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Addis Ababa, Ethiopia
23 – 28 April 2005

**Report of the WSIS Academia Research Network Brainstorming
Workshop
9 - 11 June 2004
Addis Ababa, Ethiopia**

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Opening (*session 1*)

Welcoming remarks and contextualising the workshop

In her opening remarks, Ms Karima Bounemra Ben Soltane, Director of the Development Information Services Division (DISD) of ECA welcomed the participants and thanked them for accepting to be part of the proposed Academia Research Network.

She presented the context of the meeting, which she said was being held as part of the African Information Society Initiative, an action framework, created in 1996 to build a sustainable Information Society. Given the importance of the information age for Africa's education system, ECA created the African Learning Network (ALN) as part of AISI's vision to facilitate the effective use of ICTs in the learning and teaching process, including stimulating a culture of research on ICT and society.

She outlined the basis for the creation of the Academia Research Network (ARN), launched by ECA with support from the Ford Foundation during the first phase of the World Summit on Information Society (WSIS) that was held in December 2003. WSIS is a global platform for key players from governments, UN agencies, private sector, academia, media and civil society to develop a common vision and an understanding of the Information Society, based on a declaration and a Plan of Action.

She lamented that despite active participation of various stakeholders in the WSIS preparations in Africa, the involvement of academia was not as dynamic. She stated that in recognizing the important role academia can contribute towards developing an Information Society in Africa, ECA decided that a WSIS Academia Research Network should be created to spearhead some key issues of particular concern to Africa, which is also reflected in the WSIS Action Plan. It is expected that the outcomes of the research activities will be presented during the next phase of the WSIS to be held in Tunis in November 2005.

The agenda of the workshop is attached as Annex 1.

Introduction of participants

Participants introduced themselves, their institutions and the research activities in which they were involved or interested in and also shared their expectations from the workshop. (A list of participants is attached as Annex 2).

Establishing the Information Society framework for Africa (*session 2*)

In order to provide participants with a better understanding of ECA's activities and to set the context in which ARN would operate, this session highlighted key elements of the AISI work programme. Four presentations were made by staff from ECA's Development Information Services Division (DISD) as follows:

a. ECA work programme: African Information Society Initiative (AISII)

Ms. Aida Opoku Mensah, ICT Team Leader, introduced the African Information Society Initiative (AISII) – an ICT-led socio-economic development framework, adopted

in 1996 to create effective digital opportunities for African countries to speed their entry into the information and knowledge global economy. She noted that AISI has been translated into concrete programmes and activities, including:

- Formulation and implementation of ICT policies at national, sectoral, regional and village levels);
- Building and managing information and knowledge in African countries and institutions by developing partnerships and networking for ICT4D activities. These include mechanisms such as Partnership for ICTs in Africa (PICTA), the African Technical Advisory Committee (ATAC), UN ICT Task Force, African Stakeholders Network (ASN), The Global Knowledge Partnership (GKP) and the Global ePolicy Resource Network (ePol-Net); and
- Promoting the involvement of key stakeholders in information society activities, including academia through outreach and communication activities.

b. Examining the regional dimension to the Information Society

Mr. Mohammed Timoulali, Regional Adviser, gave a presentation on ECA's work programme at the Subregional level and efforts that are being made to develop regional Information Society programmes. The presentation addressed challenges and opportunities in formulating and implementing Regional Information and Communication Infrastructure Plans (RICIs) and their different components in terms of policy and regulatory integration, infrastructure development and economic policies. The presentation touched on regional activities spearheaded by ECA, such as:

- Subregional workshop on National Information and Communication Infrastructure (NICI) Development for Southern Africa, held in Namibia, 12-14 April, 2000;
- Subregional workshop on National Information and Communication Infrastructure (NICI) Development for Eastern Africa, held in Addis Ababa, Ethiopia 19-21 June 2000; and
- Central African Monetary and Economic Community (CEMAC) workshop on ICTs for Regional Integration held in Yaounde, Cameroon from 11-13 September 2002.

The presentation also highlighted ECA's cooperation with Regional Economic Communities (RECs), such as ECOWAS and COMESA, where Information Society activities are earmarked for implementation. It was pointed out that the regional dimension of the Information Society should be factored into the creation of the ARN regional networks.

c. Role of Stakeholders in the Information Society: the case of academia

Mr. Thierry H. Amoussougbo, Regional Adviser gave a presentation on the role of the academia in the Information Society. He provided a background on the African Learning Network (ALN) and its three tenets: SchoolNet, Out-of-School-Youth Network and VarsityNet which were created as a result of the first African Development Forum (ADF) in 1999. He informed participants that VarsityNet is a programme whose objective is to facilitate the improvement of ICTs in the learning and teaching process, as well as to support Research and Development (R&D) in

higher education institutions. The presentation examined opportunities and challenges facing African academic communities in a number of areas, such as:

- setting and sustaining networking and partnerships mechanisms;
- providing and developing expertise for countries;
- serving as incubators for ICT initiatives; and
- providing cutting edge solutions and applications.

In order to stimulate ideas on the modus operandi of the research networks, questions were posed as to whether it should take the form of thematic or subregional networks, based on a shared vision and responsibility with a realistic work plan.

d. WSIS Action Plan and implications for African Academia

Mr. Makane Faye, Senior Regional Adviser, made a presentation on the review of the African WSIS preparatory process and in particular, the African Regional Preparatory Conference organised by ECA and the Government of Mali. African stakeholders attending the conference participated in 14 pre-conference workshops. The conference produced the Bamako Declaration that served as Africa's input towards the first phase of WSIS, held in Geneva 2003. To ensure the involvement of all key stakeholders, ECA embarked on a number of outreach activities, such as online discussions involving civil society, African governments, academia, media and the Diaspora. He touched on ECA's main activities during the Summit, such as the launch of the Academia Research Network (ARN).

WSIS addressed a number of key issues, such as Internet governance, funding mechanisms for the Information Society (including the Digital Solidarity Fund), intellectual property rights and follow-up to the second phase of WSIS to be held in Tunis in 2005. It was also pointed out that there was a need for a more proactive role of the African Academia during the second phase of WSIS to be held in Tunis in 2005.

Following the presentations, participants concluded that academia had a role in the establishment of the Information Society, including the expansion of the Internet in Africa. This role however, is not as visible as it should be. They also noted that academia needs to "rescue" and support AISI and AISI needs to involve and support academia in its activities.

A number of possible roles for academia in building the African Information Society, such as developing ICT indicators for ICT industries were proposed:

- Research outcomes on issues of the Information Society by the academia need to be popularized.
- There is a need to address the rights of content creators in the process of building the Information Society.
- There is a need to translate AISI into a sustainable Information Society;
- The naming of the network should be looked at. It should reflect the multi-disciplinary nature of the network and in particular, its focus on Information Society issues; and
- There is a need to ensure that the university environment is at the forefront of the Information Society in Africa.

In addressing the issue of the Information Society in Africa, practitioners are being trapped by an agenda set elsewhere and there is a need to find an alternative way of joining the Information Society.

In the '90s, connectivity was the focus of establishing an African Information Society. Today, language, content and cyber law have been added as important issues.

The Information Society in Africa is said to be lacking intellectual leadership. The need to find out the extent to which the academia is taking the leadership on issues of the information society in other regions of the world is important, especially in the context of the ongoing restructuring and transformation in African universities; there is a need to market the information already available in African universities.

