



African Economic Conference 2023

Imperatives for sustainable industrial development in Africa

Concept note

I. Introduction

1. The African Economic Conference, which is jointly organized by the African Development Bank, the Economic Commission for Africa and the United Nations Development Programme, will be held under the theme “Imperatives for sustainable industrial development in Africa” in 2023. It will be held at the UN Conference Centre in Addis Ababa from 16 to 18 November and will bring together a variety of stakeholders – including policymakers, industrialization experts, private sector representatives, researchers and young people – to discuss the challenges and prospects for the industrialization that Africa requires for its economic security and sustainable development.

2. The Conference will provide an opportunity for participants to review the experience of industrialization on the continent, in particular since the advent of positive economic growth in the late 1990s, and to identify the challenges faced, lessons learned, opportunities and strategies for leveraging industrialization to realize its full potential for ensuring the economic security and sustainable development of Africa. It will also provide a platform for established academics and young researchers alike to present to policymakers and decision makers their solution-oriented research on how to strengthen the industrialization drive in Africa, with a view to achieving the Sustainable Development Goals and the aspirations of Agenda 2063: The Africa We Want, of the African Union, in a way that leaves no one behind.

II. Context and background

3. At the very dawn of independence, African Governments realized that industrial development was of critical importance to their sustained and inclusive economic growth. The underlying logic was that industry had the potential to enhance productivity, increase workforce capabilities and generate employment by introducing new technologies and production. It was recognized that industrialization, with strong linkages to national economies, would help African countries to achieve high growth rates, diversify their economies and reduce their exposure to external shocks. The idea was that, by creating jobs and wealth, industrialization would contribute substantially to poverty eradication.

4. The Assembly of Heads of State and Government of the Organization of African Unity, at its twenty-fifth ordinary session, held in Addis Ababa in July 1989, declared the period 1991–2000 to be the Second Industrial Development Decade for Africa and urged the General Assembly to do the same. Consequently, in December of that year, the General Assembly also proclaimed the Second Industrial Development Decade for Africa and, furthermore, proclaimed 20 November to be Africa Industrialization Day. Subsequently, the period 2016–2025 was recognized as the Third Industrial Development Decade for Africa.

5. In January 2015, the Assembly of Heads of State and Government of the African Union, meeting in Addis Ababa, adopted Agenda 2063 as the blueprint for transforming Africa into the global powerhouse of the future. At the same meeting, in order to support the realization of Agenda 2063, the Assembly also adopted a special declaration on illicit financial flows to halt the haemorrhaging of resources from the continent. Later in the year, the General Assembly



adopted the 2030 Agenda for Sustainable Development, with Sustainable Development Goal 9 encompassing three important aspects of sustainable development: infrastructure, industrialization and innovation.

6. The coronavirus disease (COVID-19) pandemic exposed the structural insufficiencies of industry in Africa, and the dependence of the continent on foreign manufactures and intermediate goods, in particular the pharmaceuticals and medical devices required to respond to the health crisis, were made apparent. Global supply chain disruption during the pandemic also revealed the weak integration of Africa into global value chains.

7. Industry contributes significantly to the accumulation of physical and human capital, providing relatively well-paid jobs for large numbers of unskilled or undereducated workers – in particular those outside the formal economy – with an attendant increase in household income and, hence, domestic demand. Industry generates substantial backward and forward linkages with other sectors, providing a wealth of opportunities for suppliers, distributors, retailers and other providers of business services.¹ For example, the inputs needed for different kinds of industrial production generate demand for agricultural goods, minerals and other raw materials, as well as for energy and information technologies, while also increasing the supply of products for consumer goods markets, construction and other sectors.

8. From a macroeconomic perspective, a strong manufacturing sector improves the current account balance of a country by decreasing its imports and diversifying its exports, thereby making it more resilient to external shocks than if it relied on primary commodities.² Therefore, the key indicators of industrial development have traditionally been manufacturing value added and manufacturing exports as a percentage of gross domestic product (GDP).

