Sustainable Infrastructure Development in Sub-Saharan Africa

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Infrastructure development and financing are an indispensable component of growth for any economy, and in sub-Saharan Africa (SSA) are an essential building block for African countries to get on the path of sustainable development. However, at present, SSA countries lack adequate and sustainable infrastructure to support increased economic growth. This paper argues that policy reform, increased funding, better bankable projects preparation, improved management and delivery and better use of financial and risks instruments all leverage each other, increasing infrastructure services. Policy reforms can stretch available investment funding, lower investment risks, and attract more funds.

Infrastructure Gap

Infrastructure services in SSA countries can easily cost twice as much as in other developing regions due to lack of economies of scale and limited competition. According to the Infrastructure Consortium of Africa (ICA),1 infrastructure makes up a major part of investment expenditure in SSA, equivalent to roughly 3 to 6 percent of GDP per year (one-third to one-half of total public investment). And yet, the poor state of infrastructure in SSA countries continues to impede growth, trade and poverty reduction. The World Bank estimates that it reduces economic growth by 2 percent, and business productivity by as much as 40 percent, every year.2 On the other hand, improving Kenya’s infrastructure up to the level of middle-income countries would boost annual growth by more than three percentage points and for Nigeria, this would mean an increase in annual real GDP growth by around four percentage points.3

To unleash the continent’s enormous potential—both within SSA countries and in global markets—it is critical that SSA countries address the infrastructure constraints that increase the costs of trading and

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reduce competitiveness. But this is only part of the solution. Countries will have also put in place the necessary reforms to remove policy-related barriers to trade that affect all stages of the value chain.

As a former World Bank employee for over a quarter of a century, I have been exposed to the perspective of several countries, investors and stakeholders on the concept and implementation of sustainable infrastructure development. It is a comprehensive effort that requires the “hard” components of roads and railways, power plants and water treatment facilities. But sustainable development also requires the “soft” components that touch every part of hard infrastructure: an abiding respect for the environment, an understanding of how communities and societies evolve and the role of people and citizens within them, and continuous engagement to support macroeconomic and sectorial policy reforms to ensure that investments result in greater access to better quality, affordable, and sustainable infrastructure for all.

Determinants of Africa’s Growth Trajectory and Sustainability

The Sustainable Development Goals provide a clear global mandate to address poverty. Today 390 million people still live in extreme poverty in SSA countries. Relatively robust levels of growth in SSA over the past 20 years have not reduced poverty as much as in the rest of the developing world. The effectiveness of growth in lifting sub-Saharan Africans out of poverty—the continent’s “growth elasticity of poverty”—is three times less than in the rest of the developing world. One percent of GDP growth cuts poverty in SSA by 0.7 percent, compared to an average 2 percent in other developing regions.4

One reason is that growth has been lagging in labor-intensive sectors such as agriculture and manufacturing, which are typically more poverty reducing than growth in capital-intensive sectors such as extractive industries and mineral exploitation. Moreover, except in fast-growing resource-rich countries, SSA’s growth appears driven by factor accumulation, rather than improvements in productivity and in competitiveness.

Fragility and conflict pose another significant downside risk, with extremist and militant groups posing new types of threats. In addition to affecting security, these have adverse impacts on employment-generating sectors and limit the execution of development programs and infrastructure projects in the often-poorest regions of the continent. Increased competition for scarce resources is also a source of conflict.

SSA now faces new challenges. The end of the commodity super-cycle creates headwinds for many countries in the region. As a result of falling oil and other commodities prices, SSA growth is expected to grow at 1.6 percent in 2016, the lowest rate for over 20 years.5

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The current situation suggests that SSA’s development trajectory needs to be viewed through four interrelated lenses—infrastructure, public and private-sector investments and partnerships, human capital, and inclusiveness—and that concerted and consolidated action needs to be taken along all four.

Infrastructure for Economic Growth

The first “lens” is infrastructure for economic growth. Many years of observations in developing countries make it very clear that no country can achieve sustained increases in GDP without spending on infrastructure, whether for energy services, water treatment plants, roads, railways, ports and airports, telecommunications, urban services, rural facilities, or environmental protection. SSA is no exception.

The ICA and the World Bank\(^6\) estimate that in order to maintain current levels, spending on SSA’s infrastructure will cost around $100 billion per year over a decade, split evenly between investment and maintenance. This is about double the current spending levels.\(^7\) At present, around half of the financing comes through government spending and the rest from loans and grants from international financial institutions, China, and other development partners.

