ASSOCIATION OF AFRICAN UNIVERSITIES

12th GENERAL CONFERENCE

4th – 8th May, 2009
International Conference Center, Abuja, Nigeria,

"Sustainable Development in Africa: The Role of Higher Education"

SUMMARY OF PRESENTATIONS

1.1	BACKGROUND AND OBJECTIVES

The term "sustainable development", coined by World Conservation Union (IUCN) in 1980, gained currency when the 1987 Brundtland Commission Report '*Our Common Future*' defined it as meeting the needs of the present without compromising the ability of future generations to meet their own needs.

In a world undergoing rapid changes, driven prominently by technology and globalisation, Africa, more than any other region of the world, remains unprotected and at risk of being exploited without adequate compensation for its resources. The continent's sustainability problems hinge on threats to food security, poverty, disease, land degradation, water security, climate change, conflicts, deforestation, natural disasters, and urbanization.

The centrality of education as a tool for achieving sustainable development was particularly highlighted at the 1992 United Nations Conference on Environment and Development in Rio, Brazil, that. Agenda 21, as the Conference is commonly referred to, had 41 African nations endorsing a comprehensive international framework and action programme for sustainable development. This consensus of the international community was consolidated by the UN General Assembly at its 57th meeting in December 2002, when it declared the period 2005-2014 as the United Nations Decade of Education for Sustainable Development (UN DESD).

The UN DESD offers a strategic guide to the African higher education community to review its curricula, set and undertake development-relevant scientific research, forge partnerships and set practical examples towards ensuring social, economic,

environmental and overall inter-generational equity within the concept of the Millennium Development Goals and other African development agenda.

Within the ambit of sustainable development, African higher education institutions are provided with the tools to redesign their educational structures to provide answers to the environmental and developmental challenges confronting the continent.

As part of its contribution towards the UNDESD, the Association of African Universities chose **Sustainable Development in Africa: The Role of Higher Education** as the theme for its 12th General Conference co-hosted by the University of Abuja and University of Ilorin, Nigeria, and held at the Abuja International Conference Centre in Abuja, Nigeria, from 4th to 9th May 2009.

The main objective of the Conference was to address the mandate of higher education institutions regarding teaching and learning, research and community service including greening the campuses as they relate to sustainable development in Africa.

2.1   KEYNOTE ADDRESSES

There were two keynote addresses on the theme *Sustainable Development in Africa: The Role of Higher Education,* by **Dr. Kevin Urama,** Executive Director - African Technology Policy Studies Network, Kenya and **Professor Jeffrey Sachs**, Director of the Earth Institute, Columbia University USA. Professor Sachs' was a video presentation.

2.1.1   FIRST KEYNOTE ADDRESS

Dr. Kevin Urama introduced the concept Education for Sustainable Development (ESD) as defined by UNESCO, as a dynamic concept that encompasses a new vision of education that seeks to empower people of all ages to assume responsibility for creating and enjoying a sustainable future and is aimed at integrating the principles, values and practices of Sustainable Development into all aspects of education and learning (UNESCO, 2005). On the other hand, Higher Education for Sustainable Development in Africa (HESDA) is "the mainstreaming of ESD in higher institutions of learning in Africa".

He reviewed some literature on the science of Sustainable Development and inferred that the impact of Higher Education on Sustainable Development in Africa is still very low. To buttress the point, he noted that university enrollment rates in sub-Saharan Africa are among the lowest in the world, averaging 5% (compared to greater than 60% elsewhere, and up to 72% in USA). In addition, there is a higher relative government spending on tertiary student trained per capita than the U.S. or Europe.

Dr. Urama proposed a complete re-engineering of the system to effectively achieve HESDA observing that some reforms were required to move from Disciplinary to Trans-disciplinary Science; from Science and Technology Knowledge Transfer to Responsible

Innovations; from Silo Thinking (Sector based approaches) to Systems Thinking (Integrated holistic Approaches) to knowledge generation; from knowledge hierarchies to participatory governance and full socialization of science; and from "Publish or Perish" to more inclusive Performance Incentives to favour problem solving, innovation and socialization of science in Africa.

Comments on Dr. Urama's presentation centred on the following issues:

- African participation in the global academic sphere
- Emphasis on academic excellence and not academic innovation
- Dislocation in social equilibrium between Africa's HEIs and the wider public.
- Low level of enrolment in Africa's HEIs
- Impact of Research Assessment Exercise.

Additionally, a distinction was made between Distinguished Professors and Extinguished Professors with a note that what is needed in Africa's HEIs is attitudinal change, harmonised and holistic thinking on issues of sustainable development and willingness to take action. In this way, curriculum in Africa's HEIs should be designed to match and have direct impact on Africa's developmental challenges and considering the need of future generations. In conclusion, the issues of the socialisation of science in Africa, systems thinking and the need to promote collaboration and innovation were emphasised.

2.1.2 SECOND KEYNOTE ADDRESS

Professor Sachs commended the leadership role of African Universities in improving Sustainable Development noting that, the subject is very important to Africa and not only in relation to economic growth but also in terms of human well being. He believed that economic growth should meet human needs (both the poor and the rich) and attenuate the ecological realities of the planet such as pollution, over fishing and degradation of natural capital. He explained that economic development goes hand in hand with social economic equity and justice and that no part of the world has succeeded in marrying economic development with social equity and justice for Sustainable Development.

Professor Sachs observed that the Earth Institute was designed to meet cross discipline challenges with a horizontal connection across disciplines to resolve the grand puzzle of sustainable development. He identified four of the puzzles as education through integrated study of sustainable development; research; practical work in the field to solve large-scale challenges and public education involving mass media and similar means of communication. The University, according to the presenter, is endowed with the scientific knowledge and talents to understand the problem and has public trust and objectivity to provide perspective solution on a long term basis.

He linked this to the Land Grant Colleges in the United States established by Abraham Lincoln to produce practical solutions to problems arising especially from agriculture. He emphasized the importance of agriculture to African economies.

Professor Sachs noted that the mandate of universities is to teach, research and educate. These combine to form the basis for Columbia University's Millennium Villages Project to empower local rural farming communities with science-based knowledge in 5 concrete ways: Agriculture, Primary Health Care, Education, Basic Infrastructure and Business Development.

A second project was the Global Master's in Development Practice (MDP) for development professionals. The 2-year Master's degree programme emphasizes a multifaceted approach to development encompassing policy sciences, management sciences and physical sciences. The programme is organized by the Earth Institute of Columbia University, in collaboration with universities that are receiving seed funding to implement the programme. It is one of the first MDP programmes offered anywhere else in the world and is designed to train generalist sustainable development leaders with the knowledge, skills and attributes necessary to make decisions regarding the interconnected and complex crises of climate change, extreme poverty, and epidemics among other human degradations.