9. African manufacturing grew in the immediate post-independence period, largely shaped by State-led and protectionist policies, but declined drastically by the mid-1980s, owing to a series of external shocks, including rising oil prices, decreasing commodity prices, increases in real interest rates, weak public finances and the limitations of domestic markets. Although new life was breathed into African manufacturing in the 1990s through structural adjustments, such as the privatization of State-owned enterprises and the liberalization of trade and foreign aid, increased competition from foreign products and new pressures on African currencies, such as devaluations, made the gains short-lived.³

10. The share of manufacturing value added in GDP of African countries had declined to approximately 10 per cent by 2006, a level that had been first achieved in the mid-1960s⁴ and that would be recorded again in 2017. By the early twenty-first century, economic growth rates in Africa were reaching impressively high levels, even during the global financial crisis of 2008–2009. Nevertheless, growth in manufacturing was lagging strikingly far behind, except

¹ S. Kuznets, *Modern Economic Growth: Rate Structure and Spread* (London: Yale University Press, 1966); James R. Tybout, "Manufacturing firms in developing countries: how well do they do, and why?" *Journal of Economic Literature*, vol. 38, No. 1 (March 2000); Yaw Ansu and others, "Promoting manufacturing in Africa", paper prepared for the African Transformation Forum, Kigali, March 2016; D. Rodrik, "Unconditional convergence in manufacturing", *The Quarterly Journal of Economics*, vol. 128, No. 1 (February 2012).

² Michael Grömling, "A supply-side explanation for current account imbalances," *Intereconomics*, vol. 49, No. 1 (2014).

³ Kenneth B. Noble, "French devaluation of African currency brings wide unrest", *New York Times*, 23 February 1994.

⁴ Yaw Ansu, Margaret McMillan, John Page and Dirk Willem te Velde, 2016 "Promoting manufacturing in Africa", paper prepared for the 2016 African Transformation Forum, Kigali, March 2016.

in a few countries, such as Ethiopia, Kenya, Nigeria and the United Republic of Tanzania.⁵ In 2017, the manufacturing value added of Africa was about \$145 billion, just under 10 per cent of continental GDP.

11. Owing to the wealth of natural resources that the continent boasts, much of African industrial production remains centred on resource-based manufacturing, which accounts for approximately half of its total manufacturing value added and manufacturing exports. Moreover, investment in manufacturing has also been uneven, with almost 70 per cent of continental manufacturing activities now concentrated in just four countries: Egypt, Morocco, Nigeria and South Africa.⁶ Indeed, most of the total manufacturing value added of Africa is driven by the higher level of industrial development in North and Southern Africa, although subregional patterns vary. In 2017, for instance, 54 per cent of the total trade of the East African Community consisted of manufactured goods, while the equivalent figure for the Southern African Development Community was 51 per cent. Both of these figures substantially exceed the 34 per cent achieved by the Community of Sahelo-Saharan States and the 26 per cent recorded by the Economic Community of West African States.⁷

12. Despite these trends, manufacturing in Africa grew by an average of 3.5 per cent per annum from 2005 to 2014, which was faster than the global average, with some countries, such as Angola and Nigeria, experiencing annual increases in output of over 10 per cent.⁸ The World Development Indicators data for 2021 paint a promising picture, with 14 countries achieving rates of manufacturing as a percentage of GDP of between 10 and 20 per cent and a further 4 attaining rates above the 20 per cent mark.⁹ Since 2000, manufacturing has consistently accounted for over 10 per cent of GDP in 18 countries. For Algeria and Eswatini, it has consistently accounted for over 30 per cent; for Egypt, Mauritius, Morocco, Senegal and Tunisia, it has consistently represented over 15 per cent; and, for Cameroon, it has consistently accounted for over 14 per cent.

13. It is possible for African countries to increase their share of manufacturing value added in GDP to over 10 per cent, ideally over 20 per cent. The upstream and downstream impacts of such an increase on other sectors and on essential variables would accelerate achievement of the Sustainable Development Goals and the aspirations of Agenda 2063.

14. Africa has created an enabling environment that is capable of nurturing industrialization. Before the COVID-19 pandemic, the economic growth performance of the continent had been stellar, owing in part to better economic management, a stable macroeconomic environment, consistent political governance and the improved use of resources. Africa also has the youngest population of all the continents, making it a competitive supplier of workers for industry as labour costs rise in China. The African Development Bank reports that many African States are pursuing industrial policies that are focused on promoting local demand and reducing imports. The Bank observes that, in Ethiopia, Kenya, Nigeria and

⁵ African Center for Economic Transformation, *2014 African Transformation Report: Growth with Depth* (2014).

