ECOSOC

United Nations Economic and Social Council

TAKING ACTION TO IMPROVE LIVES

Regional meeting on "Innovations for infrastructure development and sustainable industrialization"

26 March 2017
Dakar, Senegal

Summary

Introduction

African leaders have at various times stressed the need to transform the structure of their economies and to create decent jobs, promote productivity growth, enhance incomes and achieve sustainable development. Sustainable industrialization is integral to these objectives, with infrastructure development as a necessary enabler. Africa's Agenda 2063 and the United Nations Sustainable Development Goals (SDGs) emphasize the role of infrastructure and industrialization in meeting their objectives.

The enduring paradox, however, is the limited progress in achieving these aspirations, a situation that has given rise to the constant search for innovative ways of facilitating infrastructure development and harnessing sustainable industrialization.

The President of the Economic and Social Council (ECOSOC) proposed to dedicate sufficient time to these issues by holding a Special Meeting of the Council on **"Innovations for infrastructure development and sustainable industrialization"**. In the lead-up to the Special Meeting, to be held at the UN Headquarters on 31 May 2017, the President of ECOSOC convened the first global preparatory meeting in Dakar, Senegal on 26 March 2017. The meeting gathered high levels of experts and policy makers on this topic. The meeting focused on critical questions, namely i) key issues; ii) challenges and opportunities; iii) lessons, experiences and potential solutions (see annotated agenda attached).

Main highlights of the discussions

I. Current state of infrastructure development

In spite of recent high growth rates in Africa, economic gains are not reaching all citizens. The discussions recognized that no country or region in the world has achieved prosperity and a decent socio-economic life for its citizens without the development of a robust industrial sector. Achieving industrialization requires an enabling environment which includes among other things sustainable infrastructure and services in energy, transport, water, sanitation, and information communication technologies. It also requires soft infrastructure such as institutions, adequate skills and technology, as well as peace and stability. Africa's poor level of infrastructure development, especially in information and communications technologies, energy and transport, contributes directly to its low level of productivity and industry's low contribution to GDP.

The presentations demonstrated that, in the energy sector, millions of people do not have access to electricity. There is not only a gap in production, but high transmission and distribution costs and losses. Additionally, the generation mix needs to become more sustainable. The transport infrastructure also faces a number of challenges.

The tarred road access rate in Africa is significantly lower than that of the rest of the developing world, while transport costs are significantly higher. In addition to low road densities, a significant portion of roads are unpaved and hardly usable during rainy seasons. This affects the movement of goods and people, and consequently productivity. However, progress has been recorded, particularly with the Trans-African Highway (TAH) network of transcontinental road projects in Africa which connects capital cities of the continent. This project will improve trade links and alleviate poverty through highway infrastructure development and the management of road-based trade corridors. All sub-regions, except Central Africa, experienced increases greater than 20 percent between 2006 and 2015.

Poor infrastructure is said to slow Africa's per capita growth by 2 percent annually[1]. To close the infrastructure gap with other parts of the world, Africa would need to spend US$ 93 billion annually on electricity, water, roads and information and communications technology[2].

In addition to the above-mentioned issues, Africa also faces a "de-industrialization" phenomenon, resulting in a reduction in manufacturing output, particularly between 1995 and 2015.

Source: World Bank, WDI

II. The infrastructure / industrialization Nexus

Infrastructure development and industrialization are interconnected. Building new infrastructure could support industrialization if coordinated, while industry development has the potential to sustain job creation and economic prosperity. However, it was observed that since the industrial revolution, decades of heavy industry development has been damaging to the environment. Therefore, the infrastructure-industrialization nexus requires innovation for the development of green infrastructure that promotes economically viable, socially inclusive and environmentally sustainable industrialization. Participating countries highlighted ongoing efforts in "greening" their industries, in the spirit of sharing experience in industry transformation. With the help of new technologies and innovations, Africa can avoid developing polluting factories and can instead build modern infrastructure and industries that are sustainable from the economic, social and environmental perspectives. Finally, the meeting noted that Africa's participation in global value chains is largely confined to upstream production (primary inputs), limiting scope for the upgrading