COMMENTS

The presentation by Jeffery Sachs brought to the fore challenges Africa's HEIs face in their quest for active engagement with the global academic community. The consensus among participants was that it should be made mandatory to that extra-continental institutions and organisations interested in engaging in academic programmes and pursuits in Africa to be willing and ready to work with African HEIs in a collaborative partnership.

3.1 SCIENTIFIC SESSION (INTRODUCTION)

The first Scientific Session on *International Perspectives on Higher Education for Sustainable Development in Africa* was held on the second day of the Conference and chaired by Professor Shamsudeen Amali, Vice-President, Association of African Universities. There were two presentations by *Dr Akpezi Ogbuigwe, Head of Environmental Education and Training Unit, UNEP* and *Professor Peter Blaze Corcoran, Director of the Center for Environmental and Sustainability Education, Gulf Coast University, Florida, USA*.

3.1.1 SCIENTIFIC SESSION I (Plenary)

Dr Akpezi Ogbuigwe, Head, Environmental Education and Training Unit, UNEP

In her presentation, Dr Akpezi Ogbuigwe, charted the history of Sustainable Development from the 1960s beginning with the seminar work of Rachel Carson on Toxicology, Ecology and Epidemiology to show the effect of agricultural pesticides on

humans and animals, and concluded with the UN General Assembly designation of 2005 – 2014 as the UN Decade on ESD.

Dr. Ogbuigwe identified socio-political, environmental and economic factors as the three pillars of Sustainable Development which offer a platform for dealing with issues on the subject. To support the point she presented facts and figures about the deplorable state of African countries in the quest for Sustainable Development. This is in spite of the fact that Africa is a resource-rich continent, and has a large higher education sector; both powerful forces which can be used in addressing issues of Sustainable Development. Consequently, UNEP launched a partnership programme with African Universities called Mainstreaming Environment and Sustainability in African Universities (MESA) to integrate environment and sustainability in the curricular and develop capacity through networking. She concluded with the following statement:

> "The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn."
> *Alvin Toffler, Author of Future Shock*

Professor Peter Blaze Corcoran, Director, Center for Environmental and Sustainability Education, Gulf Coast University, Florida, USA

Professor Peter Corcoran's presentation emphasized the urgent need for Sustainable Development and introduced the Earth Charter as an instrument to guide efforts towards achieving this. He then identified the four elements of the charter to include care for the community, ecological integrity, social and economic justice, democracy, non-violence and peace.

COMMENTS

Comments on the papers presented by Dr. Akpezi Ogbuigwe and Professor Peter Corcoran included the following:

- Recommendation to the AAU to adopt the Earth Charter and MESA Principle.
- Accessibility and number of visitors to the local African language Website of the Centre for Environmental and Sustainability Education.
- While tree planting programmes are commendable, developed countries should not lose track of the real issues of environmental sustainability in Africa.
- The burden on Africa of being asked to pay a heavy price for the problem of climate change and the need to bring a sense of proportion to the issue of environmental degradation
- The applicability of spiritual development, ethics and morality in teaching, research and development within the context of the growing schism between education, cultural practices and social life.
- Ability of teachers to learn, unlearn and relearn paying attention to the centrality of students in the learning process with regard to reforming the curriculum in the face of a generational shift.

- The high cost of deploying students for community service.

The necessity for a new orientation in addressing the issues listed above was quite evident. The emerging consensus was that teaching and research in Africa's HEIs must not only prepare the next generation of Africans for the challenges of the 21st Century, but in doing so the work of the Global Forum for Responsible Education should be taken into consideration. The University, within the multiplicity of its responsibilities must not exist in a vacuum But instead, it must engage the local communities and seek to deploy its huge intellectual property to proffer solutions to the challenges facing the society. The government, private sector enterprises and other stakeholders should come together to provide the necessary funding.

3.1.2 SCIENTIFIC SESSION II (Plenary)

The second Scientific Session focused on *National Examples on Shaping Higher Education for Sustainable Development* and featured two presentations by Professor Zióle Zanotto Malhadas of the Federal University of Parana (UFRU), Brazil, and Professor Heila Lotz-Sisitka of Rhodes University, South Africa respectively.

Professor Zióle Zanotto Malhadas, Federal University of Parana (UFRU), Brazil

In her presentation, Professor Malhadas explained that the UN Decade of Education for Sustainable Development seeks to integrate the values inherent in sustainable development into all aspects of learning to encourage behaviour changes that allow for a more sustainable and just society for all, through four objectives, namely:
- Facilitating networking, linkages, exchange and interaction among stakeholders in ESD;
- Fostering an increased quality of teaching and learning in education for sustainable development;
- Helping countries make progress towards the attainment of **MDGs** through ESD efforts;
- Providing countries with new opportunities to incorporate ESD into education reform efforts." (UNESCO)

She reiterated that DESD is a time for changing and that the proper time for that change is now.

Unfortunately, Brazilian universities have not been able to mainstream Sustainable Development in their curriculum except in Environmental Education programmes such as Environmental Engineering, Environmental Management or similar disciplines but these are not enough to generate sustainable development. Professor Malhadas invited AAU members to join Brazil to plan for how to implement conjunct projects and motivate South-South and North-South cooperation to multiply Education for Sustainable Development concepts and good practices to Latin American and African higher education institutions.

Prof. Heila Lotz-Sisitka, Rhodes University, South Africa

Professor Lotz-Sisitka's paper was based on two theoretical frameworks - *Systems Theory* and *Social Change Theory*. She described higher education institutions as knowledge and learning centres which have critical roles to play in development of any country. Professor Lotz-Sisitka observed that scientists and people everywhere are worried about the following three interacting factors: unsustainable development models; loss of ecosystem services; and climate change impact. She noted also that new concepts of development include equity, sustainability, resilience, adaptation and transformability.

Challenges of Sustainable Development are increasingly more complex and difficult to reconcile putting the world at risk and universities are confronted with serious epistemological, political and ethical questions including non-integration of local knowledge with 'scholastic' knowledge. Professor Lotz-Sisitka further explained how South Africa is dealing with these issues and in conclusion stated that a stronger systems approach is needed to understanding the Sustainable Development and Higher Education relationship and this calls for re-evaluation of HEIs social contract and role in development.

COMMENTS

Comments after the presentations included:

- Forging solidarity and cooperation to develop common objectives and practise, and to pursue and implement educational programmes to build capacity and promote sustainable development.
- Integration of all agencies of education, especially the home, towards a common goal of sustainable development.
- A curriculum review at all levels of education to enhance teaching and research. In doing this, linkages should be established between African HEIs and governments at all levels as well as with the United Nations system and other stakeholders.
- Increased GDP spending on education.