Policymakers and private and public investors in SSA countries consistently rank infrastructure as their top priority, yet they are unable to do as much as they would like.\(^8\) The poorest countries need to spend about 9 percent of their own GDP to operate, maintain, and expand infrastructure services. Currently they are probably spending about half that amount, collectively, with enormous disparities from one country to another. For instance, Angola, Cabo Verde, and Lesotho invest more than 8 percent of GDP, while oil-rich Nigeria and fragile South Sudan allocate less than 1 percent.\(^9\)

While national infrastructure is crucial, regional inter-national infrastructure is also of strategic significance to SSA. Numerous missing links in the continent’s infrastructure backbones prevent it from harnessing scale economies, stymie the development of small and landlocked countries, prevent optimal use of common hydrological resources, and block the use of efficient trade corridors and least-cost regional service solutions. Completing these critical regional SSA infrastructure networks would take, according to the World Bank, about $7 billion annually of capital investments. But both preparing bankable regional infrastructure projects and implementing them is challenging. Regional projects involve multiple countries, a variety of stakeholders, and often differing legal, financial, and regulatory environments. Given the scale of the investment required, regional projects also often involve multiple public and private financiers who have varied information needs at different points in the project preparation process. The complexities of these projects mean that careful coordination is needed to ensure that transactions are efficient and effective.

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\(^8\) PWC Africa, *Trends, challenges and future outlook*.

\(^9\) IMF, *Sub-Saharan Africa*. 
Private-sector Investment and Public-Private Partnership

The second “lens” is a more significant role for the private sector in infrastructure. SSA countries have no choice but to increase private investment if they want to improve infrastructure. However, the private sector’s share of total infrastructure spending continues to be lower in SSA than in other regions of the world. At present, it is under 4 percent of the total financing, significantly less than in other low- and middle-income countries. It is also mostly concentrated in ICT and power generation. Except for a few countries including Kenya, Nigeria, and South Africa, SSA countries have been unable to attract significant private investment outside the telecommunications and power sectors. In 2013, SSA received about $17 billion in private funds, of which all but $2 billion went to South Africa and Nigeria in sectors other than telecommunications.¹⁰

While many institutional investors seek stable, long-term income streams from already existing and operational projects, they tend to avoid the level of risk generally associated with new projects. The challenge is to find new ways for the public sector to improve underlying investment conditions and expand private and public infrastructure project pipelines to reduce risk and catalyze additional financing from different sources, including the private sector.

Another major challenge with increasing private financing for infrastructure in SSA is the shortage of investors willing and able to assess and take on the long-term additional risk associated with large and complex projects. Large infrastructure projects have long gestation periods and often require complex feasibility studies and expert transaction advice. The costs of preparing large-scale infrastructure projects amount to between 7 and 10 percent of the project’s final investment costs. This sort of finance is currently not available from development partners or from sub-Saharan African governments, and private investors are reluctant to commit to the full infrastructure development costs. Thus, public-private partnership (PPP) would be a win-win solution.

The potential sources of funding for investments vary considerably according to both the type of infrastructure asset and the circumstances of the country or countries in which the investment would take place. Unfortunately, a high share of unmet investment needs is associated with types of assets for which it is difficult to raise private finance. The bulk of the requirements lie in sectors that are more difficult to fund, such as water supply, power transmission and distribution, hydropower, geothermal, and medium- to low-traffic roads.

Moreover, exchange rate risks, commercial or demand risks, regulatory risks, project bankability/viability, internal capacity limitations, access to funding, political instability, policy incoherence, reported corruption, and a debilitating shortage of capacity and skills—these all act as strong disincentives for a significant expansion and participation of the private sector, and increase the cost of infrastructure projects led by the private sector. These risks are typically accounted for in estimates of the minimum rate of return that private operators want from a deal in a given country. Ultimately, these risks reflect problems of governance that go beyond infrastructure. Until and unless these risks are reduced, minimum rates of return on private investment will be raised.

On the positive side, new foreign, as well as local and regional, investors and funds are now developing on the continent. In addition, sources of domestic revenue are slowly broadening. From ¹⁰ Ibid.
2006 to 2014, 13 SSA countries issued a total of $15 billion in international sovereign bonds, often intending to use the proceeds to finance infrastructure.\textsuperscript{11} SSA pension funds have about $380 billion in assets under management, 85 percent of which are in South Africa. In countries such as Cabo Verde, Kenya, South Africa, Swaziland, Tanzania, and Uganda, funds are investing in infrastructure.\textsuperscript{12} SSA funds can send a signal with regard to perceptions of risk, through their better understanding of local context, but can also make use of closer ties to guide governments on how to structure and regulate infrastructure projects to facilitate institutional investment. Much more could be done to link and leverage these new investors and funds.

