# Developing Bankable Transport Infrastructure Projects: Case Studies, Experiences and Learning Materials for LLDCs and Transit Countries

## Module 1. **Module 2. Identifying Funding Sources and Requirements for Bankable Infrastructure Projects**

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## 1.1 Key Objectives of the Module:

- This module aims to inform participants of the various funding sources available for transport projects, as well as to apprise them of the requirements that need to be fulfilled to leverage them.

## 1.2 Available Sources of Funding for Transport Projects

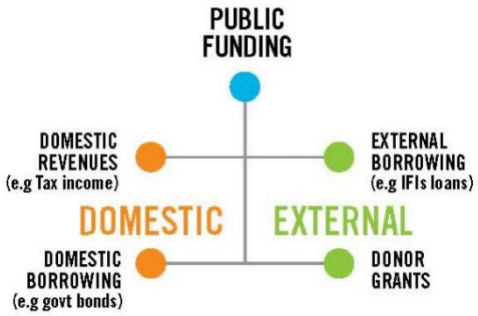
> "Analysis shows that the gap between what is invested in transport infrastructure in LLDCs and what is needed, could be as large as 2.3% of GDP. Closing this gap in the LLDCs will require not only enhanced resources from the public sector, private sector and international development partners as well as exploring new sources of financing, but also efforts to make better use of existing resources." - **UN-OHRLLS (2018)**

### 1.2.1 Public Sector Financing

**Introduction**

Worldwide, the majority of funding for infrastructure investment has been obtained from the public sector, particularly government budgets (Usubaliev, 2020). Public financing entails direct investment by government from within its budget (e.g., tax income) and domestic borrowing (e.g., government bonds). It also includes external borrowing (e.g., borrowing from international finance institutions (IFIs)) and donor grants (see Figure 2.1 below).

**Figure 1.1: Sources of Public Sector Funds**




**Source:** Review of Developments in Transport in Asia and the Pacific (United Nations ESCAP, 2013)

Traditionally, the public sector has been the principal source of transport infrastructure development financing. The United Nations (UN) Economic and Social Commission for Asia and the Pacific (ESCAP) has estimated that among the Countries with Special Needs (CSN)[1], 65% of infrastructure projects are funded by government budgets, 15% financed by the private sector, 10% financed by loans and credits from Multilateral Development Banks (MDBs), and the remaining 10% is financed from Official Development Assistance (ODA).

[1] This includes Landlocked Developing Countries (LLDCs), Small Island Developing States (SIDS) and Least Developed Countries (LDCs).

A key advantage of financing transport projects through public sector funding is that it allows governments to maintain control of public assets. In sectors such as roads, which have a significant public good characteristic, the government will normally have an interest in retaining a certain amount of control in the operations and service provision; even while private participation is encouraged, the strategic interests of the nation are also maintained (Kaombwe, 2000).

Governments also may also seek to deliver subsidised services to specific groups on equity or other grounds, for example, where the minimum scale required for service provision is simply not financially viable with the service population (Chan et al 2009). And, as infrastructure can provide benefits to groups other than the direct users (such as the effect of public transport on road congestion and greenhouse gas emissions), the benefits of the investment may exceed the potential revenue from user charges (Chan et al 2009).

Where one person's consumption of a service does not affect the amount available to others and, moreover, people cannot be prevented from consuming the good (even if they refuse to pay for it), the service is a 'public good'. A private provider simply will not provide services the costs of which cannot be recouped in some way (Chan et al 2009).

**Sources of Public Sector Funding**

Owing to their large capital requirement, public infrastructure projects such as roads, railways and airports are often financed either by borrowing through debt or bonds, or by selling equity positions in a project. Equity investments come at substantially higher return expectations than debt, and therefore come at a higher cost. For this reason, projects are typically financed with a ratio of between 10-20% equity and 80-90% debt (Siemiatycki, 2018).

Major Banks and financial institutions typically provide debt financing to infrastructure projects, while bonds are floated on international capital markets. The interest rates are determined by the creditworthiness and rating of the issuer. The term for bonds and loans are commonly between 5-15 years (Siemiatycki, 2018).

As mentioned above, public sector funds can either be sourced domestically or externally. Regardless of which financing sources are drawn on to pay for the upfront construction of the transportation project, the project proponent must have sufficient revenue sources to fund the project and repay the initial investment. As shown in the table below, project proponents can draw on a wide range of revenue tools to pay for infrastructure, including user fees and general taxes.

**Table 2.1: Potential Sources of Funds for the Public Sector**

| User fees | General Funds | Other Funding |
|---|---|---|
| ▪ Transit fares<br>▪ Road tolls / airport passenger fees / other similar fees<br>▪ Congestion charge<br>▪ Parking levies<br>▪ Fuel levy / taxes | ▪ Property tax<br>▪ Sales tax<br>▪ Personal income tax<br>▪ Hotel/recreation tax<br>▪ Vehicle registration fee<br>▪ Land transfer tax<br>▪ Land value capture<br>▪ Utility bill levy<br>▪ Billboard tax<br>▪ Advertisement revenue<br>▪ Indirect taxes paid to the government or other public agency | ▪ Domestic / external debt<br>▪ Domestic pension funds<br>▪ Sovereign bonds<br>▪ Contractor finance<br>▪ Commercial Lenders |

### Challenges with Public Sector Funding

Public sector financing faces a number of challenges. Firstly, there are currently limited and often relatively dwindling funds available for the large amount of investment required to develop transport infrastructure. Transport investment typically requires up to 3% of GDP for developing countries, with a rather higher share for LLDCs. The OECD estimated in 2017 that global transport (roads including reconstruction, railway including suburban, port and airports) infrastructure needs were about US$ 2.7 trillion (Mirabile, Marchal and Baron, 2017). This was about 3.4% of GDP in 2017 prices. The Asian Development Bank (2017) estimated that meeting the transport development needs of its developing member countries would require about 2.6% of GDP between 2020 and 2030 but this excluded urban transport. In Latin America, the transport infrastructure investment needs between 2016 and 2030, including new investment and maintenance, ranges from 0.7% of GDP to 2.2% of GDP (based on GDP growth projections between 1.4% and 3.9%; this estimate includes road and rail only). World Bank assessment estimates suggest that for nine of the LLDCs in Sub-Saharan Africa, the average transport investment need was estimated at 4.8% of GDP, compared to the 3.0% average for the other Sub-Saharan countries[2] (Carruthers, Krishnamani and Murray 2008).

Public funds are not sufficient to cover the aforementioned investment requirements. This is partially because public funds have competing demands; governments are expected to also invest in other equally important sectors such as education, healthcare, power/energy and agriculture. Funds available from public sector are also dwindling in some LLDCs as a result of monetary policy reforms being implemented to bring about necessary macro-economic and financial stability. In addition, public deficits, increased public debt to GDP ratios and, at times, the inability of the public sector to deliver efficient investment spending, have in many economies led to a reduction in the level of public funds allocated to transport infrastructure development (UN-OHRLLS, 2018).

A number LLDCs still need to raise additional fiscal revenues in order to help meet their infrastructure gap. Tax mobilization remains low in spite of significant effort and recent reforms

[2] The nine countries were Burkina Faso, Chad, Ethiopia, Lesotho, Malawi, Niger, Rwanda, Uganda and Zambia.

in some LLDCs and the ratio of tax revenues to GDP also ranges considerably amongst the LLDCs (UN-OHRLLS, 2018).

Transport user charges are a widely used as a way of raising revenue that can be used to finance transport investment, and to free up some funds that might otherwise have been used on infrastructure maintenance to become available for investment in new infrastructure. Many LLDCs have implemented some form of charging users for the maintenance of transport infrastructure, but typically increases in charges in these schemes are not keeping pace with increases in costs (UN-OHRLLS, 2018).

Chan et al (2009) also reveal that immunity from market signals and commercial disciplines (including from capital markets), has resulted in high cost and poor quality services, a lack of innovation and sub-optimal investments when the public sector directly develops projects. From the early 1990s, the response has been a swing back to more commercial or fully private provision of much public infrastructure in order to promote productive efficiencies and innovation, albeit within regulatory frameworks designed to constrain misuse of market power.

Developing projects through public finance may also face the challenge of political interference. Changes in political leadership can overturn previous commitments to infrastructure projects. Projects may also be inefficiently developed or constructed because they have been offered only to the privileged elite or connected individuals who may not necessarily the best or requisite developers / contractors.

**Recommendations**

Depending on the circumstances of each LLDC, there are several ways that domestic financing could be increased. The main recommendations are to:

- Make better use of existing funds and make public investment more efficient. If LLDCs could reach best practice standards, this could increase the quantity of transport infrastructure that can be built with current funding and financial resources by up to 30% (UN-OHRLLS, 2018).
- Allocate greater share of public revenue to transport infrastructure, if possible.
- Make better use of road funds and transport user charges such as toll fees.
- Utilise non-user fees, such as for owners of land and property that is close to the new infrastructure, so that those who benefit from the investment also make contribution to its financing.
- Consider making infrastructure investment attractive to national institutional investors. LLDCs can complement fiscal revenues and diversify their source of domestic financing by issuing sovereign bonds and engaging institutional investors such as pension funds, insurers and sovereign wealth funds.
- Consider structural reforms. Through structural reforms, LLDC governments can create a more favourable investment climate, build private sector confidence to invest and ensure that global savings are channelled into productive investments, including infrastructure.
- Improve the institutional processes on the selection and implementation of infrastructure projects.

**Case Studies of Public Sector Funded Projects**

***Case Study: Dualization of the Beitbridge – Harare Road, Zimbabwe***

The Beitbridge - Harare Road is the main route for trade between ports in South Africa and Zimbabwe, and countries north of Zimbabwe. It is located along the North - South Corridor and is an important trade route for the SADC region. The road serves as an international route for cargo and persons travelling between Tanzania, DRC, Zambia, Malawi, Mozambique and South Africa.

The road was built over five decades ago and has long been due for rehabilitation and widening. In 2018, Zimbabwe recorded an increase in road traffic deaths from 1,828 in 2017 to 1,986 in 2018. Of the 1,986 deaths recorded in 2018, more than 600 perished along the Beitbridge - Harare highway (Bhoroma, 2019).

Dualization of the Beitbridge - Harare - Chirundu[3] highway was first planned in the late 1980s, but the design and construction tender was only awarded to ZimHighways, a consortium of local construction companies, in 2002. The company failed to implement the project for over a decade after hyperinflation rendered the Zimbabwean dollar quotations valueless and the tender was cancelled.

In 2019, Zimbabwe decided to develop the project using its own public funds. According to the national newspaper, the Herald, the Zimbabwe National Road Administration (ZINARA) intends on channelling a large chunk of the funds it collects from toll gates into the rehabilitation of the Beitbridge – Harare road (The Herald, 2020). So far Zimbabwe has made progress and constructed a total of 132km out of 600km as of end of 2020 (Ntali, 2020).

**Key lessons:**

- Creating a stable and enabling economic environment is important for infrastructure development. GoZ's previous attempts to develop the Beitbridge - Harare road were hampered by inflation and an unstable currency.
- Governments should look internally. When the GoZ decided to undertake the Beitbridge Harare Road project using its own funds (toll funds), not only did it make progress (a total of 132km has been completed as of end year 2020 (Ntali, 2020)) but it realised that it will require US$650 million to undertake the project, implying savings of US$1,3 billion from what other project developers had indicated it would take. It is possible for governments to fund their own projects and although it may take longer, they could save money in the long run.
- By working with local contractors, the country has also been able to save foreign currency and according to the Ministry of Transport and Infrastructure Development in Zimbabwe, the foreign currency savings were about 60% (Sunday Mail, 2020).
- Using local companies and resources creates local employment and spurs local production and expertise.

[3] Harare – Chirundu road is north of the Beitbridge - Harare highway and leads to the border with Zambia at Chirundu.

***Case Study: Miladinovci - Stip, Macedonia***

The 53km Miladinovci - Stip highway connects North Macedonia's capital Skopje with the eastern part of the country and is therefore essential for regional development and the transportation of people and goods across the country. Unfortunately the presence of underground water on certain parts of the highway had led to failure and damage along several parts of the road. It was therefore necessary to find a solution to the risk and construct a new highway. The project also aimed to contribute to growth of the economy and the development of the eastern parts of the country along the Pan-European Corridor VIII (Xinhua, 2019).

The highway was structured in a way that it will be paid for by the citizens of Northern Macedonia; 10% as a share of the Public Enterprise for State Roads and 90% from taxpayers who will also repay a loan from China (MIA Agency, 2017). Officials from the government of Macedonia and the EXIM bank of China signed a loan agreement on November 26, 2013 wherein a loan would be provided to pay for 10% of the new motorway project.

The construction of Miladinovci-Stip highway section started in May 2014 and it opened for traffic in 2019.

**Key lesson:**

- The project was completed using a mix of public sector funds and a loan from China.

***Case Study: Harry Mwaanga Nkumbula International Airport in Livingstone, Zambia***

In 1989, Zambia created the National Airports Corporation Limited (NACL) to develop, manage and expand the nation's international airports. The Harry Mwaanga Nkumbula International Airport (HMNIA) is located in southern Zambia on the outskirts of Livingstone, close to the world famous Victoria Falls. HMNIA was built in 1952 and in 2000 it handled just 8,963 international passengers. However, by 2011, the airport was handling over 203,800 international passengers (VictoriaFalls24, 2012).