It was stressed that instead of building a knowledge society, Africans need to build a "shared knowledge society". In addition, Africans need to master technologies and become producers and not just consumers. Mastering technology, it was agreed, is the ability to apply technologies in one's own language.

What needs to be done (session 3)

Identifying areas for research - brainstorming session

As a background to this session and to guide the brainstorming session, ECA circulated the document attached as Annex 3 entitled "*Academia Research Network: a briefing paper for presentation at the first brainstorming session of the ARN*". Seven proposed research topics were presented as follows:

1. Capacity building for the Information Society in Africa

The main elements of this issue include immediate solutions to bridge the capacity gap, such as generating and utilizing knowledge on contemporary issues and challenges, as well as institutional capacity development efforts for sustaining societal needs.

2. Creating the enabling environment

The UN Secretary-General under the framework of the WSIS Action Plan has established a Working Group on Internet Governance to develop a common understanding of the respective roles and responsibilities of governments, the private sector, and civil society from both the developing and developed countries. For African countries some outstanding issues in this area include:

- Participation and involvement in global Internet issues in line with national priorities and needs;
- Developing the appropriate national legal and regulatory framework within countries such as electronic protection (encryption) to ensure the development of e-commerce; and
- Supporting initiatives that build capacity in policy implementation based on socio-cultural and socio-economic conditions.
- Intellectual Property Rights - Globalization and the Information Age has pushed the need for the protection of new rules on Intellectual Property Rights (IPs) given that the Internet has created a digital

world without borders offering access to free content and knowledge (through information products). For people in the developing world who cannot afford to pay authors from the developed countries, this brings great promise of better access to learning and education. However, new techniques in IPR protection as a result of the Information Society have been introduced to reduce profitability risks from digital technology. This is an area where African countries are least prepared, and consequently where strategies are needed for instituting IPR regimes based on international principles without having to compromise on their national priorities.

3. *African languages and content development in the cyberspace*

With over 2,000 languages, which represent a third of all the languages worldwide, Africa cannot afford to ignore the issue of language in the development and building of an Information Society. Yet local African languages can become marginalized as a result of the Internet revolution with English becoming the dominant language. Efforts need to be made to include the use of local languages in the electronic world, if the majority of Africans are to gain access to the Information Society. Given that Africa is under-represented in the global Information Society, there is a need to build capacity to produce and collect accurate and relevant local content in official and national languages, recognizing oral and traditional forms of communication.

Research collaboration work could focus on technical aspects of the use of extended Latin-based character sets and non-Western scripts on computers and the Internet. Other issues include synchronization of content development in local languages and ICT policies in African countries.

4. *Measuring the impact of the African Information Society*

ECA with the support of IDRC, EU and NORAD has since 2001 taken up the challenge of developing Information Society indicators in the framework of the Scan-ICT project, which started in 2001. Scan ICT is an initiative that supports the growing investment in Information and Communication Technologies (ICTs) as well as the transition of Africa to an Information Society. A critical concern in Africa is documenting the impact of the Information Society on the life of citizens and its contribution in facilitating the implementation of the MDGs. The role of academia becomes essential with regard to measuring Information Society developments that can only be analyzed by further research.

5. *Mainstreaming gender in the Information Society*

Increasingly, information and knowledge have become essential building blocks of the Information Society and vital resources of the information economy in Africa. Since its inception, the AISI has recognized access to information and knowledge as key to the empowerment of women as a means to achieving gender equality. An ECA study on assessing ICT¹ impact on society concluded that in a number of spheres, there are significant discrepancies between men and women in terms of access to Information and Communication Technologies (ICT) for development and involvement of women in IT professions. These factors and others, notably

¹ <http://www.uneca.org/aisi/docs/ScanICT.pdf>

socialization and the fact that girls are not adequately oriented towards the sciences in education, are no doubt prohibiting to women's access to information.

To this end, it has been reiterated in Chapter J of the Beijing Platform for Action, and subsequently in ECA's Africa Women's Report², that utilization of information and knowledge would enable women to make informed decisions and improve their participation in political, economic and social activities for the betterment of their lives. Out of these broad conclusions, several research questions can be drawn including:

- Defining the quantitative or qualitative assessment of the impact of ICT access in women's economic empowerment and political participation;
- Assessing ICT policies and their impact on men and women; and
- Preparing women-friendly policies vis a vis the Information Society.

6. *Multi-stakeholder partnerships in building the African Information Society*

The Global Knowledge Partnership (GKP) defines Multi-Stakeholder Partnerships (MSP) as "Alliances between parties drawn from government, business and civil society that strategically aggregate the resources and competencies of each to resolve the key challenges of ICT as an enabler of sustainable development, and which are founded on principles of shared risk, cost and mutual benefit." The need for such alliances is a result of the recognition that no one party on its own can guarantee development.

Governments provide the political environment for development, specifically, the policies, standards and guidelines under which society should operate to achieve identified development goals. Civil society groups can influence policy and ensure that ICT strategies and programmes promote development, poverty alleviation, and participation of communities while advocating for the use of new and traditional ICT in the promotion of sustainable development based on social justice and human development. However, the academic sector is primarily responsible for training the workforce needed by most other sectors to undertake their various roles in the development of the Information Society. They also conduct research to advance technologies and develop new tools techniques and solutions.

7. *The industrialization of ICTs in Africa*

Africa's digital economy is characterized by being a net importer of all ICT products – computers, communication equipment, software and related services. Digital inclusion in the African context entails support and access to information and communications manufacturing capabilities especially with regard to low cost and appropriate technologies among other issues.

The NEPAD work plan emphasizes "the need for increasing Africa's capacity in design and manufacturing of communications equipment". African countries are developing ICT policies and strategies that promote the establishment of local ICT industries to facilitate the production, manufacturing, development, delivery, and distribution of ICT products and services. In some African countries ICT

² Forthcoming, October 2004

manufacturing capabilities are being encouraged through providing support to local ICT companies involved in innovative activities such as setting up IT parks. Some regional projects related to developing Africa's capacity in ICT industrialization such as INDAFTEL are also underway. There is a need to conduct research on selected critical issues related to the sector in order to review the current status, opportunities and challenges of ICT industrializations in Africa.

Key Issues raised in the discussion:

- ECA's proposed topics were identified based on the experiences of implementing the African Information Society Initiative since 1996 and the WSIS process;
- It was agreed that the list is by no means exhaustive and that further elaboration and review will be necessary. Further, there will be a need to focus on concrete terms in the context of AISI, WSIS, research, and the role of the African academia;
- ARN will function in the context of implementing the WSIS Action Plan and its follow-up as well as preparations to the second phase of the process in Tunis 2005;
- ARN members will need to look at the topics in more detail and make proposals on identifying the key priority research areas, which can be considered by the network.

Recommendations/Interventions:

- An additional topic on universal access was proposed and later participants agreed that the issue is adequately addressed in the other topics, particularly capacity building, creating enabling environment, and measuring the impact of the Information Society;
- Ethical issues related to the Information Society have to be included in "creating enabling environment";
- Mixing African languages and local content might be problematic. Therefore, while addressing the research topic this has to be clearly elaborated;
- Under capacity building, the use of Open Source and appropriate interactive multimedia content in the teaching/learning process needs to be considered. This is also related to African languages and local content development;
- There is a need for a bottom-up approach to identify the needs of the communities and prioritise the needs – leading to key research topics to be addressed by the network;
- The new roles of the future university, and making the new generation of universities more efficient should be addressed as one of the research areas - perhaps under the capacity building theme;

- The voice of the youth in the whole thinking process for identifying the research topics shall be considered in relation to building the future universities;
- There is a need to document best practices (successes/failures) under each research topic; and
- The proposed topics are quite pertinent in light of Information Society issues in Africa. However, some are crosscutting and they need to be reorganised and prioritised in the working group discussions.