It was agreed that Africa, unlike the developed countries is dealing with all issues relating to sustainable development concurrently. The capability of HEIs to influence policy formulation and outputs was emphasised with an admonition that HEIs should strive to create a working synergy with policy makers, both in the public and private sectors. to achieve this, Universities should strengthen their research capabilities and pay attention to their countries' developmental priorities. The session concluded with the admonition that change is constant, cyclical and dynamic and needs to be embraced for the sustainable development of Africa.

4.1   GROUP SESSIONS

4.1.1   GROUP A

The session was chaired by Professor John Tarrant, Secretary General of Association of Commonwealth Universities (ACU) and featured five presentations.

1. **A Sustainable Approach to Teacher Education in Sub-Saharan Africa** by *Professor Jophus Anamuah-Mensah*

The presenter made reference to the MDGs and EFA goals as the rationale for TESSA goal that by the year 2015, every African child should have primary education. In other to achieve these goals, Sub-Saharan African countries would need 4 million teachers, which cannot be achieved with the present conventional ways of teacher training. Hence, the need for TESSA.

The TESSA initiative stands on three pillars:
   i. Affordability and accessibility of ICT;
   ii. Open Educational Resources (OER) philosophy which allows materials to be put on the net and accessible to all for free;
   iii. Research studies in cognitive science which gives current information on how learning takes place.

TESSA resources are geared towards capacity building of primary school teachers, including teacher content knowledge, classroom practices and activities, teacher competencies and skills and teacher theoretical and pedagogical orientation.

The areas addressed by TESSA include literacy, numeracy, science, social sciences, arts and life skills. TESSA materials are sustainable because:
   - They are accessible online;
   - Facilitate the training of more teachers;
   - Enable practicing teachers to use the materials within their school location;
   - Provide a more practical component to theory;
   - Enhance investigative and creative approach;
   - can be easily integrated into existing curricula

The resources are in four languages, namely, French, Kiswahili, Arabic and English. TESSA is a consortium of 18 organisations including 13 institutions, 9 African countries and 5 international organisations.

2. **A House with Twenty-Five Front Doors: Practical Teaching and Learning for Sustainable Development in Africa** by *William R. Godfrey*

The presentation was based on the premise that existing structures of African Universities and education programmes are not responsive to the problems of sustainable development facing the continent. To address this problem, UNEP and Environmental Foundation International partnered with the support of AAU and UNESCO, to develop a curriculum containing ESD courses. One such course is Sustainable *Societies in Africa: Modules on Education for Sustainable Development* which could be used in African Universities. The courses use learner-centred pedagogy and have a modular structure that

complement existing discipline-based courses. The curriculum was part of a 10 year project captioned *Mainstreaming Environment and Sustainability in African University (MESA)* partnership.

The course was peer reviewed and tested by students in America.

3.   <u>The Curriculum as a Living Document for Achieving Education for Sustainable Development</u> by *Joe O. Akinmusuru*

The paper emphasizes the importance of the curriculum development as an on-going activity in the teaching-learning process which should not be imposed on the operators. The presenter advocated for university-industry partnership, interaction with alumni and accreditation agencies to enrich the curriculum for relevance. This calls for the adoption of an outcome-based curriculum in higher education in Africa, in order to achieve the right kind of education for sustainable development. Additionally, it advocates for a paradigm shift from teacher-centred to a student-centred approach which calls for measurable milestones to assess the attainment of the intended outcomes. The presenter cited illustrative examples to support his position and suggested that in outcome-based curriculum, one has to work backwards by first identifying the outcomes and then planning decisions to achieve them.

4.   <u>Sustainable Cultural and Nature-based Tourism Development in Higher Education</u> by *Matilda De Beer*

The presenter established that tourism is one of the leading industries in South Africa confronted with challenges which need to be addressed by tertiary institutions in partnership with national and international collaborators. To tackle these challenges, many of the country's tertiary institutions have developed new curricula which cover areas such as management, marketing, sport and adventure, hospitality and administration, ethics and entrepreneurship. The University of the Free States is one of such higher institutions which have developed a three-year multidisciplinary Bachelor of Arts degree programme in tourism. The content encourages students to be part of the Project which is in line with the Government White paper on the Development and Promotion of Tourism in South Africa, regarding Community-Based Tourism (CBT). The curriculum is yet to be implemented.

5.   <u>Sustainable Development and the Role of Students in Africa</u> by *Oludare Ogunlana*

The All-Africa Students Union (AASU) commended the AAU and indicated that it had served as a pillar of support for AASU for several years and this has encouraged the Union to grow and think strategically for the development of the continent. The presenter expressed the need for African students and organisations to demonstrate significant strides in the Sustainable Development efforts in their various countries. As one of the major groups under the UN Commission for Sustainable Development, AASU is

overseeing the development of Agenda-21 on the Environment and Sustainable Development.

The Union is also engaged in several training programmes to educate different community members across the continent in partnership with educational establishments, trade unions, business men, local authorities, and other interested partners. Local students groups are also encouraged to participate in the use of renewable and sustainable resources on campuses. Some AASU member unions have assisted in establishing sustainable IT Centres with virtual classrooms in rural communities. They have networked with higher educational institutions such as Benghazi Polytechnic in Libya and University of Benin in Nigeria. Young African students have also been trained in areas of their interest to learn new skills and techniques such as web design, computer programming and organic sustainable agriculture techniques particularly in South Africa. AASU members in Ghana were involved in monitoring the recent elections in Ghana and

Critical issues identified by the presenter included: resistance towards the adoption of innovative strategies among senior professors and the need to introduce spiritual development in the school curriculum.

4.1..2   GROUP B

The Group B Session on Greening the Campuses was chaired by Dr. (Mrs) Akpezi Ogbuigwe, Head of Environmental Education and Training of the United Nations Environmental Programme, Nairobi, Kenya. Opening the session, and featured seven (7) presentations. In her opening remarks, Dr. Akpezi Ogbuigwe noted that the essence of the session was to share experiences on greening the campuses with a view of adopting and applying the best practices. According to the Chair, it was time to walk the talk with a new generation of students to enable them understand and practice the tenets of sustainable development.

The presentations in the group consisted of the following papers:

1.   **Greening the Campus: Participatory Approaches from Canada**, by *Anthony Petroutsas**

Anthony Petrousa's presentation shared the experience of how the environmental friendly programmes of the University of Victoria had earned the Campus a Carbon Neutral Status. This feat was attained under the ambit of the Campus Climate Network which brings together people from a variety of social and academic background to agree on a common ground position to attain environmental sustainability. Among the measures adopted in pursuing this objective were: i) incorporation of aspects of sustainability into the entire university curricula; ii) development of a cycling culture; iii) establishment of local market for organic food; iv) positive engagement with the state, government and civil society; v) utilization of renewable energy sources; and vi) building of global networks through the Leadership Energy and Environmental Design (LEED) Programme. The successes achieved through these initiatives propelled the British Colombian

Government to mandate all universities within the State not only to attain work towards attaining carbon neutrality by 2010, but also to work towards stopping all sources of carbon emission through increased reliance on renewable energy sources. The presenter further gave an insight into the work of the Africa Youth Initiative on Climate Change in promoting social and ecological sustainability. He recommended the adoption of some of the identified environmental friendly measures of UVic for greening the campuses of African universities.

