

POLICY BRIEF / JANUARY 2021

Cross-Border Infrastructure Cooperation in the Horn of Africa (HoA) Region

1. Background

Regional infrastructure is defined as any type of infrastructure that enables economic agents (e.g. firms, households) to connect with regional or international market along a defined route (ODI, 2016)¹. Efficient regional transport connectivity increase linkage with global supply chains and distribution networks, thereby lowering transaction costs, raising value added and enhancing competitiveness of a region. Regional power interconnection allows access to reliable and competitive electricity for households and businesses. Likewise, regional ICT connectivity allows access to submarine cables, which are key for widespread access to broadband internet connectivity. Asia's experience shows that infrastructure development induced trade expansion was responsible for its growth miracle and subsequent reduction in poverty and inequality (Brooks, 2008). Infrastructure development is also key to drive FDI as foreign investors seek places where the cost of doing business is low.

Economic infrastructure development in neighboring countries enhances connectivity to global value chain at home and promotes goods and services integration in the region. Similarly, power generation in neighboring countries enhances access to electricity at home, underlining the need for a regional approach to transport and power infrastructure development. Regional cooperation helps to internalize the externality spillovers from regional infrastructure investment that improve cross border trade (Maur, 2008). Intergovernmental cooperation in the Horn of Africa (HoA) or in the Inter-governmental Authority for Development (IGAD) Region² can play a vital role not only in the development of regional infrastructure but also in connecting with other African Regional Economic communities in line with African Continental Free Trade Area (AfCFTA) and Agenda 2063³. Promoting sustainable regional infrastructure has also been a key agenda among the international development community as indicated in goal #9 of the sustainable development goals (SDGs).

Reducing the infrastructure gap in the region substantially is key to addressing the cost of intra-regional trade, attracting FDI and integrating better in global value chains. There is a strong positive association between regional infrastructure and connectivity to international production networks, particularly in textile and clothing where the HoA region has comparative advantage in. Regional infrastructure in the HoA region creates large market for small economies such as Djibouti, Eritrea and Somalia. It allows sustainable access to the sea for landlocked Uganda, South Sudan and Ethiopia. Also, tapping the region's potential in hydro, geothermal and wind energy ensures sustainable access to affordable and reliable energy for most of the countries characterized by frequent power outages and power deficit. It also offers opportunity to exploit economies of scale

¹ Regional infrastructure and cross-border (C-B) infrastructure has been used interchangeably in the study.

² Both the Horn of Africa (HoA) countries and the Intergovernmental Authority for Development (IGAD) member countries refer and comprise Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan, and Uganda.

³ A flagship project in Agenda 2063 aims to connect Africa's capitals and commercial centers through high speed rail, among other things.

through joint investment in large scale power projects. Upgrading the regions ICT network adds another dimension to the connectivity with global markets. These enhancements facilitate structural transformation of the economies, ensures sustainable growth and job creation.

However, Inception of regional infrastructure and its sustainable use by regional actors depends on how well the parties have negotiated on the design, level of investment, financing modalities to recover maintenance costs, and appropriation of the benefits. It also depends on the regional institutions and regulatory procedures governing its operation.

Although there have been considerable progress in recent years, the HoA countries have one of the lowest economic infrastructure, in particular regional transport, power infrastructure and information and communication technology (ICT) Connectivity. Accordingly, the region is characterized by low intra-regional trade, high cost of trade logistics, and low ICT connectivity, low proportion of the population with access to electricity and high average electricity tariff despite the region's high potential in renewable energy sources.