Working groups on research agenda and report back from working groups

Three different working groups were formed to brainstorm, reflect and make recommendations on the research topics identified earlier. After thorough discussions in working groups, the three groups came up with the reports attached as Annex 4, and made presentations to the plenary to wrap up the session and cross-fertilize ideas.

Following the discussions in plenary, a small team was constituted composed of chairs and rapporteurs of the working groups, to compile the key issues reflected in the group reports and streamline the process and produce a consolidated report. The team presented the report attached as Annex 5, which identified seven major research topics with sub-topics.

Further discussions were held in plenary to wrap-up the session.

Key issues raised/interventions:

- There seems to be more focus on higher or tertiary education; what about schools and out of school education, distance education and other training programmes? Therefore, the capacity building topic should reflect training in its broadest sense.
- The concept of ethics in the use of ICTs should be clearly reflected in research topic on creating the enabling environment.
- Research should be aimed at harmonization of legal, security and technical aspects of ICTs.
- The dimension of solidarity with the rest of the world and the new types/modes of partnerships that are emerging within the new Information Society should be considered.
- The issue of oral communication should be addressed under African languages and local content.
- There is a need to consider the specificity of the African conditions in measuring progress and use of ICTs and development of appropriate tools and methodologies for an African situation.
- All research topics should consider gender issues as crosscutting.

- There is a need to consider development of profiles, framework and reference of partnerships in Africa as well as new mechanisms for partnership with the other parts of the world (rules, regulations and legal aspects).
- Investment, environment and regulatory issues should be reflected in the context of the research topic on industrialization of the African ICT sector.
- The research topic on industrialization should reflect the ICT service sector.

Recommendations:

In light of the individual and institutional research preferences of the members and the priorities for Africa, four priority research topics were identified. These are capacity building, creating enabling environment, measuring the impact of the Information Society, and industrialization of ICTs. In addition gender and youth issues should be considered as crosscutting under each research topic. The details of the research topics are indicated in Annex 5.

Creating subregional networks on information society issues (session 4)

Terms of Reference (TOR) for creating sub-regional research networks

On the basis of a proposal submitted by ECA, participants discussed the objectives, modalities and mechanisms for the creation of the research networks including the organisational and functional frameworks that will guide their operationalization.

Key issues raised:

- The purpose of the Network, which is to address the priority research areas and reposition the African academia within AISI. The Network should define its role and make the position of the African academia clear to all stakeholders;
- Documentation activities in selected areas will serve as input to ARN and the WSIS 2005 process;
- The Network should take into account the composition and number of members in each group and the operationality problem of a larger group, including institutional and geographical dimensions of the network, the challenges of working in a virtual vs. physical environment, working language/s of the groups and the multidisciplinary character of the Network;
- The fate of the [mother] Network in the context of setting up thematic sub-networks would need to be considered.

Recommendations:

- The Network should evolve using a thematic approach and change as the need arises;

- The first five research networks to be created include capacity building, enabling environment, industrialization, measuring Information Society and African languages and content;
- Each group will have up to ten people (submission of names comes from participants);
- Membership will be on an individual basis - there will be no institutional representation);
- Members of the Network can have two preferences to join groups in the different thematic areas;
- Members of each group will be identified by the participants (ARN members) and ECA will also distribute list of names for consideration;
- ECA would create a web site and a D-group service with the archives of the messages for the groups to streamline discussions and identification of members; and
- For the time being, English and French will be the working languages of the network.

Way Forward:

How to fit the research agenda into WSIS Action Plan /AISI

In the framework of the AISI and the WSIS Action Plan and in line with the discussions and core set of actions defined during the two-day brainstorming session, participants agreed on short, mid and long-term activities for the Network. It was agreed that the first face-to-face meeting would be held in September 2004, before the ECA Conference of Ministers.

Any other business

There was no other business.

Closing

Ms. Karima Bounemra Ben Soltane DISD Director made her closing remarks and thanked the participants and the Secretariat for their active and focused participation. She urged participants to continue supporting and showing dedication to the activities and operationalization of the Network. The Director stressed that the ARN agenda and the action plans formulated in this first brainstorming session require committed members to renew the intellectual leadership role of the African academia in the development of the African Information Society.

ANNEX 1: Agenda of the workshop



UNITED NATIONS ECONOMIC AND SOCIAL COUNCIL

Original: ENGLISH

ECONOMIC COMMISSION FOR AFRICA

WSIS Academia Research Network Brainstorming Workshop

9 - 11 June 2004

Conference Room 6 - United Nations Conference Centre

Addis Ababa, Ethiopia

Provisional Agenda

DAY 1: Wednesday, June 9

14:00 – 14:30 Registration

SESSION I: OPENING

14:30 – 16:00 Welcoming remarks and Contextualising the workshop
Karima Bounemra Ben Soltane, Director, Development Information Services
Division (DISD)

Introduction of participants

SESSION II: ESTABLISHING THE INFORMATION SOCIETY FRAMEWORK FOR AFRICA

ECA work programme: African Information Society Initiative (AIS)
Aida Opoku Mensah, Team leader, Promoting ICTs for Development,

Discussion

16:00 – 16:30 Coffee Break

16:30 – 18:00 Examining the Regional Dimension to the Information Society
Mohammed Timoulali, Regional Adviser, DISD

Role of Stakeholders in the Information Society: the case of Academia
Thierry H. Amoussougbo, Regional Adviser, DISD

WSIS Action Plan and implications for African Academia
Makane Faye, Senior Regional Adviser, DISD

Discussion

DAY 2: Thursday, June 10

SESSION III: WHAT NEEDS TO BE DONE

9:00 – 11:00	Identifying areas for research: Brainstorming Session
<i>11:00 – 11:30</i>	<i>Coffee Break</i>
11:30 – 13:00	Working Groups on research agenda
<i>13:00 – 14:30</i>	<i>Lunch</i>
14:30 – 16:30	Working Groups (continue)
<i>16:30 – 17:00</i>	<i>Coffee Break</i>
17:00 – 18:00	Report Back from working groups

DAY 3: Friday, June 11

9:00 – 11:00	TOR for creating sub-regional research networks
	Discussion

<i>11:00 – 11:30</i>	<i>Coffee Break</i>
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SESSION IV: CREATING SUB-REGIONAL NETWORKS ON INFORMATION SOCIETY ISSUES

11:30 – 13:00	Working Groups: on modalities for creation of sub-regional networks
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<i>13:00 – 14:30</i>	<i>Lunch</i>
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14:30 – 16:00	Report back from Working Groups
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Discussion

<i>16:00 – 16:30</i>	<i>Coffee Break</i>
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16:30 – 17:30	Way Forward: how to fit the research agenda into WSIS Action Plan / AISI
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Any Other Business

Closing

ANNEX 2: List of participants

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ANNEX 3: ARN Issue/Background paper



UNITED NATIONS ECONOMIC AND SOCIAL COUNCIL

Original: ENGLISH

ECONOMIC COMMISSION FOR AFRICA

WSIS Academia Research Network Brainstorming Workshop

9 - 11 June 2004

Conference Room 6 - United Nations Conference Centre

Addis Ababa, Ethiopia

Academia Research Network (ARN): A Briefing Paper for presentation at the first brainstorming session of the ARN

Background

A nation's ability to fully develop an Information Society depends on the capacity of its people to be educated, to assimilate, and to process complex information. In this context, higher education institutions play a critical role, whilst repositioning themselves for the challenges of globalization and the information age.