2. *__Greening the Campus Environment: The University of Ilorin Experience__*, **by *Is-haq Oloyede, K.L. Ayorinde and F.A. Oladele, (presented by F.A. Oladele)*.**

The paper gave an overview of efforts by successive administrations of the University of Ilorin, Nigeria, to embrace the concept of sustainable development in order to enhance the quality of life on campus. With a land mass of about 15,000 hectares of which only 5 percent has been utilized, the University is faced with various land use challenges, the greatest being perhaps managing the huge expanse of unutilized land to protect it from environmental degradation. Among the various measures adopted by the University in meeting these challenges are: formulation and implementation of a 5-year Strategic Plan that included an Environmental Policy driven by an Environmental Protection Committee to pursue beautification of the campus; the establishment of a Zoological and Biological Garden, the planting of Teak and Cassia trees and the creation of an Orchard; the construction of a dam to ensure adequate water supply; the prohibition of indiscriminate felling of trees and bush burning; the adoption of viable conservation and waste management measures; and engagement with the local communities through the Community Based Experience and Services Programme.

The presentation was followed by an interactive session where participants tried to understand the real meaning of *greening the campus* and what each participant could do to contribute to the process. Participants expressed varied views of the lessons learnt and how they would actualize what they had learnt. While some talked about an increased awareness of the benefits of tree planting, increased efforts towards reducing carbon emissions and waste management and, positive engagement of the communities outside of the university, others emphasized the need for individual efforts at energy and water conservation and at "taking the town to the village" by information dissemination and practical demonstration of water and energy generation through the use of rain water and solar panels.

3. **Logical Controversy of African Universities in the Promotion of Sustainable Development: The Universities in between Protective Theories and Destructive Practices of the Environment. The Case of UCAD's Waste Management** by *Moussa Mbegnouga** (presented in French).

In his presentation Moussa Mbegnouga highlighted the disparity between the theory and practice of sustainable development, especially in the areas of waste management, erosion control and depletion of natural resources. This was followed by an overview of the efforts of the Université Cheikh Anta Diop in promoting sustainable development

through its educational and training programmes. These programmes, which have gained both national and international acclaim, are undertaken by the Department of Geology, the Institute of Science and Environment and the Department of Geography. He identified the establishment, in 1997, in the Department of Geology, of the UNESCO Chair on Integrated Management and Sustainable Development of Coastal Regions and Small Islands as an important step in the training of professionals for the integrated management and sustainable development of West African coastal and littoral states. In spite of these achievements, the University of Cheikh Anta Diop, according to the presenter, is a great polluter of the environment through its teaching and research activities. The University, along with other Universities in Senegal, produces huge amounts of solid and liquid waste, some of which is toxic and pose a danger to human life and the ecosystem. The challenge is for the University and indeed the wider community to come up with innovative ways of disposing toxic and biomedical waste in a safe and ecologically friendly manner.

* **Moussa Mbegnouga is a doctoral student in Geography at the University of Cheikh Anta Diop in Dakar, Senegal**

4.   **Greening the Campus: A Humboldtian's Education for Sustainable Development (ESD) Initiative at OAU, Ile-Ife, Nigeria by _Chris Ukachukwu Manus_** *(not on programme but was allowed on compassionate grounds).*

The paper presented an overview of the activities of the MESA Group in creating awareness and promoting environmental protection through the Education for Sustainable Development (ESD) Programme. The presenter shared some new directions and innovations in sustainable development practices with participants. These include discarding old ways of doing things and adoption of new methods, respect for the environment and care for human life and preaching the cross instead of prosperity from the pulpit. He further challenged participants to part of the movement for positive change towards environmental and social accountability and responsibility. Professor Manus argued that through unsustainable environmental practices, man is poisoning his own food and drinks and committing a crime against nature and against himself. In conclusion, he advocated the adoption of value ethics as the basis of human conduct and interaction with the environment.

5.   **Strengthening Capacity for Innovation in Africa's Agricultural Industry: A Case of Learning Platforms by _Ralf von Kaufman, Aisssetou Drame Yaye and Irene Annor Frempong_** *(presented by Ralf von Kaufman).*

In his presentation, von Kaufman talked passionately about the urgent paradigm shift in agricultural practices to tackle Africa's food crisis and interaction with the world economy. He noted that policy formulators and decision makers in many African countries do not have enough evidence at their disposal to function effectively resulting in lack of evidence-based decisions. Attenuating this problem requires opening up channels of communication, promoting innovative ways of sharing and learning together, changing from supply to demand driven production, as well as massive investment in capacity building and infrastructural development. According to him, agricultural

production accounts for 27 percent of African Gross Domestic Product and that this percentage could be greatly increased with improved productivity, reduced losses and more value adding from processing and marketing. To emphasize the point, he observed that while the sale of cocoa generates only US$4 billion per annum, the sale of chocolate, a derivative of cocoa generates US$75 billion per annum. To overcome the continent's developmental challenges, there is urgent need to develop good education systems and effective research institutions, and to redesign and review agriculture curricular and training programmes in African universities not only to produce a new generation of well trained professionals and technicians but also to address the issues of economic globalization, climate change and health hazards. Efforts towards addressing these issues is evident in the establishment of the Comprehensive Africa Agriculture Development Programme (CAADP) with an emphasis on land and water management, rural infrastructural development and increased market access, food security and dissemination and adoption of agricultural research and appropriate technology. The presenter informed the audience that the Forum for Agricultural Research in Africa (FARA) through its initiative on, Strengthening Capacity for Agricultural Research and Development in Africa' (SCARDA) is already working in Botswana, Burundi, Congo, The Gambia, Ghana, Lesotho, Mali, Rwanda, Sudan, and Zambia in pursuit of these objectives. Von Kaufman concluded by asking Africa's Higher Education Institutions to take advantage of the opportunities provided by FARA to strengthen their capacity by introducing positive changes into their teaching and learning systems to generate increased return on investment in agriculture and to address Africa's quest for food security.