⁶ KPMG Africa, “Fast-moving consumer goods: sector report” (2015).

⁷ Carlos Conde, Philipp Heinrigs and Anthony O’Sullivan, “Tapping the potential of global value chains for Africa”, in *The African Competitiveness Report 2015* (Geneva, World Economic Forum, 2015).

⁸ Neil Balchin and others, *Developing Export-Based Manufacturing in Sub-Saharan Africa* (Supporting Economic Transformation, 2016).

⁹ Between 10 and 20 per cent: Cameroon, Central African Republic, Democratic Republic of the Congo, Egypt, Mauritius, Morocco, Namibia, Nigeria, Senegal, South Africa, Togo, Tunisia, Uganda and Zimbabwe; above 20 per cent: Algeria, Equatorial Guinea, Eswatini and Gabon. Data from: World Bank, World Development Indicators, available at <https://databank.worldbank.org/source/world-development-indicators#> (accessed on 3 May 2023).

Rwanda, the food and beverages segment now dominates the manufacturing sector. In addition, some African Governments are growing their national agroprocessing and manufacturing sectors, creating large numbers of jobs. For example, in Kenya, the fruit, vegetable and cut flower sectors employ an estimated 200,000 people in farming, processing and logistics, generating over \$1 billion in export revenue each year, while the United Republic of Tanzania is the largest cotton producer in East Africa.¹⁰

15. Intra-African trade in manufactured goods already increased from 10 per cent of total trade in 2000 to about 16 per cent in 2014. In order to support that growth, African regional bodies and Governments have been breaking down trade barriers, improving financial structures and investing public resources in much-needed infrastructure, especially transport and energy networks and the Internet.¹¹

16. The African Continental Free Trade Area is vital to the strategy to accelerate continental integration through the creation of a single continental market for goods and services and a customs union with free movement of capital and people, while fostering a more competitive manufacturing sector and promoting economic diversification. Implementation of the Agreement Establishing the African Continental Free Trade Area would encourage cross-border investments by eliminating tariff and non-tariff barriers and giving an investor in one of the ratifying countries access to a continent of 1.3 billion people with a combined GDP of \$3.4 trillion, a figure that is expected to grow exponentially in the years ahead. It would also create a continental market that is expected to enable companies to benefit from economies of scale, double manufacturing sector output to more than \$1 trillion in 2025 and, potentially, create an additional 14 million stable and well-paid jobs.¹² In a recent study carried out by the World Bank, in partnership with the secretariat of the Area, it was indicated that full implementation of the Agreement would lead to an increase in incomes in Africa of 9 per cent by 2035 and lift 50 million people out of extreme poverty.¹³ Also by 2035, foreign direct investment to Africa would increase by between 111 and 159 per cent under the Agreement and wages would rise by 11.2 per cent for women and 9.8 per cent for men. African exports to the rest of the world would also increase by 32 per cent by 2035 and intra-African exports would grow by 109 per cent, led by manufactured goods. Overall, the Agreement would make Africa very attractive for investment, expand trade, provide better jobs, reduce poverty and increase shared prosperity for all Africans, thereby accelerating the attainment of both the aspirations in Agenda 2063 and the Sustainable Development Goals.

17. Despite the challenges, most African countries are making slow and steady progress on industrial development, with 37 of the member countries of the African Development Bank in the region (out of a total of 52) improving their industrialization score between 2010 and 2021. However, while some countries performed satisfactorily, others recorded only marginal improvement, with the result that their rankings decreased. Only 25 countries improved their ranking, with 4 remaining in the same position as in 2010.¹⁴

¹⁰ African Development Bank, *Africa Industrialization Index 2022* (Abidjan, 2022).

¹¹ Economic Commission for Africa, *Investment Policies and Bilateral Investment Treaties in Africa: Implications for Regional Integration* (Addis Ababa, 2016).

¹² McKinsey Global Institute, *Lions on the Move II: Realizing the Potential of Africa's Economies* (McKinsey and Company, September 2016).

¹³ Roberto Echandi, Maryla Maliszewska and Victor Steenbergen, *Making the Most of the African Continental Free Trade Area: Leveraging Trade and Foreign Direct Investment to Boost Growth and Reduce Poverty* (Washington, D.C., World Bank, 2022).

