



Aide memoire

Expert Group Meeting

on

*“Governing science, technology and innovation to achieve
the targets of the Sustainable Development Goals
and the aspirations of the African Union’s Agenda 2063”*



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United Nations Conference Centre

Addis Ababa

I. Background

In 2015, the United Nations adopted the 2030 Agenda for Sustainable Development and the African Union adopted Agenda 2063: The Africa We Want. The implementation of those agendas is critically dependent on science, technology and innovation. Notable among the achievements are:

(a) The Addis Ababa Action Agenda of the Third International Conference on Financing for Development, which lists 16 initiatives relating to science, technology and innovation (5 relating to scientific research, 5 relating to industry and innovation, and 6 relating to specific development outcome);

(b) Aspiring to an Africa that is well educated and skilled, and is underpinned by science, technology and innovation by 2063 – as part of the commitment to Agenda 2063;

(c) Committing to the 17 Sustainable Development Goals and 169 targets of the 2030 Agenda for Sustainable Development.

Many of the Sustainable Development Goals specifically focus on science, technology and innovation. Goal 9, for example, calls on countries to “[e]nhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending”. Goals 3, 4, 9, and 17 have a similar focus. Other targets seek to strengthen the domestic research, technological and industrial capacity of developing countries to allow them to produce new and improved sustainable and competitive solutions for health-care, agricultural and infrastructure development, and for tackling climate change, research and human capital in science, technology, engineering and information and communications technology. Goal 17 specifically identifies technology as one of the three means of implementation of the Sustainable Development Goals.

The 2030 Agenda for Sustainable Development spotlights the great opportunities presented by information and communications technology to accelerate human progress and by scientific and technological innovation across areas as diverse as medicine and energy. It calls on Governments, international organizations, the business sector and other non-State actors and individuals to strengthen developing countries’ scientific, technological and innovative capacities to move towards more sustainable patterns of consumption and production. Sustainable Development Goals will also benefit from the Technology Facilitation Mechanism, which is recently created for the purpose of promoting and harnessing science, technology and innovation to achieve the Goals.

Agenda 2063: The Africa We Want, sets even more ambitious targets. Suffused with references to science, technology and innovation, Agenda 2063 aspires to eventuate in “a prosperous Africa based on inclusive and sustainable development”, an Africa that is well educated and skilled and is underpinned by science, technology and innovation. One of the targets is that by 2063, African countries will be among the best performers in global quality of life measures. This will be attained through “strategies of inclusive growth, job creation, increasing agricultural production; investments in science, technology, research and innovation”. Agenda 2063 summarizes the commitment of African countries to “catalyse education and skills revolution and actively promote science, technology, research and innovation, to build knowledge, human capital, capabilities and skills to drive innovations and

for the African century”. The road map for driving this vision is the accompanying document “Science, Technology and Innovation Strategy for Africa (STISA) 2024”, a medium-term strategy.

The extent, to which science, technology and innovation can serve as an effective means of implementation of the 2030 Agenda and Agenda 2063, as an enabler of the achievement of the targets, depends on how it is governed, on the efficiency and effectiveness of the governance structures and policymaking institutions – both nationally and internationally. This is recognized in the Addis Ababa Action Agenda, which includes two specific commitments on national policy frameworks and five on supportive international arrangements across science, technology and innovation; and in a number of targets linked to the Sustainable Development Goals with a focus on building the necessary scientific, technological and industrial capacity needed to enable science, technology and innovation to contribute to development.

In Africa, there is a high degree of convergence of perspective among countries, with respect to the view that high-level governance of national science, technology and innovation is needed to ensure that it contributes effectively and efficiently towards the achievement of national development aspirations. This convergence is clearly evident in the continental Science, Technology and Innovation Strategy for Africa 2024, which stipulates that “[t]he successful implementation of this STI policy (STISA-2024) primarily depends on the suitability of the chosen institutional arrangement, the capacities and complementarities of the institutions involved”.

There is a general recognition that Africa can only sustainably meet the globally agreed Sustainable Development Goals if the continent builds its scientific, technological and innovative capacity, which will in turn provide some of the solutions for meeting all the Goals. The question for the continent is not necessarily which of the Goals, science, technology and innovation can contribute to effectively, but rather, which relevant governance arrangements are likely to facilitate the development of the necessary innovation systems and contribute efficiently to the attainment of the Sustainable Development Goals. It is here that there is limited consensus on the optimal governance arrangements: countries at different levels of development need to put in place different arrangements to meet their development aspiration. For Africa, the extent to which different governance and policymaking structures influence the performance and effectiveness of national innovation systems and their productivity is not well studied and understood.