Given the significant increase in arrivals at HMNIA, the NACL through the government of Zambia earmarked over US$40 million in funds to build a new terminal at the airport and to upgrade the old one (Chanda, 2014). Construction of the new international terminal commenced in August 2010 and was managed by a local construction company, Flame Group. The new terminal was partially opened on August 21, 2013 to its first international passengers and all construction on the expansion was completed by end of 2013. In 2015, NACL announced another round of expansions to HMNIA with a US$50 million budget.

The international terminal has been expanded by three times the size of the old terminal, increasing the number of check-in and immigration counters. Airlines have also been equipped with bigger offices and there are now three VIP lounges. A viewing terrace and retail and duty-free shops have also been added to the terminal. There are features such as lifts, escalators, a banking hall, upper floor VIP and business lounges and an upper floor restaurant.

**Key Take Away / Lesson**

- Funds were sourced through the Zambia National Airports Corporation Limited who will make use increased revenue from airport user charges**.** Airport passenger charges can be

used for a similar purpose to road user charges to fund airport investments, and they usually generate enough revenue to amortize debt charges incurred.

- Developing projects close to tourism attractions, such as an Airport close to Victoria Falls, has a multiplier effect. The airport infrastructure development comes with other services such as hotels, hospitality, restaurants and taxi services that benefit from the development.

### 1.2.2 Official Development Assistance (ODA)

**Overview**

Official Development Assistance (ODA) is defined by the International Monetary Fund (IMF) (2003) as flows of official financing administered with the promotion of the economic development and welfare of developing countries as the main objective, and which are concessional in character with a grant element of at least 25% (using a fixed 10% rate of discount). By convention, ODA flows comprise contributions of donor government agencies, at all levels, to developing countries ("bilateral ODA") and to multilateral institutions / International Finance Institutions (IFI) such as the World Bank or African Development Bank (AfDB), or a development agency such as the United Nations (UN) (IFI's are explored in greater detail in Section 1.2.3).

The Addis Ababa Action Agenda on Financing for Development clearly identifies ODA and Other Official Flows (OOF) as relevant elements in the financing of sustainable development programmes (United Nations, 2015). Although these flows are relatively small when compared to domestic public resources or private flows, they still play an essential role since they frequently function as "seed funds" or catalysers of additional resource mobilisation in sectors or projects where other funding options are limited, or where investors are reluctant to participate (SDG Pulse, 2020). Furthermore, for some countries in vulnerable situations, official funds are frequently the only source of financing available (SDG Pulse, 2020).

International and regional financing institutions as well as donors, continue to be a significant source of infrastructure development funding for LLDCs. However just as is the case for public funds, availability of ODA funds for infrastructure development is limited. ODA assistance is largely directed to social services such as education and health, and other poverty alleviation programmes of direct benefit to the local communities. Furthermore, in addition to this competition for donor funds with other sectors, there is also intense competition among recipient countries.

About two thirds of ODA in LLDCs is from donor to recipient, and one third comes from the Multilateral Development Banks (MDBs). Apart from the traditional MDBs, several new MDBs have also recently entered the stage. ODA flows to LLDCs reached around US$ 25 billion in 2016, however infrastructure (water, transport and storage, energy, and communications) amounts to just around 22% of this amount (OECD/DAC, 2019).

**Sources of Official Development Assistance**

The sources of ODA can be classified into two broad categories. It can either be provided bilaterally from donor to recipient, or through an agency.

1. Bilateral transactions are those in which the donor directly funds the LLDC.
2. Multilateral Development Agencies are organisations such as the UN and the World Bank.

**Challenges with Official Development Assistance**

The commitment of developed economies under Sustainable Development Goals (SDG) target 17.2 is to dedicate 0.7% of their Gross National Income (GNI) to ODA to developing countries, including 0.15% to 0.20% exclusively to Least Developed Countries (LDCs). However actual ODA funds made available for developing countries have yet to reach half of this commitment in any year as of the year 2020, while those made available to LDCs fare relatively better, although reaching their target range only once since 2002 (SDG Pulse, 2020).

A challenge to ODA is the need to condition disbursement to performance indicators. There are situations where condition demands that recipient Governments monitor indicators such as inflation rate, and disbursement is made only after verification. Monitoring and verification of those conditions can take time and can delay the process of development (Ayoki, 2008).

**Recommendations**

- It is important to place increased focus on the quality of aid, instead of just the quantity. The Commitment to Development Index [4] is one such measure that ranks the largest donors on a broad range of their "development friendly" policies. It considers the quality of aid, in addition to the quantity.

**Examples of transport infrastructure in LLDCs developed through bilateral ODA**

***Case Study: International Main Roads Improvement Project, Kyrgyz Republic***

In 2014, the Japan International Cooperation Agency (JICA) signed a loan agreement with the Government of the Kyrgyz Republic in the capital city, Bishkek, to provide a Japanese ODA loan of up to 11.915 billion yen for assistance for the International Main Roads Improvement Project which began in 2018 and is expected to end in 2023. This project will provide improvements to a 47-kilometer interval on an international trunk roadway connecting Osh, Batken and Isfana in the southern part of the Kyrgyz Republic, and carry out disaster risk reduction measures (tunnel construction, falling rock countermeasures and landslide prevention) on an international trunk roadway connecting Bishkek and Osh, a core city in the south (JICA, Signing of Japanese ODA Loan Agreement with the Kyrgyz Republic: Strengthening the capacity to transport people and goods domestically and internationally, 2015a). These measures will improve the road transportation capacity and safety in the Kyrgyz Republic, thereby facilitating domestic and international transportation and contributing to economic growth (JICA, Signing of Japanese ODA Loan Agreement with the Kyrgyz Republic: Strengthening the capacity to transport people and goods domestically and internationally, 2015a).

The loan funds for this project will be allocated to public works, including road improvements, bridge replacement, tunnel construction, and falling rock and landslide measures, and to consulting services, including procurement assistance and construction supervision. Special Terms for Economic Partnership apply to the Japanese ODA loan for this project, and Japanese technology will be used for the disaster risk reduction measures and bridge portions of this

[4] The Commitment to Development Index (CDI), published annually by the Center for Global Development, ranks the world's richest countries on their dedication to policies that benefit people living in poorer nations.

project (JICA, Signing of Japanese ODA Loan Agreement with the Kyrgyz Republic: Strengthening the capacity to transport people and goods domestically and internationally, 2015a).

In the "National Sustainable Development Strategy of the Kyrgyz Republic (2013-2017)", the transport sector is set as one of the prioritized areas, and it focuses on ensuring access of the domestic market and the surrounding countries (JICA, 2015b). The rehabilitation of Osh-Batken-Isfana road, and disaster prevention measures in Bishkek-Osh road is positioned as one of the most urgent areas in the Strategy.

Japan's Country Assistance Policy for the Kyrgyz Republic identifies "maintenance of transport infrastructure and reduction of regional disparities" as a priority area. In the JICA Country Analysis Paper to Kyrgyz Republic, "development of transport infrastructure" was considered as priority issues (JICA, 2015b). The objective of the Project is consistent with these policy and analysis. JICA has implemented ODA Loan, Grant Aid, and Technical Cooperation projects to support the development and maintenance of roads and related structures. In fact, JICA is one of the leading donors in the road sector in Kyrgyz, along with the ADB.

**Key Take Away / Lesson**

- Japan has been a key financier of transport projects in LLDCs as is demonstrated by the above-mentioned project in Kyrgyz Republic but also by the Kazungula Bridge project that was detailed in Module 1.
- Kyrgyz Republic approached the government of Japan with the project after it was identified as a project in its strategic documents. Clearly defining the project and its needs is important for LLDCs before they approach financiers.

***Case Study: Lusaka Decongestion Project, Zambia***

Statistics indicate that Zambia has over 780,000 cars, with Lusaka accounting for 60% representing about 480,000 cars (DailyMailLtd, 2019). Unfortunately, while the population and number of cars have increased exponentially over the years, road infrastructure development has lagged behind. Given the current traffic jams, many have raised concern and fear on what the levels would be a few more years from now. The Zambian Government launched the US$389 million Lusaka Decongestion Project (LDP) aimed at decongesting the city by building and expanding roads, fly-over bridges and overpasses.

In 2017, Zambia received US$286 million from the Indian Government for infrastructure development to de-congest Lusaka City. The project, dubbed 'Decongesting Lusaka', will see the creation of a ring road that would start from the Great East Road, through Kenneth Kaunda International Airport to the Great North Road in Chisamba district. Apart from implementing phase two of the Lusaka L400 road project, the Indian government is also financially assisting with the development of street lighting, by-passes, construction of roads in Kasisi and other areas and putting up drainage systems among other things with the aim of beautifying Lusaka City (Lusakatimes, 2017).

The Project aims to expand roadway capacity through widenings and new fly-over bridges and overpasses to be constructed over three years by Afcons International, an Indian construction company.

**Key Take Away / Lesson**

- Developing countries have traditionally approached Western Countries for ODA assistance but the LDP proves that assistance can also be provided by other advanced countries such as India.

### 1.2.3 International Finance Institutions (IFIs)

**Overview**

An international financial institution (IFI) refers to an institution providing finances that has been established (or chartered) by more than one country. These are generally inclusive of national governments, although other international institutions and other organizations occasionally figure as shareholders.

IFIs provide national governments with loans, credits and grants with the goal of funding specific projects that focus on economic and socially sustainable development. IFIs also provide technical and advisory assistance to their borrowers and conduct extensive research on development issues. In addition to public procurement opportunities, in which multilateral financing is delivered to a national government for the implementation of a project or program, IFIs are increasingly lending directly to sub-national government entities, as well as the private sector (Canada, 2020).

It should be noted that there has recently been a deliberate move by IFIs towards leaving the commercially viable projects and operational functions to the private sector, in accordance with the thrust of the ongoing policy reforms. In what is termed a 'cascade' approach, financing for viable infrastructure projects is first sought from the private sector (Brettonwoods, 2017). This means that some projects that were in the past financed by IFIs, including railways, ports, airports and some road programmes, are now first proposed to be carried out by the private sector alone or in partnership with the public sector.

**Categories of IFI's**

The following are three broad categories of IFI's.

- **Multilateral Development Banks (MDBs).** There are eight large MDBs and several smaller ones. The larger MDBs are the World Bank (WB), the Islamic Development Bank (IsDB), the African Development Bank (AfDB), the Asian Development Bank (ADB), CAF–Development Bank of Latin America (CAF), the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), and the Inter-American Development Bank (IADB). With the exception of the World Bank and the International Development Association (its equivalent for lending to lower income countries at preferential rates) and the IsDB, they all represent some form of regional or special interest.
- **Regional Development Banks** such as the Asian Infrastructure Investment Bank (AIIB), Inter-American Development Bank, the Development Bank of South Africa (DBSA) and other regional focused banks. Many of the regional economic communities (e.g., SADC, Association of Southeast Asian Nations (ASEAN), Central Asia Regional Economic Cooperation Program (CAREC), Corporacion Andina de Fomento (CAF)) also have regional funding sources that can help with project preparation, including the search for project financing.

- **Multilateral financial institutions** such as the International Investment Bank (IIB) and the OPEC Fund for International Development (OFID) also provide funding for projects.

The following is a closer examination of the MDBs available for funding projects.

## Global Bank

### World Bank (WB)

The World Bank is the oldest and largest of the MDBs. The World Bank Group comprises three sub-institutions that make loans and grants to developing countries: The International Bank for Reconstruction and Development (IBRD), the International Development Association (IDA), and the International Finance Corporation (IFC) (Everycrsreport, 2020). The 1944 Bretton Woods Conference led to the establishment of the World Bank, the IMF, and the institution that would eventually become the World Trade Organization (WTO). The IBRD was the first World Bank affiliate created, when its Articles of Agreement became effective in 1945 with the signatures of 28-member governments. Today, the IBRD has near universal membership with 189-member nations. Only Cuba and North Korea, and a few microstates such as the Vatican, Monaco, and Andorra, are non-members. The IBRD lends mainly to the governments of middle-income countries at market-based interest rates (Everycrsreport, 2020).

IDA was created in 1960 to make concessional loans (with low interest rates and long repayment periods) to the poorest countries. IDA also now provides grants to these countries.

The IFC was created in 1955 to extend loans and equity investments to private firms in developing countries. The World Bank initially focused on providing financing for large infrastructure projects. Over time, this has broadened to also include social projects and policy-based loans (Everycrsreport, 2020).

## Regional Development Banks

### *Asian Development Bank (ADB)*

The Asian Development Bank (ADB) was established in 1966 and is headquartered Manila, Philippines (Everycrsreport, 2020). The bank admits the members of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP, formerly the Economic Commission for Asia and the Far East or ECAFE) and non-regional developed countries. From 31 members at its establishment, ADB now has 68 members. Its mandate is to aim for an Asia and Pacific free from poverty while fostering inclusive growth. The ADB's concessional lending facility, the Asian Development Fund (AsDF), was created in 1973. In 2017, concessional lending was transferred from the AsDF to the ADB, although the AsDF still provides grants to low-income countries (Everycrsreport, 2020). The ADB does not have a separate fund specifically for financing private-sector projects, and makes loans to private-sector firms in the region through its non-concessional window, however both public and private sector can both borrow from the Bank – 83% of disbursements in 2014 were to sovereign lenders (Raphaëlle Faure, 2015). The Bank provides loans, technical assistance, grants, guarantees and equity investments.

