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I. Introduction

Development prospects in East and Central Africa are expected to remain high (AfDB, OECD, UNDP and UNECA, 2013). The economic growth forecast of 7 percent for Tanzania and more than 5 percent on average per year for its neighboring landlocked countries—Burundi, Democratic Republic of the Congo (DRC), Malawi, Rwanda, Zambia—presents an opportunity, as favorable regional GDP growth rate will translate into more trade. Worldwide, the elasticity of trade to Gross Domestic Product (GDP) has been estimated to be above 3 since the 1990s, rising from 2 in the 1960s (Freund, 2009). For East Africa, Table 1 shows average growth rates of GDP and trade volumes over the last decade. Depending on the country, the ratio between trade volumes and GDP is between 1.1 and 5.8. This is good news, as the rapid increase in GDP growth will translate into even higher trade growth. This would reverse the downward spiral of the region’s share in world exports, which has been cut in half over the past three decades, and the overall decline in intra-regional trade among the six countries.

But for landlocked countries in the region, this promising outlook may not be fully realized if trade facilitation and related regional transport and logistics are not improved. For example, Freund and Rocha (2011) estimate that an inland transit time is the most important factor in reducing trade. A reduction by 1 day in inland travel times leads to a 7 percent decrease in transport costs.

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V. Conclusion

AUTHORS: This policy brief is the product of joint inter-agency collaboration in Tanzania between the African Development Bank, the European Union, and Trademark East Africa. The production of the brief was led by a team compromising Josef Loening, Anthony Hughes, Mark Povey, and Adam Grodzicki. The work was initiated by Alex Mubiru and benefited from the support of Jaime de MeLO. Financial support from the European Union is gratefully acknowledged.

SUPERVISORS: Tonia Kandiero, Paulina Elago, Enrico Strampelli, and Eric Beaume.

PEER-REVIEWERS: Calvin Manduna, Shem Simuyemba, Michael Kane, Vera Oling, Prosper Charle, and Patrick Musa.
This is equivalent to a 2 percentage point decrease in neighboring countries' tariffs. For landlocked neighboring countries, Tanzania is one of the main transport and logistics gateways to the outside world. But while growth brings opportunities for Tanzania to benefit, it also brings a responsibility to make sure that its infrastructure facilitates trade to boost growth.

As documented by AfDB, EU and Trademark (2013), Tanzania’s transport and logistics infrastructure is a critical anchor serve as a gateway for neighboring landlocked countries. This is so for inland transit by rail and road, but particularly for its main port, Dar es Salaam, which is considered to have significant room for efficiency improvements (Al-Eraqi and others, 2008; Morisset and others, 2013). A recent Word Bank report estimates that port reforms at Dar es Salaam could boost the GDP of Tanzania by up to US$1.8 billion and its landlocked neighbours by up to US$ 830 million.

In line with Tanzania’s Ports Master Plan (2008-2028), outlining the road map to transforming Tanzania’s ports into world class hubs, the Tanzania Ports Authority (TPA) plans to improve the performance of Dar es Salaam, and increase annual cargo traffic by 30 per cent from 13.5 million tonnes in 2013 to 18 million tonnes by 2015. Investments are required to modernize seven berths, improve the access channel, dredging the entrance channel; and undertaking a feasibility study for a proposed port at Mbwamaji to deal with additional traffic. In addition to improving terminal safety, plans also include construction of a Fertilizer Terminal, development of a Ro-Ro berth at Gerezani Creek, as well as a truck holding area adjacent to the port, the installation of conveyors systems to link dry bulk berths to the silos and connecting the TAZARA railway line. With the region also poised to become a major energy player, the need for investments in efficiency improvements becomes all the more urgent.

