



# The Information Society and the role of Academia

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Countries ability to fully develop an Information Society depends on the capacity of society to be educated, to assimilate, and to process complex information. In many other parts of the world, academic communities have been part of the driving force in the Information Society, including spearheading intellectual leadership in this area through a series of knowledge-building activities on the information age. The academic communities in Africa are the last untapped reservoir of expertise that could provide vital assistance in an increasingly globalised and complex world, working with governments, private sector and civil society in sustaining the Information Society.

Africa's academic and intellectual communities are relative newcomers to discourses on the information society. Apart from the absence of systematic programmes on research and development activities there is very little literature on the information society produced on Africa by Africans. Whilst the information society has produced its own sets of scholars through various programmes being introduced in different parts of the world, scholarship in this endeavour is confined mainly to South Africa and countries in North Africa.

In re-affirming the role of African 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), based on the theme "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.

Within the framework of the African Learning Network (ALN) to facilitate the improvement of ICTs in the learning and teaching process, ECA has been collaborating with The Ford Foundation to provide a platform and space for a select group of leading African academics/thinkers to reflect on the many intellectual issues

for enhancing the role of academia (academics and institutions) in the Information Society. In particular, an Academic Research Network (ARN) was created as a WSIS activity to engage African researchers and academics in the key issues emanating from the Geneva Summit in 2003.

## The WSIS Process and the Academia Research Network (ARN)

The launch of the ARN took place in December 2003 during the first phase of WSIS, having originated from a *Visioning Retreat*<sup>1</sup> 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 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.

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. Based on a consultative process with key academics on the African continent, 4 thematic research networks were launched in line with the objectives of the African Information Society Initiative (AISI), the ALN VarsityNet programme and the WSIS Action Plan. The ARN thematic research networks were on the following themes:

- Information Society Indicators
- African languages and content development in the cyberspace
- Industrialization of ICTs in Africa
- Creating enabling environment

<sup>1</sup> <http://www.uneca.org/aisi/academiaretreat.htm>

## Information Society Indicators Research Network

The tremendous growth in the use ICTs led to an increased interest in understanding of 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. The WSIS Action plan recommends development of indicators for monitoring implementation between the two phases of the WSIS.

### Network Outcomes: Indicators

The Network for Research on Information society Indicators brought together nine (9) academics, researchers from Tunisia, Morocco and Rwanda who worked on three key research topics:

- Review and fine-tune Information Society indicators, benchmarks and methodologies of initiatives, such as the SCAN-ICT, with a view to monitoring the progress made in the local, national and regional context;
- Undertake in-depth analysis on ICT penetration and impacts on society by using the data and information collected by various indicator initiatives;
- Build capacity among research institutions and researchers on the Information Society indicators so as to ensure sustainable involvement of African Academia in measuring impacts on society.

The ARN group on Indicators accomplished the following:

- Prepared a state of the art of the major Initiatives on Indicators (International bodies, regional organizations)
- Reviewed available outcome of these initiatives in real field applications with a special focus on African countries;
- Developed a Reference Model encompassing the main features of the Geneva plan of action, and allowed a thorough comparisons of the existing initiatives.

This model highlighted the strengths and weaknesses of those initiatives, thus suggesting ways for improvements; This work could help in analysing any on-going (e.g WSIS partnership) or new initiatives. It could also be used to define a complete set of reference indicators.

“What we’ve learnt is we must continue to refine and harmonize the methodological approach. We must allow for the use of the results of the research in all African States..”

*Abdoullah CISSE coordinator for the ARN enabling environment network*

Consequently, the first objective of the network<sup>2</sup> is to review and fine-tune Information Society indicators, benchmarks and methodologies of initiatives, with a view to monitoring the progress made in the local, national and regional context. The component will also examine how the tools could facilitate the implementation of national e-strategies as well as assist governments, businesses and individuals to make informed decisions.

## African Languages and Content Development

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.

The Network<sup>3</sup> focuses 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, and:

- Determine the economic, political and technological aspects of language development in the Information Society;
- Build individual and institutional capacities for addressing language needs in the academic community;
- Provide an information and knowledge infrastructure for local language exchange and dissemination;
- Create a continental team of teacher and researchers in computational linguistics;
- Undertake a baseline study on the current state of African languages and content development in the cyberspace;
- Launch an optional pilot program in computational linguistics in computer at Bamako University.

<sup>2</sup> Institution involved at the face-to-face meeting in Tunis: Government of Tunisia, University de Manouba and ISC, Sfax, Tunis, Kigali Institute of Science, Technology & Management Kigali, Ruanda, University of Al Akhawayan, Ifrane, Morocco, ISC, Tunis.