### *African Development Bank (AfDB)*

The AfDB was created in 1964 and was for nearly two decades an African-only institution, reflecting the desire of African governments to promote stronger unity and cooperation among

the countries of their region (Everycrsreport, 2020). In 1973, the AfDB created a concessional lending window, the African Development Fund (ADF), to which non-regional countries could become members and contribute. In 1982, membership in the ADB non-concessional lending window was officially opened to non-regional members. Governments, private sector, national, sub-regional development finance institutions, public sector enterprises can borrow from the Bank – 76% of sovereign lending exposure in 2014 (Everycrsreport, 2020). The AfDB makes loans to private-sector firms through its non-concessional window and does not have a separate fund specifically for financing private-sector projects with a development focus in the region (Everycrsreport, 2020).

***European Bank for Reconstruction and Development (EBRD)***

The EBRD is the youngest MDB, founded in 1991 (Everycrsreport, 2020). The motivation for creating the EBRD was to ease the transition of the former communist countries of Central and Eastern Europe (CEE) and the former Soviet Union from planned economies to free-market economies (Everycrsreport, 2020). The EBRD differs from the other regional banks in two fundamental ways. First, the EBRD has an explicitly political mandate: to support democracy-building activities. Second, the EBRD does not have a concessional loan window. The EBRD's financial assistance is heavily targeted on the private sector, although the EBRD does also extend some loans to governments in CEE and the former Soviet Union (Everycrsreport, 2020). In 2014, 24% of loans, undrawn loan commitments and guarantees were to the public sector (Raphaëlle Faure, 2015).

***European Investment Bank (EIB)***

The EIS was established in 1958 and is headquartered in Luxembourg. Its mandate is to contribute to the balanced and steady development of the internal market in the interest of the European Union (EU). Operating on a non-profit-making basis, the EIB grants loans and give guarantees which facilitate the financing of projects in all sectors of the economy (Raphaëlle Faure, 2015). Eligibility criteria is EU member states. Public bodies, large corporations or small businesses in EIB member countries can borrow from the Bank. EIB also provides financing to projects in third countries that support the EU's external cooperation and development policies. Disbursed sovereign exposures: €38 billion ($50.4 billion). Sovereign-guaranteed exposures: €82 billion ($108.8 billion) (in 2014) (Raphaëlle Faure, 2015). Main instruments are loans, guarantees, microfinance, equity investment and blended finance. Typical terms and conditions of lending instruments Loans run from approximately four to 20 years. Loan rates vary from project to project according to specific aspects such as currencies borrowed, amount, duration and timing of disbursement. The EIB does not publish information on the financing terms and conditions of its loans, such as maturity, interest rates and grace period. This information typically forms part of the EIB's confidential relationship with its business partners (Raphaëlle Faure, 2015).

***Inter-American Development Bank (IDB)***

The IDB was created in 1959 in response to a strong desire by Latin American countries for a bank that would be attentive to their needs, as well as U.S. concerns about the spread of communism in Latin America (Everycrsreport, 2020). Consequently, the IDB has tended to focus more on social projects than large infrastructure projects, although the IDB began lending for infrastructure projects as well in the 1970s. From its founding, the IDB has had both non-concessional and concessional lending windows. The IDB's concessional lending window was

called the Fund for Special Operations (FSO), whose assets were largely transferred to the IDB in 2016. The IDB Group also includes the Inter-American Investment Corporation (IIC) and the Multilateral Investment Fund (MIF), which extend loans to private-sector firms in developing countries, much like the World Bank's IFC (Raphaëlle Faure, 2015).

***Islamic Development Bank (IsDB)***

IsDB's mandate is to foster economic development and social progress in member countries and Muslim communities individually as well as jointly in accordance with the principles of the Shari'ah. It aims to promote comprehensive human development, with a focus on the priority areas of alleviating poverty, improving health, promoting education, improving governance and prospering the people. Eligibility is members of the Organisation of Islamic Cooperation that contribute to the Bank and accept the terms and conditions defined by the IsDB Board of Governors. Both public and private sectors can borrow from the Bank for large and medium sized projects, and small enterprises in member countries. Over 90% of all financing is sovereign guaranteed (Raphaëlle Faure, 2015).

***Banque Ouest Africaine de Développement (BOAD)***

The BOAD exists to promote balanced development in member states and foster economic integration in West Africa (BOAD, 2021). Eligibility criteria: Members of the West African Economic and Monetary Union (WAEMU). WAEMU member countries, their communities and government institutions; agencies, businesses and private individuals contributing to the economic development or integration of member countries; countries of the sub-region which are non-WAEMU members, their agencies or businesses can borrow from the Bank (Raphaëlle Faure, 2015).

***Central American Bank for Economic Integration (CABEI)***

CABEI's mandate is to promote the economic integration and the balanced economic and social development in Central America (GCF, 2021). Eligibility criteria: Countries and public organisations with an international scope in accordance with the regulations established by the Board of Governors. Public financial and corporate private sector can borrow from the Bank (BCIE, 2021).

***Development Ban of Latin America (CAF)***

CAFs mandate is to promote sustainable development and regional integration by providing multiple financial services to clients in the public and private sectors of shareholder countries. Public and private sector (banks and companies) can borrow from the Bank. In 2014, 80% of the loan portfolio were to sovereign borrowers. The minimum amount of an A/B loan should be $50 million (Raphaëlle Faure, 2015). The maximum amount is based on the project and the capacity to attract investors within the framework of the norms set forth by CAF. Generally, CAF has to maintain a minimum of 25% of the total amount of an A/B Loan, by financing the A Tranche (Raphaëlle Faure, 2015).

***East African Development Bank (EADB)***

Established 1967, the EADB is headquartered in Kampala, Uganda. Its mandate is to promote sustainable socio-economic development in East Africa by providing development finance,

support and advisory services (EADB, 2021). Eligibility criteria: member states of the East African Community, or other institutions with similar objectives for purposes of strategic partnerships. Both foreign and local currency loans have a floating interest rate based on the EADB Reference Rate for each currency, plus a risk margin (Raphaëlle Faure, 2015). The margin depends on the perceived risk of the borrower. The Bank's Reference Rate is based on the average cost of funds per currency.

***Development Bank of Southern Africa (DBSA)***

Established in 1983, the Development Bank of Southern Africa (DBSA) is a development finance institution wholly owned by the Government of South Africa that seeks to accelerate sustainable socio-economic development and improve the quality of life of the people of the Southern African Development Community (SADC) by driving financial and non-financial investments in the social and economic infrastructure sectors (DBSA, 2021). Its key mandate is to deliver developmental infrastructure projects in South Africa and the rest of Africa. High on its agenda is the need to promote regional integration (DBSA, 2021).

**Terms and Conditions of MDBs**

The terms and conditions when borrowing from an MDB are very diverse and depend on the status of the borrowing country and the type of instrument. Terms can vary from a minimum maturity of five to 40 years, or a minimum grace period of between three and ten years. Interest rates are fixed for concessional windows (up to 2.81% for countries eligible in the blend window), but floating/variable for non-concessional windows (i.e., Libor+ contractual spread, but usually below 2% when the information has been published) (Raphaëlle Faure, 2015).

The table on the following page provides an overview of the MDBs and their terms and conditions. This information was largely compiled from a report by Raphaëlle Faure, Annalisa Prizzon and Andrew Rogerson for the publication *Multilateral Development Banks: A Short Guide (Overseas Development Institute, 2015)* and other public sources. This is followed by three figures that present the capital available from the listed MDBs, their instruments and their areas of focus, respectively.

**Table 2.2: List of MDBs, their Mandates and Terms and Conditions**

| Bank Name | Mandates and mission statements | LLDC Eligibility | Instrument | Maturity (years) | Grace Period (years) | Interest / Other | Few project examples |
|---|---|---|---|---|---|---|---|
| **WB: World Bank, including the:**<br>▪ The International Development Association (IDA) (concessional window)<br>▪ International Bank for Reconstruction and Development (IBRD) (non-concessional window) | ▪ End extreme poverty within a generation and boost shared prosperity | ▪ All LLDCs | ▪ Regular Credit | ▪ 38 | ▪ 6 | ▪ No interest. 0.75 % service charge (Special Drawing Rights (SDR)). | ▪ The CEMAC (Central African Economic and Monetary Community) Transport Transit Facilitation Project, Central African Republic and Chad,2007-2019<br>▪ Lao National Road 13 Improvement and Maintenance, Lao PDR, 2018-Ongoing<br>▪ Trade Promotion and Quality Infrastructure, Armenia, 2014-Ongoing<br>▪ Santa Cruz Road Corridor Connector Project (San Ignacio - San Jose), Bolivia, 2017- Ongoing |
| | | | ▪ Blend | ▪ 25 | ▪ 5 | ▪ 1.25% interest.<br>▪ 0.75 % service charge (SDR). | |
| | | | ▪ Hard term lending | ▪ 25 | ▪ 5 | ▪ 1.08% interest.<br>▪ 0.75 % service charge (SDR). | |

| Bank Name | Mandates and mission statements | LLDC Eligibility | Instrument | Maturity (years) | Grace Period (years) | Interest / Other | Few project examples |
|---|---|---|---|---|---|---|---|
| **IBRD** | ▪ Same as above | ▪ All LLDCs | ▪ Flexible loan, variable and fixed spread and development policy loans | 8 to 15/20 | ▪ N/A | ▪ 6-month Libor, plus contractual spread of 0.5%.<br>▪ Front-end and commitment fee of 0.25% each. | ▪ PY Transport Connectivity, Paraguay, 2016-Ongoing<br>▪ Urban Transport Project, Turkmenistan, 1997-2001<br>▪ Azerbaijan Highway 3 Additional Financing, Azerbaijan, 2016-Ongoing<br>▪ Southern Africa Trade and Transport Facilitation Project, Tanzania, 2013-2020 |
| | | | ▪ Special Development Policy Loan | ▪ 5 to 10 | ▪ 3 to 5 | ▪ 6-month Libor plus a minimum of 2%.<br>▪ Front-end fee of 1% of the principal loan. | |
| **ADB: Asian Development Bank, including the**<br>▪ Asian Development Fund (ADF) (concessional window) and<br>▪ Ordinary Capital Resources (non-concessional window) | ▪ Eradicate poverty in Asia Pacific | ▪ All the Asian LLDCs: Afghanistan, Bhutan, Kyrgyz Republic, Lao PDR, Mongolia, Nepal, Uzbekistan and Kazakhstan. | ▪ Libor-based loans | ▪ Varies | ▪ N/A | ▪ Floating 6-month Libor rate; contractual spread and maturity premium fixed | ▪ Enhancement of the Safety and Reliability of the National Road Network, Tajikistan, 2020-Ongoing<br>▪ New Deepwater Port for Nauru, Nauru, 2018-Ongoing<br>▪ Elevated Walkways in Manila, Philippines, 2020-Ongoing |
| | | | ▪ Local currency loan | ▪ Varies | ▪ N/A | ▪ Floating or fixed rate, contractual spread and maturity premium fixed. | |

| Bank Name | Mandates and mission statements | LLDC Eligibility | Instrument | Maturity (years) | Grace Period (years) | Interest / Other | Few project examples |
|---|---|---|---|---|---|---|---|
| | | | | | | | ▪ Preparing the Land and Maritime Transport Projects, Papua New Guinea, 2019-Ongoing |
| **Asian Development Fund (ADF)** | ▪ Same as above | ▪ Same as above | ▪ Group A (ADF-only): Project loans | ▪ 32 | ▪ 8 | ▪ 1% during grace period; 1.5% beyond grace period.<br>▪ Equal amortisation; no commitment fee. | ▪ Hairatan-Mazar-e-Sharif Railway connecting Afghanistan to Uzbekistan, 2009-2011<br>▪ The East–West Highway Improvement Project, Azerbaijan, 2005-2010<br>▪ Expressway Connectivity Investment Program – Facility, Sri Lanka, 2012-Ongoing<br>▪ Solomon Islands: Transport Sector Flood Recovery Project,2014-2018 |
| | | | ▪ Group A (ADF-only): Programme loans | ▪ 40 | ▪ 8 | ▪ 1% during grace period; 1.5% beyond grace period.<br>▪ Equal amortisation; no commitment fee. | |
| | | | ▪ Group B (Blend) | ▪ 25 | ▪ 5 | ▪ 2%. Principal repayment at 2% per year for the first 10 years after the grace period and 4% per year thereafter; | |

| Bank Name | Mandates and mission statements | LLDC Eligibility | Instrument | Maturity (years) | Grace Period (years) | Interest / Other | Few project examples |
|---|---|---|---|---|---|---|---|
| | | | | | | ▪ No commitment fees. | |
| | | | ▪ Emergency assistance loans | ▪ 40 | ▪ 10 | ▪ 1%. Principal repayment at 2% per year for the first 10 years after the grace period and 4% per year thereafter;<br>▪ No commitment fees. | |
| **AfDB: African Development Bank (non-concessional window) and**<br>▪ the African Development Fund (AfDF) (concessional window) | ▪ Promote sustainable economic growth and reduce poverty in Africa | ▪ All African LLDCs: Botswana, Burkina Faso, Burundi, CAR, Chad, Eswatini, Ethiopia, Lesotho, Malawi, Mali, Niger, Rwanda, South Sudan, Uganda, Zambia and Zimbabwe | ▪ Loans | ▪ 20 | ▪ 5 | ▪ Interest rate variable and reflects the direct market cost of funds.<br>▪ Commitment charge on disbursement balance: 1%. | ▪ The Nacala Road Corridor Project - Phase II, Zambia, 2010-2017<br>▪ Tanzania - Transport Sector Support Programme (TSSP), 2019-Ongoing<br>▪ Ethiopia-Sudan railway study, 2020<br>▪ Enfidha Airport Project, Tunisia, 2009-Ongoing |
| **AfDF** | ▪ Same as above | ▪ Same as above | ▪ Loans | ▪ 30 to 40 | ▪ 5 to 20 | ▪ None for Development | ▪ North-South Corridor |

