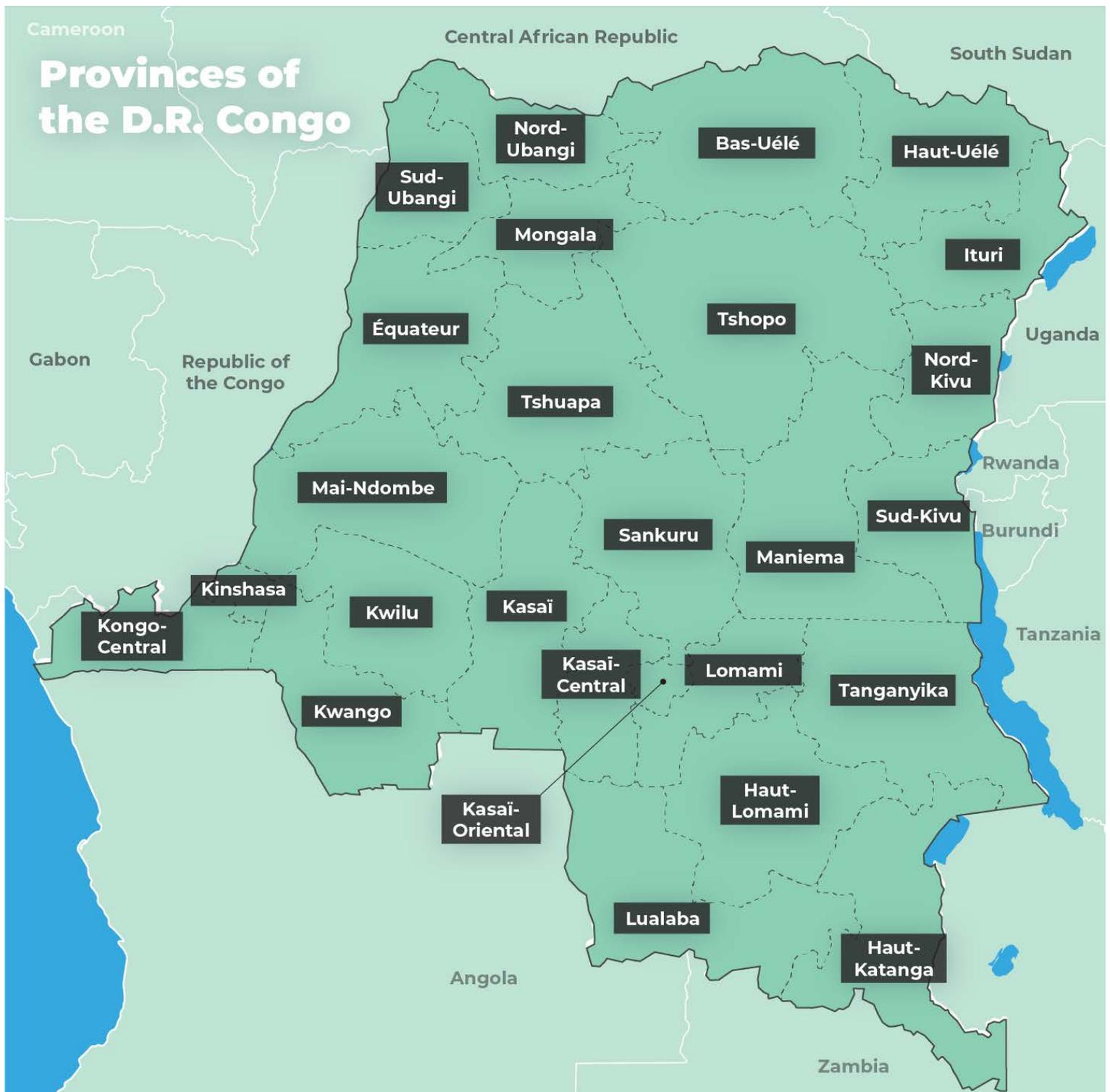
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