

**KEYNOTE SPEECH BY MADAM ANN THERESE NDONG-JATTA
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**"INTEGRATING ICT IN EDUCATION AND ALTERNATIVE FINANCING OF
EDUCATION"**

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Part 1: Context

It is a great honour for me to participate in this Summit organized by "Africabrains" under the patronage of the Moroccan Ministry of Education which gives an opportunity to reflect on the main achievements/challenges made by African countries since Jomtien (1990) and Dakar (2000) strategies to become more responsive to the needs of children, youth and adults. This reflection is critical as we are rapidly reaching 2015 without being able to significantly achieve both EFA and the MDGs.

Despite the strides made in human development over the last decade, Sub-Saharan Africa (SSA) still lags behind the rest of the world. The poverty rate of 50% in Sub-Saharan Africa has not improved in the last 25 years. The number of the extremely poor (earning under 70 cents a day) practically doubled from 200 to 380 million in 2008. Sub-Saharan Africa bears the brunt of the AIDS pandemic, with over 70% of cases, according to a 2009 UNAIDS report.

After close to half a century of public investments in education, health and social welfare, African countries are still characterised by large populations that are mostly illiterate or poorly educated, sick, income poor, knowledge and technology poor, malnourished or undernourished and finding it extremely challenging to lead a meaningful life. According to UNESCO Institute of Statistics (UIS, 2008) 38% of the adult population remains illiterate, that only 12% of children are enrolled at the ECCE levels; 76% at the primary; 27% at the secondary; and 6% at the higher education level. Around 72 million secondary school-aged young people and 30 million primary school-aged children in Africa are outside the school system; the majority of these have no training or skills to be absorbed in the labour market. One cannot help but wonder about the profitability of or return on our investments in developing human capital. The African continent is indeed in peril, as these statistics do not augur well for the development of the region. Something else different has to be done.

The challenges are enormous considering the weak social service delivery systems. To fix the education sector would require fixing the health sector as well. Neuroscience research tells us that the health of the child from the foetal stages to the first eight years of life makes all the difference in the level of performance of the brain for later performance and success in life. Building a successful and clever nation therefore would require huge investments early in children from ages 0-8 family for the healthy development of the child to do well in school.

The African continent is the only continent with a growing population growth rate and with a weak economic base despite the seemingly economic growth rate of 5-7%. In order to achieve the 2015 EFA and MDG targets, it will be necessary to find innovative ways to fix both the education and health sectors. ICT could serve as a useful tool.

In education it would require huge increases of both the number and skills of teachers. Without adequate number of qualified teachers, the goals of Education for All will remain - for all - wishful thinking. If aspiring or in-service teachers want to achieve certification or continue improving their craft but space or distance to teacher training institutes poses problem, ICTs has a solution for that; if leaving work to study is not feasible, ICTs has solution for that; if we want to train a large number of teachers in a very short time, ICTs has solution for that; etc. We need only to be solution-oriented and allow the tools of this digital age revolutionize and globalize our collective efforts.

Some African nations have begun with some restraints and constraints to responding to this challenge. PANAf conducted a study two years ago, which looked at the investments African nations are making in the field of information technology and communication. The data led to several recommendations on how to effectively and strategically use ICTs in educational settings to maximize the return and long-term sustainability of this investment. These included to:

- Develop a national policy for the pedagogical integration of ICT so that teachers can adopt ICT and use them efficiently
- Set up incentive plans for teachers and students to use ICT. Teachers are the gatekeepers. If there's no buy-in, there's no sustainability.
- Set-up public-private partnerships in a way which ensures that all pedagogical decisions remain the purview of education stakeholders.

UNESCO in its mandate as technical agency of the UN System continues to make efforts along the lines of the recommendations cited above. As well as advocate for a multi-sectoral/multi-disciplinary response to tackle the question of education and building the right levels of human capabilities for sustainable socio-economic and human development.

Part 2: Financing of Education in Sub-Saharan Africa

According to available data, globally, 7 to 28 per cent of public expenditure goes to education. For sub-Saharan African countries, it is 11 to 28 per cent. This means that

despite a low GDP per capita, most countries invest quite substantially in education. In Burundi, whose per capita GDP is under \$US 1,000, education expenditure accounts for nearly 24 per cent of total government expenditure, while in countries like Seychelles and Mauritius, whose GDP per capita is over \$10,000 it hardly exceeds 12 per cent. Yet the latter outperform most countries in SSA and will most likely achieve the six EFA goals and the MDGs. What are the solutions for countries like Burundi, which are many across SSA?