| Bank Name | Mandates and mission statements | LLDC Eligibility | Instrument | Maturity (years) | Grace Period (years) | Interest / Other | Few project examples |
|---|---|---|---|---|---|---|---|
| | | | | | | Fund countries;<br>▪ 1% for blend, gap and graduating countries.<br>▪ Service charge commitment fee: 0.75% per annum on outstanding balance;<br>▪ 0.50% per annum on undisbursed amount. | Regional Connectivity-Kazungula Bridge, Zambia and Botswana,2014-2021<br>▪ Lake Tanganyika Transport Corridor Development Project Phase I: Rehabilitation of Bujumbura Port, Burundi and Zambia, 2019-Ongoing<br>▪ Mtwara road corridor provides connectivity from Southern Tanzania to Zambia, 2004-Ongoing<br>▪ North-South Corridor (North section) Reinforcing connectivity in the Great Lakes region, Burundi, Rwanda, Zambia and Malawi, Ongoing |
| | | | ▪ Technical Assistance | ▪ 50 | ▪ 10 | ▪ None for Development Fund countries;<br>▪ 1% for blend, gap and graduating countries.<br>▪ Service charge commitment fee: 0.75% per annum on outstanding balance;<br>▪ 0.50% per annum on undisbursed amount. | |

| Bank Name | Mandates and mission statements | LLDC Eligibility | Instrument | Maturity (years) | Grace Period (years) | Interest / Other | Few project examples |
|---|---|---|---|---|---|---|---|
| **EBRD: European Bank for Reconstruction and Development** | ▪ Foster the transition towards open market-oriented economies and private and entrepreneurial initiatives in central and eastern European countries committed to the principles of multiparty democracy, pluralism and market economics | ▪ The following European and Asian member countries are eligible: Armenia, Azerbaijan, Mongolia, Kazakhstan, Kyrgystan, Tajikistan, Turkmenistan, Uzbekistan, Moldova | ▪ Loans | ▪ 1 to 15 | ▪ N/A | ▪ Fixed or floating rate. | ▪ Khatlon Public Transport, Tajikistan, 2017-Ongoing<br>▪ Expansion of Warsaw Metro, Poland, 2020-Ongoing<br>▪ Rehabilitation of M05 Kyiv-Odessa Road, Construction of Lviv Bypass, Ukraine, 2020-Ongoing<br>▪ Krakow Urban Transport Project, Poland, 1998 |
| **IADB: Inter-American Development Bank (Data in this document refers to IADB only, and not to the IADB Group, which comprises the IADB and the Inter-American Investment Corporation)** | ▪ Promote the economic and social development of the developing member states, individually and collectively | ▪ Countries in Latin America and the Caribbean. This includes Bolivia and Paraguay | ▪ Flexible financing facility | ▪ 20 to 25 | ▪ 12.75 to 15.25 | ▪ Libor-based. | ▪ Integral Structuring of the Concession of the Airports of La Ceiba, Roatán and San Pedro Sul, Honduras, 2020-Ongoing<br>▪ Support of the digitalization of the Ministry of Public Works and Communication |
| | | | ▪ Development sustainability credit line | ▪ 6 | ▪ 3 | ▪ Libor-based. | |

| Bank Name | Mandates and mission statements | LLDC Eligibility | Instrument | Maturity (years) | Grace Period (years) | Interest / Other | Few project examples |
|---|---|---|---|---|---|---|---|
| | | | | | | | s and the Development of Sustainable Urban Mobility Master Plans, Paraguay, 2020-Ongoing<br>▪ Program to Rehabilitate and Maintain Agro-industrial Corridors, Paraguay, 2020-Ongoing<br>▪ Airport Infrastructure Program. Phase I, Bolivia, 2013-Ongoing |
| **IsDB: Islamic Development Bank** | ▪ Foster economic development and social progress in member countries and Muslim communities, individually as well as jointly, in accordance with the principles of the Shari'ah | ▪ IsDB member countries<br>▪ LLDCs that are eligible are: Afghanistan, Azerbaijan, Burkina Faso, Chad, Kazakhstan, Kyrgyz Republic, Mali, Niger, Tajikistan, Turkmenistan | ▪ Concessional loans under ordinary capital resources | ▪ 15 to 25 | ▪ 3 to 7 | ▪ Service fee up to 1.5% | ▪ Bokoro - Arboutchatak Road Project, Chad, 2009-2011<br>▪ Trans-Saharan Road Project, Nigeria-Niger-Algeria, connecting Mali, Chad and Tunisia, 2019-Ongoing<br>▪ Reconstruction and Upgrade of |
| | | | ▪ Islamic Solidarity Fund for development loans | ▪ 15 to 30 | ▪ 3 to 10 | ▪ No interest rate applied in compliance with Islamic<br>▪ Finance. Service fee varies | |

| Bank Name | Mandates and mission statements | LLDC Eligibility | Instrument | Maturity (years) | Grace Period (years) | Interest / Other | Few project examples |
|---|---|---|---|---|---|---|---|
| | | , Uganda, Uzbekistan | | | | from 0.75 to 2% | ▪ Road in Surkhandarya Region (M39) Project, Uzbekistan, 2010-2016<br>▪ Bereket-Etrek railway line that extends between Turkmenistan and Iran, 2009-2014 |
| **BOAD: Banque Ouest Africaine de Développement/West Africa Development Bank** | ▪ Promote economic development in member states and economic integration across West Africa | ▪ West African LLDCs: Mali, Niger and Burkina Faso | ▪ Not Publicly Available (NPA)* | ▪ NPA * | ▪ NPA * | ▪ NPA* | ▪ Modernization of the Niamey airport and construction of the Tillabéri airport, Niger, 2019-Ongoing<br>▪ Construction the Dakar-Saint Louis Coastal Highway, Senegal, 2018-Ongoing<br>▪ Burkina Faso's 2017-2019 priority road maintenance programme, Burkina Faso, 2017-2019 |

| Bank Name | Mandates and mission statements | LLDC Eligibility | Instrument | Maturity (years) | Grace Period (years) | Interest / Other | Few project examples |
|---|---|---|---|---|---|---|---|
| | | | | | | | ▪ Lomé-Cotonou Road Rehabilitation (Phase 2) and Coastal Protection (Benin-Togo) Project, Benin and Togo, 2016-Ongoing |
| **CAF: Development Bank of Latin America (formerly known as Corporación Andina de Fomento)** | ▪ Promote sustainable development and regional integration | ▪ Latin American LLDCs: Bolivia, Paraguay | ▪ NPA* | ▪ NPA * | ▪ NPA * | ▪ NPA* | ▪ N/A<br>▪ Sanitation and Urban Infrastructure Program of the Juazeiro do Norte Municipality, Brazil,2020-Ongoing<br>▪ Metro de Quito Subway, Ecuador, 2021-Ongoing<br>▪ Puerto Indio Access Road, Paraguay, 2020-Ongoing<br>▪ Transportation Sector Program, Bolivia, |
| **EADB: East African Development Bank** | ▪ Promote sustainable socio- | ▪ East African LLDCs: Ethiopia, | ▪ NPA* | ▪ NPA * | ▪ NPA * | ▪ NPA* | ▪ Eagle Air, Uganda, 2013-2019 |

| Bank Name | Mandates and mission statements | LLDC Eligibility | Instrument | Maturity (years) | Grace Period (years) | Interest / Other | Few project examples |
|---|---|---|---|---|---|---|---|
| | economic development in East Africa | Rwanda, Burundi, Uganda and South Sudan. | | | | | ▪ Tropical Air, Tanzania, |
| **PTA: Eastern and Southern African Trade and Development Bank, or the Preferential Trade Area Bank** | ▪ Finance and foster trade, socio-economic development and regional economic integration across member states | ▪ Member LLDC's: Zimbabwe, Zambia, Eswatini, Ethiopia, Rwanda, Burundi, Uganda and South Sudan. | ▪ NPA* | ▪ NPA * | ▪ NPA * | ▪ NPA* | ▪ RwandAir Limited, Rwanda, 2011-2018<br>▪ Lake Turkana Wind Energy Project, Kenya, 2016 |

Source: Multilateral Development Banks: A Short Guide (Overseas Development Institute, 2015); Author's research

* The terms and conditions for BOAD, CABEI, CAF, EADB and PTA are either not publicly available, or agreed on case-by-case bases. EIB also has to comply with the confidentiality requirements of private borrowers

### 1.2.4 IFI Funding Mechanisms for Transport Projects

There are several financial instruments that can be used to support the development of transport projects through IFIs, namely; (1) Grants, (2) equity, (3) Debt / Loans, (4) Asset Backed securities, (5) Guarantees and Insurance and (6) Results Based Financing (Zahran and Ezeldin, 2016). Each of these is explored briefly below.

- **Grants**: Grants are a form of financial support offered by IFIs to reduce financing burden on governments. Grants involve no fiscal return for the funding agency. These grants aim to decrease initial costs of infrastructure facilities by offering governments a non-refundable financial support. This eventually decreases the price of the end product for customers (Zahran and Ezeldin, 2016). Moreover, grants do not encourage developers to create specific revenue from their projects for repayment. Grants are considered the simplest to implement among other financing techniques as they do not involve extensive due diligence on the financial outcomes of the projects, on the other hand, the project has to meet the desired objectives of the grant.
- **Equity:** Equity funding is considered a long-term investment presented by the funding agency. In this case, the funding agency invests an amount of money in a high-risk projects aiming to generate revenue from executing the project. Equity funding most commonly targets new technologies and projects/companies with a higher potential of growth. It is aimed that the return from the project/company is high due to the high risk associated with this type of funding. To avoid such a high risk, it is preferred that the supported project/company is in a well-developed financial market which facilitates the exiting process. Therefore, such funding mechanism may not be valid in most of the developing/low-income countries.
- **Debt/Loans:** Debt/loans are a form of financial support where financial institutions provide governments with an amount of money for their projects. Government repay this amount through instalments over an agreed period after adding an agreed interest rate. Most commonly the interest rate added by IFIs is lower than commercial banks interest rates and the return period is longer (Zahran and Ezeldin, 2016). This eventually decreases the cost of financing infrastructure projects. In addition, it increases credibility of governments when applying for long-term financial support from commercial banks. Debts/loans is considered the most commonly used financing mechanism. The obligation on debtors to repay instalments incentivises the success of projects to generate sufficient revenues.
- **Asset-backed securities**: Asset-backed securities is a form of financial support which is given to governments while being backed by the future cash flows of already available projects. In this case, repayment is secured by expected cash flows, which is considered equivalent to bond offering. This type of financing is used in expanding or refinancing projects that are already generating positive cash flows. This reduces the risks of not returning the borrowed amounts which in-turn reduces the cost of finance. The use of asset-backed securities involves highly detailed due diligence to ensure that current and future projects are going to generate sufficient cash flow for securing finds and debt repayment.
- **Guarantees and insurances**: Guarantees and insurances are not considered direct financing techniques; however, they offer protection for financiers in markets with high risks. This enables governments, having unstable market conditions, to get financing at acceptable costs. In both cases of guarantees or insurances, the guarantor or insurer agrees to cover

or share any costs or losses associated with the target project in return for a fee or premium. In case of guarantees, the guarantor offers the guarantee for the financier against the performance of the borrower. This means that the guarantee would cover a portion of any losses occurring to the financier. Commonly, the portion of losses covered by the guarantor decreases, as losses increase in order to encourage the financier to take corrective actions against occurring risks. In case of insurance, the financier expects to receive the proceeds of insurance payout as a protection against the performance of the borrower (Zahran and Ezeldin, 2016). It insures against any losses occurring due to unexpected conditions that may affect the outputs of the project. Both guarantees and insurance require extensive due diligence for all involved parties and the design of the project which may require a large database of relevant risks and their associated effects.

- **Results Based Financing**: Results Based Financing links the payment of funds to the delivery of pre-agreed outputs, so the borrower receives the agreed payment for finishing specific stages in a project/program. This transfers all risks associated with these projects from funders to borrowers. It also incentivises borrowers to deliver their projects according to the agreed schedules and outputs. The borrower starts by pre-financing the projects and payments are made only after it delivers the agreed outputs or services. This process commonly involves a third party for verifying that the agreed outputs were reached (Zahran and Ezeldin, 2016).