2. Progress in cross-border (C-B) infrastructure in the HoA

The last two decades have seen progress in regional transport infrastructure connectivity in the HoA, except Eritrea, Somalia, and South Sudan. There have been substantial upgrading or rehabilitation of roads connecting to ports, construction of Standard Gauge Railways (SGRs) with links to ports. And development of port facilities and expansions. Despite the recent progress, however, the C-B transport infrastructure deficit in the region remains big, accounting for the inefficient logistics sector in the region. The HoA logistics performance index (LPI) for 2016 was 2.5, which is low compared to all regions, including Latin America and Caribbean's 2.66 and East Asia and Pacific's 3.14. (Table 1)

Table 1: Intra HoA and Inter regional Comparison of Access to Infrastructure Indicators

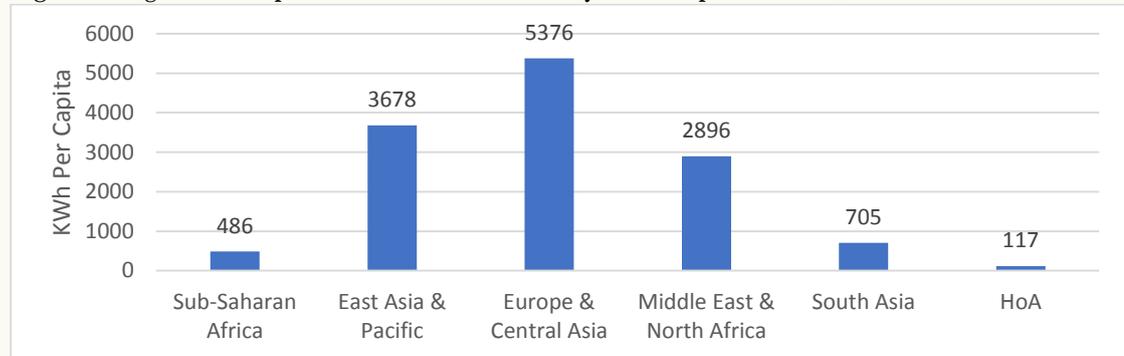
Country	LPI (2016)	Access to electricity (2018)	Electricity consumption in KWh (2014)	Mobile Cellular subscription per 100 inhabitants (2015)	Fixed broadband subscription per 100 inhabitants (2015)
Djibouti	2.32	60.4		34.4	2.64
Eritrea	2.17	49.6		14.2	0.01
Ethiopia	2.38	45.0	69	42.0	0.47
Kenya	3.33	75.0	164	78.8	0.28
Sudan	2.53	59.8	190	71.8	0.07
Somalia	1.75	35.3		42.3	0.59
South Sudan		28.2	43	27.1	0.00
Uganda	3.04	42.7		52.9	0.21
Regions					
South Asia	2.62	91.6	705	76	1.41
Latin America & Caribbean	2.66	98.0	2155	111	10.78
Middle East & North Africa	2.89	100.0	2896	110	7.01
East Asia & Pacific	3.14	98.3	3677	104	16.49
Europe & Central Asia	3.23	96.5	5376	124	24.8
Sub-Saharan Africa	2.47	47.7	486	76	0.37
HoA	2.5	49.5	117	45	0.54

Source: HESPI computation using data from the World Bank and ITU databases

Although power consumption is still considerably low in the HoA countries, there has been some progress in power generation from renewable sources, although it too remains very low compared to the regions high potential in cheap and clean energy sources. Also, there has only been little C-B

power exchanges in the region due to slow progress in construction of C-B power transmission lines. As a result, the region has relatively low access to electricity and electricity consumption per capita compared to other developing regions. As of 2018, 49.5% of citizen's in the HoA had access to electricity, compared to 91.6% in South Asia and 98% in Latin America and the Caribbean (Figure. 1)

Figure 1: Regional Comparison in Annual Electricity Consumption in 2014



Source: WDI (2019)

Countries in the region have access to Submarine Cable Landing Stations that provide competitive price for international bandwidth compared to satellite connectivity. While Djibouti, Kenya, Somalia and Sudan have submarine cable landing stations, Ethiopia and Uganda have built terrestrial fiber optic connectivity to one or more of those regional landing stations. Nevertheless, inland fiber optic network remains thin in most of the countries, accounting for the very low subscription to fixed broad band connectivity in the region as a whole. As of 2015, average fixed broadband subscription per 100 inhabitants in the HoA stood at 0.54, which is only a third of South Asia's and multifold lower than Latin America and the Caribbean's.