The same data source shows that sub-Saharan Africa devotes 5 per cent of its GDP to education spending, compared to the 4.7 per cent global average, just after North America and Western Europe. In estimating that 5 per cent of GDP goes into education spending, the total volume of public spending in sub-Saharan Africa rose in 2008 to \$46 billion (current). According to OECD, and for countries for which data is available, the total disbursements under Official Development Assistance (ODA) rose over the same period to only \$2.6 billion still falling short of the 16 billion promised and expected. That SSA allocates 5% of GDP yet lags behind, demonstrates quite a number of inbuilt inefficiencies in the system in addition to the low economic start off base. While ICT could to a large extent help to address internal inefficiencies, the question of huge volumes of additional financing needs special attention. Most African governments have reached their upper limits in terms of mobilising domestic resources and therefore development partners need to fulfil their promises to assist governments with good policies and plans.

Overall, public expenditure on education goes into operational expenses, with only about 10% on development expenditure. Under operational expenses, the wage bill accounts for the largest portion. Expenditure on teacher salaries is a critical aspect for SSA countries. A study conducted by the UNESCO-BREDA Pole de Dakar and the UNESCO Institute for Statistics (UIS) in 35 countries shows the general wage bill in operational expenditure as follows: 69 per cent for primary education; 55.5 per cent for secondary education; 38 per cent for technical education and vocational training and 26 per cent for higher education but the share of the wage bill varies from country to country.

Faced with the need to recruit teachers to meet ever-pressing demand, government options are either to reduce expenditure other than wages (teaching materials, administrative operations) or increase the student/teacher ratio, which means fewer teachers. This can affect the quality of learning conditions. The question therefore is how could the integration of ICT in education assist governments in dealing with the triple challenges of the right

STOCK, REMUNERATION and QUALITY of teachers to improve student learning and performance outcomes? If ICT can serve as a useful tool in this then the right to quality education of every child, youth and adult would be attained.

Part 3: Use of ICT to improve quality of education in Africa

ICTs are increasingly being used in the field of education to train more teachers, improve quality of teaching and learning, improve the quality of curricula as well as provide opportunity for lifelong learning. Some of these initiatives are highlighted below.

3.1 From teacher-centered to learner-centered approaches

The use of ICT in education is increasingly helping teachers to play more effectively their role as facilitators of learning. Students are taught how to use the Internet as a site not only for conducting research but also as a site for reporting the outcomes of the research and connecting to other students and virtual learning communities. Knowledge and skills are no longer the possession of the teacher but both teachers and students.

3.2 Improving the quality of teacher education programmes through the use of ICT

UNESCO is giving a high priority to the use of ICT for more equitable and pluralistic development in education. Open and distance learning (ODL) is particularly used to improve the competence of unqualified teachers and give them an opportunity for continuous education or professional development without having to leave their students and families. UNESCO is currently supporting Ministries of education in their efforts to integrate ICTs in the teacher education programmes by developing a broad partnership with both public, intergovernmental organizations such as Commonwealth of learning (COL), and private partners. In 2008, UNESCO, CISCO, Intel, Microsoft and the International Society for technology in education (ISTE) developed the competency framework for teachers (ICTCFT) project. The main goal of this initiative is to support local governments, public and private sector organizations to create contents, execution frameworks and measurement of teacher competencies as part of a comprehensive approach to education reform.

In 2009 UNESCO Institute for Capacity Building in Africa (IICBA) in collaboration with African Ministries of education, particularly policy makers and heads of teacher education Departments developed ICT enhanced teacher standards as guiding tool which countries can use to develop their policies and ICT in education strategies. Another initiative underway is a Post-graduate diploma in curriculum development with the Open University of Tanzania to

build capacities of curriculum developers and teacher educators through a dual mode of face to face and ODL.

3.3 The use of open educational resources (OER) to improve quality of the Curricula

Access of open educational resources (OER) through the internet is contributing to the enhancement of the quality of educational curricula at all levels of education: Teachers within African universities and schools are increasingly relying on web-based materials to develop their courses and assign reading materials to their students. The use of OER is viewed as a strategy to overcome shortage of textbooks in Africa as well as a strategy to enrich the curricula by relying on variety of materials. It helps to promote solidarity and a sense of belonging among educators.