**Error! Reference source not found.** to 2.4 below provide an overview of the funding mechanisms u sed by various MDBs.

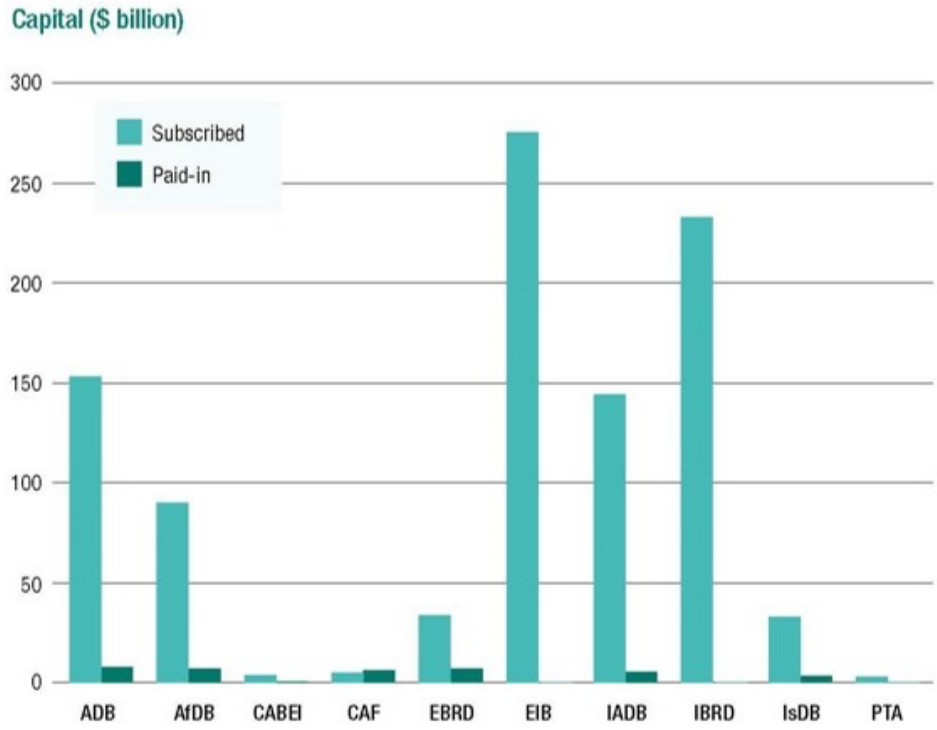
**Figure 1.2: MDB Sector focus**

Total annual operations allocated to specific sectors (%)

| MDB | Economic Infrastructure | Financial sector | Productive sector | Social development and infrastructure | Share of top 2-4 sectors* |
|---|---|---|---|---|---|
| ADB | 62 | | | 16 | 78 |
| AfDB | 58 | | 7 | 9 | 74 |
| AfDF | 47 | | 7 | 20 | 74 |
| ADF | 41 | | | 38 | 79 |
| BOAD | 63 | 9 | | | 71 |
| CABEI | 41 | 28 | | 11 | 79 |
| CAF | 24 | 45 | 9 | 15 | 92 |
| EBRD | 66 | | 32 | | 98 |
| EIB | 41 | 33 | 11 | | 85 |
| IADB | 31 | | 13 | 49 | 93 |
| IBRD | 37 | | 10 | 46 | 93 |
| IDA | 27 | | 11 | 40 | 78 |
| IsDB | 74 | | 3 | 18 | 96 |

Source: Multilateral Development Banks: A Short Guide (Overseas Development Institute, 2015).

**Figure 1.3: MDB Capital Available**




Source: Multilateral Development Banks: A Short Guide (Overseas Development Institute, 2015).

**Figure 1.4: Instruments used by MDBs**

| MDB | Grants | Loans | Lines of credit | Technical assistance | Guarantees | Equity |
|---|---|---|---|---|---|---|
| IDA | ■ | ■ | | ■ | ■ | |
| IBRD | ■ | ■ | | ■ | ■ | |
| ADB | ■ | ■ | | ■ | ■ | ■ |
| ADF | ■ | ■ | | ■ | ■ | |
| AfDB | ■ | ■ | ■ | ■ | | ■ |
| AfDF | ■ | ■ | | ■ | ■ | ■ |
| EBRD | | ■ | | | ■ | ■ |
| EIB | | ■ | | | ■ | ■ |
| IADB | ■ | ■ | | ■ | ■ | ■ |
| IsDB | | ■ | ■ | ■ | | ■ |
| BOAD | | ■ | | | | ■ |
| CABEI | | ■ | ■ | ■ | ■ | ■ |
| CAF | | ■ | ■ | ■ | ■ | ■ |
| EADB | | ■ | | | | ■ |
| PTA | | ■ | ■ | | ■ | |

Source: Multilateral Development Banks: A Short Guide (Overseas Development Institute, 2015).

**Recommendations for LLDCs**

- MDBs / IFIs should be one of the first sources of financing considered by LLDCs when developing transport infrastructure projects, in particular at the regional level. They often have more favourable interest rates and terms, and are able to finance almost all stages of the project development cycle.
- Many of the MDBs also have regional integration funds, typically used to support lending for corridor projects, that LLDCs should take advantage of.

  One example is the Asian Development Bank's Regional Cooperation and Integration Fund established in 2007 (ADB, 2021). It's ongoing "Regional: Enhancing Road Safety for Central Asia Regional Economic Cooperation Member Countries (Phase 2)" project which started in 2020 will directly benefit eight LLDCs- Afghanistan, Azerbaijan, Kazakhstan, Kyrgyz Republic, Mongolia, Tajikistan, Turkmenistan and Uzbekistan. The fund will provide with technical assistance to support and enhance road safety initiatives. The aim is to tackle the issue of road crashes in the Central Asia Regional Economic Cooperation (CAREC) countries[5] (ADB, 2021).
- MDBs may specifically support projects that meet specific regional integration criteria such as involving three or more countries, producing spill over benefits across country boundaries, showcasing regional ownerships and promoting regional policy harmonization.
- New MDBs such as the Asian Infrastructure Investment Bank which has capital of US$ 100 billion, equivalent to two thirds that of the Asian Development Bank and about half that of the World Bank, aims to address the infrastructure financing gap in Asia and in those parts of the world that connect to it through trade routes and corridors.
- Adopt the principles of bankability for MDBs that stress that financing from MDBs or IFIs and OECD members be based on the principle of governance – transparency, accountability, inclusiveness, equity and the rule of law. These conditions are required by traditional development organisations from all their partner countries since they need to be accountable to their taxpayers and shareholders (OECD / ACET 2020). This requires institutional capability.
- For MDBs / IFIs, weight is placed on social considerations and financial soundness and cost-effectiveness, but they may have other specific goals such as creating regional transport / trade corridors, opening up the skies to more air traffic, or other specific agenda that would make them consider projects bankable.

**Case Studies of IFI Funded Projects**

***Case Study: World Bank Road Project, Paraguay***

Paraguay is a land-landlocked country reliant on increasing external trade for future economic development. Good road infrastructure is a vital ingredient of expanding trade by reducing logistics costs. As of 2005, road sector management was seen as ineffective at delivering the required results. The main road agency, responsible for 10% of the national investment budget

[5] These countries are Afghanistan, Azerbaijan, the PRC, Georgia, Kazakhstan, the Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan

in Paraguay, lacked capacity, especially in planning and strategic management. It favoured new investment over maintenance of existing roads, leading to deteriorating road conditions and higher costs to users (The World Bank, 2018). In addition, the needs of rural communities were not being met; insufficient resources were devoted to upgrading poor quality roads in remote areas, thus constraining access to services and opportunities (The World Bank, 2018).

In response to these challenges the Paraguayan government engaged the World Bank to finance the Paraguay Road Maintenance Project which was rooted in a road management strategy addressing the interrelated requirements of increased resources for the road sector and better allocation of those resources between new investment and maintenance.

According to the Independent Evaluation Group (IEG) (2017), the project had three components:

1. Strengthening Strategic Planning and Road Management (US$7.42 million) (IEG, 2017). This component aimed at developing the institutional capacities of the Ministry of Public Works and Communication (MOPC) for managing the road network.

2. Improvement and Maintenance of the Paved Road Network (US$73.47 million) (IEG, 2017). This component aimed at stopping the deterioration of the priority road network composed of international and regional corridors through increased use of private sector participation in road maintenance activities through performance-based contracting.

3. Improvement and Maintenance of the Unpaved Road Network (US$26.34 million) (IEG, 2017). This component aimed at the rehabilitation and conservation of the unpaved road network that connect to the national road network and secondary roads connecting rural communities and providing access to the most excluded rural communities in three departments (San Pedro, Caaguazú and Caazapá).

The World Bank, through the International Bank for Reconstruction and Development, provided a loan in the amount of US$74 million toward the US$107 million total project cost. An amount of US$930,000 was provided through a Policy and Human Resource Development grant to assist in the preparation of the project (The World Bank, 2018). The World Bank worked closely with the Inter-American Development Bank (IADB) to introduce output-based maintenance through level-of-service contracts, which enhanced the impact of the road maintenance reform and supported sustainability efforts. The IADB financed an additional 629 kilometres of improvements, and the International Labour Organization provided technical assistance.

The project closed over four years behind schedule. This was due to a combination of factors including, delays in project effectiveness with the project declared effective only in January 2008 although targeted for January 2007 due to the length of time taken to secure the necessary approvals and legal authority for the government to commit to the loan, cost overruns associated with Performance-based Roads Maintenance contracts (GMANS) as well as implementation delays due to the weak capacity of the implementing agency exacerbated by impact of changes in government administration (IEG, 2017).

***Successes:***

- Successful completion of 623 kilometres of road maintenance contracts based on level of service.
- A 93% compliance rate for all level-of-service indicators for the maintenance contracts.

- A new integrated road toll system covering the most trafficked roads.
- Creation of a road strategic planning unit, including a five-year investment plan.
- Implementation of a new communication strategy, including a governance and accountability improvement program.
- Introduction of an enhanced road monitoring system, including regular road inventories and traffic counts.
- Traffic increased by 7% annually on average during the life of the project, well beyond the expected 2.5% increase. As a result of improved roads and regular road maintenance, however, road users experienced the benefits of lower operating costs (per kilometer costs decreased by about 40% in the project areas, according to reports) and reduced travel times. Public transport service in the three project departments is more frequent, and residents enjoy better access to services and opportunities, thanks to the new multiuse centres.

**Key lessons:**

- Close coordination between funding partners. The World Bank worked closely with the Inter-American Development Bank (IDB) to introduce output-based maintenance through level-of-service contracts, which enhanced the impact of the road maintenance reform and supported sustainability efforts. The IDB financed an additional 629 kilometers of improvements, and the International Labor Organization provided technical assistance in developing the microenterprise program that helped establish road maintenance capacity in San Pedro, Caaguazú, and Caazapá.
- Performance Based Contracting (PBC) can improve and sustain road maintenance. The experience of this project, which introduced PBC for the first time in Paraguay demonstrated that such contracting can be successfully introduced in low-capacity environments with proper planning and addressing of constraints (IEG, 2017).
- Efficiency of the local main road agency and local partners. The Ministry of Public Works and Communication played a vital role in all aspects of project implementation. The National Indigenous Institute helped elaborate the plans proposed by indigenous peoples and for the development of the multiuse community centers.
- Sectoral governance and transparency programs can play an important role in strengthening of road planning and management. The initiatives taken through the Government and Transparency Improvement Plan (IGAP) impacted on road management and proved effective in monitoring contracts.
- Introduction of laws to aid development. Five laws were passed during the project execution phase. These included - the Transit and Road Safety Law in 2014, the Road Classification Law in 2016, the creation of the Road Planning Directorate (DPV) in the Ministry of Public Works and Communication (MOPC) in 2007, the toll revenue ministerial direction and the ministerial directive to create the transparency department (DTPC) in February 2007 (IEG, 2017).

***Case Study: Hairatan and Mazar-e-Sharif Railway, Afghanistan***

Following decades of civil war and political strife throughout its provinces, Afghanistan's transport network is in poor condition and is a major impediment to the country's reconstruction and growth. An efficient, reliable transport network that supports trade and humanitarian relief

is vital for the country's development. Accordingly, the Afghanistan National Development Strategy, 2008–2020 provides for efficient, sustainable road and rail networks to be constructed as a supplementary transport mode for bulk goods between Central and South Asia (The Asian Development Bank (ADB) , 2013)**.**

Hairatan, a northern trading post on the border with Uzbekistan, serves as the gateway for half of Afghanistan's external trade, while Mazar-e-Sharif is Afghanistan's fourth-largest city and major trading centre in the north. Already suffering from severe bottlenecks because of poor infrastructure, Hairatan had become more overwhelmed over the past few years due to security concerns in southern and eastern areas of Afghanistan, which were cutting off international trade and the delivery of much needed materials and aid through those borders. Overburdened and under-resourced, Hairatan required a railway link to Mazar-e-Sharif to facilitate the movement of goods into and throughout the country. In response to Hairatan's issues and in line with the national development strategy, the Government of Afghanistan requested that ADB provide funding to construct a 75km railway line between Hairatan and Mazar-e-Sharif. The line is an extension of the existing line from Termez in Uzbekistan to Hairatan. The link aimed to complement the Kabul–Mazare-Sharif ring road in transporting bulk and non-perishable cargo. Further, by strengthening Afghanistan's rail links with Uzbekistan, the project also hoped to promote regional cooperation and trade by complementing Central Asia Regional Economic Cooperation (CAREC) corridors that connect Central Asia to South Asia, the Caucasus, and the Middle East (ADB, 2013).

The project was supported by the ADB which decided to meet most of the cost through a grant. The Afghan government and Uzbek government signed a memorandum of understanding between their respective governments and the ADB at the seventh annual CAREC Ministers' Conference in Baku in November, 2008 (ADB, 2013). This set out plans to expand trade and economic opportunities by developing railway transport between Uzbekistan and Afghanistan, including transit freight traffic.