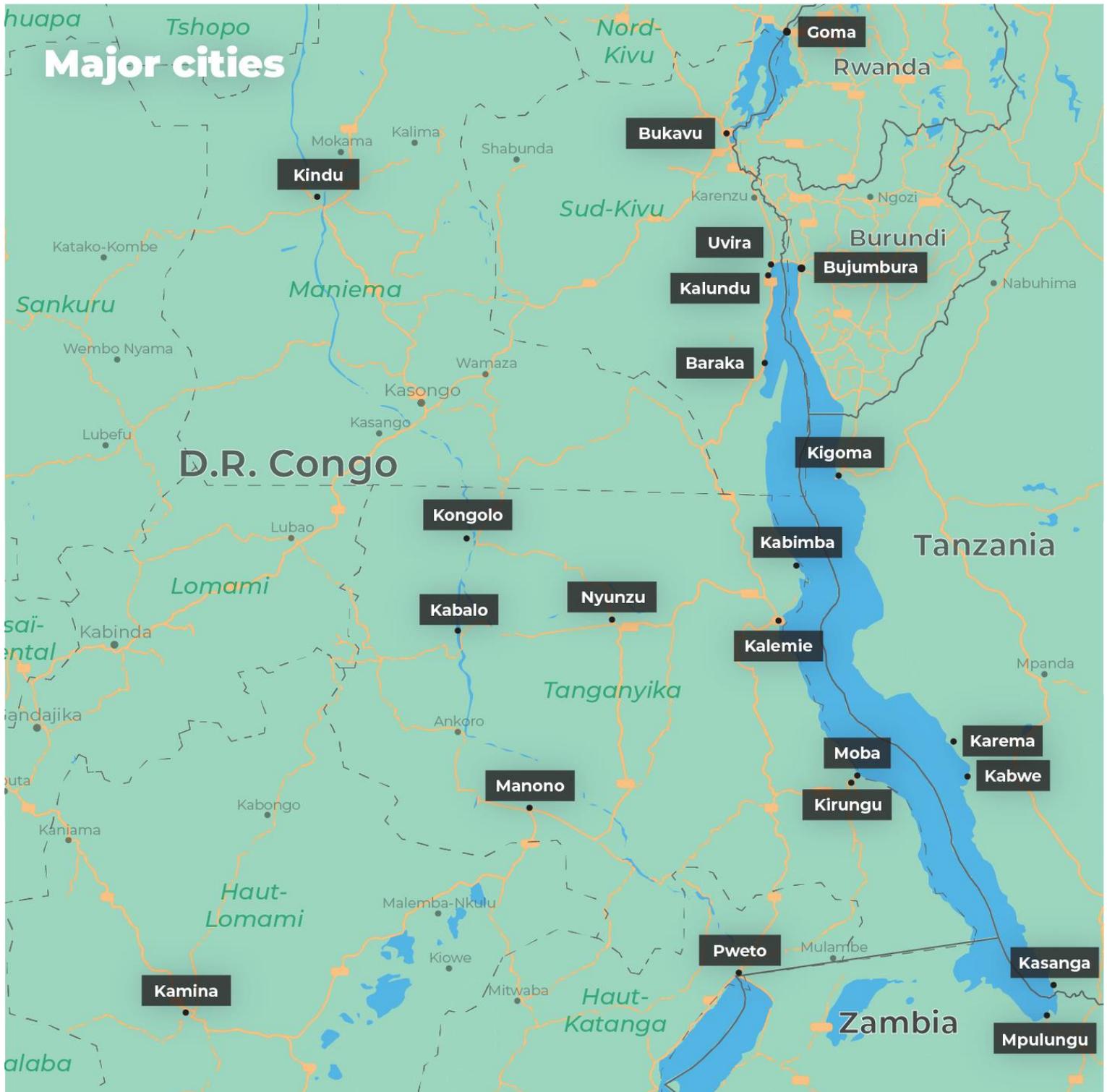
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Annex A Maps