### Table 1: Average GDP and Trade Volume Growth, 2003-12 (in %)

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP</th>
<th>Export volumes</th>
<th>Import volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burundi</td>
<td>4.1</td>
<td>6.9</td>
<td>24.1</td>
</tr>
<tr>
<td>DRC</td>
<td>6.2</td>
<td>12.6</td>
<td>18.8</td>
</tr>
<tr>
<td>Kenya</td>
<td>4.6</td>
<td>4.8</td>
<td>9.6</td>
</tr>
<tr>
<td>Malawi</td>
<td>5.5</td>
<td>12.9</td>
<td>8.1</td>
</tr>
<tr>
<td>Rwanda</td>
<td>7.7</td>
<td>10.5</td>
<td>15.0</td>
</tr>
<tr>
<td>Tanzania</td>
<td>7.0</td>
<td>8.0</td>
<td>9.8</td>
</tr>
<tr>
<td>Zambia</td>
<td>6.2</td>
<td>10.6</td>
<td>16.4</td>
</tr>
</tbody>
</table>

Source: Central Banks. Chained import and export volumes are from the Balance of Payments.

This brief describes the overall context and summarizes options for policy reforms. These derive from opportunities to enhance Tanzania’s transport and logistics infrastructure, as documented in AIDB, EU and Trademark (2013). Assuming that recent economic growth trends will continue, a major factor to sustaining growth trends in Tanzania and its neighboring landlocked countries will be to support coordination of regional transport chains and to strengthen Tanzania’s transport infrastructure, including its seaports.

### II. Seaports and Transport Corridors

#### 1. Maritime Transport

The importance of ports and regional transport interconnectivity for East Africa development prospects has been recognized for a long time (Hoyle, 1967). And improving the connectivity of seaports continues to be an opportunity for growth and trade. Dar es Salaam is the country’s largest seaport, which currently handles over 13 million tons of cargo per year, equivalent to more than 90 percent of the total country’s import and export volumes (Table 2). It is estimated that the Dar es Salaam port captures about 14 percent of national imports and exports – as an important gateway serving the landlocked countries of Malawi, Zambia, Democratic Republic of Congo, Burundi, Rwanda and Uganda. It increased its throughput from 7.2 million tons in 2007 to 13.5 million tons in 2013. Tanga port handles only 0.5 million tons comprising mostly agricultural and local industry materials. Being a lighterage port, Tanga is disadvantaged by its double handling operation. It is also “sandwiched” between the major ports of Mombasa in the north and Dar es Salaam to its south. Mtwara port handles 0.2 million tons a year. It is emerging as an anchor port for the offshore oil and gas discoveries as well as to take advantage of growing trade activities in Mtwara as a result of the new industry. Thus, only the port of Dar es Salaam serves a large hinterland and regional neighbors, has substantial throughput volume, and a large number of actors.

### Table 2: Estimated East African Seaport Trade Volumes, 2012

<table>
<thead>
<tr>
<th>Port</th>
<th>Trade Volume (million tons)</th>
<th>Import share</th>
<th>Export share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mombasa</td>
<td>21.9</td>
<td>84%</td>
<td>16%</td>
</tr>
<tr>
<td>Tanga</td>
<td>0.62</td>
<td>74%</td>
<td>26%</td>
</tr>
<tr>
<td>Dar es Salaam</td>
<td>12.1</td>
<td>85%</td>
<td>15%</td>
</tr>
<tr>
<td>Mtwara</td>
<td>0.36</td>
<td>69%</td>
<td>31%</td>
</tr>
</tbody>
</table>

Source: National Port Authorities.
Maritime transport is under pressure to cope with current trade levels, requiring the port of Dar es Salaam to increase its capacity to handle growth in containerization, and to redefine the role of the Tanzania Ports Authority as regulator. Berth expansion and modernization is underway, but due to its urban location expansion capacity is limited. The port’s long ship waiting rates, ship turnaround time, and cargo dwell time also need improvement to increase domestic and regional trade.

In 2012, container vessels were queuing for an average of 11 days in the port of Dar es Salaam compared to 2 days in the port of Mombasa. This delay is mainly explained by the congestions of berths and non-adapted loading equipment. While average dwell time declined from 21 days in 2009 to currently 9 days, it is still high (AfDB, EU, and Trademark, 2013). For example, dwell time is 5 days for domestic imports and 8 days for transit imports in Mombasa, and only 48 hours in other more developed ports, where dwell time is just equal to the time to physically handle boxes or containers. There are also significant inter-annual variations in dwell time in the port of Dar es Salaam, ranging from 5-23 days, making precise comparisons challenging. Dwell time at the port of Dar es Salaam can be improved by reducing custom clearance and storage periods, which would also entail change in customer behavior and supply chains, as many customers import very small quantities.