6. **Integrated Management and Sustainable Development of Coastal West Africa: The Experience and the Project of UCAD Chair** by *Alioune Kane, Jacques Quensiere and Awa Fall Niang (presented by Alioune Kane in French).*

The paper gave a detailed description of the work of the UNESCO/UCAD Chair in Integrated Management and Sustainable Development of Coastal Regions and Small Islands. Established in 1997, the transdisciplinary programme based on collaboration between various training institutions, public and private entities, local community and civil society groups provides post graduate and practical training in integrated coastal management for sustainable development to students from Senegal and other West African states. He emphasized the importance of the programme on the management of coastal wetlands given the fact that many highly populated cities are located along the West African coast. This huge population not only depends on the exploitation of the resources of the coastal areas for their survival, but the people in the hinterland and the respective countries depend on these cities for their potential as centers of economic growth. The objectives of the programme include; i) ensuring the optimal and sustainable use of natural resources in coastal areas to safeguard them for future generations; ii) identifying new opportunities for underutilized resources; iii) maintaining biodiversity in the context of a country's development priorities; and iv) ensuring rational development of the coastal resources. In the last 11 years, the UNESCO/UCAD Chair, through its various training, research and community service activities, has been able to achieve

some success through its pilot project on reforestation, water resource management, restoration of degraded ecosystems and wildlife.

7.   Sustainable Paths in Higher Education by *Valtencir Maldonado*

In his presentation, Valtencir Maldonado narrated the events leading to the establishment of the Global University Network for Innovation (GUNI) in 1999 and then outlined some of the successful experiences that are being developed within the African context with a view to evolving the best practices in the area of curriculum development, application of science based knowledge to issues of sustainable development and building positive linkages with the civil society. The objective of these initiatives being, to bring the critical role of Higher Education Institutions to the fore with regard to African development.

COMMENTS

Participants gave wide and varied answers of the lessons learnt and how they will actualise what they have learnt. While some talked about an increased awareness of the benefits of tree planting, increased efforts towards reducing carbon emissions and waste management and positive engagement of the communities outside of the University gate, others emphasised the need for individual efforts at energy and water conservation by information dissemination and practical demonstration of water and energy generation through the use rain water and solar panels.

4.1.3.   GROUP C

This session was featured four presentations on *Research and Development for Sustainable Development: Priorities, Action and Follow-up*.

1.   Higher Education for Sustainable Development in China by *Dongjie Niu of Tongji, University College of Environmental Science and Engineering*

Professor Nui noted Education for Sustainable Development (ESD) was started in China in 1994 and Environmental Education (EE) was extended to ESD making EE part of ESD. Sustainable Development courses are available in many universities. Many bodies including UNESO, the Environmental Protection Department (EPD) and SEPA take active part in ESD activities although these are not well organized at state level as there are doubts about the definition of ESD and about measurement of proper behaviour and lifestyle. He noted that China has had very fast development and many lessons have been learnt from this including severe environmental pollution, air pollution and acid rain. Efforts have been made to combat these environmental threats through institutional approaches, making laws and regulations and instituting positive action such as green accounting. However, there is still poverty.

IESD-UNEP TONGJI INSTITUTE of Environment for sustainable development was established in 2002 to address this issue. The objectives include participating in regional and global environmental projects and capacity building program, establishing an

international educational institution for ESD, conducting global environmental studies and promoting environmental academic exchange.

Achievements have been in areas of leadership programs, International Masters and PhD programmes in Environmental Management and Sustainable Development and crop research.

It was interesting to note that although the above measures were taken to address China's problems, the leadership and graduate programs seem to target Africans. In the ensuing discussions, questions were raised on how to improve the coordination and teaching of trans-disciplinary courses.

2. **African Higher Education Online (AHERO): A Model for Sustainable Academic Research and Development** by *Shehaamah Mohamed* (presented by *Pascal Hoba of AAU)*

The presenter indicated that sustainable growth cannot occur without a strong research base and adequate access to information. African academics face challenges such as high subscription fees and imbalance in the flow of information, and poor scientific output. To address these issues, an open education resource, AHERO which stands for African Higher Education Research Online, was established. It addresses access to information through the open access movement and archives research data, journals, chapters of books and conference proceedings on the African continent. A survey conducted indicates that AHERO is successfully delivering relevant content to African scholars. Authors are generally satisfied with the AHERO database and most of the visitors to the website are from Africa. The challenge that remains is for authors to archive their research and other documents.

Issues were raised as to how Africa can guard against plagiarism; what role for HEIs in changing the attitude of academic staff towards the use of open educational resources; how infrastructural problems that hinder the use of open source information can be tackled; what clear policies exist on open educational resources and what is their scope and content?

3. **Challenges of Financing Research in HE in Africa** by *Ngotho Wa Kariuku*

Financing higher education in Africa is very expensive but it has been left predominantly to governments even with their dwindling budgets. Private sector has become involved in university education but these are run mainly as businesses. The Structural adjustment program (SAP) affected the educational sector through cuts in spending, deepening poverty, marginalization of vulnerable groups, cost sharing and gender imbalance. The problems of funding research in Africa include: the low priority given to research funding, embezzlement of research funds and the inability of the universities to raise funds internally. The presenter quoted case studies from the Cameroon and East Africa and cited problems including over burdened facilities, inadequate staff, limited number of programs, low student success rate and high dropout rate. The author suggested that

universities generate their own funds through parallel programs such as consultancy and partnership with the private sector.

The presentation raised discussion on how universities should collaborate with the private sector to raise funding for research and how to avoid politicizing the funding of research?

4.   **Strengthening Natural Science Research and Education in African Universities- Lessons from Eurasia** by *Marilyn Pifer*

The Presenter acknowledged that African scientists were in a better position to understand African challenges. She noted that strengthening the capacity of scientific research in African universities will help them tap into the resources of the global research community. Ms. Pifer cited successful case studies linking basic research to the development and training of scientists in traditional universities in Russia and Eurasia. She concluded that integrating research with higher education can enhance the scientific capacity of African countries through empowering the next generation and slowing brain drain, increasing scientific publication, and enhancing scientific research collaboration.

COMMENTS

A concern raised in the first paper was on how to improve the coordination and teaching of the trans-disciplinary courses.

In the paper on AHERO, the issues were:

Why are African HEIs resisting putting their theses online? How can Africa guard against plagiarism? How can HEIs help change the attitude of academic staff toward using and adding to open education resources? How can infrastructural problems that hinder use of open sources be tackled? Do universities have clear policies on open education resources? If so what are the contents?

In third paper, the issue was on how universities should collaboration with the private sector for the funding of research and how research funding should be devoid of politics.

4.1.4. GROUP D

Professor Alioune Kane of the Universite Chekh Anta Diop, Senegal chaired discussions in this session, which focused on five presentations as follows:

1.   **Facilitating Entrepreneurial Competence for Informal Sector Development: Challenges and Insight into the Cameroon Tertiary Sector** by *Fomba Emmanuel Mbebeb*

The paper explored the link between existing education provisions and entrepreneurial competence. The presenter noted that despite the importance of sustainable human capital development strategies in higher education, tertiary institutions in Cameroon are still grappling with relevance and quality issues.