Economic activities and trade flows

Exports

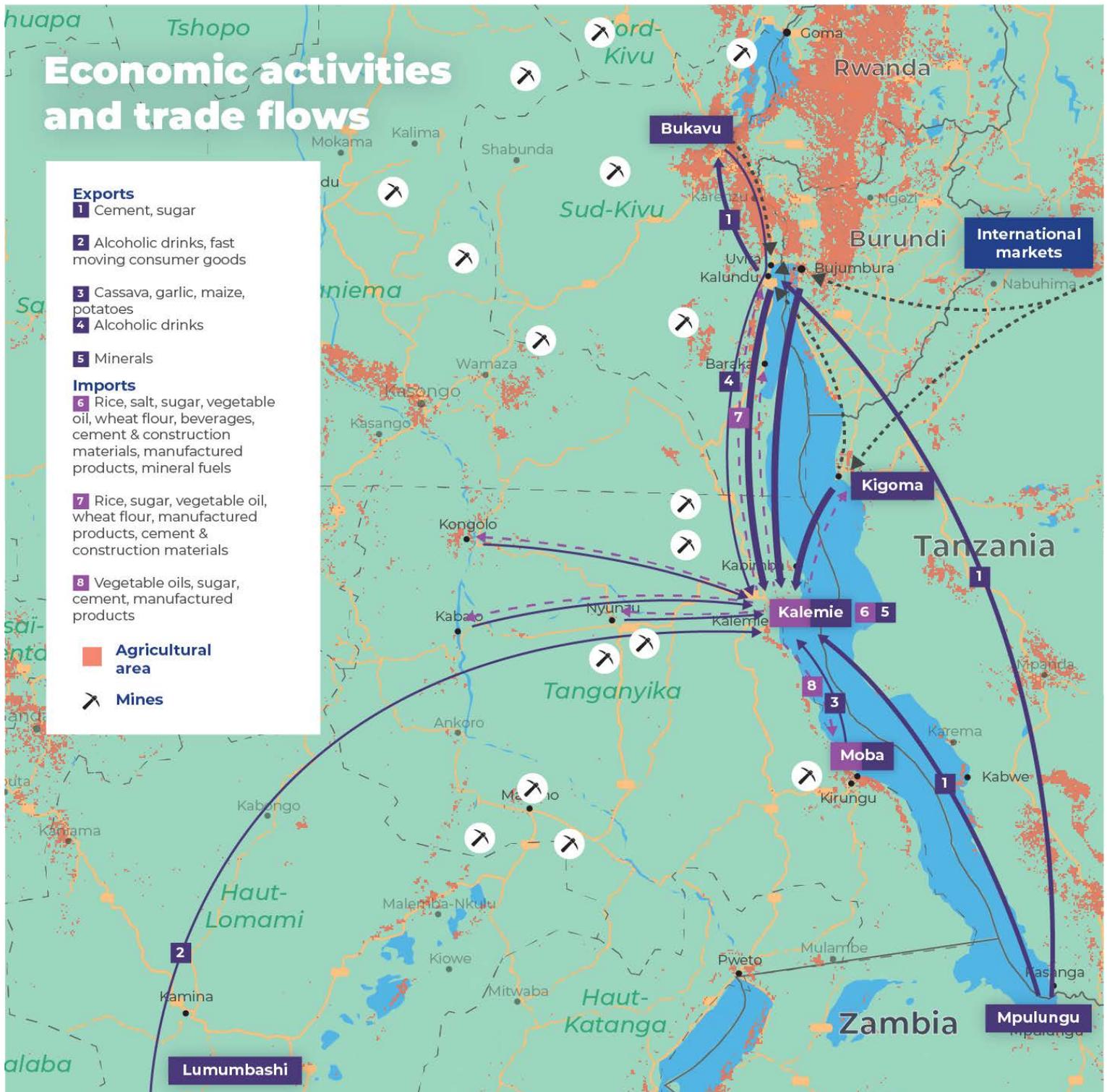
- 1 Cement, sugar
- 2 Alcoholic drinks, fast moving consumer goods
- 3 Cassava, garlic, maize, potatoes
- 4 Alcoholic drinks
- 5 Minerals

Imports

- 6 Rice, salt, sugar, vegetable oil, wheat flour, beverages, cement & construction materials, manufactured products, mineral fuels
- 7 Rice, sugar, vegetable oil, wheat flour, manufactured products, cement & construction materials
- 8 Vegetable oils, sugar, cement, manufactured products