Port fees are on average 74 percent higher in Dar es Salaam than in Mombasa (Morisset and others, 2013). This is because of higher wharfage charges, which in Dar es Salaam are proportional to the merchandise value, while they are flat fees in Mombasa. A flat fee for wharfage is also preferable as this allows for tariff predictability.

2. Regional Transport Corridors

Tanzania has three main regional transport corridors: the Northern, Central, and Southern Corridors (Figure 1). In the Northern and Central Corridors, most freight is transported by road, although given the long distances involved, it could be more cost-efficient to use railways. Through Dar es Salaam, freight to and from Uganda, Rwanda, Burundi and the Eastern DRC must be transported by road, given limited capacity in rail connection. The Southern road and rail corridor provide access to the northern and central provinces of Zambia, to Malawi, and the Katanga province in the DRC.
3. Railway System

Tanzania has two main railway systems. The first and oldest system is the mainline comprising the central corridor between the port of Dar es Salaam linking central and western areas of the country. This line, which was constructed between 1907 and 1914, was also important for the neighboring countries of Rwanda, Burundi and the DRC as it provided a direct trade link to the region’s main port at Dar es Salaam. In 1928, a spur line was constructed northwards from Tabora to Mwanza on Lake Victoria, which also served Uganda via a rail-lake service. The Tanzania–Zambia Railway, which is still operational, is the second railway system, constructed from 1970 to 1975, financed by the Peoples’ Republic of China.

The railway system is at a critical juncture and requires improvements in order to facilitate movement of goods (AfDB, 2013). This in turn will reduce the pressure on the road system and maintenance costs.

III. Coordination Mechanisms

1. Structural Coordination Challenges

In addition to transport infrastructure, the quality of hinterland access depends on the smooth cooperation of a large number of economic agents, such as terminal operators, freight forwarders, transport operators, port authorities, and government institutions, including regional customs. These different private and public sector actors can all benefit from improving hinterland infrastructure accessibility, but since individual actors cannot fully appropriate the benefits, inter-organizational arrangements, or coalitions, are necessary to improving hinterland transport services and infrastructure. This is equivalent to a ‘collective action problem’ among the different actors (Olson, 1971). Even though ‘collective action’ is in the interest of all, it does not arise spontaneously. This underlines the importance of institutional and organizational capacity. It also suggests an important role for Regional Economic Commissions and National Corridor Coordination Agencies as facilitators.

Tanzania’s coordination mechanisms have structural some challenges, not only by infrastructure gaps causing high transport costs, but also numerous ‘soft’ factors, such as a challenging business environment. This is because markets play a key role through the price mechanism. In the private sector, coordination can take place within a single large firm, for example through hierarchies. And governments provide public goods, such as safety and transport infrastructure development, planning, and maintenance (de Langen and Chouly, 2004). Other promising forms of coordination, such as for example public private partnerships, face institutional and organizational capacity constraints. As a result of structural challenges, there is trade displacement, as neighboring countries prefer to channel goods via other transport routes through the ports of Djibouti, Mombasa, and Durban (Figure 3).

Other factors that explain why coordination can be challenging include the unequal distribution of costs and benefits of coordination across countries— as governments could bear costs at the benefit of their neighbors. Yet the lack of financial resources or willingness to invest can cause disruptions in the supply chain. For some firms, strategic considerations can play a role, as firms are reluctant to improve coordination if competitors also benefit. Risk-averse behavior and short-term focus of the private sector are other contributing factors for an uneven hinterland access regime of Tanzania’s seaports.

Moreover, as Westlund (1999) shows, investments in coordination mechanisms are often associated with high adaptation costs. Thus, both the private and public sector have low incentives for change. Coordination challenges can persist for a long time—unless they are addressed through a ‘big push’ combination of both infrastructure investments and reforms that simultaneously enhance coordination.