¹⁴ African Development Bank, *Africa Industrialization Index 2022*.

18. The participants in the African Union Extraordinary Summit on Industrialization and Economic Diversification, held on 25 November 2022 in Niamey, acknowledged and renewed commitments and the need to implement a number of African Union and international frameworks, including the Agreement Establishing the African Continental Free Trade Area. They were concerned that progress had been slow thus far on the implementation of existing continental strategies and programmes, which had had a limited impact on industrialization, structural transformation and overall development; that climate change, biodiversity loss and pollution were having interlinked and cascading effects on the ecological foundations of the continent; that the fourth industrial revolution and the digital transformation of industry should be a driving force for innovative, inclusive and sustainable growth; that fostering economic and social transformation in Africa would require a substantial amount of financial and non-financial resources from all sources, even if external sources were unpredictable; and that the productive transformation and capacity of Africa needed to be accelerated if the African Continental Free Trade Area was to be sustained.

19. The African Economic Conference to be held in 2023 will, therefore, be focusing on industrialization as an imperative for Africa to achieve the Sustainable Development Goals and the aspirations under Agenda 2063. All participants are being asked to think creatively when considering the industrialization experience on the continent, the political will expressed at the national, regional and global levels, and the evidence of where industrialization has been successful, in particular in Africa.

III. Objectives of the Conference

20. The African Economic Conference is the leading forum for discussing the pressing concerns of Africa. Since 2006, the Conference has been fostering knowledge exchanges on a variety of issues (see table 1). Its specific objectives are to:

(a) Promote knowledge management as an important driver of policy dialogue, planning and implementation;

(b) Foster dialogue between researchers, development practitioners and policymakers;

(c) Encourage and enhance research on African economic and policy issues by promoting evidence-based policymaking;

(d) Provide an opportunity for young African researchers, Africans of the diaspora and organizations to share their knowledge with policymakers;

(e) Serve as a platform for researchers, policymakers and representatives of civil society and of the private sector to meet and reach consensus on strategies and policies to accelerate the inclusive and sustainable development of Africa.

Table 1
Themes of the African Economic Conference in previous years

Year	Theme
2022	Supporting climate smart development in Africa
2021	Financing Africa’s post-COVID-19 development
2020	Africa beyond COVID-19: accelerating towards inclusive sustainable development
2019	Jobs, entrepreneurship and capacity development for African youths
2018	Regional and continental integration for Africa’s development
2017	Governance for structural transformation
2016	Feed Africa: towards agro-allied industrialization for inclusive growth
2015	Addressing poverty and inequality in the post 2015 development agenda
2014	Knowledge and innovation for Africa’s transformation
2013	Regional integration in Africa
2012	Fostering inclusive and sustainable transformation in Africa in an age of global economic uncertainty
2011	Green economy and structural transformation in Africa
2010	Setting the agenda for Africa’s economic recovery and long-term growth
2009	Fostering development in an era of financial and economic crises
2008	Globalization, institutions and economic development of Africa
2007	Opportunities and challenges of development for Africa in the global arena
2006	Accelerating Africa’s development five years into the 21 st century

IV. Format of the Conference

21. The eighteenth African Economic Conference will be held in a hybrid format, with some participants attending in person and others online. The Conference will be built on four research paper pillars.

A. Industrialization and global value chain integration in Africa

22. Although, from 1990 to 2018, the total number of people employed in manufacturing in Africa increased from 8.6 million to 21.3 million, the share of manufacturing value added enjoyed by the continent did not improve during that period. Furthermore, while African countries have made progress in integrating into global manufacturing value chains, the progress has been dominated by exports of primary products and engagement in low-skilled tasks. In addition, while the fragmentation of manufacturing activities across countries has created opportunities for industrialization, it will be critical to build the capacity to participate in and upgrade manufacturing global value chains. Such capacity-building will require countries to develop an appropriate industrial policy package, designed to exploit current comparative advantages while incentivizing competition and innovation in high-skilled and high value added industries. Moreover, as the world continues to be reshaped by emerging

trends in technology, international trade and investment and by the COVID-19 pandemic, African countries urgently need to seize opportunities to better integrate into global value chains, promote value added manufacturing and invest more in high-skilled tasks to harness the potential of industrialization that can boost inclusive growth.