[1] The Programme for Infrastructure Development in Africa (PIDA); Transforming Africa through Modern Infrastructure : "Closing the Infrastructure Gap Vital for Africa's Transformation" p. 2
[2] World Bank, Africa's Infrastructure: A Time for Transformation (Washington D.C., 2009). Available from: http://siteresources.worldbank.org/INTAFRICA/Resources/aicd_overview_english_no-embargo.pdf

of local firms. Infrastructure programmes should be developed to support the industrialization objective, moving beyond its current structure that mainly benefits the extractive sector.

Key Considerations

- No country or region in the world has achieved prosperity and a decent socio-economic life for its citizens without the development of a robust industrial sector. Africa's poor level of infrastructure development, especially in information and communications technologies, energy and transport, contributes to its low level of productivity and industry's low contribution to GDP, slowing Africa's per capita growth by 2 percent annually.
- Infrastructure development and industrialization are interconnected. With the help of new technologies and innovations, Africa can avoid developing polluting factories and can instead build modern infrastructure and industries that are sustainable from the economic, social and environmental perspectives.
- Infrastructure programmes should be developed to support the industrialization objective, moving beyond its current structure that mainly benefits the extractive sector.

III. Infrastructure development and sustainable industrialization for economic growth

The discussions emphasized the contributions of infrastructure development and industrialization to economic growth and poverty eradication, especially through regional integration and employment. There is a thrust toward regional infrastructure development projects, linking sectors and countries across Africa. One example is the Programme for Infrastructure Development in Africa (PIDA), which promotes regional corridors and conditions for higher economic density and enhanced regional markets. Other examples included the UN resolution on the Third Industrial Development Decade for Africa (IDDA III), the Accelerated Industrial Development for Africa (AIDA), the Trans-African Highway (TAH) road network, the African Mining Vision (AMV) and the African Renewable Energy Initiative.

Discussions highlighted the difficulty in participating in global value chains, heightened by tariff escalations on refined products in Europe and other continents. Enhanced regional trade and integration in Africa, supported by the construction of regional infrastructure, was seen as a viable alternative. It was noted that trade within Africa accounted for a lower share of exports than Africa's trade with the rest of the world, but the share of manufactured goods is more important as a component of intra-African trade than between Africa and the rest of the world. Strengthening regional and economic integration within Africa was therefore identified as a means to support industrialization and diversification.

Domestic resource mobilization is critical to the development of regional infrastructure. This could be done by reducing fiscal pressure through the harnessing of remittances, and through a shift from traditional investors to non-traditional African financial entities, such as pension funds. It was noted that 28 pension funds out of 52 (from 20 countries) are valued at USD 1.4 trillion. In the past 5 years these 28 pension funds have invested 2.9% in infrastructure, i.e. USD 41.8 billion of which USD 37.9 billion were invested in unlisted equity instruments and USD 3.9 billion through infrastructure project bonds or loans. There is, therefore, room to redirect investments, which should be accompanied by strong de-risking policies and support to project preparation.

In addition to the importance of regional infrastructure in supporting regional integration and economic growth, the contribution of infrastructure development to poverty eradication was also acknowledged through its potential to create employment. Africa has the youngest and fastest growing population in the world. Without additional employment opportunities, this demographic dividend could become a demographic burden. Infrastructure development and industrialization are both capital and labour-intensive sectors, thus providing an opportunity to absorb the growing labour force. Furthermore, in light of the infrastructure-industrialization nexus, “green” infrastructure and industry, including agro-industry, can be an important contributor to employment.

