



**UNITED NATIONS
ECONOMIC COMMISSION FOR AFRICA**

CHECK AGAINST DELIVERY

SCIENCE WITH AFRICA CONFERENCE

Statement

by

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Addis Ababa, Ethiopia**

Your Excellency, Mr. Dusan Caplovic, Deputy Prime Minister of the Slovak Republic

Your Excellency, Dr. Sintayehu Wolde Michael, Minister of Education of the Federal Democratic Republic of Ethiopia

Prof. Nagia Essayed, African Union Commissioner for Human Resources, Science and Technology

Honourable Speakers of Parliaments, Ministers and Parliamentarians

Excellencies,

Distinguished Ladies and Gentlemen

I am delighted to welcome you all to Addis Ababa the hospitable home of the African Union Commission and Economic Commission for Africa. This impressive gathering of dignitaries and high-level officials from across a spectrum of stakeholders is indicative of the importance that we all attach applying science and technology to promoting Africa's development.

I wish to acknowledge in particular the presence of His Excellency, Mr. Dusan Caplovic, Deputy Prime Minister of the Slovak Republic. His presence here, which is consistent with his track record of achievement in his home country, also signals an opportunity for engagement between Africa and the Slovak Republic. Dr. Sintayehu Wolde Michael, our host Minister of Education has been a consistent friend and supporter of ECA's initiatives and I want to take this opportunity to thank him for his cooperation and collaboration.

Underscoring the importance of Science and Technology in the development process to an audience such as this is like preaching to the converted, especially as the evidence abounds in our daily lives. Yet, it is worth underscoring that far from being esoteric scientific enquiry matters in the process of development. It has not only resulted in great technological advances that influence our daily lives but has also transformed whole

societies and lifted hundreds of millions of people out of poverty. Indeed, Africa is the only region yet to fully exploit the great potentials of using science and technology as an engine of growth and development.

It should be said however that this is not due to neglect. At the international level, the World Summit Outcome pointed to the crucial role of Science and Technology in accomplishing the Millennium Development Goals while the implementation plan of the World Summit on Sustainable Development spelt out the importance of science-based decision-making. The United Nations system to which ECA belongs is also guided by the Secretary-General's Report on Science, Technology and Innovation for economic development.

At the regional level, African Heads of State and Government signaled the key role of science and technology in development by devoting their January 2007 African Union Summit to this theme. Equally notable, in its 2004 to 2007 Plan of Action, the African Union Commission aims to 'promote human resource development, capacity building and science and technology as tools for socio-economic development', while NEPAD's 2005 S&T Consolidated Plan of Action aims 'to enable Africa to harness and apply science, technology and related innovations to achieve sustainable development, and to ensure that Africa contributes to the global pool of scientific knowledge and technological innovation'.

This 'Science with Africa Conference' is also about promoting the use of science and technology in the African development process. Its aims and objectives are however different from the norm. This Conference is about exploring how African scientists can increase their collaboration and participation in international science initiatives and research and development projects. Science with Africa is more than a Conference in the sense that it has a follow-up mechanism to ensure that African scientists are

kept in the picture with regard to such initiatives and projects. This matter concerns not just scientists but also government leaders, policy-makers, legislators and private sector operators all of whom are represented here. Another of our objectives, therefore, is to sustain and launch a constructive dialogue between the scientific community and other stakeholders.

We live in an era of globalization underpinned and driven by the knowledge economy, which requires a high level of scientific skills and know-how. Currently, nations who are able to thrive in a highly competitive global economy are those that can compete on high technology and intellectual strength. This includes the attraction of the highest-skilled people and companies, with the potential to innovate and to turn innovation into commercial opportunity. At the same time, the productive sector of an economy demands a labour force that is scientifically literate. Moreover, it is well recognized that there is a strong correlation between the size of investments that a nation makes in research and development and its level of development. These are the sources of the new prosperity.

Economic development therefore is quite dependent on the scientists and engineers who discover, innovate and invent, which is why Research and Development should be seen as a development priority for the African continent. This conference offers such a unique opportunity as the world has the knowledge and resources at its disposal to increase agricultural productivity, fight deadly diseases, develop clean energy, improve communications and provide the infrastructure that can help to accelerate African development. There is evidence moreover that it might be easier to apply science and technology in some of these fields that it is to raise industrial production and productivity.

In the area of medicine for instance, the eradication of smallpox and great success of oral rehydration therapy shows how the benefits of science

could easily benefit the poorest people. In a similar vein, a scientific breakthrough in medical innovation to deliver affordable HIV/AIDS vaccines or cure could create enormous dividends for sub-Saharan Africa. Other examples could be drawn from agriculture where the development of high-yield dwarf wheat brought about increased grain yields and where the green revolution has enabled previously food deficit countries to quadruple grain production using the same amount of land. Even though we are in an era of high food prices, this should not obscure the scale of this achievement, which reduced malnutrition at a time of increasing world population.

Reliable energy is essential for our daily existence, as it is needed to light, to cook, to heat, and to cool. Yet millions of people in Africa have no access to electricity and rely on traditional fuels. Meeting these needs through energy related infrastructure can help to deepen national productivity and well-being but it can also bring about undesirable side effects especially with regard to the environment. Promoting research and development into energy and issues of climate change is therefore important in order to help African countries to meet their energy needs in the context of adapting to and mitigating the effects of climate change.