In the memorandum, the Afghan government highlighted the importance of developing a line between Hairatan, Mazar-i-Sharif and Herat, and requested technical and financial assistance from ADB in order to prepare a pre-feasibility study. Uzbekistan agreed to co-operate with the study, which would be supervised by a Project Working Group comprising representatives from both countries.

Uzbekistan and Afghanistan had recently signed the Uzbekistan-Afghanistan Boundary Railway Agreement, the Freight Transportation Rules for the Uzbekistan-Afghanistan Railway, and Rules for Passenger Transport and Freight Accounts for the Uzbekistan-Afghanistan Railway.

In 2009 ADB provided a technical assistance grant of US$1.2m to fund a feasibility study for two railway lines, running from Hairatan to Herat, and from Shirkhan Bendar on the border with Tajikistan through Kunduz and Mazar-i-Sharif to Herat (ADB, 2013). The Afghan government provided an 'in-kind contribution equivalent to $60,000', and its Ministry of Public Works was the executing agency.

According to ADB only half the roads between Afghan provinces are serviceable throughout the year, and the network is 'inadequate, inefficient and, in some places, unsafe'. Railways would provide 'a more reliable and cost-effective option for moving people and goods, and can help Afghanistan unlock its significant mineral, industrial and agricultural wealth.'

ADB awarded Concept Clearance for the Hairatan – Mazar-i-Sharif project on 9 July 2009, and fact-finding was carried out on 9-18 August (ADB, 2013).

On 30 September 2009 ADB announced it would provide the Afghan governments with a US$165m grant to cover most of the US$170m cost, leaving the Afghan government to fund the final US$5m for land acquisition, resettlement, and taxes. The agreement came into effect on 3 November 2009 (ADB, 2013).

During the first year of its operation, an impressive 4 million tons of goods were transported on the Hairatan–Mazare-Sharif link, strengthening the local economy, increasing regional trade, and helping Afghanistan begin to redefine its role in the region. Today, this rail link still runs smoothly, and the socioeconomic benefits, already significant, continue to accrue.

**Key Take Away / Lessons**

- **IFI support:** ADB supported both the project preparation and construction of the project. IFIs are still one of the most significant investors in infrastructure development in LLDCs.
- **Coordination of multiple government agencies:** For projects in which several agencies are involved in decision making, it is important to establish an executive committee comprising representatives of the concerned agencies, and chaired by a high-level government champion. Such a committee could facilitate the provision of overall guidance, ensuring expeditious approvals from various agencies. In addition, in places where security is a major concern, it could ensure that project implementation is uninterrupted by establishing sustained security arrangements.
- **Intensive donor involvement:** Implementing a project of the magnitude of the Hairatan–Mazar-eSharif Railway Project within a strict time frame was challenging. However, this was achieved through the close coordination and involvement of donors. ADB provided strong supervision from headquarters and the Afghanistan and Uzbekistan resident missions. Any matter requiring ADB's internal approval was expedited, and funds were released through a fast-track process.
- IFIs can support projects with grants.
- **Coordination with neighbouring countries**: The project was supported by neighbouring Uzbekistan. Uzbekistan agreed to co-operate with the study, which would be supervised by a Project Working Group comprising representatives from both countries.
- **Legal and regulatory agreements**: Uzbekistan and Afghanistan signed the Uzbekistan-Afghanistan Boundary Railway Agreement, the Freight Transportation Rules for the Uzbekistan-Afghanistan Railway, and Rules for Passenger Transport and Freight Accounts for the Uzbekistan-Afghanistan Railway before embarking on the project which provided for a framework for the project.

### 1.2.5 Commercial lenders

Commercial lenders include commercial banks, mutual companies, private lending institutions, hard money lenders and other financial groups. Commercial lenders specialize in hard money and bridge loans, often those that close quickly. Commercial banks have always had an active role in project finance transactions. Commercial banks can provide project financing because they are able to evaluate complex project financing transactions and to assess and assume the construction and performance risks usually involved in such financings (Forrester, 2001).

The primary objective of commercial lenders is to maximize profits with minimal risk, which leads them to seek high returns for granted loans and sufficient guarantees.

**Difference between commercial lenders and International Finance Institutions (IFIs)**

Commercial lenders differ from IFIs in the following ways.

- Commercial lenders have higher interest rates than IFIs.
- Owners and shareholders of IFIs are generally governments or other international institutions whereas commercial lenders are often individuals or private institutions.
- IFIs are established by more than one country whereas commercial lenders are often national banks, or regional banks operated autonomously.
- IFIs take a long-term view with respect to an investment and have a stronger appetite for risk. They are prepared to finance projects which commercial lenders are not. IFIs are also often prepared to provide longer tenors of loans whereas commercial lenders prefer shorter loan tenors.

**Challenges with Commercial lenders**

The size of local commercial banks is small relative to the levels of financing required for large infrastructure projects. Most LLDCs have a largely poor population therefore, there is a lack of sufficient financial resources that enable significant savings. Additionally, commercial banks have a limited capacity to provide long-term infrastructure financing as a result of the asset-liability mismatch between long-term financing required for infrastructure and short-term deposits. Long term resources can originate from customers' long-term deposits or from resources provided by equity markets or through bond issuances. The lack of experience of local commercial banks in project financing also contributes to the low capacity of local banks to support projects with long-term financing.

***Case Study: Lekki-Epe Express Toll Road, Nigeria (a transit country)***

In 2008, the Lekki-Epe Express Toll Road, which reached financial close in was able to mobilize a 15-year loan from Stanbic's IBTC-Nigeria in local currency for NGN 2 billion (US$13.4 million) at a fixed interest of 13.9 percent and with a moratorium on principal repayments of four years (Shendy, Kaplan, & Mousley, 2011). This deal was also supported by other local banks, namely: First Bank, United Bank for Africa, Zenith Bank, Diamond Bank, and Fidelity Bank which provided a total loan value of NGN 9.4 billion ($60.6 million) for a tenor of 12 years.

### 1.2.6 Private Sector Financing

**Overview**

The private sector is involved in infrastructure development funding through direct / indirect investment and Public Private Partnerships (PPPs). This section covers direct / indirect investment while PPPs are covered in more detail in Module 4. Direct private finance comes directly from the project investor, while indirect finance comes through an intermediary, typically investment funds, ranging from pension and insurance funds to specific infrastructure investment funds and sovereign wealth funds.

Despite the low private sector participation in infrastructure financing in LLDCs - out of a total of more than US$ 87 billion of private finance made available to developing countries by official interventions between 2012 and 2015, less than 7% went to LLDCs (Raphaëlle Faure, 2015) - private infrastructure investment in LLDCs has been more prevalent in transport infrastructure development such as airports due to the potential revenue that can be generated from those sectors. There are however numerous other opportunities to increase private sector investment especially as demand for investment in transport is increasing and LLDCs expand their transport infrastructure to try and achieve global density and quality standards.

**Sources of Private Sector Funding**

The principal sources of finance for private sector developers of infrastructure projects are as follows.

- Loan financing from lenders or financing institutions;
- Financing from own investment or equity funds;
- Financing from other partner investors or shareholders such as from the capital markets;
- Large corporations or contractors; and recently
- Indirect private infrastructure investment from institutional investors such as pension funds, insurers and sovereign wealth funds.

***Loan financing from domestic lenders or international financing institutions***

The private sector can provide funding for projects by obtaining loans from domestic lenders or international financing institutions. In this regard, the funds are provided for projects where there is a guarantee of repayments with interest. Such guarantee is generally provided by governments since most infrastructure projects are undertaken by government institutions.

***Private equity and hedge funds***

Private equity and hedge funds tend to seek equity investments in medium to high-risk projects, and in return seek high returns. They thus favour investing in infrastructure projects during the construction phase of the project, when there is a high level of risk and potential reward. Once invested in a project, equity investors will actively manage the delivery of the scheme to mitigate risk. Private equity investors and hedge funds often have quite short time horizons, and they aim to realize their return and exit the investment within 3-5 years by reselling their position to other investors.

***Contractor finance***

Many of the largest global contracting firms now have the financial capacity to make equity investments in large infrastructure projects, typically in the range of 5-10% of the total capital cost of the project. The inclusion of contractor capital is designed by the project sponsor as a pay for performance mechanism to incentivise the builder to deliver the project efficiently and meet their obligations. Contractors are often repaid some or all of their investment in the project through milestone payments from government, and they will usually look to sell their share in the project once their role in project delivery is complete.

***Pension funds***

Institutional investors such as pension funds, insurers and sovereign wealth funds, due to the longer-term nature of their liabilities, represent a potentially major source of long-term financing for illiquid assets such as infrastructure. Over the last decade, these investors have been looking for new sources of long-term, inflation-protected returns. Recent asset allocation trends show a gradual globalization of portfolios with an increased interest in emerging markets and diversification into new asset classes.

Canadian pension funds were the first to recognize the compatibility of returns on infrastructure assets with their own revenue objectives, but have now been followed by those in several other countries. They have strong teams and fairly low return requirement.

They tend to focus on a few large assets that are kept for the long periods needed for them to mature to provide the needed financial returns, whereas the fund managers have a much shorter time perspective.

Given the perceived high risk of infrastructure investment in developing countries, it could be more productive (that is, lower risk premiums might be sought) for LLDCs to approach their infrastructure investment via indirect sources (such as pension funds) before seeking direct investment in specific projects.

Canada's biggest pension plans, which include the Canada Pension Plan Investment Board (CPPIB) and Ontario Teachers' Pension Plan, pioneered a strategy of directly investing in infrastructure, funding roads, bridges, rail, airports, utilities and pipelines as an alternative to bonds and equities (Reuters, 2016).

Pension-funded infrastructure projects are a fairly new concept especially in LLDCs where pension funds have not normally been used for transport projects. However, the concept has been proved by Canadian pension funds which have been involved in development of infrastructure projects. An example of how pension funds in even relatively small LLDCs can invest in infrastructure comes from Bhutan. The case study is presented at the end of this section.

***Sovereign Wealth Funds (SWFs)***

These have followed a similar pattern of evolution as pension funds–relatively slow to appreciate the compatibility of infrastructure assets with their own investment objectives and also slow to mature into developing their own direct investment teams. The most active SWFs in infrastructure are those from Middle East, China and Singapore.

SWFs have a rapidly expanding value of assets under management (AUM), which reached US$ 6.51 trillion by 2016, over double the aggregate assets held in 2008 (US$ 3.07 trillion) (Preqin 2016). The long-term stable yields offered by infrastructure investments can help explain their appeal to SWFs and their ability to withstand illiquidity, making them particularly suited to the asset class.

In addition, many funds have an explicit mandate to help develop local economies and infrastructure investment. The proportion of SWFs investing in infrastructure has increased steadily to reach 62% by 2016. This is the same proportion as those that invest in real estate, and together these two asset classes are the most commonly targeted by SWFs.

SWFs are typically larger than other private investing institutions and have greater assets available for infrastructure investment. The average AUM held by SWFs investing in infrastructure is US$ 116 billion, compared with US$ 25 billion for other long-term liability investors such as pension funds. As a result, SWFs are more likely to have a dedicated allocation to the asset class; 75% of SWFs that invest in infrastructure do so from a separate infrastructure allocation, compared with only 36% of other long-term liability investors.

Although SWFs are themselves akin to financial intermediaries, they are more likely to invest directly in infrastructure projects. Due to their larger AUM, SWFs typically have the investment expertise and resources required to make direct investment in infrastructure projects. They are less reliant on the diversification provided by infrastructure fund managers within the context of their overall portfolio. Forty-two percent of SWFs invest in infrastructure solely through direct holdings, while a further 49% combine direct and indirect investments. By contrast, 79% of other long-term liability investors access the asset class solely indirectly, with only 3% investing exclusively through direct holdings.

Like pension funds, Sovereign Wealth Funds (SWFs) are a fairly new concept in LLDCs. However, the concept has been proven in countries such as India. The National Investment and Infrastructure Fund (NIIF) in India is a collaborative investment platform focused on Indian infrastructure with best-in-class governance and a strong team with Indian and international experience in infrastructure investing (NIIF, 2021). With USD 3 billion commitment from the Indian government along with commitments from other institutional investors, NIIF has the ability to operate at scale whilst providing long term and patient capital. It intends to be a key channel of investment into Indian infrastructure with a focus on transportation (roads, ports and airports), energy, urban planning and other infrastructure and allied segments.

Athaang Infrastructure is the NIIF's proprietary roads platform. In 2020, the NIIF acquired the Devanhalli Tollway which is a strategic arterial 22 km six lane toll road in the state of Karnataka, connecting Bengaluru city and its airport. The road, part of NH44 (erstwhile NH7), with an operational history of over six years, is well poised to cater to the growing needs of Bengaluru City and the Airport and will benefit from the growth potential of Bengaluru as a metropolitan (NIIF, 2021).

***Investment Arms of Insurance Companies***

Because of relatively low risk, resilient performance and link to macro indicators, insurance companies also have come to understand the advantages of infrastructure assets. Insurance companies, especially life insurers, are facing challenging times. The long-term nature of insurance companies, especially life insurers and the general low and even negative yield environment for Government bonds puts life insurers under pressure to seek alternative investment options to generate the guaranteed rates needed by their policyholders. The investment objectives of insurance companies are very similar to those of pension funds, but they have been much slower to realize the correlation between their objectives and the benefits available from infrastructure investments.