II. Defining science, technology and innovation governance: structures, tensions and innovation performance

Science, technology and innovation governance may mean different things to different entities. The Organisation for Economic Co-operation and Development defines this sector’s governance as “the set of publicly defined institutional arrangements, including incentive structures and norms, that shape the ways in which various public and private actors involved in socioeconomic development interact when allocating and managing resources for innovation”. While this definition is admittedly limited in scope, it nonetheless provides a good starting point, delineating the discussions on governance to a set of institutional arrangements that may constrain or facilitate innovation.

Using the framework of the Organisation for Economic Co-operation and Development, four possible main levels can be identified in which different governance or policymaking entities may be grouped:

- Policymaking – composed of politicians, parliament and ministries, for example – that set the science, technology and innovation agenda, priorities and plans.
- Operational level – composed of agencies (e.g. commissions and funds) that implement the plans.
- Science, technology and innovation constituency and performers – made up of industries, institutes and research groups that perform these activities.
- Policy analysis – consisting of policy researchers, consultants, development agencies – whose work inform decisions of policymakers and agencies.

The importance that a country attaches to science, technology and innovation may be reflected by the level of its representation, coordination and integration in government systems – such as at the presidency, cabinet, departmental or agency level. For instance, the national science, technology and innovation councils of Finland, Nigeria and the Republic of Korea were chaired by their respective Heads of Government. In the case of the Republic of Korea, the Minister responsible for science, technology and innovation was elevated to the Deputy Prime Minister.

The level of representation of science, technology and innovation could help in ensuring good coordination of the disparate public and private agents involved in such activities and its integration in other major national and regional development priorities. The assumption being that representation at the highest level of Government is critical to ensuring science, technology and innovation is not an afterthought or add-on, but rather included in any development plans of other sectors (e.g. education, agriculture, health, energy, transport), and its support is secured. This is seen as key to ensuring science, technology and innovation policy coherence and development of a dynamic innovation system.

Cuba provides a good example of how high-level governance can influence governance structure, sector emphasis and productivity in this area.¹ Cuba today is acknowledged as a world leader in biopharmaceutical innovation system, as successful in this frontier sector as the United States of America or Europe.² A close look suggests that the country's success in biopharmaceuticals is due to the personal engagement of its former President, Fidel Castro, who made health care a successful frontier of the Cuban revolution. Policy included biotechnology as an integral part of the national health-care sector, ensuring that it was discussed in the context of the setting of overall national and sector-specific priorities. This helped to mobilize and secure resources to build state-of-the-art facilities, in close concert with university research units.

¹A. Rodriguez-Pose, A. and M. Di Calaldo, M.“(2015) Quality of Government and innovation performance in the regions of Europe”, *Journal of Economic Geography*, vol. 15, pp. 673--706 (2015).

² Will Cuba be the World's next leading Biotech hub, see <https://www.lifescienceleader.com/doc/will-cuba-be-the-world-s-next-leading-biotech-hub-0001>.

While high-level governance of science, technology and innovation is important, the rapid changes in technologies, and in economic, social and environmental realities, call for increased flexibility especially at the operational level or at implementation. This is a challenge, as national priorities that are identified and set at a high level (e.g. council composed of ministers and a cabinet) influence resource allocation and management, while realities on the ground may have changed. Research suggests that implementing agencies (e.g. commissions and funding bodies) should be given sufficient flexibility to allow them to respond to emerging national and global innovation challenges, while high-level entities (e.g. ministries) retain the role for strategic planning and priority setting.

In sum, research is needed to ensure a clear understanding of Africa's science, technology and innovation governance structures and policymaking institutions in order to make better policies that could help countries to leverage science, technology and innovation in an efficient manner to achieve the Sustainable Development Goals and the aspirations of Agenda 2063.

III. Evolving landscape of science, technology and innovation governance structures and policymaking institutions in Africa

Over the last six decades, a number of African countries have gone through several institutional experimentations with, or reforms of, their science, technology and innovation delivery institutions. The countries were in search of robust arrangements for building dynamic science, technology and innovation capacity to meet the requirements of their structural transformation agenda, and to meet the agreed development goals. Some of the early efforts led to the emergence of “National Research Councils” or “National Councils for Scientific and Industrial Research” during the period 1960–1980. In many cases, those institutional arrangements or their equivalents served both as science and technology advisory bodies as well as research and development performers and coordinators. The institutional arrangement may have been deemed necessary for two broad reasons: the limited domestic science, technology and innovation capacities at that time; and the focus then on import-substitution industrialization. Councils may have helped concentrate the limited scientific, technical and policy expertise and resources.