2. Overcoming Coordination Challenges

The starting point for assessing reform options is to change the power structure between winners and losers from the status quo. Baldwin and Nicoud (2008) suggest the status quo maintained because winners are more powerful than losers in influencing decision makers, even if their individual gains are much lower than the overall welfare loss for society. In fact, addressing asymmetric bargaining power offers an opportunity for rapid improvements of transport interconnectivity.

Another important element to improve the hinterland access regime is the acknowledgement for the need of coordination beyond markets. This is because transaction costs with alternative forms for coordination can be more efficient than through markets. Also, due to bounded rationality and opportunistic behavior, transaction costs of contracts can be substantial. This is especially true for complex agreements with a large number of state and non-state actors (van der Horst and de Langen, 2008). Ways to overcome
these coordination challenges in the hinterland transport chains include:

- The creation of public-private partnerships—these are important institutional mechanisms, because they can provide a fertile ground for collective action. As they do not develop automatically, this could be an important area of support from external development partners.
- The formalization of arrangements—they can stimulate commitment among government and among the private sector. Examples include standardized procedures, standards for quality service, and generally better formalized procedures—all of which are also helpful to address rent-seeking practices (Transparency International and Trademark, 2012).
- Strengthening the role and voice of the private sector—when not satisfied with a solution to a collective action problem, the private sector might strive to improve it. Voice also adds to the performance of joint initiatives, and can stimulate organizational changes.

In Tanzania, efforts are underway to support numerous planned public-private partnerships. For ports, in particular, an attractive option would be to bring in the private sector under an operating concession agreement. The private party will have to invest in equipment, but not in basic infrastructure. At the same time, if governments engage in institutional reforms, the trust with private sector will also increase.

In the short run, the modernization of the port of Dar es Salaam is a development opportunity. In addition to plans to expand berths, modernization also includes efficiency-enhancing reforms. Similar to infrastructure transport connectivity challenges—beyond the asymmetric distribution of bargaining power between winners and losers—there are fundamental coordination challenges that need to be overcome. As a first step, Morisset and others (2013) suggest increasing end-users’ awareness of the social costs related to the low efficiency of the port of Dar es Salaam to raise public voice.

In short, general elements for reform include coalition building and engagement in overall efficiency improvements, such as the reduction of dwell time (currently 9 days dwell time) and reduced transport transit time (currently about 3.5 days on average), the formalization contracts, and the standardization of procedures—all of which reduce rent-seeking incentives because there would be less room for negotiation.

### IV. Transport Interconnectivity

#### 1. Seaports as East Africa’s Gateway to Growth

Given the shortage of natural ports of along East African coastlines, only a handful of widely separated commercial seaports are suitable for international maritime traffic. Seaport locations are therefore of strategic interest for trade and other economic relationships (Magenheim, 2007). The main ports for East Africa are Mombasa and Dar es Salam, who are both competing for inland markets, most notably in Rwanda and Uganda. More than 90 percent of Tanzania’s total trade volume transits through the port of Dar es Salaam. The port is a hub for East African regional trade.

The performance of the port of Dar es Salaam has varied over time. As a result of privatization in the 1990s, the port became more efficient (Al-Eraqi and others, 2008). Due to growing trade activities in recent years, Dar port requires new investments in the areas of port development and well as institutional reforms in order to improve efficiency.

Morisset and others (2013) estimate that the total cumulated costs of extra delays and additional monetary payments—compared to the port of Mombasa—are equivalent to a tariff of 22 percent on container imports and about 5 percent on bulk imports. For energy imports, which make up on third of total imports, the tariff equivalent of extra delays and fees could be as high as 37 percent. These extra-cost are passed-through to Tanzania and its land-locked neighboring countries. At the aggregate level, the estimated total welfare losses generated by inefficiency at the port are likely to be high. Port inefficiency is equivalent to an import tariff. Local producers and consumers are losing as the result of higher final prices, the cost of imported intermediary products is higher for local producers, and the purchasing power of final consumers is eroded. As imported goods are less affordable, the import demand decreases and the society’s welfare are substantially reduced.

