Economic Commission for Africa

African Union

SCIENCE WITH AFRICA 2

SCIENCE, INNOVATION and ENTREPRENEURSHIP

SUMMARY OF THE CONFERENCE PROCEEDINGS

RECOMMENDATIONS and ACTION LINES

23 – 25 June 2010
Addis Ababa, Ethiopia

Partners:

Government of Finland

ARIPO

OAPI

UNEP

Technical Partners:

Media Partners:

Organized by: ICT, Science & Technology DIVISION (ISTD)
In collaboration with: African Climate Policy Center (ACPC), Regional Integration, Infrastructure & Trade Division (RIITD), Food Security and Sustainable Development Division (FSSD), and African Centre for Gender and Social Development (ACGS)

INTRODUCTION

The United Nations Economic Commission for Africa (ECA), the African Union Commission (AUC) in collaboration with the Government of Finland, UNESCO and their partners organized the Science with Africa II conference (SWA II) in Addis Ababa, Ethiopia at the United Nations Conference Centre from 23 to 25 June 2010. SWA II is a follow up of SWA I (Science with Africa I conference) that was hosted by ECA at the same venue in March 2008.

The first conference (SWA I) outlined the roadmap for advancing science and technology development for socio-economic prosperity of the African continent. The remarkable achievements include: (i) the development of the African Innovation Framework (AIF); (ii) Preparations for the establishment of the African Science Technology Endowment Funds (ASTIF); and (iv) hosting a consultative forum on the Science of Climate Change and economic prosperity in Africa.

The theme of SWA II was, "**Science, Innovation and Entrepreneurship** whose main focus was to identify policies, measures and mechanisms that are required to accelerate the Africa's economic growth and sustainable development through science, innovation and entrepreneurship. This implies that the outcomes of SWA II would promote and facilitate the growth of knowledge-based economies on the continent.

HE Mr. Juneydi Saddo, Minister of Science and Technology of the Federal Democratic Republic of Ethiopia officiated at the opening ceremony of SWA II. Other speakers during the opening ceremony were: HE Mr. Abdoulie Janneh, the UN Under Secretary-General and ECA Executive Secretary, Dr Vera Brenda Ngosi, Director of Human Resources, Science and Technology (HRST) of the African Union Commission (AUC) who represented HE Prof Jean-Pierre Ezin, the Commissioner of HRST of AUC, Ms. Virpi Kankare, who represented H.E. Leo Olasvirta, Ambassador the Finland to Ethiopia and ECA and Prof Gretchen Kalonji, UNESCO's Assistant Director-General (designate) for Natural Sciences.

The conference's welcoming note and opening remarks of HE Abdoulie Janneh emphasized on the important contribution of innovation and entrepreneurship to growth and development. He gave examples on the productive and prosperous linkage between science, innovation and entrepreneurship that is driven by intellectual assets and concomitant property rights. He urged the conference to see how Africa can stimulate innovation through a combination of policies that support R&D and stimulate their use by entrepreneurs and venture capitalists. The issue of fruitful partnerships between the African scientific community and their peers in other parts of the world was also stressed in his opening remarks.

In her opening remarks, Dr Vera Brenda Ngosi, Director of Human Resources, Science and Technology (HRST) of the African Union Commission (AUC) emphasized the importance of science for Africa's development, prosperity and stability and noted that the SWA II theme has an immense potential to trigger the cause of transformation that would enable many African Members States to evolve into knowledge economies through harnessing of science. She summarized the progress that has been made in the period between SWA I and SWA II (2008-2010) that include the establishment of a programme to finance and build capacity to manage research grants, science awards, African research and education network, leadership programme and youth development. She also informed the conference that AUC is in process of

establishing Pan-African University which aims at becoming a link between Africa's higher education, research and industry.