■ Agricultural area

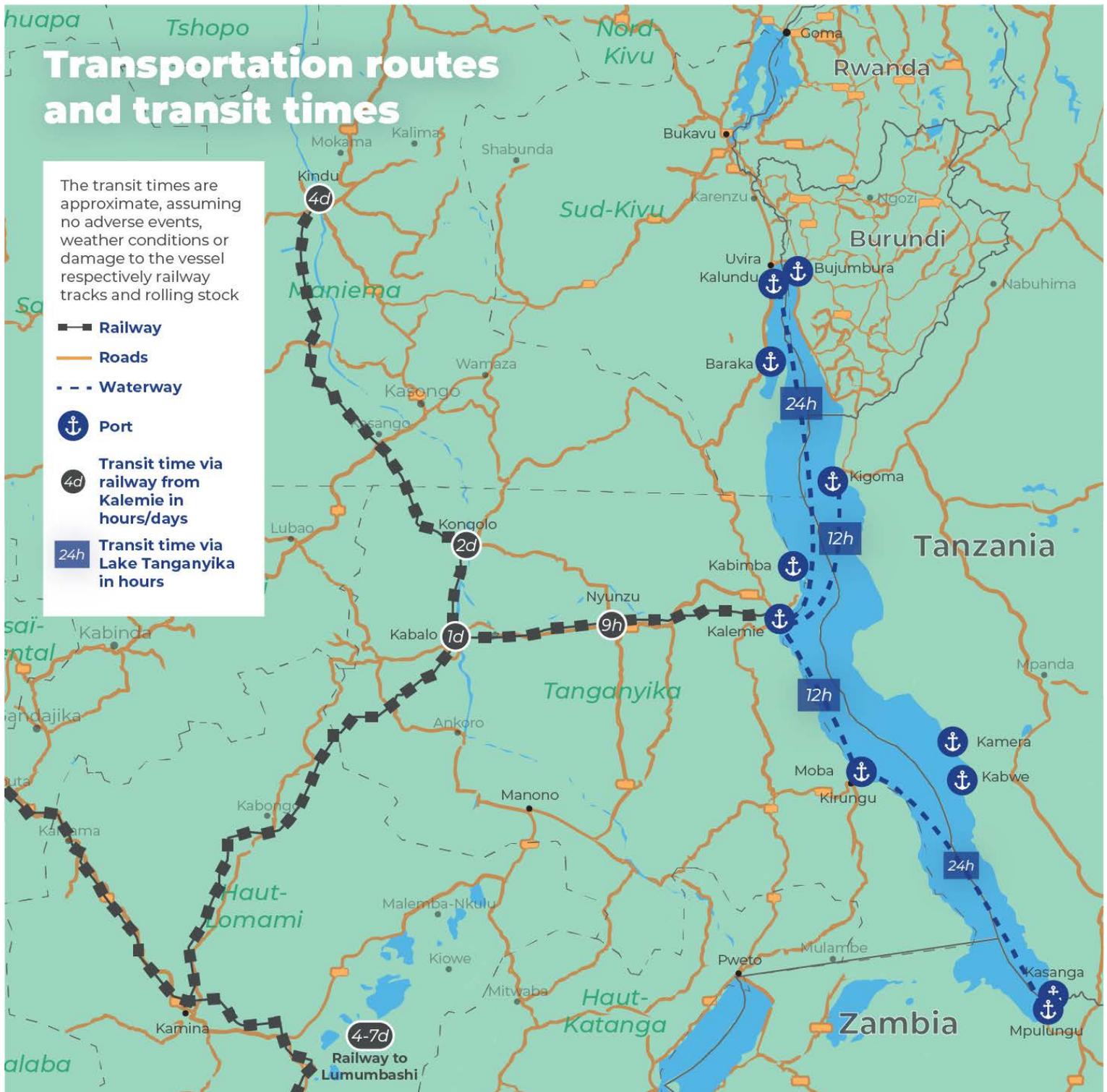
✂ Mines



Transportation routes and transit times

The transit times are approximate, assuming no adverse events, weather conditions or damage to the vessel respectively railway tracks and rolling stock

-  **Railway**
-  **Roads**
-  **Waterway**
-  **Port**
-  **Transit time via railway from Kalemie in hours/days**
-  **Transit time via Lake Tanganyika in hours**