<sup>3</sup> Institutions involved at the initial meeting in Bamako include African Academy of Language (ACALAN), School of Engineer, University of Bamako, Mali, ANACLAC, Cameroun, University of Cape-Town, South Africa, IFAN-UCAD, Dakar, Senegal, University of Dar-Es-Salam, Tanzania.

## Network Recommendations: African Language Development

The short-term research activities on African Languages noted that only a few African languages have online resource materials, such as dictionaries, translated documents, library content, audio files and news programmes.

In fact, only 2% of African languages are believed to be online. These languages include Swahili, Hausa, Yoruba, Igbo, Luganda, Masai, Sesotho, Shona, Ndebele, Akan, Xhosa and Upkila.

The research entailed the following:

- Mapping existing public and private initiatives to enable African language use on computer appliances.
- Analysis on political, economic, socio-linguistic and structural challenges and obstacles to promote African languages on the Internet.
- Follow-up strategies for networking among researchers to scale up their capacity and enhance awareness among stakeholders and policy makers.
- Creation of a continental team of academics and researchers in computational linguistics.

## ICT Industrialization in Africa

In the context of ICT Industrialization in Africa, it is widely recognized that Africa's digital economy is characterized as 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.

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.

The research network identified pre-requisites needed for ICT industrialization to succeed in Africa as well as limitations, impediments and gaps, which prevent academia and the private sector from fully participating in the process. The network<sup>4</sup> addresses the following issues:

<sup>4</sup> Institution involved at the face-to-face meeting in Mozambique: University Eduardo Mondlane Maputo, Mozambique Information and Communication Technology Institute Mozambique, University of Addis Ababa, University of Dar Es Salaam. Tanzania

- Advising countries on more strategic choices and potentials for ICT industrialization and manufacturing capacity;
- Proposing a regional integration programme in the area of ICT industrialization;
- Assessing good practices and lessons learned from around the world;
- Designing public-private partnership mechanisms and models with a clearly defined role for academia.

## Creating an Enabling Environment

Members of the network assessed the global and regional environments in African and recognized the importance of working within the framework of AISI and the New Partnership for African Development (NEPAD) in line with discussions, which took place during the first phase of WSIS with the overall objective of increasing awareness among African policy-makers on the role of the Information Society. The specific objectives of the research team was to:

- Identify obstacles and shortcomings with respect to access (universal and equitable, interconnection);
- Address issues of standards at local, national, regional and international levels (e-fraud) as well as determine the efficient use of documents and e-transactions that can lead to the development of an e-economy in Africa; and
- Identify the different components to identity and cultural, linguistic, traditional and religious values with respect to the Information Society.

The network formulated a short, medium and long-term plans to be implemented from now and beyond Tunis.

## Network Recommendations: ICT Industrialization

The thematic group undertook research to identify areas where Africa has the potential to succeed as well as requirements for African countries to embark on ICT industrialization. After conducting research in Ethiopia, Mozambique and Tanzania, the team made the following recommendations for further research:

- Development of Open Source Software applications, especially to address rural and local challenges, with emphasis on capacity building in ICT was a potential area to be explored by African countries.
- Development of ICT industrialization models, where researchers and academics would collaborate with the governments to implement some flagship projects. Use the results in other to get the political will.
- Encourage Governments to provide incentives such as start funds for an industrial environment and market.

The research group identified the following issues as for follow-up: capacity building; incubation; hardware and software development; R&D; knowledge creation.

## Network Action Plan

The network formulated a short-term action plan to develop and implement ICT diagnostic in Africa (e-audit) to address the following:

- Constraints in expanding access to information and services in Africa;
- Bottlenecks in developing the local ICT private sector;
- Challenges associated with the development of an equitable governance structure of the Information Society;
- Obstacles in the development an e-economy in Africa.

The audit will take the form of a review of the existing materials, data and information and in addition, the researchers would develop strategies for effective:

- Legislation and regulatory frameworks;
- capacity of ICT players;
- capacity in privacy and security issues;
- special needs of vulnerable and marginalized groups
- cultural, linguistic, traditional and religious values and factors which encourages or discourage the development of the Information Society

“The ARN is a very important instrument to foster research within academia on important and quite complex issues, such as the development of indicators of various types (usage, impact) , methodologies for measurements and interpretations. As such, it will give strong theoretical and methodological support for people involved in the day-to-day development of the Information Society.”  
*Farouk Kamoun, Coordinator of the ARN Indicators Network*



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For more on ECA's work on ICTs, please visit  
<http://www.uneca.org/aisi>

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