Prof Gretchen Kalonji reminded the conference that UNESCO has two overarching priorities, namely gender equity and Africa. She gave an overview of the existing initiatives and programmes at UNESCO and informed the conference on the UNESCO's privileged partnership with the AUC in implementing the AU /NEPAD Consolidated Plan of Action (CAP) for S&T. She also reported on the ongoing and future collaborative initiatives and programmes between UNESCO, AUC and other institutions in Africa in STI areas such as renewable energies, water management and earth science education. She stressed on the future need to focus on engineering and entrepreneurship at UNESCO.

Ms. Virpi Kankare, on her part, shared with articipants the success stories and best practices from Finland with regard to nurturing and promoting innovation to support development. She pointed out that education is the key driving force in Finnish development endeavours, and it is in the center of all innovative and successful Finnish applications and products such as Nokia. She further concluded that pursuing consistent STI policy can make a difference.

HE Mr Juneydi Saddo outlined the importance of having strong and dynamic national innovation systems in Africa and argued that an existence of such systems is possible if African governments are committed to play the leadership role through putting in place sound national policies, having prioritized scientific and technological programmes, promoting the linkage between industry, higher education and research institutions, and availing adequate resources for education and R&D. He urged the conference to find ways in which science, technology and innovation (STI) would boost economic growth that will subsequently reduce abject poverty from the continent.

CONFERENCE STRUCTURE AND THEMES

The conference was preceded with, "Pre-Conference Events" organized in a form of workshops and dealt with: (i) the launch of the network of technology development and transfer, (ii) Innovation, IPRs and entrepreneur in Ethiopia, (iii) National Academy and Science Councils of Francophone countries, (iv) Africa's water-quality report and (v) science, innovation communication.

The "Special Events" of the conference included: (i) the launch of the African Science, Technology and Innovation Endowment Fund (ASTIEF), (ii) the launch of the creatic lab programme (ECA in collaboration with CTIC of Spain), (iii) the Africa science to business challenge (ASBC) awards ceremony (ECA in collaboration with RTI International of USA) and (iv) the closing ceremony.

The plenary sessions of the conference dealt with the following topics: (i) science, innovation and entrepreneurship – keynote address by Dr Umar Bindir (Nigeria), (ii) science, technology and innovation investment, (iii) protecting African patents and bio-assets, (iv) African Inventions: prospects and perspectives and (v) Women and Innovation.
The breakout sessions were organized in a form of workshops that provided platforms for in-depth dialogues on the following topics: (i) Climate Change, (ii) Information and Communication Technologies (ICT), (iii) Agriculture, (iv) Infrastructure - energy, transport and

water, (v) Intellectual Property Rights (IPRs) and technology transfer, (v) commercializing science, (vi) Health and life sciences and (vii) green science and technology.

CONFERENCE PARTICIPANTS

Approximately five hundred (500) scientists, engineers, technologists, inventors, entrepreneurs, policy-and decision makers, journalists and students from 56 countries (41 African countries and 15 from other continents) were in attendance. Conference delegates represented governments of some African countries, intergovernmental regional and international organizations, business communities, Africa's public and private tertiary education and research institutions, and development partners.

The following countries were represented at SWA II: Algeria, Angola, Australia, Benin, Botswana, Brazil, Burkina Faso, Burundi, Cameroun, Canada, Central African Republic, Comoros, Côte d'Ivoire, Democratic Republic of Congo (DRC), Egypt, Ethiopia, Finland, France, Gabon, Gambia, Germany, Ghana, Guinea, India, Ireland, Kenya, Lesotho, Libyan Arab Jamahiriya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Namibia, Netherlands, Niger, Nigeria, Pakistan, Republic of Congo, Rwanda, Saudi Arabia, Senegal, South Africa, South Korea, Sudan, Swaziland, Switzerland, Tanzania, Togo, Tunisia, Uganda, United Kingdom, United States of America, Zambia and Zimbabwe.

CONFERENCE OUTCOMES: (a) RECOMMENDATIONS

1. Pre-Events

The African Technology Development and Transfer Network launched

The United Nations Economic Commission for Africa (ECA) launched the first African Technology Development and Transfer Network. The Network seeks to "generate economic and social value" from research and development (R&D) outputs by facilitating technology adaptation, diffusion and commercialization; and encouraging investment in R&D.