Some invest only their own funds while others have some set up fund management platforms that also manage funds from third parties. In 2014, insurance companies had about US$ 362 billion invested in infrastructure assets, about one third of which was controlled by specific infrastructure managers

**Challenges and Recommendations for Private Sector Funding**

In order for a project to attract financing from the private sector it must prove viable or Bankable. From the private sector perspective, bankability refers mainly to financial returns and determining whether the project will be profitable for an investor. The costs and benefits of the project, and hence the profitability and potential financial returns of the project are key aspects of bankability for private investors. These factors, together with the potential risk-return ratio often determine private sector interest. Project proponents need to carry out detailed risk analysis - to assess whether all the risks (commercial and political) will be satisfactorily covered; financial analysis - to demonstrate adequate cash flows; and economic analysis - to demonstrate acceptable rates of return to the project, in order to attract the private sector.

The willingness of institutional investors and the private sector in general to finance major investment projects in any given country is also heavily influenced by the perceptions of the country's investment climate and the broad suite of policy settings and institutions that underpin a country's economy and political processes. Through structural reforms, governments need to create a more favourable investment climate, build private sector confidence to invest and ensure that global savings are channelled into productive investments.

The role of institutional investors in long-term financing is also constrained by the short-termism increasingly pervasive in capital markets as well as structural and policy barriers such as regulatory disincentives, lack of appropriate financing vehicles, limited investment and risk management expertise, transparency, viability issues and a lack of appropriate data and investment benchmarks for illiquid assets.

In addition, LLDCs should adopt effective legal and regulatory frameworks including laws for private sector operations. A well-defined policy for investment funding and private involvement in infrastructure projects—combined with associated legal instruments, procurement policies, and regulatory procedures—can improve the attractiveness and bankability of infrastructure projects.

**Case Studies of Private Sector Funding Sources**

***Case Study: New Bugesera International Airport, Rwanda***

The newly proposed Bugesera International Airport (BUI) is located 25km southeast of Kigali and has a connecting rail line proposed. It is designed and will be implemented with an aim of generating socio-economic development in Kigali, and other parts of the Eastern Province. The airport is further aimed at sustaining the development of Rwanda's aviation sector by backstopping the growth of RwandAir with new facilities and training opportunities (The East African, 2016).

The development of the new airport was necessary because the pre-existing airport Kigali International Airport (KGL) was unable to support the air travel needs of Rwanda due to rapid development within Rwanda and the country's ongoing economic growth. Passenger traffic at KGL had been growing rapidly. In 2004, the airport served 135,189 passengers but this had increased to 710,000 in 2016 (The East African, 2016). KGL was designed to handle only 400,000 passengers per year and it does not have space for expansion. Therefore, proposals for a new airport were put forward to replace KGL to accommodate the additional passenger traffic. KGL will remain operational for military purposes (The East African, 2016).

A private company, Mota Engil Engenharia was initially selected as the key contractor for the project and later was awarded a 25-year concession to complete construction, finance and maintain and operate the airport. Mota-Engil is a majority shareholder in the Bugesera Airport Company Limited (BAC) and has had previous experience of constructing new infrastructure developments across Africa.

Mota-Engil agreed to provide the $418 million to fund the first phase of construction. Commercial operations were expected to begin in 2018. In August 2017, construction began. The projected cost is now US$828 million (The East African, 2016). Mota-Engil, through its subsidiary Mota-Engil Africa is the main contractor and was providing 75% of the funding. The Rwandan company called Aviation Travel and Logistics (ATL), is providing the remaining 25% of the funding. ATL will also provide ground handling services at the airport. The new airport's construction was prepared in 2010 and only got underway in 2017 before undergoing a redesign process in 2019 to accommodate the country's expected growth plan (Airline Geeks, 2020). The mandatory redesigning of Bugesera Airport led to a fall out between the government of Rwanda and Mota Engil in 2020 and Mota-Engil was replaced by Qatar Airways. Qatar Airways has agreed to take a 60 per cent stake in the airport whose construction is now estimated to cost $1.3 billion up from $825 million, while the government of Rwanda retains 40%. Mota Engil had already started constructing the airport but did not have the resources required to fully fund the redesign (The East African, 2019).

**Key lessons:**

- Utilise funding from well-known contractors in the region. Although they later dropped out, Mota-Engil has experience of constructing infrastructure developments across Africa. Governments should try to identify similar companies that have carried out significant projects in their region and attract them to finance and/or develop projects in their country.
- Several redesigns and changing of plans of the airport indicate that there may not have been enough time spent at the project planning stage in terms of adequate forecasting of the needs of the country and costs of the project. This is an important stage in the project planning process.

***Case Study: Pension Funds in Bhutan***

Bhutan is a landlocked country extending from the southern foothills bordering India, to the north bordering China (Usubaliev, 2020). Its Hydro Power Corporation Limited was incorporated in May 2008 as the vehicle for development of the run-of-the-river 126MW Dagachhu Hydroelectric Project in southwestern Bhutan.

The Dagachhu project is a joint venture among Druk Green (the national operator of hydropower stations) as the majority equity partner with a 59% stake, Tata Power Company of India (the holder of the power purchase contract) with 26% and the National Pension and Provident Fund (NPPF) of Bhutan with the remaining 15% stake (Usubaliev, 2020). The project is funded in a 60:40 debt equity ratio with the Asian Development Bank providing a loan of US$ 51 million for the civil works; RZB of Austria providing a loan of €41m for the electro-mechanical works; and NPPF providing a loan of US$ 9 million (Usubaliev, 2020). Asian Development Bank (ADB) also provided a loan of US$ 39m to the Government to meet the financing gap of the project. The cost of the

project on completion was about US$ 200 million and it started producing electricity in 2015 (Usubaliev, 2020).

**Key lesson:**

- The lessons from the Bhutan project to other LLDCs are that with the support of the national government, multilateral development and commercial banks and the financial participation of the suppliers and users, a project with a demonstrable long-term reliable revenue stream can be attractive to national pension fund managers. Similar approaches can be applied in the transport infrastructure sector.

## 1.3 Requirements Required by Project Funders

Module 1 details the requirements / criteria that should be met for financiers to fund a project. There are a number of factors or criteria that influence whether a project will be funded - these can be social, economic, financial, technical, environmental, legal and administrative factors and, in most cases a combination of all the aforementioned.

The basket of actions that governments / project proponents can take to develop bankable projects and qualify for funding can be categorised into the two broad areas of focus as presented in Module 1:

- **Creating an enabling environment** (Economic and political environment; Legal and regulatory environment); and
- **Project preparation** (Feasibility studies; financial structure; third party risk allocation; and contract arrangement).

**Error! Reference source not found.** below highlights typical requirements for funders by the f unding source.

**Table 1-3: Typical Requirements for Funders by the Funding Source**

| Source of funds | Typical Requirements |
|---|---|
| **Public** | ▪ Responds to national priorities and considers citizen's needs and concerns.<br>▪ Emphasis may be placed on social returns, employment, developmental potential as well as financial soundness and cost-effectiveness.<br>▪ Tendency to fund flagship high-profile projects that are used as a tool for geopolitical strategic interests by politicians. |
| **Private** | ▪ Proof of profitability / financial returns: The costs and benefits of the project, and hence the profitability and potential financial returns of the project are key aspects of bankability for private investors.<br>▪ Risk-return ratio often determine private sector interest.<br>▪ Availability of detailed feasibility studies.<br>▪ A Rock-Solid Solid Project Business Plan.<br>▪ Favourable policies (enabling economic, legal and regulatory environment).<br>▪ Clear investment structure. |
| **IFI / ODA (Donors)** | ▪ Project should be located in a developing country.<br>▪ Sometimes requires membership of the IFI.<br>▪ Availability of detailed feasibility studies.<br>▪ Project should be technically sound.<br>▪ Project should have good prospects of being profitable.<br>▪ Project should benefit the local economy. |

| Source of funds | Typical Requirements |
|---|---|
| | ▪ Be environmentally and socially sound, satisfying the IFI's environmental and social standards as well as those of the host country. |

## 1.4 Public Private Partnerships (PPPs)

The PPP Knowledge Lab defines a PPP as a long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance. This means that it is a contractual relationship between a government and a private business venture. The business venture delivers and funds public services using a capital asset thereby sharing the associated risks.

Various aspects of PPPs, including advantages and disadvantages, types, and case studies, are covered in detail in Module 4.

## 1.5 Other New / Innovative Funding Mechanisms

Innovative funding refers to a range of non-traditional mechanisms to raise funds for development (Girishankar, 2009). The following are some types of innovative funding.

### 1.5.1 Climate Change funds

Climate change funds aim to facilitate greater investments in developing member countries to effectively address the causes and consequences of climate change, by strengthening support to low-carbon and climate-resilient development (NDCP, 2020). An example is the Green Climate Fund (GCF) which is the world's largest dedicated fund helping developing countries reduce their greenhouse gas emissions and enhance their ability to respond to climate change. It offers a variety of climate financing options that help developing countries mitigate the effects of climate crisis and help populations adapt to the changing climate. Examples of projects which could be funded include environmentally friendly transportation modes such as biking and walking, greenways, bus lanes and subways.

***How LLDCs can access GCF funding***

To access GCF funding, organisations go through the process of accreditation, project preparation, funding and implementation. National Designated Authorities (NDAs) are government institutions that serve as the interface between each country and the GCF. They provide broad strategic oversight of the GCF's activities in the country and communicate the country's priorities for financing low-emission and climate resilient development. As well as nominating Direct Access Entities (DAEs) to receive direct access finance, they manage the pipeline for submitted proposals and provide guidance and quality control.

Two types of an Accredited Entity (AE) can apply for project funding:

- Direct Access Entities (DAEs), which are sub-national, national or regional organisations nominated by developing country NDAs or focal points.
- International Access Entities (IAEs), which are United Nations agencies, multilateral development banks, international financial institutions and regional institutions. They do

not need to be nominated nationally and can be accredited based on expertise on climate change and related issues.

To be accredited, AE organisations must meet GCF fiduciary standards, environmental and social safeguards and gender considerations. In addition, the organisation's strategic focus should align with GCFs eight strategic impact areas for the delivery of major mitigation and adaptation benefits. The GCF Secretariat and the Accreditation Panel aim to decide within six months whether to recommend an application to the triannual GCF Board meetings.

Once accredited, the AE develops and submits project concept notes for feedback from the GCF. It then submits a full funding proposal to the GCF, including all the technical specification documents. This then undergoes a rigorous review process by the GCF Secretariat and the Independent Technical Committee. A final decision is made in the triannual GCF Board meetings (Tanner, et al., 2019).

***Climate Funds in LLDCs***

Climate funds have been little used by LLDCs and even less by them for transport projects. Overall, less than 5% of Global Environment Facility (GEF) and 16% of the Climate Investment Fund's funding has gone to transport projects (Kopp, Block, & Limi, 2013). However, access to these funds can be increased by carrying out the following.

- Climate funds can be applied for projects that help countries and cities address two trends: the rising urban demand of goods and services, and the rising consumption of resources, and help reduce global environmental degradation.
- Projects that encourage all aspects of urban sustainability, including access to services like public transport and clean water supply; green buildings and other interventions designed to mitigate greenhouse gases and air pollution emissions; resource efficiency; waste management; ecosystem and biodiversity protection, and climate resilience.

### 1.5.2 Global Innovation Fund

According to its website[6], the Global Innovation Fund 'focuses on solving any major development problems in low- or lower-middle income countries as it seeks solutions that can scale up commercially, through the public/philanthropic sector, or through a combination of both in order to achieve widespread adoption' (GIF, 2021). An example of a project under this fund is the 720,000 investment in the 'Where Is My Transport' project, South Africa (Vries, 2017). The project's open data platform makes mass transportation in African cities more accessible, more efficient, and safer for poorer people since it provides governments and transit operators with an open data platform for the integration of formal and informal transit data, thereby enabling third-party apps to provide commuters with real-time transport information (Vries, 2017).

### 1.5.3 Other International Funds

- The Africa Growing Together Fund (AGTF), co-financed by the African Development Bank (AfDB) and the People's Bank of China.
- The South-South Cooperation which provides more of technical assistance and project preparation than investment. Under it, one of its arms is the South-South Climate

[6] https://www.globalinnovation.fund/who-we-are/about-us/

Cooperation Fund, used to finance initiatives in developing countries to combat climate change.

- The Silk Road Fund which promotes increased investment in countries along the Belt and Road Initiative, an economic development initiative primarily covering Eurasia.
- China Africa Industrial Capacity Cooperation Fund Company Limited (CAICCF), which supports infrastructure development, particularly in the transit sector.