Furthermore, through increase in prices, additional import tariffs due to port inefficiency will naturally have significant implications on household welfare. Based on the average share of goods in Tanzanian household expenditures, Morisset and others (2013) estimate that a Tanzanian household could save 8.5 percent of its total expenditures, or US$ 147 per year if the port of Dar Es Salaam could become as efficient as Mombasa. Thus, it is likely that inefficiencies in the port of Dar es Salaam are a bottleneck to growth and regional trade performance, and are slowing the decline in national poverty.

Current traffic projections indicate that large investments will be required at another location to augment the port of Dar es Salaam, which will reach full capacity by 2020 (AIDB, 2013). In the medium to long-term, there is the need to create a new Indian Ocean port capacity outside the urban area of Dar es Salaam. Within that option, there are several choices available. The most likely implementation will be support from China to create a new deep-sea port in Bagamoyo and develop the surrounding transport corridor through an anticipated US$ 10 billion investment, including road and rail access, an export processing zone, and an airport. Once the existing capacity has been expanded, surplus traffic can be handled.

The main objective of both ports will be to act as ‘East and Southern African Gateway’ next to the port of Mombasa. The ports of Dar es Salaam and Bagamoyo can become highly profitable, because there is sufficient volume of transactions to guarantee economies of scale, and limited competition from other ports, road transport networks, and between port operators. At present, all the standard port management models appear applicable. Landlord port
organization is likely the preferred option to increase efficiency, attract private capital, and gain market share. However, the seaports have to be supported by sufficient hinterland connectivity and extended port facilities, such as dry ports.

**Investments in Transport Infrastructure**

In line with seaport development implementation, the Central and Northern Corridors offer an opportunity for improvement at the same time. This requires strategic investments in both road and railway infrastructure. Strengthening road quality need is another opportunity, based on the traffic flow forecast, and maintenance plans need to be formulated. The railway network at the Central Line to Mwanza and Kigoma needs to be rehabilitated to allow rail transport services to be offered to trading partners. In addition, railway transport services need to achieve an adequately functioning level. By managing the rail services properly, the modal shift from road to rail transport can be easily established, due to the low cost of rail transport on long distances. Moreover, the Southern Corridor has ample potential for local business development and transit trade to Malawi, but requires a better transport connection to the seaports. All development plans need to be assessed against economic and financial feasibility. Infrastructure needs to consider traffic forecasts—transit demand through Tanzania is estimated to increase from currently 2.7 million tons to 9.8 million tons by 2030. Overall, it is estimated that Tanzania will face an increase in the demand for transport by 16 percent in 2020.

**V. Conclusion**

Addressing Tanzania’s infrastructure gaps offers an opportunity to capture gains from positive development prospects in East Africa. The specific short-run priority is the development of Tanzania’s seaport system, which is the basis of entire transport and logistics system for the East Africa region. These include reforms of the port of Dar es Salaam and the rapid implementation of investment decisions of the new Indian Ocean port.

Continued efforts to invest in transport interconnectivity also suggest the need for institutional and regulatory reform, and enhanced infrastructure investment planning. Neither of these is without cost. The first is largely a question of political will, while the second offers policy choices, but requires that external support can be mobilized for substantial financial investments to achieve results. The extent of external financing will in turn depend on its growth prospects, and further enhancements of its national and regional institutions. Other policy objectives are to provide an environment attractive to investors and facilitate regional coordination.

We welcome the Big Results Now agenda which presents concrete policy and investment options to revitalize the central corridor infrastructure backbone, including rail, Dar es Salaam port and road network.
References


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NEPAD, Regional Integration and Trade Department (ONRI) was established in March 2006 to enable the African Development Bank to play a focused and leading role in supporting the implementation of NEPAD and promoting Africa’s regional integration and trade. By supporting and advancing the soft and hard aspects of regional economic and financial integration, trade, investment and regional infrastructures, ONRI contributes to promoting competitiveness, economic growth and poverty reduction in Africa.

Contacts:
Avenue du Ghana
Angle des Rues Pierre de Coubertin
et Hédi Nouira
BP 323
Tunis Belvédère 1002
Tunisia
Tel.: (+216) 71 10 21 56
Fax.: (+216) 71 25 42 95
Email: m.mupotola@afdb.org
Website: www.afdb.org