Recommendation No.1:

● ECA and AUC should help African Member States in the development of methods to monitor the progress and development impacts of knowledge, IPR and Technology Transfer.

Ethiopian Inventors, policy-makers and stakeholders forging partnership to promote and support innovation

The one-day national workshop was aimed at bringing stakeholders together to discuss the challenges and opportunities of Ethiopian inventors, as well as share experiences and knowledge. The workshop also aimed at providing a forum for policy makers and inventors/innovators in Ethiopia to discuss the existing national intellectual property rights (IPR) regime, creation of the enabling environment for innovation and entrepreneurship, and follow-up activities in strengthening capacities of Ethiopian inventors/innovators.

Recommendation No.2:

● The participants made concrete recommendations particularly in creating the enabling policy and legal environment to promote innovation and developed specific action plans to be coordinated by a task force composed of the workshop organizers, namely the Ethiopian Intellectual Property Office (EIPO), the Ethiopian Inventors Association (EIA) and ECA.

Africa's Water Quality Report

The conference was informed that approximately 40% of the Africa's population has no access to safe and clean drinking water and that approximately 60% of Africa's population lives in poor sanitation conditions. The importance of the availability of clean and safe drinking water for the attainment of MDGs (e.g. human health and well-being) was emphasized.

The participants of the one-day Workshop on 'Africa's Water Quality Report' affirmed that sustainable food, and water and sanitation policies and strategies must be jointly considered, developed and implemented, particularly given that food production accounts for 90% of the water consumption in Africa.

Recommendation No.3:

● The participants urge African governments to provide sustainable water strategies and frameworks for clean and safe water, sanitation services and for food. The African academic and research communities have to develop and support centers of excellence for monitoring and treatment of water.

Science, Innovation Communication

A series of presentations was made on science journalism in Africa. It was noted that science journalism in Africa is at its infancy. It was reported that the interface between the media and the scientific community in Africa is still very weak and hence the current situation on the continent where public understanding of science is still low. Reasons for this weakness were discussed in considerable detail.

Recommendation No.4:

● ECA, AUC and their partners (i.e. media stakeholders) should promote the development of a critical mass of science journalists in Africa, and arrange capacity building programmes for science journalists in Africa through training, mentoring, scholarships, exchange and establishing science journalism awards and networks.

Role of Academy of Sciences in promoting STI for socio-economic development

The workshop was attended by 30 scientists, directors of national councils of science and regional science institutions. It was co-organised by the United Nations Economic Commission for Africa (ECA), the United Nations Educational Scientific and Cultural Organisation (UNESCO), the African Regional Center for Technology (ARCT), and the Academie Nationale des Sciences et Techniques du Senegal (ANSTS).

Recommendation No.5:

● ECA in collaboration with AUC, UNESCO and other partners should support the implementation of the following programs; (i) Creation and strengthening of well-functioning Academies of sciences in all African countries, and promote and facilitate the network of these Academies; (ii) Capacity building on management of STI for Africa's sustainable development; (iii) Develop Pan-African wind farms and solar panels as part of the utilization of renewable energies on the continent.

2. KEYNOTE PRESENTATION: Linking science and technology to enhance innovation for sustainable socio-economic development in Africa (Umar Bindir, Nigeria)

Dr Umar Bindir presented a detailed account on the main attributes associated with the establishment of a sound link between science and technology development for the enhancement of innovation for socio-economic prosperity. It was argued that for a country desiring to have a competitive and a dynamic knowledge-driven economy, the following foundation blocks ought to be present: (i) realistic and implementable national STI policies, (ii) vibrant national systems of innovation (iii) adequate R&D funding (iv) sound IPR culture and legal frameworks, (iv) ubiquitous, affordable and functioning ICTs infrastructure, (v) availability of adequate delivery-oriented human capital, (vi) monitoring, evaluation and review mechanisms for STI national systems. The keynote speech provided concrete examples for the utilization of R&D products for flourishing innovations and entrepreneurships.