In spite of ongoing policy efforts in Cameroon, the current strategies cannot significantly constitute a sustainable platform for facilitating entrepreneurial and informal sector development. Universities should engage the informal sector through participatory and transformative pedagogy. There should also be a shift from poverty reduction training strategies to wealth creation strategies thereby transforming graduates from job seekers to job creators. There is a need for a change of mind set by all stakeholders.

Concluding his presentation, Mbebeb raised the question: "What do we think of African higher education under globalising forces and perceived sensitivity of indigenous learning values in mainstreaming culture-fit competence and a sustainable Africa?"

2. **Sustainability Compliance in Higher Education in Nigeria** by *Iyenemi Ibimina Kakulu and B.B, Fakae*

The paper examined Sustainable Development activities in the Rivers State University of Science and Technology (RSUST), the progress made so far and the long term goals for achieving total Sustainable Development compliance in curriculum, instruction and campus management. The activities examined included capacity building initiatives which include international training programmes, proposed life-long learning centre for Sustainable Development, mainstreaming environment and sustainability workshop, collaborative capacity building in waste water management. The presenter also examined the RSUST global partnership in e-learning, RSUST MESA implementation strategy and finally the eco-campus or campus greening project. Ms. Kakulu concluded that RSUST is capable of achieving sustainability compliance by the end of the Decade of Education Sustainable Development (DESD) which will require the collective efforts of all stakeholders. She emphasized that university leaders ought to respond to issues of climate change, environment and Sustainable Development through active participation in on-going debates, encouraging institutional research in the area and implementation of virile sustainability policies.

The presenter raised questions on how African Universities can cultivate the cooperation of Government, NGO and all Stakeholders including the university community itself.

3. **A Rural Clinical School as Leverage For Sustainable Rural Development: An Opportunity for the University of Stellenbosch's Health Sciences Faculty** by *Theresa Fish*

The paper was based on the premise that rural origin and exposure to rural medical can positively influence practice location through the creation of Rural Clinical Schools (RCS). Observational data suggest that undergraduate or graduate rural exposure strengthens the resolve of rural origin students to choose practicing in rural locations.

A number of proposals were made for RCS and potential advantages were also spelt out. In conclusion the need to develop research agenda for the project, engage with the communities, and engage in teaching and learning were emphasised.

4. **Engaging Communities in Soil Fertility Management for Sustainable Agricultural Production: Case Studies from Kakamega and Nakuru Districts by** *F.N. Wegulo et al*

The paper examined the opportunities and synergies that exist between university researchers and local community for sharing such knowledge and skills for improved decision making for sustainable soil management, increase food production and reduce poverty.

With concerted efforts, decline in soil fertility can be successfully mitigated. The Project has demonstrated the efficacy of established networks in mitigating challenges associated with SDand also created demand amongst farmers for knowledge and skills services to innovate with various soil fertility management options. The author observed that farmers are receptive to well-conceived and well-executed innovations.

5. **A Pedagogy of Hope: Higher Education and Sustainable Development in Africa by** *H. Russel Botman*

The paper re-examines the traditional notion of education in developing countries. From the pedagogy of hope, Botman identified the over-arching strategic plan based on the five themes of the MDGs. He indicated that the faculties responded to twenty-one (21) visionary project proposals, many with ESD values. He used the example of the Centre for Transdisciplinarity Sustainability Assessment Modelling, in his analysis.

Africa's success in transforming our economies and societies is tied to research based on a cross-disciplinary approach that encompasses all social and human dimensions of sustainable development.

5.1 SCIENTIFIC SESSION III: REPORT FROM GROUP SESSIONS (Plenary)

Reports of the various presentations in the 4 Groups were deliberated upon by groups and presented in plenary. The issues that came to the fore were:

- The need to emphasize spirituality in the curricula for sustainable development of Africans.
- The need to forge partnerships between government and the private sector.
- Commitment to greening campuses.
- Development of research capacity in Africa and the need to identify strategies for funding such initiatives.

- At least 3 percent of national GDP should be devoted to education in African countries.
- Establishment of Foundations by HEIs and 50 percent of used to fund research activities as sustainable development requires sustainable funding.
- Acceptability of HEI graduates by industries and the need for an integrative approach to curriculum development involving industries and other stakeholders.
- Incorporation of Entrepreneurship in the teaching curriculum to enable students to be job creators and not job seekers and the need for retraining faculty to handle this.
- Attention should be paid to the cultural relevance of the sustainable development programmes, and teaching resources external to the continent should take into account Africa's cultural peculiarities.
- HEIs to be encouraged to develop indigenous teaching methodologies appropriate to the African context.
- Concern on the lack of adequate trans-disciplinarity in research and how to operationalise this by emphasising programme integration and synergy to promote staff and student exchanges.
- HEI's should adopt outcome – based curricula that are periodically assessed.

6.1. PARALLEL EVENTS

Parallel sessions were organized as simultaneous events and as part of the General Conference to showcase not only AAU Programmes but also efforts in promoting in sustainable development in different organizations.

The presentations made have been outlined as follows:

6.1.1 Research and Education Network Unit

The event was chaired by Professor Adow Obeng, former Vice-Chancellor, University of Cape Coast. There were three presentations as follows:

1. **Researches and Education Networking in Africa: Challenges, Achievements and Opportunities**, *by Boubakar Barry (Research and Education Networking Unit, AAU)*

The presentation highlighted the mandate given to the AAU at the 11th General Conference in February, 2005 in Cape Town to promote ICT for higher education in Africa. The objective of this mandate was the improvement of access to information and knowledge. The AAU Secretariat followed up on this mandate by assuming a focal point role for ICT initiatives for African HEIs. The AAU established a Research and Education Network Unit (RENU) with the support of Partnership for Higher Education in Africa (PHEA), the International Development and Research Council (IDRC) and the African Capacity Building Foundation (ACBF).

Among the activities of the RENU is the establishment of strategic partnership, organisation of workshops, and acting as clearing house on research and education networking and ICT policy. The presenter identified two factors crucial for the establishment of research and education networks in Africa to include high bandwidth cost and isolation of African scientists and researchers. The presentation highlighted new developments in National Research and Education Networks (NRENs) in Africa consisting of established (South Africa, Kenya, Malawi, Egypt, Morocco, Tunisia, and Algeria), new (DRC, Mozambique, Uganda, Rwanda, Sudan and Tanzania) and emerging (Zambia, Namibia, Nigeria, Ghana, Cameron, Senegal and Cote d'Ivoire) national research and education networks (NRENs). He highlighted the progress made as well as the challenges to be overcome.

2. **Fibre Infrastructure: Opportunities for African RENs**, *by Dr. Iman Abuel Maaly Abdelrhamn, UbuntuNet Alliance*

Dr. Abdelrhamn's paper focused on the need for HEIs in Africa to improve connectivity, ICT usage, e-learning, content provision and participation in the global research community. She noted there are infrastructural, bandwidth, financial, policy and regulatory challenges and proposed the development of optic fibre infrastructure to resolve them. Dr. Abdelrhamn identified five building blocks of connectivity and ICT usage ranging from individual users in African HEIs to the global REN infrastructure, observing that although Africa remains largely isolated from the global REN infrastructure, nevertheless there are efforts on information dissemination and national research and education networks across the continent.

