Presentation to the UN (OHRLLS) – 18th - 20th May 2021

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

Presenter: Glory K. Jonga
gjonga@atharigroup.com

Case Studies

Kazungula Bridge Project: Botswana & Zambia

- The North-South Corridor (NSC) is a key trade route in Africa. It is approximately 2800km long stretching from the mining region of Lubumbashi in the Democratic Republic of the Congo (DRC) to the port city of Durban in South Africa. Along the way it passes though the Copperbelt (Zambia's industrial heartland) and Gaborone, the capital of Botswana. With spill over effects, the corridor further integrates Namibia, Zimbabwe, Lesotho and Eswatini.
- The NSC is primarily road-based and the Kazungula crossing point at the Zambezi River at a confluence between Zambia, Botswana, Zimbabwe and Namibia was a critical bottleneck that prevented the efficient flow of goods due to the lack of a bridge across the river(a ferry was being used instead).
- The development of a Bridge at the crossing was an opportunity to increase the capacity and speed of transit and also introduce an alternative mobility mode: railway transportation.
- The Kazungula Bridge Project (KBP) is a multi-national project on the NSC within the Southern African Development Community (SADC) region and part of a corridor-long infrastructure improvement programme. The project was identified as a key project under SADC's regional development plan and is spearheaded by the governments of Botswana and Zambia.

Kazungula Bridge Project: Botswana & Zambia

Kazungula Bridge

- The project scope includes a bridge linking Botswana and Zambia over the Zambezi River to replace the existing ferry and juxtaposed one-stop border facilities at Kazungula.
- The project's development objective is to improve the efficiency of transit traffic through the Kazungula border to facilitate and increase trade activities and global competitiveness of Zambia and Botswana; improve regional connectivity of the NSC; and contribute to economic regional integration within the SADC region.
- The project's stated outcomes include: (i) reduced border transit time; (ii) improved procedures on trade facilitation; (iii) improved border management operations, and consequently (iv) increased traffic throughput and (v) reduced time-based transport and trade cost (African Development Fund (ADF), 2011).

Kazungula Bridge

The Bridge:

- It is a 925m long, 18.5m wide viaduct across the Zambezi River
- Design type: extradose cable stayed bridge
- Longest span: 129m
- Number of road lanes: 2
- Railway tracks: 1, narrow gauge 1.067m
- US$260 million capital cost
- Main contractor Daewoo of South Korea
- One-stop border crossing facility located on the Zambian side

Kazungula Bridge

Kazungula Bridge

Financing the Project:

The implementation of KBP is divided into three contract packages namely:

- Package one: bridge and approach Ramps;
- Package two: one stop border post (OSBP) facilities Botswana side and approach road; and
- Package three: one stop border Post (OSBP) facilities Zambia side and approach road.

The estimated total project cost is USD 259.3 million funded through a co-financing arrangement between the African Development Fund (ADF) and JICA. The African Development Bank (through ADF) covers 31.5% of the total project cost. The balance is shared between JICA (57.5%), Governments of Botswana and Zambia (9.2%) and EU-ITF Grant (1.8%) (ADF Project Appraisal, 2011). The project implementation period is five (5) years.

The loans from AfDB and JICA are zero interest, with a tenure period of 50 years inclusive of a 10 -year grace period (ADF, 2011). The executing agency for the project is a combination of the Zambian and Botswana road authorities.

Kazungula Bridge

Organisation	Percentage of project funding provided
JICA	▪ 57.5%
ADF	▪ 31.5%
Zambian Government	▪ 5.2%
Botswanan Government	▪ 4.0%
ITF Grant	▪ 1.8%

Kazungula Bridge

Governance:

Once operational, the bridge will be managed by the Kazungula Bridge Authority, which will be set-up using the European Union Infrastructure Trust Fund (EU-ITF) grant. In effect, the project will be run similar to other trans-boundary projects such as the Zambezi River Authority, a body corporate enacted by parallel legislation in the Parliaments of Zambia and Zimbabwe.