Worldwide, academic communities have been part of a driving force in creating the Information Society, including spearheading intellectual leadership through a series of knowledge-building activities. They constitute a tremendous reservoir of expertise that could provide vital assistance working with governments, private sector and civil society in an increasingly globalized and complex world.

Apart from the absence of systematic programmes on research and development activities there is limited literature available on the Information Society produced about Africa by Africans. According to a recent report of the Association of African Universities' ICT Technical Experts, *"many HEIs in Africa have not been part of the globalization and the information age, thus being left out of the unprecedented tools made available by the ICT revolution for education, learning, research and development and for various categories of management activities"*.

As a result, Africa's academic and intellectual communities are considered relative newcomers to discourses on the information society despite their earlier involvement in information for development activities in late 1980s and 1990s, with projects such as the Pan African Development Information System (PADIS) and the Capacity Building in Electronic Communications for Africa (CABECA). Whilst these initiatives placed African universities in the driver's seat of ICT-related activities in Africa momentum has dropped since then.

It is for this reason that Academia Research Network project has been launched to bring the diverse and varied research activities in the field of ICTs and society to the attention of African researchers, signaling the need for academics to effectively engage in collaborative research activities on the continent and assert their intellectual role.

The African Information Society Initiative (AISI) and the African Learning network

In building an Information Society where key stakeholders can play a pivotal role, ECA upon the request of its Member States launched the Africa Information Society Initiative (AISI). This was the first framework of its kind to concretely prioritize the issue of ICTs within the socio-economic development agenda. This initiative was approved by the ECA Conference of Finance Ministers in 1996 and adopted the same year by the Summit of Heads of State and Governments of the Organization of African Unity and ultimately supported by the then G7+1 as Africa's major ICT initiative in its 1997 Denver Summit. The AISI recommendations fed into the World Summit on the Information Society (WSIS) Action Plans and are the cornerstone of the NEPAD ICTs Short Term Action Plan.

Through the implementation of AISI, ECA has supported the formulation of national e-strategies commonly known as National Information and Communication Infrastructure (NICI) plans, in approximately 30 African countries, which promote the formulation and implementation of e-strategies. Other AISI activities include information and knowledge management activities and projects that include the Information Technology Centre for Africa (ITCA), which is an information and communication technology (ICT) focused exhibition and learning centre to demonstrate to African policy makers and planners the value of ICT for development.

With respect to information and knowledge management activities for African academia, ECA considers the higher education community as the intellectual backbone to lead Africa into the digital age. The AISI framework document states that the AISI higher education and research objective is "to act as a vehicle for pooling national and regional intellectual and human resources to help contribute to research and development efforts in the continent.

In re-affirming the role of academia, universities and research institutions in the Information Society, ECA created VarsityNet, which is part of the Africa Learning Network (ALN), created to facilitate the effective use of ICTs in the learning and teaching process. The ALN was launched during the first African Development Forum (ADF'99), of which the theme was "The Challenge to Africa of Globalisation and the Information Age". The ALN is based on the premise that transformation in education and learning requires a shift from traditional methods where new technologies can create the opportunity for the best minds to exchange information across vast distances, both at the national level and across throughout the Diaspora.

There are three pillars to the ALN:

- ICTs in schools, and the creation of a regional **SchoolNet** Africa structure that supports national and regional school networking activities. The initiative started with networking schools in Africa and has expanded to capacity-building activities for teachers, as well as research on ICT and education. It is currently operational in 31 countries in over 300 schools.

- **VarsityNet**, which establishes connectivity at universities and related institutions of higher learning and research, and stimulates the development of content production and information sharing within this environment. Under the VarsityNet programme, a pilot Research & Development project is underway supported by the Ford Foundation and implemented by the Addis Ababa University and the Inter-University Council of East Africa (IUCEA). The project in Ethiopia is engaged in research on a pilot application in the area of e-government and the use of the Amharic local language for a web-based, multilingual and multi-alphabet, customizable document exchange platform to be used by local and central governments in the country. IUCEA is implementing the project in collaboration with the Universities of Nairobi (Kenya), Makerere (Uganda), Dar-es-Salaam (Tanzania) and the Jomo Kenyatta University of Science and Technology (Kenya) to develop a pilot application that supports the International Fellowships Programme (IFP) and the Inter-University Students Exchange Programme for East Africa.
- **OOSYNET**, a youth networking initiative that addresses the needs of Out-Of-School Youth (OOSY) at the national and regional level. Some pilot activities underway include support to the Imfundo project in Ethiopia focusing on enhancing the learning experiences and livelihood skills of urban disadvantaged children through information and communication technologies (ICTs).

Each of the above-mentioned categories comprises four areas of focus:

- **Curriculum Development and Access to Information for Learning**
Measures to enrich learning of cultural, scientific and social subjects, to lay the foundation for self-guided learning and, adapting appropriate media for different learning environments
- **New Learning Approaches and Outcomes**
Measures to promote peer education, community learning ventures, public debate and decision-making skills
- **Knowledge Sharing and Building Intellectual Capital**
Measures to promote the creation and presentation of content and knowledge by learners and teachers and to empower them as global communicators
- **Programme Sustainability and “Revenue” Creation**

Measures to promote the production of content for sale in the knowledge marketplace (e.g. to Centres of African Studies), to protect African intellectual property and to reinforce human capacity in science, engineering and technology

More information on the ALN is available at <http://www.uneca.org/aisi/>

The Academia Research Network as Part of VarsityNet

As flipside to the VarsityNet R&D activities that has been focusing predominantly on applications and software solutions, the ARN will concentrate its research activities on ICT and society issues. Although the research activities are distinctly different, it is expected that

there will be synergies between the researchers working on R&D activities with members of the ARN.

The launch of the ARN took place in December 2003 during the first phase of WSIS, having originated from a *Visioning Retreat*³ on the theme "Intellectual Leadership and the African Information Society Initiative: What Role for Africa's Academic Community?" The Retreat was organized by ECA and the Ford Foundation partners in June 2003 to prepare the African academia to reflect upon their role in the Information Society and to sensitize them to the WSIS process. Participants brainstormed for two days to identify their vision of an Information Society, and measures they should take for their involvement beyond the mere usage of ICTs. This also included how African research and higher education institutions could provide a leadership role to ensure that they become innovative contributors.

To translate vision into reality, the creation of an Academia Research Network was proposed as a concrete follow up activity of the Retreat. ECA in collaboration with the Ford Foundation has since taken the lead in creating this network so as to provide a platform and space for leading African academics and researchers to enhance their role and to reflect on the many intellectual issues related to the Information Society.

WSIS, ECA and the Academia Research Network

The WSIS provided a global platform where key actors: governments, UN agencies, private sector, academia, the media and the civil society, came together to develop a common vision and understanding of the Information Society and have adopted a declaration and a plan of action.