Similar considerations apply to water, transport, infrastructure and indeed all other aspects of society where advances in human knowledge have driven improvements in the quality of human life. The twenty-first century offers the promise of even greater and accelerated progress as digital technologies drive down the costs of creation, reproduction, distribution, and consumption of knowledge. These considerations are reflected in the choice of the specific science themes to be addressed during this Conference, namely Energy, Transport, Infrastructure, ICT, Health, Life Sciences, Agriculture/Climate Change and Water.

The scale of the challenge facing Africa in the area of science and technology is huge but it can be overcome with vision, commitment and unwavering determination. Some of these challenges relate to low science and technology capacity, low investment in research and development, inadequate regulatory regimes, poor infrastructural base and a lack of access to helpful scientific ideas.

With regard to capacity, the inadequate quality and quantity of scientific personnel being trained in the continent is being compounded by the brain drain. It is estimated for instance that while Africa has 83 engineers for every one million people, the developed world has 1000 engineers per one million people. Drawing examples for individual countries, up to 300 South African specialist nurses are thought to leave their country every month, while Zambia has seen its pool of doctors diminish four-fold in the past few years. Similarly, 45,000 Egyptian scientists in a variety of fields – including 600 in rare specializations – have emigrated over the last 50 years.

Funding of scientific activities in Africa is another critical challenge that needs to be met. The level of investment in research and development is very low and recent research by ECA confirmed that research and development funding in Africa is still lower than 1% of its GDP. World Bank data shows that OECD countries spend more on research and development annually than the total value of economic output of 61 of the world's poorest countries. There are nonetheless positive indications, which this Conference should help to deepen. For instance, South Africa, Uganda and Ghana amongst others have emphasized their intention to increase investment in R&D in their 2006-2007 budgets.

We also know that access to technologies can be constrained by lack of appropriate regimes to support the beneficial use of patents and intellectual property. For instance, Anti-Retroviral (ARVs) drugs and other

medicines that have generic equivalents could be developed in Africa in line with Article 66.2 of the Trade-related Intellectual Property Rights (TRIPS) so as to promote and encourage technology transfer in least-developed countries for a sound and viable technological base. However, this is not happening at a fast enough pace. We therefore need to address these issues more than ever before.

In order to meet these challenges, the Africa scientific community needs improved infrastructure and laboratory equipment as well as access to the latest technologies and ideas. In this regard, increased internet connectivity can help scientists working in the continent to have easier access to knowledge contained on websites, electronic journals, and also to exchange views in electronic discussion spaces. In addition, they would need more structured access to patent databases in order to be able to innovate and stand on the shoulders of others to create technologies that can improve the lives of millions of people.

Against this background, allow me to pose some questions for your consideration:

- Given that Africa needs to engage in the changing innovation processes, how can we make sure that there would be strong linkages between industry and science?**
- What mechanisms can be put in place for patent regimes to be subjected to scrutiny as they play an increasingly complex role in encouraging innovation, diffusing scientific and technical knowledge, and enhancing market entry and job creation?**
- How can we increase the quality standards in tertiary education in science and technology, which are imperative to meeting the growing**

demand for workers with scientific and technological knowledge and skills?

- **What mechanisms can we put in place to coordinate efforts at national, regional and international levels in order to broaden access to data from publicly funded research and contribute to the advancement of scientific research and innovation?**
- **Finally, how do we ensure greater regional and international co-operation in science and technology to meet a broad range of challenges related to economic growth, better health, sustainable development, and enhanced safety and security, as well as for implementing collaborative science projects?**

These questions I hope will be addressed through the Ideasfactory that will be working throughout the duration of the conference to facilitate innovative thinking and generate some concrete ideas that we can all support and commit to at the end of this conference. This innovation of harnessing ideas is a joint initiative between the Global Knowledge Partnership (GKP) and Brainstore and funded by the Swiss Agency for Development and Cooperation.

Let me at this stage acknowledge our partners in this conference and thank them for their contribution. They include the African Union Commission, the Swiss Agency for Development and Co-operation – SDC, and the Canadian e-Policy Resource Centre who have been very supportive and kind in the organization of this conference. I also wish to thank our Knowledge Partners – UNESCO, the Global Knowledge Partnership (GKP) and Brainstore for their invaluable and timely assistance in organizing many important aspects of this conference. I would also like to thank Ethiopian Airlines, Microsoft and Nokia Siemens for their various sponsorships.

The turnout for this meeting is impressive and I would like to take this opportunity to thank you all, African scientists and scholars, international research partners, parliamentarians, policymakers, entrepreneurs for being with us here today.

As I stated earlier this Conference is the beginning of a process. For one, the outcomes of Science with Africa will be tabled at the joint ECA-AU Conference of Finance Ministers taking place here in Addis Ababa at the end of this month. By this means, we hope to engage Africa's Finance Ministers in supporting research and development efforts in the continent.

I wish you successful deliberations and thank you for your kind attention.