Key Considerations

- Regional infrastructure development creates higher economic density and enhanced regional markets, thus offering an alternative to difficulties in participating in global value chains, reducing the cost of doing business and contributing to overall economic growth.
- Domestic resource mobilization is critical to the development of regional infrastructure. Furthermore, non-traditional investors such as pension funds can be re-oriented towards infrastructure funding thanks to support to project preparation and other de-risking factors.
- Infrastructure development and industrialization also contribute to economic growth through job creation, including in the case of “green” infrastructure and industrialization.

IV. The role of the private sector, including small and medium-sized enterprises

Participants underscored the importance of a strong domestic private sector which is more likely to invest in long-term infrastructure and industrialization projects. They highlighted the importance of small and medium-sized enterprises (SMEs) as contributors to job creation. SMEs account for the majority of registered enterprises in Africa and for a large share of new jobs created over the last decade. This share is even higher in the ‘informal economy’. They provide job opportunities for Africa’s youth in sectors as diverse as agro-industry, ICT, automotive components, chemicals, pharmaceuticals as well as in the service industry.

The status of SMEs in the economy is also related to the fact that they are suppliers and subcontractors providing essential inputs and services for larger exporting firms. Moreover, they can grow and/or sell at higher values. SMEs have the potential to contribute to industrialization and can drive innovation through the adoption of new technologies and due to the overall flexibility of their workforce. They are a source of new ideas and often design and implement new products and services. They innovate by producing goods and services responding to unmet local needs, especially by low income consumers.

World Bank Enterprise Survey: Share of Enterprises Implementing Products that are New to the Firm over last 3 years			
	Small < 20 employees	Medium 20-99 employees	Large > 99 employees
Nigeria (2013)	53.3	51.7	57.8
Tanzania (2013)	50.1	50.5	58.5
Uganda (2006)	47.4	63.9	64.1

Despite this, SMEs have difficulty accessing capital and technical skills and, as a result, face difficulties scaling up. In order to better support SMEs, it is important for financial institutions to develop knowledge and expertise in the sectors where SMEs are active.

World Bank Enterprise Survey: Share of Enterprises that are Credit Constrained			
	Small < 20 employees	Medium 20-99 employees	Large > 99 employees
Nigeria	70.3	50.3	21.1
Tanzania	72.1	51.1	5.8
Uganda	57.3	40.4	25.9

South Africa	40.5	20.6	

Beyond finance, the private sector must be supported through incentivizing regulations such as tax exemptions in the early stages of investment, as well as technical partnerships, including digital platforms. Additionally, the role of partnerships beyond public-private arrangements was highlighted. All actors must to be brought together in dynamic policy, funding, implementing and research partnerships.

Key Considerations

- A strong domestic private sector is more likely to invest in long-term infrastructure and industrialization projects.
- Small and medium-sized enterprises (SMEs) are important contributors to job creation, suppliers and subcontractors providing essential inputs and services for larger exporting firms, and divers of innovation.
- However, SMEs have difficulty accessing capital and technical skills, which affects their ability to scale up, to contribute more importantly to the economy, and to transition out of the informal sector when necessary. It is important for financial institutions to develop knowledge and expertise in the sectors where SMEs are active so as to provide better support. Other supporting measures include incentivizing regulations and technical partnerships.