3. State of C-B infrastructure cooperation

C-B infrastructure involve two or more countries which may have different policy priorities and national laws (e.g. investment and trade laws). Thus, success in implementation and operation of C-B infrastructure depends on how well the countries involved coordinate institutions, harmonize policies and laws. It also depends on how well they negotiate and agree on issues including design, level of investment, financing of the investment and maintenance costs and appropriation of benefits.

The experience in the HoA shows that there is a growing sense of political and economic interdependence among countries in the region that can be leveraged for enhanced regional infrastructure. With regards to intergovernmental coordination and policy harmonization, there has been mixed experience. Some C-B infrastructure projects demonstrated strong intergovernmental coordination in joint planning, implementation and operation. Examples include the Ethio-Djibouti Railway. Others lack such coordination, leading to substantial lag in implementation by one or more of the countries involved in the C-B project.

4. The C-B infrastructure challenges and lessons

There have been a number of challenges slowing progress in C-B infrastructure cooperation in the region. These include, among others, political instability, institutional capacity shortages, slow pace of policy harmonization, and large financing gap.

- Our Key informant Interviews (KIIs) and previous studies have revealed institutional capacity shortages in project preparation, contract management and project management, leading to stalling of projects and incurring of unnecessary costs.

- There has been little progress in harmonization of laws and policies that are key for successful implementation and operation of C-B infrastructure projects. There has also been strong resistance to establish supranational institutions with mandate to build and operate regional infrastructure on behalf of individual countries involved.
- C-B cooperation in the HoA lack regional cost – benefit distribution analysis that reflect the relative distribution of cost and benefits across countries involved. Lessons from other developing regions such as the Greater Mekong sub region (GMS) show that regional cost-benefit distribution analysis helps to ensure that cost burdens are aligned with benefits, which led to sustainable regional cooperation.
- Despite the growing share of domestic financing and encouraging sign of private sector investment in C-B infrastructure, donor financing remained to be the predominant source of infrastructure finance. Nevertheless, there have been challenges to access external financing for a number of C-B infrastructure projects. Among the major reasons is shortage of projects with strong demonstration of the needs and development priorities of countries in the region.
- Role of donors has been limited to financing infrastructure and providing technical assistance. However, lessons from other regions show that they can play a more proactive role as a neutral broker at the design stage to ensure win-win cooperation. They can also leverage their lending to enforce countries to adopt regional treaties, which are otherwise hard to come by.

5. Conclusions

Regional transport infrastructure provide linkage with global supply chains and distribution networks. Likewise, regional power infrastructure allows access to reliable and competitive power for businesses, households and public services. Although there have been considerable progress in recent years, the HoA Region has one of the lowest regional transport, power and ICT infrastructure connectivity. As regional infrastructure involves more than one country, its success largely depends on how well countries in the region cooperate from its inception, project preparation, construction and operation.

Prolonged insecurity, limited institutional capacity, lack of harmonization of individual countries legal systems, lack of regional cost-benefit distribution analysis, and inadequate finance have been identified as major challenges impeding progress in C-B infrastructure. The lessons from the case studies singled out the following success factors for regional C-B infrastructure cooperation: regional cost-benefit distribution analysis and related compensation mechanism for countries that bear disproportionately large cost, benefit packages to communities that are affected; need for a strong and enforceable treaty for countries to agree on regional legal and institutional framework; and activist role of development partners in addition to resource mobilization and technical support.

The study has also identified roles for individual countries, regional intuitions, and development partners to promote regional infrastructure. Individual countries need to increase institutional capacity in contracts and projects management and in effective implementation and operations in C-B transport, power and ICT connectivity. Countries should also keep the momentum in the recent improvement in domestic resource mobilization, because donor lending to C-B infrastructure financing is increasingly being tied to local contribution.

Moreover, countries should gradually harmonize their transport laws and physical infrastructure to benefit from seamless movement of freight and reduction in trade logistics. Likewise, gradual

implementation of standardized power grid codes allows power importers to access reliable and competitive electricity for their businesses and households, while it helps power exporters to enhance foreign exchange receipts from electricity export. Moreover, co-deployment of fiber optic cables together with power and transport infrastructure helps to reduce the digital gap in the region faster.