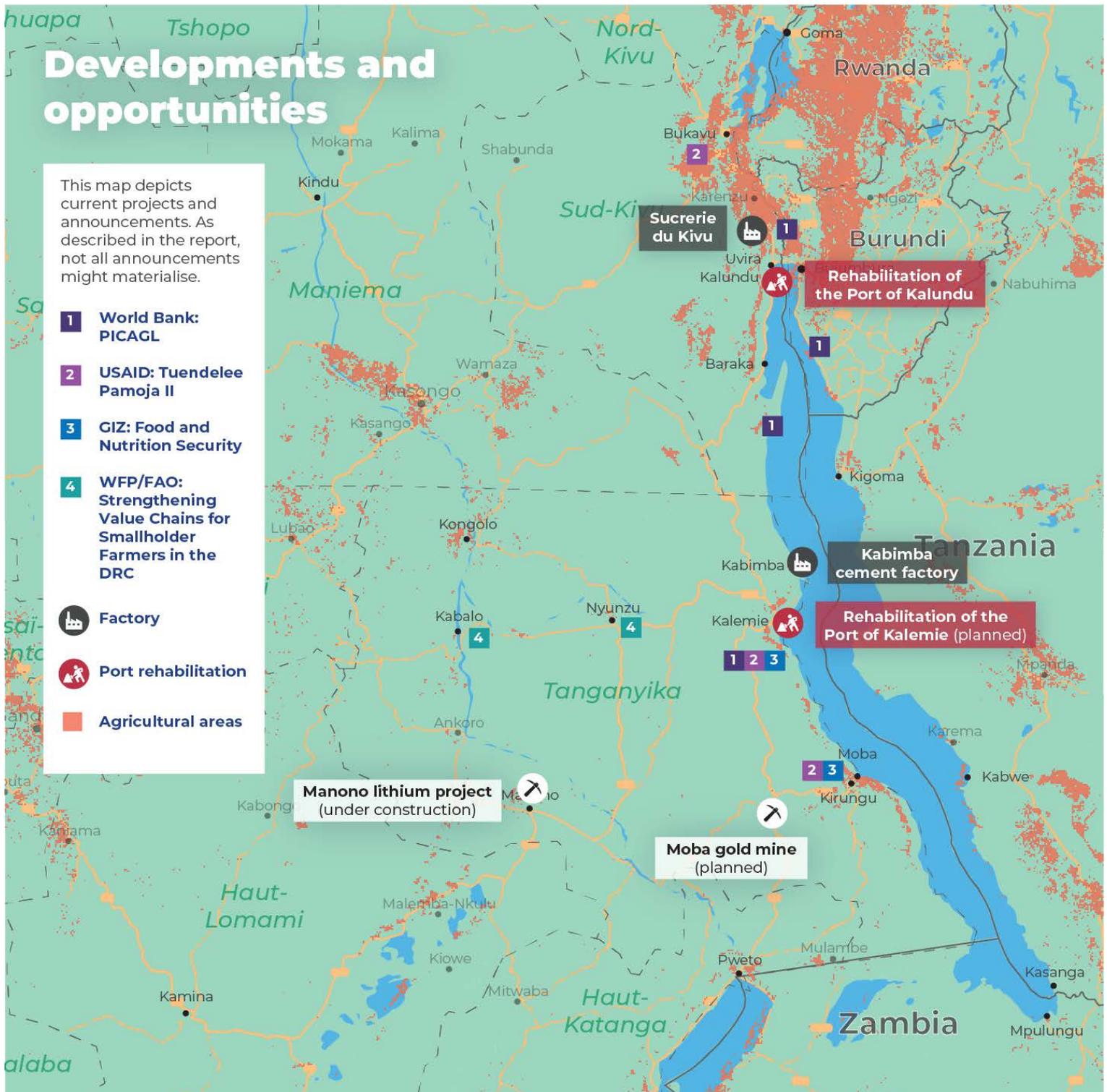


Developments and opportunities

This map depicts current projects and announcements. As described in the report, not all announcements might materialise.