V. Challenges and opportunities for infrastructure development

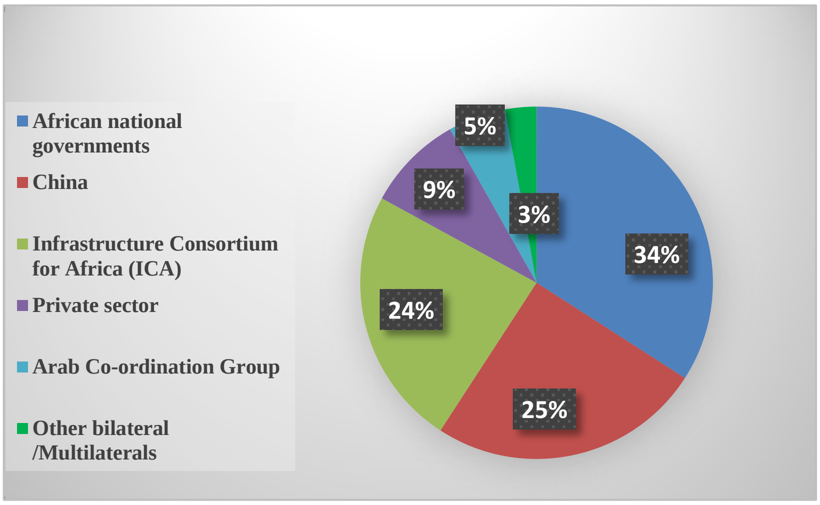
At the first ever financing conference for infrastructure development on the continent (Dakar Financing Summit), participants had identified four challenges to PIDA implementation: (i) lack of private sector involvement; (ii) lack of capacity and (iii) funding for project preparation, and the (iv) lack of adequate financing.

a. Financing

Funding is one of the main challenges in developing infrastructure and promoting sustainable industrialization. In order to address this issue, it is important to start with a clear strategy. Such a strategy should identify the type of infrastructure needed, which would help in the planning and funding phases of infrastructure development. It will identify where the private sector is most likely to be interested and mobilized – especially in the areas with the highest returns on investment, while concentrating public resources in key sectors. The strategy should also establish an order of priority and contribute to developing and selecting bankable and investible projects in sectors that are mature, before broadening to other sectors. In order to fully contribute to sustainable development, infrastructure and industrial projects should also be selected based on the economic, as well as the social and environmental opportunities they represent.

Africa can finance its industrialisation, with remittances of over US$62 billion annually, illicit financial flows of US$50 billion, mineral revenues of US$168 billion and a potential stock market capitalisation of US$1.3 trillion. In 2014 together with UNECA, NEPAD published the **Domestic Resource Mobilisation Study** which urges Africa to look inwards in terms of resources mobilisation for infrastructure project implementation.

One specific issue to address is that of shallow financial systems, lacking the breadth to meet liquidity demands of a large share of enterprises and projects. Moreover, there is a need for more and better sources of long-term finance. One way of achieving this is through clearer, simple and stable regulatory and legal frameworks to encourage investment and support an overall sustainable approach to infrastructure development and industrial policies.



Infrastructure funding in Africa (Source: Infrastructure consortium for Africa, Abidjan)

The importance of diversified partnerships was again highlighted. Financing for infrastructure development in Africa comes mainly from governments (including through South-South cooperation) and would need to be diversified.

b. Capacity

The ability to address the above-mentioned considerations depends on capacities. This includes: organizational capacity; change and transformative capacity (leadership, mind-set change and ownership of decisions); as well as technical skills. According to the African Capacity Building Foundation, it is estimated that 4 million engineers and 70,000 agricultural scientists are needed to support Africa's industrial development. Their technical capacities could be deployed to provide needs assessments, project design and implementation support, policy assessments, and support to parliaments for oversight.

In addition to technical capacities, lack of capacity to plan, prepare, analyse, budget for and conduct financing negotiations around projects, especially within governments, is a main bottleneck. Emphasis was also laid on legal capacities to design attractive frameworks and facilitate the participation of the private sector. It will also be important to develop a service delivery mechanism that promotes support for project design and institutional strengthening. This is what the Continental Business Network[3] aims at doing. NEPAD has also developed instruments to implement the Dakar Financing Summit outcomes, one of which is the PIDA Service Delivery Mechanism (PIDA-SDM), designed to endow projects owners with the required capacity for early-stage project preparation.

Finally, the participants noted that there are skill gaps and skills mismatches for the private sector in African countries. The first consideration is to develop national education and training systems, increasing participation rates at the tertiary-level education and improving access of youth to high quality technical vocational education and training (TVET).