ECA has been working with African stakeholders to solicit their input and encourage their active participation in the WSIS process to ensuring that Africa's voice and concerns are articulated and addressed throughout the preparations for the Summit. This process began when ECA in collaboration with the Malian Government organized the African Regional Conference held in May 2002, as a preparatory meeting for WSIS. Known as Bamako 2002, the Conference was attended by 45 African countries with representatives from governments (most of them at ministerial level), civil society, and the private sector.

To date, it has been difficult to concretize the consistent input of the African academia in building the African Information Society, in general and in the WSIS, in particular. Yet, they represent an unparalleled but untapped source of knowledge, expertise and innovations on the continent and can make significant contributions to the advancement of the African Information Society as well as the incorporation and integration of African views and issues into the WSIS processes. Consequently, ECA remains committed to ensuring that African academia to play a significant role in the continent's Information Society, despite the fact that they still lag behind other sectors, such as civil society and mass media, in preparing for the next phase of WSIS, to be held in Tunis, Tunisia.

Proposed Research Topics for the Academia Research Network

In implementing the AISI at the national level, many countries have embarked on national e-strategies/policies (known as National Information and Communication Infrastructure – NICI plans), and the intellectual input and guidance of academia needs to be increased in both the formulation and implementation processes of such policies. In line with the objectives of the

³ <http://www.uneca.org/aisi/academiaretreat.htm>

AISI and the ALN VarsityNet programme and the WSIS Action Plan, the first consultative (and brainstorming) session of the ARN will bring together academics and researcher to review trends in the Information Society and:

- Determine strategies to reverse the absence of systematic programmes on policy research on an African-driven information society for Africans;
- Identify research topics that can enhance the development of the African Information Society;
- Establish modalities for the subsequent launching of sub-regional networks of the ARN based on the identified topics; and
- Propose an action plan for specific follow-up activities in respective sub-regions.

In light of this meeting, ECA has selected some initial topics for members to consider and review, which could serve to enhance the discussions and lead to research activities based on agreed and appropriate methodologies and frameworks.

1) Capacity building for the Information Society in Africa

Capacity building can be defined, in general terms, as the process of improving a nation's capacity to effectively initiate and implement policies, programmes and strategies for maintaining and advancing institutions, infrastructure, and systems for the production and exchange of goods and services. The main elements include immediate solutions to bridge the capacity gap, such as generating and utilizing knowledge on contemporary issues and challenges, as well as institutional capacity development efforts for sustaining societal needs.

With respect to the emergence of the Information Society and access to the ICTs, there are two strands to capacity building. ICTs can contribute to both individual and institutional capacity building and facilitate knowledge acquisition as educational tools in various fields. With respect to capacity building in the ICT sector, they provide the necessary skills for the skillful manipulation of technology and the mastering of practical applications. Capacity building in the short to long term is becoming a key strategy for building an inclusive Information Society where the utilization of knowledge becomes an integral component for education and overall socio-economic development. However, the determining factors are:

- Creating the enabling educational policy to support the development of e-literate citizens;
- Assisting educational institutions adapt to new requirements as a result of the Information Society;
- Developing the necessary multidisciplinary and interdisciplinary skills within educational institutions;
- Designing new models for capacity development both within and out of educational institutions

2) Creating an enabling environment

a) Internet Governance

The Internet is a collection of networks joined together to form a global communications medium made up of multiple components including technical protocols, elaborate numbering and naming systems based on widely accepted standards. This infrastructure allows the transmission of information across a multitude of interconnected networks, making the management of the Internet a controversial and high collaboration activity. Given this

background, the UN Secretary-General under the framework of the WSIS Action Plan has established a Working Group on Internet Governance to develop a common understanding of the respective roles and responsibilities of governments, the private sector, and civil society from both the developing and developed countries.

For African countries some outstanding issues in this area include:

- Participation and involvement in global Internet issues in line with national priorities and needs;
- Developing the appropriate national legal and regulatory framework within countries such as electronic protection (encryption) to ensure the development of e-commerce;
- Supporting initiatives that building capacity in policy implementation based on socio-cultural and socio-economic conditions.

b) Intellectual Property Rights (IPRs)

Globalization and the Information Age has pushed the need for the protection of new rules on Intellectual Property Rights (IPRs) given that the Internet has created a digital world without borders offering access to free content and knowledge (through information products). For people in the developing world who cannot afford to pay authors from the developed countries, this brings great promise of better access to learning and education. However, new techniques in IPR protection as a result of the Information Society have been introduced to reduce profitability risks from digital technology. Developed countries as major exporters of intellectual property products pushed for a change in perspectives in the international arena, leading to the “Agreement on trade-Related Aspect of Intellectual Property Rights” (TRIPs) taken up by WTO and other global bodies such as ICANN, and WIPO from various perspectives. The upshot of this is that richer countries will have more leverage for the enforcement of IPRs with mounting pressure on poorer ones to institute similar IPR legal administrations. This is an area where African countries are least prepared, and consequently where strategies are needed for instituting IPR regimes based on international principles without having to compromise on their national priorities. How can academia provide advice to their governments including:

- Advise countries on the establishment of cyberlaws and IP policies in line with their national e-strategies;
- Seek solutions on creating the appropriate IP infrastructure;
- Assist with the building of the requisite human resources necessary for managing IP regimes/systems;
- Develop human capacity in the area of cyberlaws.

3) African languages and content development in the cyberspace

With over 2,000 languages, which represents a third of all the languages worldwide, Africa cannot afford to ignore the issue of language in the development and building of an Information Society. Yet local African languages can become marginalized as a result of the Internet revolution with English becoming the dominant language. Efforts need to be made to include the use of local languages in the electronic world, if the majority of Africans are to gain access to the Information Society. Given that Africa is under-represented in the global Information Society, there is a need to build capacity to produce and collect accurate and

relevant local content in official and national languages, recognizing oral and traditional forms of communications.

AISI emphasizes the importance of preserving and promoting African cultures, including the usage of local languages and content creation. There have also been calls to address new imperatives and challenges in the adaptation of African languages to promote greater access to the Information Society, as clearly spelt out in the Bamako Declaration. Consideration should be given to the continent's linguistic specificities with the introduction of ICTs for content generation and creation. Consequently, research collaboration work could focus on technical aspects of the use of extended Latin-based character sets and non-Western scripts on computers and the Internet. Other issues include synchronization of content development in local languages and ICT policies in African countries. Therefore, some of the issues for discussion are:

- Determining the economic, political and technological aspects of language development in the Information Society
- Building individual and institutional capacities for addressing language needs in the academic community
- Providing an information and knowledge infrastructure for local language exchange and dissemination.

4) Measuring the impact of the African Information Society

The tremendous growth in the use ICTs led to an increased interest in understanding its social and economic impact, giving rise to crosscutting research to understand the effects on the academia community in particular and the society at large. In addition, there is a need to develop indicators for the targets set in the WSIS Action Plan “as global references for improving connectivity and access in the use of ICTs” which are to be achieved by 2015. In addition, the WSIS Action plan recommends development of indicators for monitoring implementation between the two phases of the WSIS. This led to the involvement of the UN ICT Task Force and comforted the role of the UN Regional Commissions. In this context, several activities are being carried out by stakeholders, including consultations on indicators and benchmarking issues, development of questionnaires and discussions on core data sets, and the involvement of statistical offices and academia.