The informative and high-caliber keynote presentation was followed up by interventions from the ministers and representatives of some government officials present at the conference. A panel consisting of representatives from the business and the scientific communities also responded to the keynote speech. Some participants also had an opportunity to make some interventions.

Recommendation No.6:

● African governments and their institutions should promote, facilitate, strengthen and safeguard the business, market and entrepreneurship capacity and skills within their national STI systems in order to translate R&D outputs into wealth creation commodities.

3. Agricultural Sciences, Technologies and Markets

In Africa, agriculture is currently accounting for 70% of full-time employment on the continent, 40% of Africa's GDP flows from the agricultural sector. Approximately 80% of the rural population in Africa depends on this sector for their livelihood. It is, therefore, the prime engine for the development of Africa's mostly agrarian economies and the most important of all socio-economic sectors on the continent.

Notwithstanding, Africa's agriculture has historically lagged behind the rest of the world. It remains a subsistence sector that is characterized by poor productivity, production of raw material for other continents and incapability to satisfy the Region's huge agricultural commodities market. Africa now processes only 10-15% of its total agricultural produce, markets only 20-25% of this production, and spends annually an estimated US$ 33 billion on food imports and receives annually about US$ 5 billion of food aid.

The conference acknowledged that the most important reason for the above-mentioned situation is the technology backwardness that results from the lack of actions aimed at aligning science and technology strategies with agricultural development in African countries. This conference session also dwelt on the 12 agricultural commodities agreed upon as priorities by the African Heads of State and Government in 2006 in Abuja, Nigeria. These commodities include: cereals (maize, rice, sorghum and millet), and livestock related commodities (fish, poultry, beef and milk). Others are: cassava, vegetables, cotton and palm-oil. Evolution of agricultural biotechnology innovation in Africa was discussed, and an overview on the coverage of the biotech crop planting and building of biosafety frameworks in Africa were presented at the conference.

The conference was informed that the livestock and poultry sub-sectors which are supposed to be integrated into the African farming system, have received little support and hence they are practically stand-alone sectors.

Recommendation No. 7:

● ECA and AUC should urge the African governments to promote and facilitate public-private sector linkages in integrated technology development, transfer and marketing for the primary commodities, their processing and the support services for crops, livestock and poultry.

● ECA and AUC should create a regional documentation and information dissemination centre for innovative technologies in agriculture.

4. Renewable Energies and Rural Electrification

It was retaliated that availability of affordable, accessible and reliable energy is essential for the development of all nations. It was also reported that the current energy systems in Africa are not efficient and hence they are not cost-effective. Moreover, it was reported that rural electrification rates is low in sub-Saharan Africa and is unlikely to be addressed through national grid connections.

Africa countries have been advised to adopt the "Smart Grid" system which provides an operational concept for Climate Change mitigation through integration of renewable energy resources into mainstream power supply. The vision for the "Smart Green" system has three elements, namely, enabling active consumers' participation in management of their power requirements, adaption to alternative power generation sources, and delivering a fully automated, remotely configurable and self-healing power distribution network.

Recommendation No. 8:

● ECA and AUC to urge African governments to start promoting greener economies through investments for the development and the utilization of renewable energies, especially the ubiquitous and the enormous solar and wind energy resources available on the continent.

5. Science, Technology and Innovation Investments in Africa

The current Africa's demographic growth trends, the diminishing arable land in many countries in Africa and other negative consequences of Climate Change, compel the continent to embark

on the promotion of a green revolution based on agricultural mechanization and well-planned irrigation systems, utilization of quality seeds and soil nutrients.

The conference was informed on the availability of the vitamins market, especially for livestock feeding, fortification of foods to enhance nutritional quality and pharmaceutical application on multivitamin capsules and tablets. The impact of domesticated technologies on job-and wealth creation was emphasized in this session of the conference. It was observed that the lack of adequate financial resources and the current high transaction costs in registering innovation inhibits the growth and the survival of entrepreneurs on the continent. The African governments are urged to empower female scientists, engineers and technologists and promote African women entrepreneurs.