World Bank Enterprise Survey: Share of enterprises finding an Inadequately Trained Workforce is at least a Moderate Obstacle to Current Operations			
	Small < 20 employees	Medium 20-99 employees	Large > 99 employees
Nigeria	28.1	35.2	30.5

[3] The CBN acts as an exclusive Infrastructure Investment Advisory platform for African leaders, providing thought leadership and engagement on a range of strategic issues like investment risk ratings.

Tanzania	56.5	52.3	52.4
Uganda	31.2	37.3	42.0
South Africa	11.2	25.2	33.4

It is also important to support efforts to change companies into learning institutions. The Africalics project on innovation and competence building in micro and small enterprises[4] was presented. The project explores how micro and small firms (< 50 employees) in four African countries organise work and acquire the knowledge and competencies needed to improve their innovation capabilities, with a strong focus on how skills are developed both through formal training and on-going work experience. The results showed that the most common methods of competency-building were in-house training, interactions with clients and informal knowledge sharing with colleagues. This highlights the importance of providing experience to build skills, rather than solely focus on formal education and training. Furthermore, among the challenges identified by respondents were the weak links to formal support organizations and institutions as well as lack of formal partnerships or alliances with other producers for joint technology development or marketing. Other challenges included poor access to technical support and training providers (68% of firms), poor access to financial services (82% of firms) and poor access to business planning services(74% of firms).

c. Institutions as well as political leadership

Leadership is crucial, with two issues identified. First, the changes in policy associated with changes in administration. The second issue was referred to as “ambulance” policy making, i.e. the urge to focus solely on immediate social issues. Participants emphasized the importance of establishing policies (enabling and conducive environment) that can be more stable in the long term, so as to correspond with the time frame of infrastructure projects that span, on average, 20 to 30 years of financial borrowing. This would also reinforce mutual trust, which was identified as crucial for long-term partnerships between governments and the private sector. In terms of policy making and implementation, strong leadership also means bringing together different line ministries within and across countries in an integrated manner.

Key Issues

- Funding is one of the main challenges in developing infrastructure and promoting sustainable industrialization. It is important to start with a clear strategy, building on the sectors which are already mature before broadening to other sectors, identifying the type of infrastructure that is most needed, as well as the sectors in which the private sector is most likely to be involved.
- It is important to capitalize on domestic resources, including by curbing illicit financial flows, harnessing remittances, mineral revenues and encouraging stock market capitalisation.
- This should be supported by clear, simple and stable regulatory and legal frameworks as well as diversified partnerships.
- It should also be accompanied by strong policies aimed at building capacities which include organizational capacity; change and transformative capacity (leadership, mind-set change and ownership of decisions); as well as technical at legal skills for governments, the private sector, and financial institutions.
- Leadership in policy making should aim at establishing policies that can be more stable in the long term, so as to correspond with the long time frame of infrastructure projects. This would also contribute to reinforcing trust between governments and their partners.

[4] Research team: Erika Kraemer-Mbula, Lotta Takkala-Greenish, Oluseye Oladayo Jegede, Tukur Garba, Musambya Mutambala, Timothy Esemu, Edward Lorenz; Countries and soctors studied: Nigeria: agro-processing, clothing and textiles, ICTs; South Africa: agro-processing (essential oils), clothing and textiles, recycling; Tanzania: agro-processing, metalworkers, repair and maintenance services; Uganda: agro-processing, metalworkers, furniture mking

VI. Existing initiatives

The meeting provided the opportunity to explore existing initiatives, such as the United Nations Industrial Development Organization (UNIDO)'s Programme for Country Partnerships (PCP)[5]. As UNIDO's leading mechanism for achieving SDG 9, the PCP supports governments in mobilizing public resources for large-scale infrastructure projects for industrial development; mobilizes additional investment from the private sector in industrial activities; and creates a multi-stakeholder partnership, allowing for coordinated actions and synergies between interventions relevant to industrial development. The PCP concentrates on the development of an enabling environment for industrialization; access to finance; creation of a business environment; support for marketing, price and quality; the promotion of partnerships; and the development of industrial parks, where necessary.