- 1** World Bank: PICAGL
- 2** USAID: Tuendelee Pamoja II
- 3** GIZ: Food and Nutrition Security
- 4** WFP/FAO: Strengthening Value Chains for Smallholder Farmers in the DRC

-  Factory
-  Port rehabilitation
-  Agricultural areas



Annex B Satellite Photos

Port of Kalemie



Source: Google, ©2021 CNES/Airbus, Maxar Technologies, Map data

Port of Kalundu



Source: Google, ©2021 CNES/Airbus, Maxar Technologies, Map data

Port of Moba



Source: Google, ©2021 CNES/Airbus, Maxar Technologies, Map data

Kabimba port and cement plant



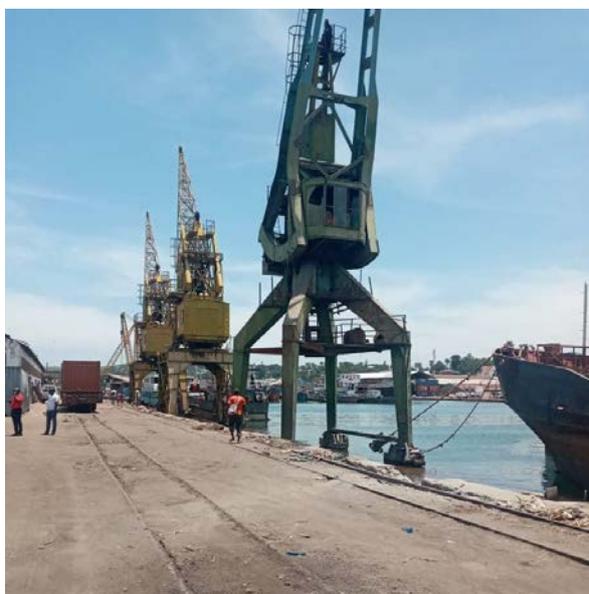
Source: Google, ©2021 CNES/Airbus, Maxar Technologies, Map data

Annex C Other Photos

Port of Kalemie



Vessel arriving in Kalemie © Oscar Bahizi



The cranes are currently out of order; all vessels are unloaded by manual workers. © Oscar Bahizi



Wooden vessel in the Port of Kalemie © Chama Kalaluka



MV Mpala (ABS Mamry, capacity 100 tons) in the Port of Kalemie © Oscar Bahizi



MV Maman Benita (ETS Tchikoma, capacity 150 tons) in the Port of Kalemie © Oscar Bahizi

Kalemie



Goods display in a small shop © Chama Kalaluka



Imported eggs being traded on the roadside © Chama Kalaluka



Kalemie city centre © Chama Kalaluka



Trading market in Kalemie © Chama Kalaluka



Mineral water production © Oscar Bahizi



Processed timber in Kalemie © Chama Kalaluka

Port of Kalundu



Mobile crane donated by the European Commission © Oscar Bahizi



Warehouses with a storage capacity of up to 4000 tons © Oscar Bahizi



Manual unloading of vessels and storage in the warehouse © Oscar Bahizi



Manual loading of a wooden boat from a truck © Oscar Bahizi



The access road from Uvira is eroding into the lake © Oscar Bahizi

Other places



The Port of Moba has one pier. It is often partially submerged, due to the rising level of the lake. © Oscar Bahizi