Economic Sustainability:

Evaluation of economic sustainability was based on the economic internal rate of return (EIRR) and the net present value (NPV) of toll revenue. With an assumed opportunity cost in Zambia of 12%, the base case of the project yielded an EIRR of 23% and a benefit-cost ratio of 2.34. Even with an increase in costs of 20% and reduction in benefits of 20%, an EIRR of 17.5% and benefit-cost ratio of 1.56 provided a convincing case for financing the project (ADF, 2011). The cost of operating the bridge (OPEX) was intended to be covered by the toll revenue. A conservative assumption of 2.5% annual growth in traffic and 5% annual growth in OPEX were assumed and found to be covered by projected toll revenue (ADF, 2011).

Kazungula Bridge

Challenges:

Boundary Dispute

A boundary dispute ensued among the partner countries. Botswana and Zambia had originally intended to work with Zimbabwe on the project. However, Zimbabwe later pulled out of the project as a result of some dispute at the time about the country’s boundary. Zambia and Botswana decided to go ahead with the project but Zimbabwe refused passage of the bridge through her territory. The Bridge, which was supposed to be 600 metres long, had to undergo design alterations and have its belly stretch away from Zimbabwe and curve into Zambia. The changes to the bridge design saw it stretching to 923 metres.

Tender Dispute:

The KBP also experienced a delay in its development due to a tender dispute. The disputed contract was for the Bridge construction only, but was sorted out after further discussions.

Silk Road: Azerbaijan

Silk Road Project: Azerbaijan

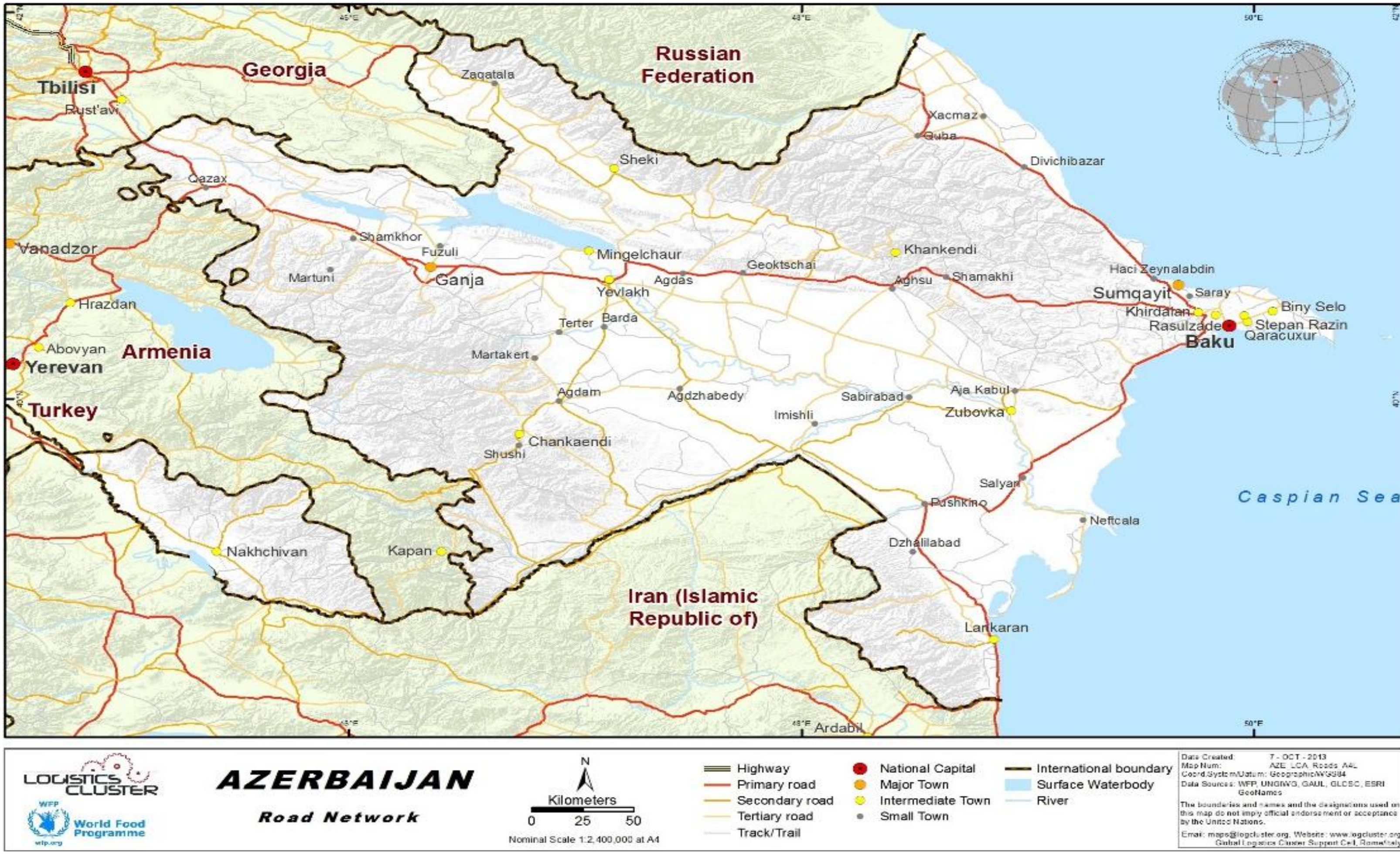
Key Elements:

- Republic of Azerbaijan - crossroad of major international arteries.
- Part of the Greater Silk Road connecting China to Europe.
- Two major highways - 503km long East-West Baku – Georgian Border road (the "Silk Road") and the 521km long North-South section stretching along the coastal areas of the Caspian Sea to the Iranian Border.

Project Objectives:

- Main objective-provide a continuous, reliable, and direct land transport service between Baku and the north-west of the country towards the border with Georgia .
- Rehabilitation and reconstruction of the Azeri part of the Silk Road which is part of the Transport Corridor Europe-Caucasus-Asia Program (TRACECA) linking it with the Trans European Networks (TENs) which, among other benefits, also enhances international trade.
- Need to improve safety.
- Need to enhance cross border and transit facilities .

Silk Road Project: Azerbaijan



Silk Road Project: Azerbaijan

Corridor aims

- Strengthen the political and economic independence of the republics by enhancing their capacity to access European and World markets through alternative transport routes .
- Encourage further regional cooperation among the partner states .
- Use TRACECA as a catalyst to attract the support of International Financial Institutions (MDBs) and private investors and
- Link the TRACECA route with the TENs, focusing on improving alternative routes between Caucasus and Europe and ensuring good international trade relationships

Project Design & Implementation Arrangements:

- Complex-503km long along the Caspian Sea to the North Western end of the country.
- Newly independent country with new government with multi-lateral development experience.
- Scope & cost of project required large number of financing agencies

Silk Road Project: Azerbaijan

Financing the Project

- Road divided into 8 sections each jointly financed-Islamic Development Bank, World Bank, European Bank for Reconstruction and Development, OPEC Fund, Kuwait Fund for Arab Economic Development, the Saudi Fund for Economic Development and the Government of Azerbaijan.
- IsDB played a catalyst role in attracting other partners to finance the Silk.

Key Takeaways:

- **Planning timescales**: exceptionally bad weather led to long delays
- **Covenant Adequacy and Monitoring**: EBRD loan covenants not fully achieved for the ‘hard side’
- **Long Term Sustainability of the Project:** at risk due (i) Inadequate road maintenance and (ii) lack of enforcement of axle load control on the road network.
- **Coordination among MDBs:** The Evaluation Review Report noted that the Project lacked good coordination among the MDBs and could have benefitted from potential synergies.