UNIDO's role in the PCP is to provide an advisory function to government on all industry-related issues. It advises on programme design, relevant partners, overall PCP coordination, and provides multidisciplinary technical assistance (industry-specific expertise, SME development, skills development, investment promotion, environmental sustainability, renewable energy applications, trade facilitation). There are ongoing PCP pilots in Ethiopia, Senegal and Peru.

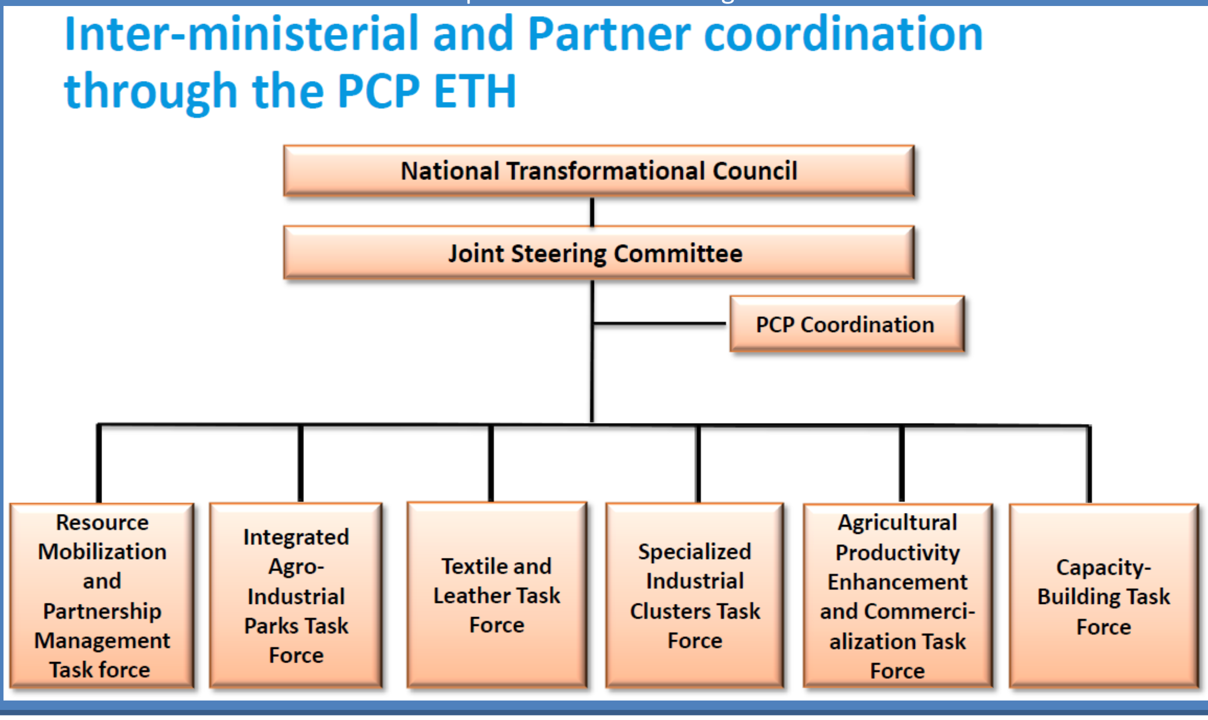
Example: PCP Ethiopia

The PCP example emphasizes the importance of leadership, coordination and strategy.

Priority sectors: 1) Agro-food processing; 2) Leather and leather products; 3) textiles and apparel.

Infrastructure development objectives: Establish industrial parks for food processing in 4 regions; Establish Modjo Leather City, a district for tanneries.

Capacity building objectives: Improve the performance of all actors along the value chains; Improve investment promotion for the targeted sectors.