ECA with the support of IDRC, EU and NORAD has since 2001 taken up the challenge of developing information society indicators in the framework of the Scan-ICT project, which started in 2001. Scan ICT is an initiative that supports the growing investment in information and communication technologies (ICTs) as well as the transition of Africa to an Information Society. The pilot phase was implemented in six African countries (Ethiopia, Ghana, Morocco, Mozambique, Senegal and Uganda) to collect, analyze, and disseminate information on the penetration and application of ICTs in various sectors of the national economy and society. One of its objectives is to put in place a system of data collection and updating at the national level for monitoring the information society. The Scan-ICT process and methodology have been fully documented and all the reports are available at: <http://www.uneca.org/aisi/scanict.htm>

A critical concern in Africa is documenting the impact of the Information Society on the life of citizens and its contribution in facilitating the implementation of the MDGs and the role of academia becomes essential with regard to measuring information society developments that

can only be analyzed by further research. A number of research areas should be addressed in the context of measuring the impact of the African Information Society. These include:

- Identification of indicators for measuring and benchmarking the information society;
- Assessing information society indicators;
- Determining the appropriate methodologies in the African context; and
- Determining the role of national statistics offices in the process.

5) Mainstreaming gender in the Information Society

Increasingly, information and knowledge have become essential building blocks of the Information Society and vital resources of the information economy in Africa. Since its inception, the AISI has recognized access to information and knowledge as key to the empowerment of women as a means to achieving gender equality. An ECA study on assessing ICT⁴ impact on society concluded that in a number of spheres, there are significant discrepancies between men and women in terms of access to information and communication technologies (ICT) for development and involvement of women in IT professions. These factors and others, notably socialization and the fact that girls are not adequately oriented towards the sciences in education, are no doubt prohibiting to women's access to information.

To this end, it has been reiterated in Chapter J of the Beijing Platform for Action, and subsequently in ECA's Africa Women's Report⁵, that utilization of information and knowledge would enable women to make informed decisions and improve their participation in political, economic and social activities for the betterment of their lives. Out of these broad conclusions, several research questions can be drawn including:

- Defining the quantitative or qualitative assessment of the impact of ICT access in women's economic empowerment and political participation;
- Assessing ICT policies and their impact on men and women; and
- Preparing women-friendly policies vis a vis the Information Society.

6) Multi-Stakeholder Partnerships in building the African Information Society

The Global Knowledge Partnership (GKP) defines Multi-Stakeholder Partnerships (MSP) as "Alliances between parties drawn from government, business and civil society that strategically aggregate the resources and competencies of each to resolve the key challenges of ICT as an enabler of sustainable development, and which are founded on principles of shared risk, cost and mutual benefit." The need for such alliances is a result of the recognition that no one party on its own can guarantee development.

Governments provide the political environment for development, specifically, the policies, standards and guidelines under which society should operate to achieve identified development goals. Civil society groups can influence policy and ensure that ICT strategies and programmes promote development, poverty alleviation, and participation of communities while advocating for the use of new and traditional ICT in the promotion of sustainable development based on social justice and human development. However, the academic sector is primarily responsible for training the workforce needed by most other sectors to undertake

⁴ <http://www.uneca.org/aisi/docs/ScanICT.pdf>

⁵ Forthcoming, October 2004

their various roles in the development of the Information Society. They also conduct research to advance technologies and develop new tools techniques and solutions. However, the objectives of all sectors can only be achieved if their efforts coordinated and the multi-stakeholder partnership (MSP) framework provides for such coordinated approaches. Though seven principles have been enunciated for the management of MSPs, the nature of the partnerships will still depend upon their jurisdictions. Moreover the concept of MSPs is still developing and there is a need for additional research on its application and on relevant issues within the African context. Specific issues, or research questions, to be investigated under the theme of MSP include:

- Determining the components of the information infrastructure that are best provided by academia;
- Identifying alternative models for funding public goods such as research on ICT4D in the academia community;
- Defining organisational and administrative models for shared responsibilities between various stakeholders;
- Developing strategies to support decision-makers with respect to the development of the Information Society.

7) The Industrialization of ICTs in Africa

Africa's digital economy is characterized by being a net importer of all ICT products – computers, communication equipment, software and related services. Digital inclusion in the African context entails support and access to information and communications manufacturing capabilities especially with regard to low cost and appropriate technologies among other issues.

The NEPAD work plan emphasizes “the need for increasing Africa's capacity in design and manufacturing of communications equipment”. African countries are developing ICT policies and strategies that promote the establishment of local ICT industries to facilitate the production, manufacturing, development, delivery, and distribution of ICT products and services. In some African countries ICT manufacturing capabilities are being encouraged through providing support to local ICT companies involved in innovative activities such as setting up IT parks. Some regional projects related to developing Africa's capacity in ICT industrialization such as INDAFTEL are also underway.

There is a need to conduct research on selected critical issues related to the sector in order to review the current status, opportunities and challenges of ICT industrializations in Africa. In this regard, the African Academia Research Network can contribute significantly through research topics including the following:

- Advising countries on more strategic choices and potential for ICT industrialization and manufacturing capacity;
- Determining strategies within this context for African regional integration programmes;
- Assessing lessons learned, particularly from other regions of the world;
- Designing private-public partnership mechanisms and models with a clearly defined role for academia.

Conclusion

The afore-mentioned issues, though not exhaustive, are aimed at opening and stimulating debate during the meeting to provide a unique platform for the full engagement of Africa's intellectual community in determining their role vis a vis the development of the Information Society on the continent, as well as create a collaborative approach to research on ICT and society.

The workshop is expected to determine the modalities for the establishment of ARN sub-regional networks and the identification of key research topics for researchers to address based on an initial face-to-face meeting followed by regular electronic interaction by members and partners. ECA will provide electronic discussion lists for each sub-regional network and, where and when possible, promote sub- and regional engagement. The event will provide the opportunity for participants to reflect their views on the above-mentioned issues as well as identify other areas that they consider pertinent to current debates on the Information Society.

Participants are drawn from central, east, north, southern and west Africa, including resource persons, and representation from some regional and international institutions.

Through the activities of the ARN, ECA will harness research and analytical outputs as the contribution of the African academia to the WSIS 2005 process, as well as disseminate the research findings throughout the continent and internationally.

ANNEX 4: Reports of working groups

Group 1 Report

The group was chaired by Prof. Anthony J. Rodriguez. Ms Sarah Driver was elected as a Rapporteur.

The Chair reminded the group the objectives of the breakout session:

- Review the proposed research topics;
- Identify interested research areas and thematic network to establish accordingly; and
- Propose the way forward on implementation.

The group agreed to have the guidelines as background and to focus on the main priorities and challenges that African countries are facing. The aim of the breakout session was to identify relevant and concrete research topics and not the number of research topics.

Research topic 1: Capacity building for the Information Society in Africa

The following issues ensued:

- Capacity building should include the community at whole;
- Workshops and forums are not sufficient. The problem needs to be tackled at the base;
- Methodology, pedagogy and communication need to be considered.

From the above the following research topic was agreed on:

“Operational mechanism that will enable the emergency of models in training, research, documentation, pedagogy and communication in the African Information Society.”

Research topic 2: Creating of Enabling Environment

The following legal, institutional, social, economic, cultural and technical aspects of enabling environment were raised:

- Enabling environment to foster universal access;
- Enabling environment due to adequate legislative and regulatory framework;
- Enabling environment to ensure, privacy, consumer protection; and
- Enabling environment to ensure digital solidarity, key concept, key outcome of conducive environment of an inclusive information society.