Since then, most countries have separated policymaking, management, advisory, monitoring and funding from research and development institutions. Countries such as Ghana, Kenya, Nigeria and South Africa, among others, have moved policymaking and monitoring to their ministries responsible for science, technology and innovation, and national science, technology and innovation policy institutions (including councils, commissions, foundations and agencies) whose main mandates are to provide science, technology and innovation policy advice and coordination and funding. For instance, the mandate of the National Commission for Science, Technology and Innovation (Kenya) is “to regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto”, while the mandate of the National Council on Innovation (South Africa) is to “advise the Minister for Science and Technology and, through the Minister, Cabinet, on the role and contribution of science, mathematics, innovation and technology, including indigenous technologies, in promoting and achieving national objectives”.

The number of institutional arrangements has increased, both in number and in complexity in the search of optimal governance mechanisms for promotion and development of a robust national innovation system. In addition to ministries and councils, some of the new

developments have included national research or innovation funds (agencies or foundations), national research policy agents and different line ministries have designed their own (e.g. in agriculture, information and communications technology, health). For instance, the Nigerian Science, Technology and Innovation Policy of 2012 includes a National Research and Innovation Council chaired by the President, National Council on Science, Technology and Innovation chaired by the minister responsible for the sector, and called for the establishment of the National Research and Innovation Foundation (under the National Research and Innovation Council) and the monitoring and evaluation agency to be managed by the ministry responsible for science, technology and innovation. The increased number and complexity can easily result in fragmentation of governance structures whose consequences may include unhealthy competition for limited resources and visibility.

There is thus a need to assess the extent to which some of the national science, technology and innovation governance structures emerging in Africa influence that sector's productivity and efficiency, and the ability to meet both national and internationally agreed development goals.

IV. Objectives

Flowing from the above, the objectives of the Expert Group Meeting are to:

- Deepen and broaden our understanding of the science, technology and innovation governance structure and policymaking institutions in Africa, and their influence on the productivity of the sector insofar as productivity is critical for the achievement of the Sustainable Development Goals.
- Explore how a better understanding of the science, technology and innovation governance and policymaking structures can enhance the sector's deployment more efficiently to achieve the targets of the Sustainable Development Goals and the aspirations of Agenda 2063.
- Contribute to the creation of a database and mapping of science, technology and innovation governance and policymaking structures on the continent that could serve as a useful resource for peer learning and experience sharing among the continent's science, technology and innovation policymakers, researchers and other stakeholders.
- Make recommendations for consideration and possible adoption by African policymakers at national, regional and continental levels on how best to enhance the efficiency of African science, technology and innovation governance structures and policymaking institutions to contribute to the achievement of the Sustainable Development Goals and Agenda 2063.

V. Issues proposed to be discussed

The Expert Group Meeting will discuss the following:

- Adequacy of science, technology and innovation in the Sustainable Development Goals and Agenda 2063.

- Theoretical approaches to the governing of science, technology and innovation.
- Landscape of science, technology and innovation governance structure and policymaking institutions in Africa.
- Sectoral science, technology and innovation governance structures (focusing on agricultural, mining and extractives, and manufacturing sectors).
- Learning from the outside world.
- Science, technology and innovation governance capacity.
- Relationship among national, subregional and continental science, technology and innovation governance structures and policymaking institutions.
- Policy recommendations – towards a comprehensive science, technology and innovation governance structure and policymaking institutions for African countries.

VI. Expected outcomes

The expected results include, among others, the following:

- Research and analytical report on “Science, technology and innovation governance in unlocking science, technology and innovation potential to meet the Sustainable Development Goals”.
- Policy briefs and working papers.
- An input into the report of the next meeting of the ECA Conference of Ministers.

VII. Expected impact

The expected impacts are:

- Enhanced (through the implementation of needed reforms) efficiency of the science, technology and innovation governance structure and policymaking institutions in Africa.
- Improved understanding of the role of science, technology and innovation governance structure and policymaking institutions on science, technology and innovation productivity.

VIII. Partnerships

The Expert Group Meeting will be organized in collaboration with the Department of Human Resources, Science and Technology of the African Union Commission and the NEPAD Planning and Coordination Agency.

IX. Participation

Participation is by invitation only. Invitations will be extended to African ministries responsible for science, technology and innovation and ministries responsible for National Development Planning to nominate senior policy experts to attend. Invitations will also be extended to heads of science, technology and innovation institutions, African Union departments, NEPAD, regional economic communities, selected academics institutions, agencies of the United Nations system with pertinent mandate, multilateral and bilateral development agencies; and non-government organizations and civil society organizations, and a selected number of experts. ECA will provide full sponsorship to about 20 experts from African countries.

X. Documentation and language

Documents, materials and publications relevant to the theme will be made available on the website created for the meeting. Expert papers will be made available in the language in which they are written. The working language of the meeting shall be English.

XI. Date and venue

The Expert Group Meeting will be held on 12 and 13 July 2017 at the United Nations Conference Centre, Addis Ababa.

Further contacts

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