With more than 10 percent of the world's cattle population and in spite of important domestic demand for milk in Africa, the continent produces less than 3 percent of milk worldwide. Nigeria, for

[5] https://www.youtube.com/watch?v=vnG1SgAK2gE

example, with a population of over 180 million and an annual milk demand of roughly 1.5 billion litres, produces less than 5 percent of its milk domestically. As a result, Nigeria spends more than $200 million on milk imports from abroad every year. That situation is not unique to Nigeria, in West and Central Africa there is a regional average of a 90% import dependency for dairy products. This exemplifies the constraints that Africa experiences in terms of logistics, infrastructure, and value-chain enhancements. For this reason, last year as part of the World Economic Forum, NEPAD launched a transport and logistics initiative called MoveAfrica. MoveAfrica aims to address the transformation of trans-boundary transport and logistics sector in Africa.

Other successful initiatives in infrastructure development and sustainable industrialization were identified. In Cote d'Ivoire the energy sector has been completely privatized. In successful Asian countries, critical industries are owned by local companies. In China, subsidies have been successful in lowering the costs and increasing the use of renewable energy. The Green Climate Fund can provide partial subsidization to allow African countries to leapfrog into renewable energy and reduce energy poverty. For a Southern African transport corridor, a large decline in travel time was possible due to the fact that the presidents of the countries involved encouraged the cooperation of different ministries and delegated authority. The African Development Bank supported the issuing of an infrastructure bond in Uganda for a road project. The Technology Bank for LDCs, which has been established by the General Assembly in December 2016, will provide access to technology as well as capacity building to foster innovation. These examples, spanning the areas of funding, leadership, ownership, capacity and expertise, provide avenues for knowledge sharing as well as scaling up of initiatives.

VII. Summary of Recommendations

a. Leadership and policy making

In line with the infrastructure-industrialization nexus, infrastructure development should not be seen as projects but as industries and part of holistic programmes bringing together different sectors as well as different government entities both within and across countries in order to maximize regional value chains. Policy makers must also strive to create conducive environments, including by establishing stable regulations.

b. Regional integration

Trade infrastructure generates one of the highest returns on investment. Governments should look at corridor programmes that can also foster public-private partnerships. Governments should focus on cross-border trading as well as the development of national supporting infrastructure. The United Nations may prioritize support to regional initiatives.

c. Financing

The perception needs to shift from a focus on financing gaps to investment opportunities. This can be done through the definition of clear and efficient strategies that focus on champion sectors before broadening to other areas. Governments could be supported by high-level "business units" comprised of finance experts in charge of developing public-private partnerships. Those business units could also provide support in attracting finance from financial markets, remittances, and other innovative mechanisms, as well as ensuring that projects are bankable (ready for financing) and investible. In addition to government support, it is important to develop the capacities of finance institutions as well as private companies.
Regarding "green" industrialization and climate change-related considerations, funding for mitigation needs to be availed, as most climate change funding is skewed towards mitigation measures.

d. Partnerships, including with the private sector

All actors need to be brought together, not only government and private sector but also education and training providers, universities and civil society organizations through strong multi-stakeholder coordination processes.

Nevertheless, private sector involvement, especially through SMEs, must be highly considered. Private enterprises must be supported (growing their capacity and promoting access to finance and opportunities). International support including analysis and support by international organisations is needed.

Support to the development of SMEs must also be seen as a means to develop capacities through experience, as well as to increase fiscal revenue by helping them grow and transition out of the informal economy.

e. Capacity development

The importance of developing national education and training systems was highlighted as a means to address capacity gaps identified jointly with the private sector. Capacity gaps could also be addressed through infrastructure development and industrialization strategies that identify needs and priorities so as to relate them with the required capacities. Capacity development programmes focusing on design and implementation of projects must be put in place. These capacities should span both technical and financial competencies, including the ability to address taxation and illicit financial flows. Furthermore, the need for capacity to leverage African mineral resources was highlighted. Finally, it was suggested to link different capacity development programmes such as those conducted by the African Capacity Building Foundation and the African Institute for Economic Development and Planning.