3. **Addressing the Demand for Connectivity of Higher Education Institutions (HEIs) in the West and Central Africa Region**, *by Paul Hamilton, Independent Consultant, Hamilton Research Ltd.UK*

The paper by Paul Hamilton was based on a research project which surveyed the connectivity of 51 HEIs across West Africa in June 2008. The purpose of the research was to compile data on HEIs' connectivity in West and Central Africa, determine the actual bandwidth per user available and compare with HEI's connectivity in other parts of the world. This was with the view to determine the minimum necessary ratio for performance-leading work and learning conditions, investigate the availability of dark fibre in the sub-region and raise awareness among decision-makers on the need to facilitate access to higher and cheaper bandwidth for African HEIs. The presenter painted five scenarios based on the outcome of the findings which indicated the low level of internet connection among HEIs within the sub-region and recommended two strategies for ameliorating the situation. These included taking advantage of the new submarine cable and regional fibre optic networks which will become available during the next five years and the formation of a bandwidth buying consortium which can negotiate lower cost.

Comments centered on the following:

- The need for creating national and regional champions to drive ICT
- vision, coordination, financing and regulations to be emphasized in addressing all issues relating to research and education networks.
- Engagement with policymakers, industry and business leaders with a view to impressing on them the benefits of supporting infrastructural development for rsearch and education networks
- Promoting collaboration and pooling of resources in negotiating with service providers to cut cost.

6.1.2   DATABASE OF AFRICAN THESES AND DISSERTATIONS (DATAD)

The parallel session on the Database of African Theses and Dissertations featured three presentations as follows:

1.   **The Database of African Theses and Dissertations (DATAD),** *by Dr. Pascal Hoba, Head, Communication and Services, AAU and DATAD Programme Coordinator*,

The presentation emphasized that the need for access to African research led to the establishment of the DATAD.   DATAD was to contribute to the creation of an environment conducive to research, improve access, develop and provide support for AAU programmes.   The implementation adopted a mixed model and is regionally coordinated at the AAU Secretariat. The DATAD consists of data from graduate schools, computer centres, libraries, graduate students and faculties, with access to data on other networks.

For DATAD to succeed, there is need for adequate financing, improved data model, quality control, preservation and archiving, sustainability and taking account of the situation of African Universities.   The major challenges are those of copyright management, higher level of advocacy, development of sustainability with strong partners and full text access.

The next phase, DATAD II, will cover both abstract and full text of theses and dissertations and will encourage the setting up of national repositories, bring on board new institutions to contribute meta data to the database, integrate DATAD into the AAU strategic plan and budget and expose the research outputs of African HEIs to the wider research communities.

2. **The DATAD Project, Copyright Issues and the Librarian: The Situation in the University of Jos, Nigeria,** *by Dr. Adakole Ochai, University Librarian, University of Jos* (Case study of the DATAD Project at the University of Jos, Nigeria)

3. **Open Access Initiatives in Nigeria: A Case Study of Ahmadu Bello University, Nigeria,** *by Ezra Shiloba Gbaje, Department of Library and Information Science, Ahmadu Bello University, Zaria, Nigeria.*

The paper by Mr. Ezra Gbaje discussed the advantages of Open Access, including the ability of the library to own copies of e-journals without special permission and to provide access without authenticating users and without negotiation for pricing or licensing. It also gives visibility to research findings and showcases institutions' research profiles. Two strategies for providing open access were discussed: making journals accessible online and archiving theses, noting however that users must always acknowledge the authors. Mr. Gbaje noted that there is an ongoing pilot programme in the University of Jos and Ahmadu Bello University, Zaria, which aims at developing capacity for depositing theses, dissertations and journal articles in the institutional repository.

He observed that the way forward is to develop appropriate frameworks and policies to guide open access initiatives, work in collaboration with NGOs and other international organizations to promote open access; build the capacity of staff in the use of open access resources, and encourage stakeholders (lecturers, researchers, librarians and students) to deposit their articles and other materials on open access networks.

COMMENTS

Highlights of discussions were:
- Commendation of AAU's work with national groupings whose repositories are facilitating inter-library loans.
- Development of appropriate software to address concerns on intellectual property protection and plagiarism.
- The need for improving the technical features of DATAD to make it more accessible.
- Making programmes and research outcomes available to open access platforms.

6.1.3   AFRICAN UNIVRESITIES RESPONDING TO HIV & AIDS

There were three presentations in this session, as follows:

1. **AAU HIV & AIDS Programme 2003 – 2009** *by Dr. Gustav N. Malangu, Coordinator: Southern Africa Sub-region*

Dr. Melangu reported on the activities of the AAU HIV/AIDs Programme over the period 2003 to 2009. He explained that the first phase of the programme was initiated in 2002

and was extended to December, 2008. Programme activities during this period concentrated on four areas, namely, advocacy, capacity building, skills development and research documentation.

In December 2008 the Programme was assessed and findings showed that it had a positive impact on the participating universities. The Programme supported the development of HIV and AIDS policies as well as the review of curricula and integration of HIV and AIDS into existing curricula. The study recommended that a Monitoring and Evaluation System be agreed upon when funding is disbursed to member institutions and that training on Monitoring and Evaluation of staff involved in the funded programs should be encouraged. In addition, a little more focused effort was needed particularly in the Francophone sub-region because of glaring disparities between regions, and more funding should be generated for the project.

2.   **West African Sub-regional Network of Tertiary Institutions On HIV/AIDS: Coordinator's Report,** *by Dr. N.A. Akani*

Dr. Akani reported that the network which is hosted by the University of Port Harcourt was launched in March, 2008 and all Vice-Chancellors duly informed. The presenter went through the terms of reference which included sharing of best practices as well as prevention, mitigation and management of HIV and AIDS. He gave an update of the HIV activities and situation in the various universities, talked about upcoming events and shared some of the challenges facing the Programme.

3.   **UNAIDS Inter-Agency Task Team (IATT) on Education – Higher Education Responses,** *by Liu Yongfeng, UNESCO*.

The paper emphasized the importance of prompt response to the HIV pandemic because it constitutes a threat to young students aged between 15 and 24. The presenter observed that UNAIDS Inter-Agency Task Team on Education, which was established in 2002, aims at improving and accelerating the education response to HIV and AIDS by promoting and supporting best practices in the education sector. The task force generates awareness and mobilizes commitment to education response, documents good policy and practice, promotes coordination, harmonization and alignment.   The presenter concluded by raising issues on the challenges facing leaders of higher education institutions within the context of HIV and AIDS.