23. The development of regional value chains is critical for the success of the industrialization agenda in Africa. It would require the full integration of intra-African value chains so as to reduce dependence on exports of unprocessed goods and natural resources and increase the volume and diversity of exported goods, including by boosting exports of higher value added goods. Regional value chains could also support the integration of Africa into global value chains and its productive capacity. The African Union Commission and the Organization for Economic Cooperation and Development (OECD) found that African producers accounted for 1.7 per cent of participation in global value chains in 2019, compared with 1.5 per cent in 2000. The study also included an estimate that regional value chains represented just 2.7 per cent of the global value chain participation of Africa, compared with figures of 26.4 per cent for Latin America and the Caribbean and 42.9 per cent for developing countries in Asia. In addition, the Commission and OECD suggest that strengthening regional production networks would support the efforts of African States to diversify their economic base and build their productive capacity. The findings also show that processed and semi-processed goods accounted for 79 per cent of intra-African exports in 2019, compared with 41 per cent of exports from the continent to other destinations.¹⁵ African Governments need to support African firms in order to significantly enhance their competitiveness, create links with local economies and break down barriers to investment. Attracting and retaining investments in strategic value chains requires States to invest substantially in the productivity, skills and organizational capabilities required for competitive exports.

B. Sustainable industrialization: the new frontier

24. Sustainable industrialization – which is the process of moving towards an industrialized economy, with simultaneous wealth generation, rapid social development and environmentally friendly manufacturing – is the new frontier of manufacturing. When all stakeholders, including the private sector, civil society, intergovernmental organizations and States, fail to practise sustainable industrialization, the consequences, including social inequality and continued environmental degradation, hamper efforts towards the achievement of the Sustainable Development Goals and the aspirations of Agenda 2063. Climate change, habitat destruction and the continuous exploitation of natural resources, such as water, soil and plants, have drastic negative implications for health, well-being and livelihoods. For example, since clean water plays an essential role in hygiene and sanitation, there has been growing concern worldwide regarding its depletion during the COVID-19 crisis. All these factors undermine the ability of States and businesses to build long-term resilience and growth. Through sustainable industrialization, businesses can implement policies that address the pressing challenge of natural resource depletion. At its core, sustainable industrialization helps to create road maps for green supply chains, which can take the form of waste elimination, the minimization of emissions and the use of renewable energy. Green businesses contribute not only to environmentally friendly manufacturing, but also to rapid social development and sustainable industrialization.

¹⁵ African Union Commission and OECD, *Africa's Development Dynamics 2022: Regional Value Chains for a Sustainable Recovery* (Addis Ababa/Paris, 2022).

C. Financing industrialization in Africa

25. In developing countries, a lack of financing is one of the main constraints faced by the private sector, in particular small and medium-sized enterprises and industries, with regard to scaling up productivity and boosting sustainable industrialization. There are difficulties in accessing financing on both the supply side and the demand side. On the supply side, the main problem is that the financial systems in most African countries are underdeveloped and the formal financial systems are geared towards shorter-term financing than would be required for industrialization. For instance, small and medium-sized enterprises require long-term financing to support investments in machinery and equipment, in addition to the shorter-term working capital that is more often available to them. Moreover, there is a reluctance within the formal banking sector to lend to enterprises in small and medium-sized industries, owing to the perception that such industries are high risk and administratively costly. In order to promote inclusive industrialization in African countries, Governments will need to design policies and incentives that are tailored towards promoting small and medium-sized industries, specifically, as distinct from those that apply to small and medium-sized enterprises, in general. In Asian countries, the focus on small and medium-sized industries and on designing specific policies for those industries has played a major role in their successful industrialization.

26. Traditionally, industrialization in Africa has been financed through such mechanisms as domestic resource mobilization, foreign direct investment and development financial institutions. African Governments need to formulate and implement innovative financing mechanisms, such as the pooling of private and public revenue streams (blended finance); the deepening of capital markets; the use of pension funds, sovereign wealth funds, diaspora bonds and remittances to fund development projects; the issuance of bonds that are related to the Sustainable Development Goals; and the provision of new incentives. They also need to engage in advocacy, with a view to reducing the risk premium and the cost of credit, which continue to impede access to international financing. The private sector could also be incentivized to invest in the industrialization of Africa. A study by the International Monetary Fund suggests that the private sector could, by the end of the decade, provide additional annual financing equivalent to 3 per cent of African GDP for physical and social infrastructure. This represents about \$50 billion per year (using 2020 GDP) and almost a quarter of the average private investment ratio in the region (currently 13 per cent of GDP).¹⁶

27. In addition to the heavy dependence of the industrial sector on primary commodities, another drag on its competitiveness has been the paucity of infrastructure in such areas as energy, roads and telecommunications, which results in higher production and transaction costs. Investing massively in infrastructure, including for energy, will create an enabling environment for industrialization to take place on the continent. A dynamic response to infrastructure and alternative energy needs to be created and their efficient management and maintenance guaranteed.