The group agreed to have as research topic priority, **“Fundamental principles of digital solidarity”** and proposed that this topic be included as a discussion theme during the African Regional Conference, to be held in Ghana.

The research topics identified after discussions are:

- **Fundamental principles of the Digital Solidarity;**
- **Legal and Technical Security;**
- **Rule of Law and Protection of the cyber citizen** (e-government, freedom protection, participation of stakeholders)
- **Law and market economy and Protection of the cyber consumer** (e-commerce, e-payment, e-banking, IPR, telecom regulations, etc); and

- **Cyber crime and protection of the value system in African Information Society** (illegal content, frauds, public order, vulnerable groups)

Research Topic 3: Africa Language and content development in the cyberspace

Discussions emphasized the richness of African local content, cultural diversity and languages. There is a need for African languages on the Internet and more Africa content in traditional media, radio and television on African culture, localization and digitization. The criteria of language selection should be defined.

The research topics agreed upon were:

- **Emerging African Languages in the Information Society**
 - linguistics
- **African Languages, Oral, tradition in Cyberspace**
 - Technical
 - Cultural dimension

Research Topic 4: Measuring the impact of the African Information Society

The main question raised in this discussion was the non-standardization of assessment methodology. Norms and alignment of standards as well as harmonization of methodologies need to be considered since the expected achievement is the evaluation of the socio-economic impacts of the Information society. The group raised the question “How can we establish a basic standard for Information society?”

The research topics agreed upon were:

- **Standardisation of African assessments for measuring evaluating and improving the African Information Society**
 - ✓ The legal and technical means
 - ✓ Stakeholders
 - ✓ Methodology by sector
 - ✓ Standards-Interrelation
 - ✓ Environment
 - ✓ Cyber-Audit strategic

Research Topic 5: Mainstreaming Gender in the Information Society

How to ensure mainstreaming of gender equality and youth causes in various policy and strategies for a real socio-economic impact was the main focus of the discussions. It was agreed that a digital solidarity framework should include youth and gender causes. The following research topics were proposed:

- **Digital Solidarity**
 - ✓ Gender dimension
 - ✓ Inclusion of Youth
 - **Digital Solidarity and Inclusion of vulnerable groups in the African Information Society.**
-

Group 2 Report

Capacity Building

Capacity building should be centred on people and institutions. We should not also limit ourselves to formal education. We should engage in curriculum development and use universities and research institutions and maximize available knowledge. We should also not limit ourselves on higher education and neglect primary education and life long learning. We should also encourage use of ICT everywhere including sports club.

To deal with capacity building we recommend the creation of:

- Local Research Networks
- Metropolitan (Sub Regional) Research Networks
- Wide Research Networks.

We need to develop a learning model out of the normal curriculum (Learning triangle) for Out Of School Youth (OOS) and use incubators to address software design, content development and business models. This can be done in technology parks.

Research topics identified cover:

- Curriculum development
- Teaching methods and materials
- Distance education, including exploring the use of Open Source Software to develop platforms and material
- Incubator model for Out of School

Enabling Environment

We are all exposed because we do not have the appropriate and relevant laws governing the information society. How do we contribute? Should do we leave Internet Governance in the hands of policymakers and the private sector? Academia and research depend heavily on the use of Internet and ICT networks, hence if the existing scenario changes, we may enter in big trouble.

On cyber laws we need for a model encompassing all aspects of laws governing ICT development, exploitation and use. This should start at country level to assist implementation of National Information and Communication Infrastructure (NICI) plans, then move to the sub region to promote exchange between Regional Economic Communities (RECs) then later adopted at the continental level.

We should also challenge research institutions to come up with recommendations on sustainability and availability of free access to educational sector and research institutions. There is need for research on best practices which should be maintained by principle at the national level and to be fed into regional and global levels. (The examples of Sudan and Egypt were cited).

There should be research on how to bring together available teaching material from African countries and promote openness to share freely what is available between African countries. The Fair use concept was cited.

On Intellectual Property Rights (IPR), there is misappropriation of traditional knowledge and hence we need a regional framework for having minimum guarantee for traditional knowledge exploitation.

Research topics:

- Cyber laws
- Fair use
- Protecting local knowledge
- Model dialogue between Linguistic centres and Information Technology Centres

African languages and content

Local languages and local content are important in the African context. When we come to decentralization, local Governments are encouraged to develop their own content using local languages. The issue is not competing with Western languages but to enable our populations to participate.

What types of issues to deal with in the cyberspace?

What need to be done in Local Research Networks and Metropolitan Research Networks?

Research topics:

- Creating platforms using local languages
- Research on how to involve local communities in content creation and use of local languages to digitize content on culture and business. (The projects should have impact on socio economic development).

Measuring the impact of the African Information Society

Many people assume that ICTs are useful but scientifically, how to determine its usefulness is not clear. Also in the same time many of our countries are donor dependant and it is useful to see impacts made in using these funds. The impact will also enable our countries to include ICT as a priority in programme and budget allocation.

We need to have both qualitative and quantitative indicators (and the non tangible ones). They must be based on informative assessments.

One of the basis for identifying the indicators should be the MDGs but we should not limit ourselves to them.

Impact assessment should not also be addressed in multidisciplinary approach as this question cannot be answered by one group only.

The research questions may help identify the indicators; MDGs, PRSPs, may give some directions to the questions.

How to collect the information on the most accurate way to make sure that the outcomes are as much closer to the realities and to consider a milestone and from the outcomes of that information we would be able to plan ICT appropriation by Africans.

Research topics:

- How much ICT is contributing to economic, social and political impact?
- Central statistical offices are mandated to collect data. How to involve relevant stakeholders, especially statistical offices?

Mainstreaming Gender

There is a backlog of women not playing their role in the society and economies of the continent and thus they need more consideration. We should also consider appropriate technologies with special attention and consideration. Do we need special applications?

We should determine the role of women in the informal market because most of the business (informal) in Mozambique, South Africa, Tanzania are managed by women; and since the emergence of mobile phones, almost every woman in the business is supported by mobile phones (beeping, prepaid cards, etc.)

Youth is cross cutting and gender should also have been a cross cutting theme. It should be incorporated in all the thematic areas.

Research topics:

- *What type of research activities should be undertaken to promote gender mainstreaming?*
- *What would be the entry point when mainstreamed?*
- *Research should be done in the area of ICT to determine how the cultural barriers on women participation on socio-economic development and learning should be improved through ICT.*

Multi-stakeholder partnerships in building the African Information Society

The financing of the public universities is being done through national budget, however the funding is not enough. We have to resort to partnerships where external partners provide funds for research activities. They are happy with one project from Prof X and they interact with that professor, hence you end up with many parallel systems as there will be many professors and funding partners. There are Strategic Plans in all universities but when it comes to financing there is resistance to go through the strategic plans. How to make our partners contribute to the strategic plans? On ICT issues, and the stakeholders who are participating in the strategic plans should be made aware that the financing should be based on the strategic plans and not individual projects. This would also remove multiple reporting. If things are moving well, it is the researcher who gets the credit, if they are wrong, it is the university!

What is the research question here? We have all the stakeholders here: decision makers, the funding agencies, the researchers, and the community.

Research question:

- **Prepare comparative studies to come up with a model on financing and supporting capacity building, aimed at rationalizing resources, and taking as much as possible from inside available resources.**

The industrialization of ICTs in Africa

Africa should not only be a consumer only but also a producer. In the technology production, there is a culture element, most of the failures are caused by the fact that our culture is not linked to technology (Nyerere). The challenges we have is to build this knowledge via incubators where people will generate wealth through the applications and use the technology. Also this would equip our population with knowledge and skills.