COMMENTS

Issues raised included:
- The need for HEIs in French-speaking African countries to participate in the Association's HIV/AIDS Programme.
- The need for collaborative platform among HEIs in Africa in order to share best practices in HIV/AIDS activities.
- Support should be sought from international agencies.

The parallel session on Quality Assurance and Harmonization of Higher Education included three presentations:

1.   **The African Quality Assurance Network (AfriQAN)**, *by Professor Mayunga Nkunya*,

The paper outlined the importance of harmonization in African universities and its underlying principles. Professor Nkunya emphasized the fact that harmonization does not entail standardization or achieving uniformity. Making reference to the African Union's harmonization goals, he noted that these were meant to provide an integration platform for dialogue and action, and facilitate the recognition of academic qualifications and students and staff mobility. Given the importance of QA in accreditation in Africa HE harmonization process, he noted that the AAU is in the process of establishing an African Quality Assurance Network. The objectives of the Network include sharing experiences and resources with members, promoting the establishment of external quality assurance agencies in Africa, facilitating research into the practice of quality management in HE and synchronizing and coordinating HE provision in Africa.

He requested for views from AAU members on the structure, roles and functions of the network and financing mechanism.

2.   **Harmonising Higher Education in Africa**, *by Mariama Sarr-Ceesay, Higher Education Unit/DHE, UNESCO/BREDA*

The presenter justified the harmonisation of higher education in Africa, noting that this will be achieved at three levels viz: national, regional and continental. In the development of a continental higher education framework, the paper suggested the need for the provision of support in the setting up and maintenance of accreditation and quality assurance system and the need to establish and maintain regional higher education harmonisation process aligned with each other and integrated into the continental framework. In conclusion, Ms. Sarr-Ceesay emphasised the need to move from the African Union vision to action.

3.   **Serving Higher Education in Africa** *by Ms Adwoa Sey, Project Officer, Quality Assurance, AAU.*

Presenting the third paper, Ms. Sey gave a situational report on AAU, its establishment, function and finances. She indicated that the activities of AAU are based on core programmes approved by the Board. She mentioned the issues that are particularly relevant to Africa as MDGs, HIV/AIDS pandemic, digital divide, and the effects of the Bretton Woods Institutions' recommendations. She added that QA is one of the projects of AAU with funding support from the World Bank and UNESCO. Current activities on QA include setting up of an African Quality Assurance Network; online discussion of

harmonisation in Africa; learning events on institutional self assessment, for national quality assurance bodies and liaison with other quality assurance bodies. Ms. Sey concluded by indicating some of the challenges that need to be grappled with, whichinclude further engagement with operational and academic bodies than political bodies and increased fund raising.

Discussions after the presentations noted:
- The need to ensure that quality assurance recommendations are implemented.
- In ensuring quality in HEIs, emphasis should be place on quality maintenance and quality sustenance.
- Effective programme harmonisation that goes beyond the language barriers.

6.1.5   REGIONAL CENTRES OF EXPERTISE (RCES) ON ESD

Three papers were presented in this session and addressed RCEs. The first paper was presented by the representative from the United Nations University (UNU) to provide the context for discussing the other two papers which were case studies on RCEs. The presenter explained that RCE programmes were proposed in 2004 by the UNU as its contribution to the Decade on Education for Sustainable Development (DESD). The RCE translates global initiatives into local programmes recognized by the Ubuntu Alliance. They are regional centres of ESD and link the RCE community to global development. Activities amongst RCEs are thematic and continental. They include youth, health, teacher training and e-learning. RCEs are a learning space and the UNU is committed to promoting them and their networking through the DESD.. The UNU does not support individual operation but collaborations. The author outlined the procedure for registration and acknowledgement of an RCE by the UNU.

The next two presentations described two RCEs, one in Parana, Brazil, and the other in Bayero University, Kano, (BUK) Nigeria. The Parana and BUK RCEs as case studies are different. The objective of the Parana RCE is to create transformative education and it has resulted into quality education, employability and a very beautiful environment on campus.

The BUK RCE plays the role of an initiator and was acknowledged in 2007 with a secretariat in BUK. It has 21 participating institutions all in Kano State, including all the colleges of education and farmer's associations among others. They have been involved in capacity building and teaching basic knowledge in ESD and promoting communication in sustainability. The current issues and projects include poverty eradication, environmental degradation, teacher training and curriculum development. The collaborative projects are many and inclusive. The presenter concluded that RCEs are of local relevance and space must be created to accommodate them.

COMMENTS
The following were noted:

- The absence of RCEs/ESD in French–speaking African countries.
- Need for interface with the private sector, especially in the area of community programmes.
- Need to identify sources of funding for RCE/ESD programmes.

6.1.6   MASTERS IN DEVELOPMENT PRACTICE INITIATIVES

Lucia Rodriguez and Katie Murthy of the Earth Institute of Columbia University, USA, jointly presented the paper in this parallel session. The presenter of the first part of the paper indicated that the catalyst for the creation of the two-year Masters in Development Practice (MDP) Programme included the need for cross disciplinary "generalist" practitioners, challenge of poverty alleviation, climate change, hunger elimination, among others. The objectives of the programme are to assess the effectiveness of existing training in education programmes, identify the core skills and competencies required of development practitioners, support the establishment of a new discipline – Sustainable Development Practice, support an interconnected global community of SD practice and recommend cross disciplinary education programme at all career stages.

The programme is available for policy administrators and other decision makers, educators and private sector professionals who learn many development skills, including cross disciplinary knowledge.

The second part of the presentation on the same initiative but titled "Global Classroom" was presented by Katie Murthy. The objects of the Global classroom are to build practical demonstration of the cross disciplinary MDP curriculum, connect students, faculty and practitioners and create opportunity for global collaboration. The key challenges are designing the curriculum, choosing an appropriate delivery model and mobilizing partner institutions.

The programme, which was launched in January 2008, will be expanded to include additional cross disciplinary courses, with a greater emphasis on asynchronous collaboration and with inclusion of seminars, colloquiums and informal discussions. The paper also mentioned the MDP field training which is a six-month hands-on learning experience involving collaborative work with MDP peers to address the challenge identified by partner organizations. Ms. Murthy mentioned some of the challenges in mounting the MDP, as funding, identifying implementation partners and fostering experience sharing in learning.

COMMENTS

The comments on the presentation centred on:
- The issuing authority for the MDP Degree.
- Accreditation process for the MDP Degree.
- Training of local faculty champions.
- Financial implication for African students participating in the MDP Degree.

7.1   CLOSING REMARKS

Closing the Conference, the outgoing President of AAU, Prof. Njabulo Ndebele thanked all participants for turning up in such large numbers and for their constructive contribution to the success of the Conference whose theme was more than ever before critically relevant and significant to the continent and indeed of the world at large.