28. Africa suffers from enormous infrastructure deficits, ranging from energy shortages that affect millions of households to low levels of Internet penetration and road density levels well below the global average. The financing required to make up these shortfalls will amount to between \$130 billion and \$170 billion per annum until 2025, in addition to any additional financing needed for the development of railway, air and maritime transport.¹⁷ Closing infrastructure gaps would require sustainable long-term investment and the implementation of

¹⁶ International Monetary Fund, *Private Finance for Development: Wishful Thinking or Thinking Out of the Box?* (Washington, D.C., 2021).

¹⁷ African Development Bank, *African Economic Outlook 2018* (Abidjan, 2018).

new financing mechanisms in which the specific economic circumstances and productive structures of national economies are taken into account. Public investment alone may not be sufficient. Therefore, African States need to create an environment that makes private sector investment in infrastructure possible through such mechanisms as public-private partnership models. They should explore various options for drawing upon private sector financing and the capital markets, including project bonds, commercial bank loans, infrastructure funds and public-private partnerships.

D. African Continental Free Trade Area and industrialization in Africa

29. The African Continental Free Trade Area, although it is primarily focused on trade, is also aimed at promoting sustainable industrial development through diversification and regional value chain development. However, despite the long-standing objective of using regional trade to enhance industrialization, there have been many false starts at the implementation stage, owing to the practical challenges of combining trade activities under the Area with industrial ambitions. The underlying challenge is that regional free trade areas will continue to govern regional trade. Evidence that tariff liberalization generates only small gains should act as an impetus for attempting to understand and address the existing challenges relating to the promotion of regional value chains. In addition, political dynamics that play out within, and between, States could potentially make or break regional industrialization ambitions. The Area offers African Governments a political opportunity to address long-standing regional market integration and cooperation challenges, which would give a boost to internal African markets and productive capacity to increase self-sufficiency and self-reliance on many basic goods and services.

V. Paper submission guidelines

30. Interested authors should submit their papers to eca-aec2023@un.org. Only full papers addressing the theme of the Conference will be considered. The submission of policy- and solution-oriented papers based on strong empirical work is encouraged; solution-oriented papers will be prioritized.

31. Participants and experts submitting papers must meet the deadlines laid out in table 2. Registration details will be provided shortly.

Table 2
Important dates

Description	Date
Call for papers published	31 May 2023
Paper submission deadline	08 September 2023
Notification of final acceptance	1 October 2023
Deadline for presenter registration	1 November 2023
Conference	16–18 November 2023

32. Young African researchers, in particular, are encouraged to submit papers. One of the objectives of the African Economic Conference is to provide young African researchers, especially women, with the opportunity to share their work with a broader audience and to expand their networks.

33. All papers will be blind peer-reviewed by the organizing institutions. Papers accepted for presentation must be original work and of high quality.

34. A distinguished panel will assess the papers presented and award prizes to the best overall paper and to the best paper by one or more young authors. The winners will be announced at the closing ceremony.

VI. Expected outputs and outcomes

35. The expected outputs and outcomes of the Conference are:

- (a) Conference report;
- (b) Compilation of the Conference proceedings, incorporating relevant comments and feedback from peer reviewers and conference participants (to be issued after the Conference);
- (c) Inclusion of selected papers in special issues of the *African Development Review* and the *Journal of African Transformation*;
- (d) Policy briefs;
- (e) Market platform for economic research in Africa.

VII. Sponsorship

36. Authors are requested to indicate whether they require support to cover the expenses (travel, accommodation and daily subsistence allowance) incurred by their participation in the Conference. Only one author per paper accepted for presentation will be eligible for sponsorship. Support is reserved mainly for presenters, in particular young researchers from Africa.