Experience shows that while private finance could make a sizable contribution toward meeting the overall need for investment, the bulk of financing requirements are in country environments where attracting private finance will be more difficult. There are not enough private sponsors with the capability, balance sheets, and risk tolerance to provide a strong competitive environment for large, complex, national and regional projects. This is particularly true when country risks are high, and is aggravated by traditional procurement policies of development partners that may provide a disincentive for developers to spend money in advance of a costly tendering process.

In sum, while private finance will undoubtedly need to increase if SSA is to meet its infrastructure targets, a significant increase in public funding and PPP will also be needed, especially in sectors with the most immediate impact on poverty reduction and in countries with the greatest needs.

Human Capital Growth

Building infrastructure is an absolutely necessary condition to achieve sustainable development and inclusive growth. But it is not sufficient. Which is why the third focus “lens” of human capital is so important.

SSA governments have limited capacity to implement a large-scale increase in investment and reform in the infrastructure sectors. At the country level, many governments and service providers do not have sufficient expertise, human capital, or resources to successfully implement the needed large increase in infrastructure services. In order for countries to take advantage of investments in physical infrastructure capital and enable the private sector to flourish, investments in human capital are also critical to sustain economic growth. The importance of education and human capital has been brought out in many impacts studies of economic growth\textsuperscript{13} and infrastructure development.

SSA is the world’s youngest continent, with more than 50 percent of the population under the age of 25. According to the World Bank, every year for the next decade, it is expected that 11 million young people will enter the job market. This demographic dividend offers a tremendous opportunity for SSA countries to build the skilled workforce that will serve as the engine for the economic transformation of the continent and help build a sustainable stock of infrastructure. However, it represents a

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“dividend” only if these young people are educated in infrastructure-related sectors, trained, and employable, and if jobs can be created.

The reality is that there is a mismatch between what SSA students are learning at school and university and the skills employers are actually looking for and in particular in infrastructure-related sectors such as power, water, ICT, and transport. Unless addressed, this gap is likely to widen as technology assumes an ever-greater role in production systems, service industries, and entrepreneurship.

Inclusive Growth

While expanding infrastructure, increasing private-sector and building human capital are required for growth, the fourth “lens,” inclusive growth (i.e., economic growth that can facilitate a meaningful and sustainable poverty reduction\(^\text{14}\)), is essential to reduce poverty and inequality. In fact, infrastructure can have a strong impact on the incidence and depth of poverty by supporting inclusive growth. Infrastructure development achieves this by improving access to key facilities; creating additional jobs and economic activities; expanding the overall production capacity; reducing production costs through improvements in transport and connectivity; and connecting markets and other economic facilities. As infrastructure is developed and growth appears, the nature of the influence of infrastructure on growth and poverty reduction will change.

The impact of infrastructure on inclusive growth also depends on whether a country practices good governance (especially in the management of development), and the adequacy of its health and education expenditures, which determine how people can respond to increasing economic opportunities.

In addition, inclusiveness and sustainable growth relate to the degree to which the infrastructure service associated with particular assets leads to the co-benefits reaching the largest segment of the population aiming at improvement of welfare, especially for the poor; balanced development between rural and urban areas; gender considerations; and dismantling barriers within the country.

Sustainable Future

The broader business climate is essential for SSA to realize its growth potential. Beyond affordable and efficient infrastructure, and associated risks, issues such as access to credit, integrity of property rights, permit and land requirements, trade regulations and logistics, open procurement policies, and costs of starting a business are among the important investment climate indicators that can attract—or deter—investors in SSA.

Governance remains a concern in a number of countries—whether it is petty corruption, social accountability to citizens, or building transparent systems of procurement and public financial management. Continued improvements in rule of law, accountability of institutions, and access to information will further help to build investor confidence and spur greater growth. But all in all, there is need to recognize that governments in many SSA countries are increasingly trying to reconcile

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infrastructure investment, financial constraints, economic growth, and environmental protection. For instance, this link among infrastructure investment, environmental protection, and social development can best be seen in the energy sector in SSA, where a lot of countries are working toward a "double dividend": striving to meet the energy needs essential to fuel growth and fight poverty on the one hand, while preserving and enhancing the environment and protecting communities on the other.

Conclusion

Three key themes have emerged from this paper that represent fundamental requirements for sustainable infrastructure development in SSA: improve the financial and business environment for infrastructure investment in SSA countries; develop institutional capacity and technical skills to prepare bankable projects and manage them; and match financing approaches and instruments with the different needs.

About the Author

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