The conference was informed that the African Development Bank (AfDB) is not only a financial institution but is also an African knowledge and policy think-tank. It has over the years acknowledged the role of quality basic education, especially in the sciences, as necessary bedrock for the development of STI at higher levels. In 2008, the Bank adopted a Higher Education Science Technology (HEST) strategy in order to assist African countries to develop skills in science and technology that are needed to build human capital and foster economic growth and development. Consequently, the Bank has begun supporting its member countries invest in the expansion and strengthening of higher education institutions and centres of excellence, and with a special emphasis on enhancing science, technology and research capacity (e.g. Nigeria, Rwanda, Burkina Faso, Kenya).

6. Information and Communication Technologies (ICTs) in Africa

The following ICTs issues were discussed at length: challenges that hinder adoption of cutting edge ICT research in the market place, the role of ICTs incubators in promoting innovation and entrepreneurship, the legal and regulatory environment for knowledge economy (particularly in areas such as e-banking, e-health and e-governance).

Other important topics included: development of ICTs innovations for uptake by SMEs, the role of open source in stimulating ICT research and enhancing local ICT innovations, skills and the industry; and the best practice in sharing and creating ICT networks.

Recommendation No. 9:

● ECA and AUC should continue promoting and facilitating investments in ICTs in Africa for the purpose of promotion of quality education, research, innovation, entrepreneurship and increase of economic growth and competitiveness, and for job and wealth creation on the continent.

The launching of the African Science, Technology and Innovation Endowment Fund (ASTIEF)

African countries have for a long time been investing in R&D to address the many challenges that the continent faces. However, the results of research have not been transformed into viable commercial products due to limited financial resources and a lack of effective link between research centers and the private sector. It is for reason that ECA and its partners is launching ASTIEF (and the African Science to Business Challenge, ASBC) to bridge these gaps.

The Fund is designed to motivate and support Africa's inventors and innovators to create sustainable industries and enterprises to secure their future and that of the continent.

Recommendation No. 10:

● African governments should reduce transaction costs in registering and commercialization of innovations; and should support local entrepreneurs in accessing financial resources.

Recommendation No. 11:

● African business communities, regional and international Development Banks on the continent and in the Diaspora, friends and supporters of the continent (including individuals and corporate sector) are urged to make financial contributions to ASTIEF (African Science, Technology and Innovation Endowment Fund) that will fund and support enterprising individuals and R&D centers in Africa to transform their research findings and inventions into market commodities.

7. Protecting African Bio-assets

It was reported at the conference that Africa is endowed with a huge variety of natural products and that the bio-resource potential, e.g. on the mainland Africa, indicate approximately 40,000 to 60,000 plant species. Of the currently commonly used 6,400 plant species in tropical Africa, more than 4,000 species are medicinal plant species. It was also reported that more than 80% of the African population relies on traditional medicine.

It was observed that proper bio-safety norms as well as legal frameworks for regulating biological and genetic resources as well as indigenous knowledge are yet to be established in many countries in Africa. As a result available bio-assets are not being developed indigenously for commercial use and are subject of rampant bio-piracy.

Recommendation No. 12:

● ECA and AUC should urge African governments to take steps to establish fully functional Biosafety Authorities as a matter of urgency and encourage indigenous research on genetically modified crops and utilisation of bio-assets for modern medicine and for other value added products based on indigenous knowledge of traditional medicine.

8. African Inventions and Innovations: Prospects and Perspectives

The patent system plays a positive role in stimulating local inventive and innovative activities, facilitating transfer of technology thereby contributing to scientific and technological progress and socio-economic development. The economic prosperity of the developed countries and of the emerging big economies relies on the establishment of well-functioning national STI systems and on an efficient and effective use of patent systems, which together create an enabling environment for the commercialization of local innovations and inventions, as well as for provision of the capacity to absorb and utilize imported technologies and innovations.

The presentations at the conference highlighted the inventions from various countries emphasizing major challenges that African inventors face in the process of bringing their inventions and innovations to the market place. The fragmented nature and low level of support as well as the inadequate investment in R&D are some of the reasons that bring about low level of inventions and innovations on the continent.