**Table 1.4: Non Traditional International Funds that can be utilised by LLDCs**

| International Fund | Available Funding | LLDC Eligibility | LLDCs that have already used the funds for transport projects |
|---|---|---|---|
| **The Africa Growing Together Fund (AGTF)**<br>▪ Co-financed by the African Development Bank (AfDB) and the People's Bank of China. | ▪ $200m (£119m) annually | ▪ All African LLDCs: Botswana, Burkina Faso, Burundi, CAR, Chad, Eswatini, Ethiopia, Lesotho, Malawi, Mali, Niger, Rwanda, South Sudan, Uganda, Zambia and Zimbabwe | ▪ Central Africa Fibre-Optic Backbone Project (CAB) – CAR Component, Central African Republic, 2017-Ongoing<br>▪ $50 million co-financing of the Msalato International Airport in Tanzania (neighbour to LLDCs: Rwanda, Burundi, Zambia, Malawi and Uganda), 2019-Ongoing |
| **The South-South Cooperation** | ▪ NPA | ▪ All LLDCs in the Global South (Asia, Central America, South America, Africa and the Middle East). Therefore, all LLDCs except Bolivia and Paraguay | ▪ Early warning systems in Mozambique, Uganda and Zambia, these will assist in preventing transport infrastructure damage<br>▪ Supported cooperation between Armenia and Kyrgyzstan in jointly developing a Disaster Risk Reduction (DRR) strategy,2018 |
| **The Silk Road Fund** | ▪ US$ 40 billion was pledged as initial capital for the Fund; this has since been increased to US$ 124 billion | ▪ Countries along the Belt and Road Initiative: Ethiopia, Uganda, Armenia, Azerbaijan and Laos | ▪ None was specifically for LLDCs, but two of the transport projects, the Mombasa to Nairobi High Speed Railway and the China Pakistan Economic Corridor Project (linking Kashgar in China to Gwadar port in Pakistan) both promises to open up access to LLDCs (Uganda for the former and Afghanistan and Tajikistan for the latter). |
| **China Africa Industrial Capacity Cooperation Fund Company Limited (CAICCF)** | ▪ US$ 10 billion | ▪ All African LLDCs: Botswana, Burkina Faso, Burundi, CAR, Chad, Eswatini, | ▪ NPA |

| International Fund | Available Funding | LLDC Eligibility | LLDCs that have already used the funds for transport projects |
|---|---|---|---|
| | | Ethiopia, Lesotho, Malawi, Mali, Niger, Rwanda, South Sudan, Uganda, Zambia and Zimbabwe | |

### 1.5.4 Sources of infrastructure financing from China

China has increased its financing of transport projects in LLDCs in recent years, particularly through its 'One Belt, One Road' initiative.

There are various new financing sources involving Chinese financing and funding. These new bilateral sources of finance are already being accessed by some LLDCs; for example, Ethiopia has taken out more than US$ 3.5 billion in loans from Chinese sources to finance three large transport projects. China as a source of finance has the potential to make a major contribution to closing the LLDCs' transport infrastructure gap.

***Silk Road Fund***

The Silk Road Fund is a state-owned investment fund of the Chinese government to foster increased investment in countries along the Belt and Road Initiative, an economic development initiative primarily covering Eurasia. At its creation in December 2014 US$ 40 billion was pledged as initial capital for the Fund; this has since been increased to US$ 124 billion. As of May 2017, the Fund had financed 15 projects for a total of US$ 6 billion. None was specifically for LLDCs, but two of the transport projects, the Mombasa to Nairobi High Speed Railway and the China Pakistan Economic Corridor Project (linking Kashgar in China to Gwadar port in Pakistan) both promises to open up access to LLDCs (Uganda for the former and Afghanistan and Tajikistan for the latter).

Given the aims of the Belt and Road Initiative to enhance connectivity, the LLDCs should be prime candidates for its funding.

***China Development Bank (CDB) and China EXIM Bank (C-EXIM)***

Two of China's policy banks, the China Development Bank (CDB) and the China-EXIM Bank (C-EXIM), already hold more assets than the combined sum of the assets of the Western backed multilateral development banks, with more than US$ 1.8 trillion, compared to the MDBs with just over US$ 700 billion. Although comprehensive data is not readily available, a recent estimate was that loans of more than US$ 675 billion for infrastructure, mainly transport and energy projects in developing countries have been made by China Development Bank and China export Import bank since 2014, and that the current lending rate is of the order of US$ 70 to 80 billion per year (Dollar 2017).

These banks provide concessional and non-concessional (in the case of the C-EXIM) finance throughout the world, including LLDCs. The Chinese state has full ownership of the Bank and implicitly guarantees its debt, enabling it to provide low interest rates and long-term loans that are competitive with those of the MDBs.

For some countries in Latin America and Africa, the CDB is the largest single source of development bank finance (UN-OHRLLS, 2018).

**Case Studies of Projects funded by China**

***Case Study: Boten-Vientiane Railway, Laos***

The Lao-China railway (also known as the Boten-Vientiane railway) is part of six international economic corridors under China's belt and road initiative (BRI) (World Bank, 2020). As part of the BRI, the Vientiane-Boten railway connects Lao Peoples Democratic Republic (PDR) with not only China (and eventually Singapore) but also the entire BRI network. The China-Laos Railway is a strategic docking project between the China-proposed Belt and Road Initiative and Laos' strategy to convert from a landlocked country to a land-linked hub. Laos is the only landlocked country in Southeast Asia.

It is stated that when the China-Laos Railway puts into operation, the travel time among provinces and cities of Laos will be greatly shortened, personnel exchanges will be faster, travels will be more convenient and comfortable.

The cost of the project is estimated at $5.95 billion. The Laotian government holds 30% of the joint company while China holds 70%. The initial investment stipulated is $2.38 billion, requiring contributions of $715 million from Laos and $1.67 billion from China. Laos will finance $250 million of its share from the national budget ($50 million a year over the five-year construction period) and borrow the remaining $465 million from the Export-Import Bank of China at 2.3% interest with a five-year grace period and 35-year maturity (Janseen, 2017).

After the completion of the China-Laos Railway, a logistics corridor with large-capacity and low-cost will be formed, which will effectively reduce the import and export costs of equipment and materials necessary for the development of various agricultural, industrial and mining products, lower down the transportation and circulation cost of finished product, simulate production, and expand exports. It will further facilitate the comprehensive development of mineral resources, forestry, hydro-power and other resources in Laos, as well as the development of foreign trade. At the same time, it will also stimulate the development of tourism, increase the fiscal revenue of Laos and the income of related employees and promote the development of national economy in Laos.

**Key lessons:**

- Importance of introducing new laws which aid development and create a more favourable investment climate. The Lao People's Democratic Republic (Lao PDR) issued a new law in 2019 to promote local and foreign investments in railway infrastructure development through various schemes, including public-private partnerships and other concession agreements (GMS, 2019). The law requires railway developers to conduct a feasibility study and survey; draft rehabilitation and repair plans; and ensure displaced people are compensated fairly and given better living conditions. This law guided railway development and ensured integration of its rail services with regional and global networks.
- Setting up a joint special-purpose entity in the form of a joint company. The Laos-China joint company was set up in June 2015 with the responsibility of project management, land concession, construction as well as fare collections.

- Preparedness for relocation compensation. The Lao government requisitioned 3,832 hectares of land for the project with about 4,411 families negatively affected by the project (Lindsay, 2019). According to the vice minister at the Lao Ministry of Public Works and Transport, Rattanamany Khounnivong, the government had already spent the money it set aside for compensation – about US$156 million and would have to borrow another US$150 million from China in order to finish the compensation process (Lindsay, 2019). It is important to plan for the compensation at the planning stage and to ensure that funds are directed to the displaced individuals in order to avoid disgruntlement.

***Case Study: Addis Ababa-Djibouti Railway, Ethiopia and Djibouti***

The Addis Ababa-Djibouti Railway modernisation project is the first cross-border electrified railway in Africa. The railway line is a 753 kilometre (km) electrified single-track standard gauge line between Ethiopia´s capital Addis Ababa and the Port of Djibouti, with 45 stations in total. The new standard gauge line runs parallel to and replaces the abandoned one-meter gauge railway, which was built more than 100 years ago (Global Infrastructure Hub, 2020).

As a landlocked country, the line serves as the main transport corridor for Ethiopia to its gateway of the Port of Djibouti which handles over roughly 90% of the country's international trade (UN ESCAP, 2021). It runs from Addis Ababa/ Sebeta through the two large Ethiopian cities of Adama and Dire Dawa and links industrial parks and dry ports.

The railway line is owned by Ethio-Djibouti Standard Gauge Railway Company (EDR), a joint venture company of the two state-owned companies Ethiopian Railway Corporation (ERC) and Société Djiboutienne de Chemin de Fer (SDCF). It was constructed by Chinese state-owned companies China Railway Group (CREC) and China Civil Engineering Construction Corporation (CCECC). CREC and CCECC are operating the railway for a period of six years following construction completion. The line was opened for freight in October 2015 and was formally inaugurated for passenger services in October 2016. It became officially commercially operational as of 1st January 2018 (UN ESCAP, 2021).

*Implementation*

In 2012, the governments of Ethiopia and Djibouti signed a bilateral agreement for the development and operation of the standard gauge network. In 2016, the two governments agreed on the development, operation and management of the railway network. ERC and Djibouti´s Minister of Equipment and Transport signed commercial contracts with the two Chinese contractors CREC and CRCC respectively. In the same year, they formed a consortium to operate the entire railway line for six years (UN ESCAP, 2021). In October 2016 in Ethiopia and in January 2017 in Djibouti, the passenger railway services were opened. The official commercial operation commenced in January 2018.

*Financing*

The Governments of Ethiopia and Djibouti altogether financed 30% of the project and currently own the railway assets. The other 70% of the project cost was financed through concessional loans from China Exim-Bank (EXIM), the China Development Bank, and the Industrial and Commercial Bank of China. These loans were supported by market capitalisation of nearly USD

3.3 billion. The Governments of Ethiopia and Djibouti have both purchased credit guarantee insurance for their loans (UN ESCAP, 2021).

The project has faced some financial risks, associated with lower traffic volumes than predicted in the transport forecast and currency exchange rate fluctuations – as the project's debt was structured in US Dollar, while construction and operation cost as well as revenues were granted in Ethiopian Birr.

In effect of some repayment risks, the Chinese banks have restructured the Ethiopian debt and extended the repayment period from 15 to 30 years (UN ESCAP, 2021).

**Key lessons:**

- It is important to carry out thorough and detailed transport forecasts. Although future transport patterns cannot be entirely predicted, it is important to consider the possibilities and have a strategic plan in place. The project has faced some financial risks, associated with lower traffic volumes than predicted in the transport forecast.
- Currency structures should be constant. In this case, the project's debt was structured in US Dollar yet construction and operation cost as well as revenues were granted in Ethiopian Birr. This was not favourable as currency exchange rates fluctuate and this would have led to imbalances. The project debt and the construction, operation and revenue costs should be structured in uniform currency.

***Case Study: Passenger Terminal Upgrading of Addis Ababa Bole International Airport, Ethiopia***

Regarded by many as the gate to Africa, Addis Ababa Bole International Airport is one of the busiest passenger transit stations on the continent, receiving tens of thousands of tourists and transit passengers every day. In 2018 Addis Ababa surpassed Dubai as the top transit hub for long-haul passengers to Africa. Under this condition, the existing terminal passenger handling capacity has long been unable to meet the ever-increasing needs. The Ethiopian Government then launched a new airport terminal expansion project to double the airport's annual handling capacity to 22 million passengers, making it the biggest in Africa (Tadesse, 2020).

The 345-million-US-dollar project was fully funded by China's Exim Bank. China Communications Construction Co. (CCCC) signed a contract for the construction of the Bole International Airport Terminal Expansion project in 2012 and started the construction in 2015. The expansion project, which was fully completed at the end of 2020, has two contract sections called Contract I and Contract II.

1. Contract I was the expansion of Terminal 2 - a complex and multi-system integration project with a total area of 118,000 square meters.

2. Contract II consists of the expansion of Terminal 1, construction of a new VIP Terminal and associated work.

The expanded terminal features state-of-the-art airport facilities, elegant and spacious check-in, arrival and departure halls, various duty-free shops and restaurants, taking the entire passenger experience to a whole new level.

The project fund for Contract I is a concessional loan fully funded by the Export-Import Bank of China while the fund for Contract II is a preferential loan of which 85% comes from the same bank and 15% from the Ethiopian Government. The project comes as the national carrier is adding flights between Addis Ababa and Chinese cities by increasing its weekly passenger and cargo flights to 50, up from 35 (Tadesse, 2020), to five destinations in China: Beijing, Shanghai, Hong Kong, Chengdu and Guangzhou.

**Key Take Away / Lessons**

- China is becoming an increasing reliable source of funds for infrastructure development in LLDC.

***Case Study: Victoria Falls Airport Expansion, Zimbabwe***

Victoria Falls International Airport (VFIA) is one of the main airports in Zimbabwe. The airport is located 18km away from the town of Victoria Falls and mainly serves the tourism industry, handling long distance flights from the Americas, Europe and Asia. VFIA is operated by the Civil Aviation Authority of Zimbabwe.

In 2012, China's Exim Bank provided a $162 million concessional loan to Zimbabwe for the expansion of its Victoria Falls airport (AidData, 2017). The loan has a 20-year maturity period, with an interest rate of 2 percent. The total cost of the project is reported by most outlets to be $150 million, although some later reports indicated the price of the expansion was $202 million. The project began in April of 2014, which included extending the current runway and building a second 4,000-meter-long runway, a 100,000 square meter tarmac, a 20,000 square meter new terminal, and a parking lot (AidData, 2017).

**Key Take Away / Lessons**

- China's Exim Bank supported both the project preparation and construction of the project. China is increasing playing a greater role in infrastructure development in LLDCs.

## 1.6 Exercises:

- Participants are requested to detail how they could make transport projects from their countries become project bankable and how they will be funded.

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