The institutional capacity and legal mandate of IGAD should be strengthened to exercise a more active role in C-B infrastructure promotion in the region. Development partners such as the AfDB should also leverage their lending role to achieve consensus on regional agreements which are often hard to achieve without enforcement from external institutions.

6. Recommendations

- Individual countries should enhance human resource and institutional capacity in early stage project preparation, management of regional project contracts and their implementation. Knowledge sharing among countries in the region through establishment of regional centers of excellence helps to promote regional capacity building. In this regard, the service provided by the Ethiopian Railway Academy and the Africa Geothermal Center of Excellence (ARGeo)⁴ to government professionals in the region is exemplary. Regional and continental institutions such as IGAD and the AU shall set up additional regional centers of excellence specializing in the development of the different sub sectors of transport, power and ICT infrastructure across countries in the region depending on individual countries' comparative advantage in their relative endowment of natural resources or stage of development in particular sub sector of infrastructure. These institutions can provide training / education programs on a regular basis to practitioners from member countries, which will help mitigate the capacity shortage in the areas mentioned above.
- Countries should redouble their efforts to enhance domestic resource mobilization, as donor finance is increasingly tied to domestic commitment. The encouraging trends in private sector investment and public private partnership (PPP) in development of ports, highways and power plants in the region should be enhanced by creating enabling policy and business environment for the private sector. This will ease fiscal burden on national governments and helps to reduce the infrastructure gap faster. As Individual countries domestic saving are constrained, and domestic financial markets are under developed, regional efforts to establish collective investment funds for C-B economic infrastructure should be pursued (from public sources and international markets) to supplement domestic savings.
- Based on the assessment of the HoA and GCC countries relations, in commercial ventures and economic infrastructure, there is mutual interest and appetite to augment such operations in the HoA. The entire Red Sea basin countries could thus strengthen their cooperation by establishing joint institutions and facilities for infrastructure development, as the basis for building a stable, peaceful and prosperous Zone. Establishment of a joint Gulf-HoA commission mandated to identify mutually beneficial areas of infrastructure cooperation through regular consultations can advance the cooperation between the two regions.

⁴ ARGeo is based in Nairobi, Kenya.

- Countries should gradually harmonize their transport laws and the physical standards of their regional roads, railways and power interconnections to ensure seamless operation of trucks and trains across the border and reduce costs related to trade logistics. This can be done by adopting regional laws and policies to individual countries national laws and policies. Likewise, they should implement a gradual standardization of power grid codes provided by the EAPP to allow efficient and reliable access to electricity and to ease the transition towards a centralized East African Power Market.
- Countries should follow a corridor approach while planning and implementing C-B infrastructure to benefit from synergy. For instance, deploying fiber optic cables along with construction of highways and transmission lines is much more efficient and reduces the digital gap faster. They should take in to account the operational requirement of a particular infrastructure at the design stage (planning backward from the end use) to avoid compromise in the final use of the infrastructure.
- The institutional capacity of IGAD as a REC must be strengthened. HoA has made commendable contributions in peace building and conflict management in the region. Its role in promoting C-B infrastructure in the region has been weak, mainly due to narrow legal mandate and lack of human resource capability and expertise.

Development Partners should strengthen their advisory and technical support programs in early stage project preparation, contract and project management. Existing regional centers of excellence (e.g. Ethiopia Railway Academy, ARGeo) shall be strengthened and similar institutions be established and regional policies implemented for shared benefit. As neutral partners, donors should also leverage their lending role to encourage participating countries to adopt key features of C-B infrastructure cooperation that are proved to be instrumental to expedite C-B infrastructure development in other developing regions and yet are difficult to implement if left to the individual countries. These include among other things, instituting cost – benefit distribution analysis and associated compensation packages for countries that bear disproportionately high cost; signing enforceable treaties for the establishment of supranational institutions, gradually adopting regional laws and policies in power investment and trade, harmonizing C-B transport policies and procedures, standardizing the physical qualities of highways, railways, power transmission lines, fiber optic cables, etc.