It was argued during the conference that African governments and their appropriate institutions should develop a technological and an innovation culture which aims at stimulating an accelerated economic growth in each African country. Youths and women have a key role play in this endeavour.

Recommendation No. 13:

● African governments and their relevant institutions are strongly urged to establish national records of innovations and inventions (database) and their concomitant museums to celebrate African talents and stimulate future generations of researchers and inventors.

Recommendation No. 14:

● ECA and AUC should urge each African government to have a national Intellectual Property (IP) policy by 2015 and the prepared policy should take into account national science, technology, innovation systems and economic development plans as well as implementation tools that ensure involvement of local communities.

● African governments should also create enabling environment to raise awareness about "intellectual property" and strengthen the national capability for handling intellectual property applications through search and examination, and steps should be taken to strengthen similar capacities of the African Regional Intellectual Property Organisation (ARIPO), the Organisation Africaine de la Propriété Intellectuelle (OAPI), Intellectual Property Technology Transfer Offices *(*IPTTOs*)* and the Pan African Intellectual Property Organisation (PAIPO), etc.

9. Women and Innovation

The conference retaliated on the need for African governments to continue promoting and investing in women and youth to increase their intake in science and technology education. Courses on entrepreneurship education should be introduced in the science and engineering curricula at tertiary institutions. Workshops should be organized to train researchers and innovators in IP protection and commercialization skills.

Recommendation No. 15:

● ECA and AUC in collaboration with AfDB and UNESCO and other partners should support national, sub-regional and global initiatives aiming at mainstreaming gender equity in STI systems.

● African governments are urged to mainstream gender equity in water management.

Recommendation No. 16:

ECA and AUC in collaboration with AfDB, UNESCO and other partners should provide a special fund for implementing the objectives of Recommendation N°15.

MAJOR CONFERENCE OUTCOMES (b) IMMEDIATE ACTION

1. Science of Climate Change, Mitigation and Adaptation in Africa

It was decided by the conference that scientific findings on Climate Change in Africa should be submitted to the African political leaders to enable them to adequately negotiate at the forthcoming United Nations Framework Convention on Climate Change (UNFCCC) Summit in Mexico in December 2010 from a better informed and united position. This came from a review of the Copenhagen Summit held in December 2009 where the negotiations failed to get an agreement. It was noted that in Copenhagen, the political and scientific components from Africa were not working together. It was apparent that the two were negotiating in parallel. Consequently, the African scientists are duty-bound to present to the African Heads of State and Government the acquired data and knowledge on the Science of Climate Change, projections of realistic future climate scenarios, with projected impacts in, and attendant implications, over Africa.

ACTION:

- A 2-page Statement on the Science of Climate Change, Mitigation and Adaptation in Africa be prepared by NASAC (Network of African Science Academies) by mid-July 2010, in consultation with other African scientists, ECA and AUC. The issue of provision of Climate Change funds and Africa's accessibility to the Climate Change funds will be addressed in the prepared statement.

- NASAC, ECA and AUC should distribute the prepared 2-page Statement on Climate Change in Africa to the African governments through senior government officials for their ingestion and appropriate submission to their respective ministers, for their consumption and incorporation before heading to Mexico in December 2010.

- Long-term initiatives on the Science of Climate Change, Mitigation and Adaptation, and growth of sustainable green economies in Africa will be jointly coordinated by ECA and AUC in collaboration with their regional (Africa) partners. An establishment of an ECA-AU hosted Pan-African Green Technology and Innovation Centre is envisaged.

2. African Footprint Human Development Framework (AFHGF)

It is becoming clear that human welfare is critically linked to mankind's use and stewardship of ecological assets. Nowhere is this more true than in Africa – a region with tremendous natural wealth, yet which often suffers first and most tragically when humanity's demand on nature exceeds what nature can provide. In Africa, more than 75 percent of the population lives directly off the land, a higher percentage than any other continent. This makes Africa also more immediately and directly vulnerable to ecological shocks than any other region.