The port of the cement plant at Kabimba © Chama Kalaluka



Road between Kalemie and Nyunzu, 25 km from Kalemie
© Jean-Pierre Kapalay

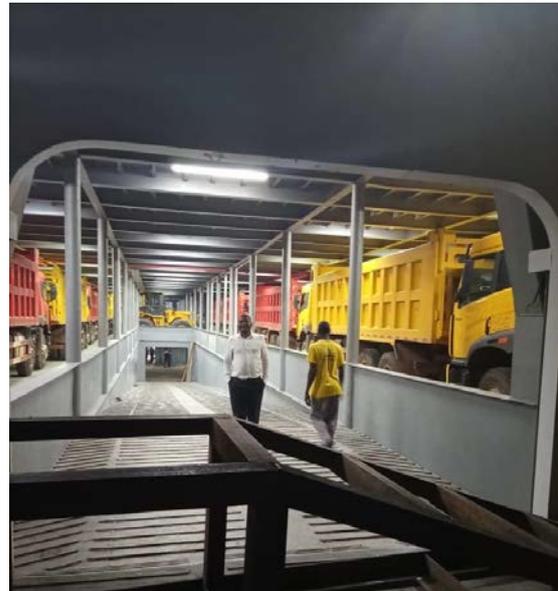
MV Amani



The MV Amani in Mpulungu © Chama Kalaluka



The passenger deck of the MV Amani © Chama Kalaluka



The vehicle deck of the MV Amani © Chama Kalaluka

Annex D List of Vessels

Table 8 Vessels calling at the Port of Kalemie in 2020

No.	Company Name/Barge Operator	Name of Vessel	Load capacity in metric tons	Country of registration
1.	Malagarasi Shipping CO	MV Malagarasi	500	Tanzania
2.	ETS SILIMU	MV Safina 2	500	DRC
3.	ETS BIRATO	MV Emmanuella	850	DRC
4.	ETS Bugugu	MV Maman Alphonsine	450	DRC
5.	ETS Elmay	MV Rafiki 3	700	DRC
		MV Rafiki 2	350	
6.	ETS K.M	MV Asifiwe 2	1,000	DRC
		MV Manne	500	
		MV Lagrace	170	
7.	ETC Olga	MV Okako I	200	DRC
8.	ETS MUTU NI MUTU	MV Ulindi	350	DRC
9.	ETS KIZA	MV Shalom	240	DRC
10.	Pastor Felix	MV Blessing	410	DRC
11.	GPNK	MV Africa	300	DRC
12.	SNSS	MV Tembwe	500	DRC
13.	SACOF	MV Fizi	500	DRC
14.	ETS Tchikoma	MV Maman Benita	150	DRC
15.	Economat General	MV Baraka	150	DRC
16.	ABS Mamry	MV Lengwe	250	DRC
		MV Pacific	400	
		MV Mpala	100	
17.	Mupasa Kitoko	MV Kapanga	350	DRC
18.	Carrier de Congo	MV Katanga	300	DRC
19.		MV Dalila	80	
20.		MV Amani	3,500	
21.		MV Tennessee	450	
22.		MV Wimbi	950	

23.	Maison Daniel	MV Faraja	329	DRC
24.	ETS K.M.	MV Amani ¹¹²	150	DRC
25.		MV Yatoka kwa Mungu	250	DRC
26.	Arnolac	MV Ndaje	650	Burundi
27.		MV Ruremesha	360	
28.		MV Sagamba	1,300	
29.		MV Murinzi	860	
30.		MV Buragane	625	
31.		MV Mumirwa	550	
32.		MV Buyenzi	550	
33.	Rad Marine	MV Byamwezi	1,837	Burundi
34.		MV Bihanga	570	
35.	Batralac	MV Teza	1,500	Burundi
36.		MV Tora	1,100	
37.		MV Rwegura	500	
38.	ETS Ntumba	MV Kiriri	420	Burundi

Source: Director of the Customs Authority at the Port of Kalemie

¹¹² It is unclear whether this vessel is the same as the one operated by Carrier de Congo.

Annex E Agricultural Trade Statistics

Product	Unit	2018	2019	2020
Imports: Key commodities				
Maize	tons	2,214	3,120	4,348
Rice	tons	16	860	2,003
Salt	tons	1,174	2,225	2,004
Sugar	tons	835	2,435	4,100
Vegetable oil	tons		627	1,587
Wheat flour	tons	613	2,340	4,394
Imports: Beverages				
Alcoholic beverages	tons	3		
Juice	tons	677	610	1,057
Mineral water	tons	671	269	281
Imports: Livestock and meat				
Cattle	quantity	943	1,076	956
Chicken	tons		343	142
Goats	quantity	158	2,061	1,368
Pork	tons		25	
Imports: Other products				
Biscuit	tons		12	2
Maize flour	tons	233	258	588
Manioc	tons		262	25
Milk	tons	77		
Potatoes	tons		25	
Sugar candy	tons	35	436	134
Exports or Imports: Fish				
Fretin (fish)	tons	161	720	360
Fresh fish	tons	201	375	207
Sardines	tons			13
Smoked fish	tons	4	9	
Exports: Other products				
Aquarium fish	quantity	17,218	267,351	3,500
Timber	tons			556

Note: The raw data does not indicate whether these quantities have been imported or exported. Whether products were exported or imported is thus based on our own assessment.

Source: Ministère de l'Agriculture, Pêche, Elevage, Environnement et Développement Rural, Service de Quarantaine Animale et Végétale

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