Is the question about “industrialization” or “benefiting from the information society” (economic benefits of the knowledge economy?) Did we exclude the economic benefits? We could manufacture microprocessors in Africa and may be they would not be economical. We should identify competitive areas and the competitive advantage of Africa

Possible research themes:

- Use existing models to determine if incubators / technology parks can promote industrialization of ICTs in Africa.
- Identification of competitive areas in which Africa has competitive advantage and design models that incorporate the concept of incubators and economic factors to help its success, such as venture capital.

Group 3 Report

The chairperson clarified the mandate of the meeting and noted that the group should:

- Revisit the relevance of the suggested topics.
- Identify research areas that could be embarked upon under these topics.
- Identify participants’ interests.

Capacity Building for the Information Society in Africa.

The group first agreed that it is a researchable topic.

Discussions were made at length in relation to this research topic, some of the points of discussion were:

- We need to broaden our views about ICT. The thinking should be science promotion activity – radio, television, telecommunication, newspapers, etc. If we do a research on these areas we may be able to discover more opportunities on capacity building.
- We need to look at long term and short-term approaches.
- How are the Telecentres different from local libraries? How can we assess the community at the very local level so that they can use the library?

- Since the term Library may be more for the traditional ones we agreed to use the term Information & Communication Centres.

Some area of research questions identified under these topics.

- What is the percentage of people who are doing ICT? At institutional level? What are universities doing? What is their capacity right now?
- How can we use ICT for putting together educational capacity in various institutions?
- Evaluating existing curricula of higher learning institutions & how ICT can be integrated in every subject of specialization.
- How far back are some universities in relation to ICT, and what can we do for them to catch up? (bridging the gap between institutions).

For these:

- we might need to make survey on usage & production of ICT and conduct survey on capacity by Geographical areas.

Creating an enabling environment:

The area is researchable.

- In relation to Topic a – we said that we need not only deal with Internet governance- instead the group agreed to address it as
-ICT Governance.

Some of the research areas identified were:

1. what are the existing capacity that we have in Africa in relation to ICT governance.
2. Issue of the mobile telephone? What do people do with it? Is it appropriately used, etc.
3. What are the ICT issues important for Africa.

Under Topic 2 & part b. – Intellectual property rights → the area of research identified were:

In view of the international laws, what are the rights to determine what are the laws that would be applicable in our environment.

African languages and content development in cyberspace.

Discussions focused on:

- How much of the language is put on the cyberspace;
- Africa has many different languages; and
- Information society does not mean only a society which uses computers.

Some areas identified were:

- The need for a survey to evaluate the status of African languages in relation to ICT - determining their local language content in telecommunications, media, air travel, safety regulations, computers, etc;

- The need for a survey on the use of African languages in the educational process assess curriculum and policies and their value for African languages;
- The need to determine existing capacities of African languages with regard to available research works, their use, availability of expertise, ICT friendliness etc.
- The need for a framework for integrating African languages within broader information policy and issues of access & participation opportunities as they relate to language.
- The need for a survey of how much would it cost additionally to translate/develop content in various languages.

In summary it was said agreed that:

- We may need to come out with a document on economic, political and technological aspects of content development in Africa.
- We may need a systematic way of capturing African content.

Measuring the impact of the African Information Society

The discussion that followed, it was pointed out that – we cannot measure the society rather we need to measure the tools to progress towards information society. So the topic may need to be revisited.

The research areas identified were:

- Designing measuring tools for the impact. If there are existing tools – to update the coverage.
- Applying those tools.

The group also discussed the issue of how there could be collaboration between researchers academia and the national statistics offices and the kind of indicators they can use to measure the impact of ICT.

Mainstreaming gender in the information society.

There was debate on the meaning of gender mainstreaming. Research areas were:

How are the ICT policies addressed in terms of access that takes gender equity into consideration? (Gender issues in policy formulation, prioritization, implementation, etc.

Multi – Stakeholder Partnerships

The research areas identified were:

1. The need to determine what have been done and what knowledge base exists in the universities – research, infrastructure, skills, etc.
2. Identify country needs, business needs.
3. Investigation of organs and means of bringing both together – One of such means would be pushing for needs-driven research & needs-driven curricula reform.
4. Research into mechanisms to put in piece for funding research for public goods.
5. Investigating country funding priorities.

The industrialization of ICTs in Africa

Undertaking research into strategic choices and trade off which countries have to make with respect to ICT industrialization.

- Investigating appropriate and relevant and sustainable technology within the African context.
- Assessing models of partnership such as science park, techno-park, both of international and local types.
- As part of local content, a database of stock of indigenous publications should be taken-materials such as local historical materials, language materials from villages. Publications and materials from indigenous publishers – and make them available in accessible digital forms.
- We need to research into capacities and technologies to capture and develop digital libraries. (to avoid loss of valuable content materials and historical documents.

ANNEX 5: African Research Network Research Topics

Capacity Building (1)

☐ Operational mechanism for models on training, research, documentation, pedagogy and communication in the Information Society

- ☐ Evaluating existing curricula in HEIs and integration of ICTs in every subject of specialization;
- ☐ Bridging the gap in universities;
- ☐ Teaching methods + materials
- ☐ Distance learning and incubator models
- ☐ Percentage of activities on ICTs in HEIs

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ENABLING ENVIRONMENT (2)

☐ There is need to work on all aspects of the enabling environment, legal and institutional, social, economic and cultural.

- ☐ Fundamental principles of the Digital Solidarity ;
- ☐ Legal and Technical Security ;
- ☐ Rule of Law and Protection of the cyber citizen (e-government, freedom protection, participation of stakeholders)
- ☐ Law and market economy and Protection of the cyber consumer (e-commerce, e-payment, e-banking, IPR, telecom regulations, etc)
- ☐ Cyber crime and protection of the value system in African Information Society (illegal content, frauds, public order, vulnerable groups)

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African Langs + Content (3)

☐ Developing a framework for integrating African languages within broader information policy, including issues of access and participation for local communities

- ☐ Scoping activity to determine existing capacities of African languages and existing research; usage; availability of expertise, etc.
- ☐ Technical development of cross-border languages
- ☐ Content creation
- ☐ Digitization

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Measuring Info. Soc. (4)

- ❑ Indicators to measure Information Society progress
- ❑ Indicators to address use of ICTs for poverty reduction (including MDGs)
 - ❑ Definition of methodology for data collection
 - ❑ Determine level of involvement of key stakeholders

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Gender (5)

- ❑ Examine factors hindering the integration of gender issues in Information Society processes and programmes in Africa
 - ❑ Developing key indicators for measuring extent of gender mainstreaming in Info. Soc., including e-policies, ICT activities;
 - ❑ Determining level of access
 - ❑ Youth considerations (cross cutting as well)

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Multistakeholder Partnerships (6)

- ❑ Analytical studies to identify best practices and propose new mechanisms
 - ❑ Scoping – to determine existing knowledge base in HEIs, skills base, etc.
 - ❑ Rationalization of resource usage

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Industrialization (7)

□ Examine whether technology parks can promote industrialization of ICTs in Africa

□ Identification of areas of specialization for competitive advantage for Africa

- Design models incorporating incubator concepts
- Venture capital