The Ecological Footprint tool measures the amount of biocapacity (forest, agricultural land, grazing land, fisheries, urban land and carbon absorption land) people have and how much they use. In other words, the Ecological Footprint measures for any given year the amount that nature provides (biocapacity) and the amount that we consume (footprint). The Ecological Footprint provides a way for a country to monitor its economic performance, quality of life and natural wealth and to make policy and investment decisions that are in the best interest of the country.

ACTION:

● A memorandum of understanding between ECA, Global Footprint and the International Council for Science Regional Office Africa (ICSU ROA) should be signed soonest for implementing the African Footprint Human Development Framework (AFHDF).

● AFHDF should provide a guide to African countries in establishing their national ecological balance sheets, sustainable development and management of their natural resources within a green economy paradigm and developing strategies for Global Climate Change negotiations.

3. Health and Life Sciences in Africa

Africa bears a disproportionately heavy disease burden largely accounted for by a variety of communicable and non-communicable diseases. The conference was informed that less than 10% of the global research funds target diseases of the poorest people in the world that account for most of the infections and deaths globally.

The conference explored the relationship between health and life sciences/ technologies within the framework of the continent's economic growth and sustainable prosperity. It is absolutely essential that Africa's health innovation systems have to be improved for the well-being of its population. Issues pertaining to international cooperation and partnership in this domain were discussed at length and objectives of ANDI (African Network for Drugs and Diagnostics Innovation) were presented at the conference.

The conference also examined several innovative projects contributing to measures for meeting Africa's challenges and opportunities in the health sector, e.g. radio-isotopes for innovative pharmaceutical research, standards for pharmaceutical firms, space sciences and technologies policy for health innovation, and medicinal plants confronted with the negative consequences of Climate Change.

ACTION:

● ECA and AUC should help to create and promote platforms, networks and consortia in Africa for transforming research products from the health and life sciences and technologies into new products and practices that are owned by African scientists, technologists and entrepreneurs.

● Africa should establish regional and international R&D partnerships for attaining international standards for Africa's products and for accessing international markets.

- The African Network for Drugs and Diagnostics Innovation (ANDI) is a concrete pan African initiative that aims to support collaborative health product R&D and commercialization. ECA, AUC and African governments should support and invest in ANDI.

4. Agricultural Sciences, Technologies and Markets

In recent years, African leaders have been placing increasing emphasis on the role of science, technology and innovation in economic transformation. The 8th African Union Summit which met in January 2007 in Addis Ababa, Ethiopia adopted a series of decisions in favour of the utilization of science, technology and innovation for socio-economic development of the continent.

ACTION:

● The conference agreed upon the proposal to establish a Center for Agricultural Innovation and Entrepreneurship in Africa (CAIEA) which will champion, among others, the following:

(i) Develop and promote Africa's agricultural technologies, innovations and information systems.

(ii) Promoting the creation of private-public sector partnerships and mechanisms for production and dissemination of quality seeds to farmers across the continent. Similar partnerships on livestock and diary/poultry industries should be promoted.

5. Promotion of Nanosciences and Nanotechnologies in Africa

It was argued, during the conference, that nanosciences and nanotechnologies are new emerging STI fields and that they are important in modern cost-effective health, water and energy services. It was also reported that only a few countries in Africa (e.g. South Africa, Morocco, Tunisia) have developed good functioning research centres dealing with nanosciences and nanotechnologies. Consequently, the conference urges the African governments and their educational and research institutions to start working closely with the private sector in promoting the utilization of nanosciences and nanotechnologies in health, water and energy sectors.

ACTION:

● ECA and AUC, in collaboration with the Africa's Science Academies should form a team of African experts in this domain to prepare a project proposal that intends to promote the utilization of nanosciences and nanotechnologies in health, energy and water sectors and in the growth of green economies in Africa. The project proposal should be realistic, needs driven with clear deliverables in a given time frame. The team of experts should submit the project proposal to ECA and AUC by December 2010.

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