3.4 ICT, lifelong learning and productivity

Adequate access and use of ICT allow countries to enjoy the full benefits of the use of technologies in education as shown in countries such as South Africa, Seychelles; Mauritius Namibia, which are implementing effective ICT policies and practices in the use of ICT in their educational systems in order to improve access, equity and quality of education. In these countries, securing and keeping a job as well as creating jobs are viewed as a strategy to combat poverty and create wealth. In the knowledge economy, graduates with ICT skills and a competence in other domains are more marketable. Workers who have ICT skills are able to respond more easily to the demand of the labour market without having to leave their jobs and family for professional development and re-skilling.

3.5 ICT and TVET: Updating, modernising and sharing of TVET curriculum

African countries are increasingly integrating ICT into their secondary education and higher education curricula. However research shows that institutions of higher education and TVET programmes located in Sub-Sahara Africa except South Africa are lagging behind in the use of ICTs in education. Few factors justify this situation. They include the lack of competent human resources in the use of these new technologies in the area of technical and vocational training, the absence of institutional and country policies on the integration of ICT and e-Learning into HED and TVET and limited connectivity.

In response to requests from ECOWAS Member States for support to update, modernise and share TVET curricula, among other things, UNESCO-BREDA and the ECOWAS Commission,

within the framework of the Inter Agency Task Team (IATT) for the revitalisation of TVET and youth employment, are engaged in the adaptation of the UNESCO-Nigeria TVET curricula and teaching and learning materials for sharing. The adaptation exercise is currently underway in the areas of electronics/electrical trades building and wood trades, computer science/IT and mechanical engineering trades. Following the validation and adoption of the core curricula at the level of each country, the curricula and learning, teaching and training materials (LTTMs) are placed on an electronic platform hosted by the National Board for Technical Education (NBTE), Kaduna, Nigeria which could be accessed by all the countries in the sub region and beyond.

In the process, the capacities of TVET instructors are built in adapting curricula and the development of LTTMs in their discipline. This is another concrete example of using ICTs in TVET, which permits updating, modernising and sharing of curricula and learning and teaching materials among TVET institutions in the ECOWAS Sub-region. It is expected that the curriculum initiative will contribute to the revitalisation of TVET through OER in the ECOWAS Sub-region and increase the potential of TVET to serve as an engine for socio-economic development and wealth creation in the sub-region.

Part 4: Investing in the use of ICT in education

In most parts of the world which have witnessed a large expansion of the use of ICT in education several types of partnership have been promoted to facilitate this development. This has not happened in Africa. Very limited influx of for-profit, ICT-based foreign providers of higher education is observed. The use of ICT in education results mainly from the partnership built between African and foreign universities and few NGOs and bilateral and multilateral organizations which have contributed to the integration of ICTs in higher education.

For investments in the use of ICT in education to be useful, several basic elements need to be in place, which could include:

4.1 National ICT policy and Implementation Plan

According to a recent World Bank publication on a survey of ICT and education in Africa indicate that up to 48 countries in Africa have national ICT policies. Most of these ICT

policies are comprehensive and stress access to ICT. This notwithstanding, many of the countries' ICT plans have not been implemented.

4.2 *Investment in human resources capabilities*

There is a general lack of human resources capacity to produce ICT training and equipment servicing. This is generally more acute in the rural areas. Even where a school computer lab exists, there is invariably a dearth of well-trained and skilled teachers and or technicians to service the computers and the network could prove a major challenge as well. Knowledge of ICT, skills and technology transfer are imperatives human for investment if African countries are to harness the benefits of ICT for socio-economic development, peace and prosperity.

4.3 *Investment in infrastructure*

Some African countries have demonstrated successful use of other more traditional communication technologies like radio, television and mobile phones in education. The latter are becoming increasingly more common even in rural areas. Perhaps mobile technologies could be a better and cheaper option in fulfilling obligations of the right to education of quality in the 21st century especially given the unaffordable connectivity, unstable grid and unreliable electricity supply coupled with a lack of technical support services.

While the traditional communication technologies are useful in increasing access to ICTs in schools, polytechnics, universities and in health facilities access to the Internet is crucial to be able to use the vast resources repose on the Internet. Mobile technologies have revolutionized internet access and is a tool for social networks which teachers could employ to develop a different relationship in facilitating teaching and learning anywhere and everywhere

4.4 *Partnership: Public private partnership*

Donors have played and continue to play an important role in ICT policy development as well as ICT initiatives in schools and communities in Africa using a variety of partnership models. Public-private partnership and indeed, other models of cooperation need to be developed to continue to support initiatives of African countries to enable them benefit from the potential ICT has in leveraging development in general as is becoming the case in South America i.e. Uruguay, Venezuela.

Conclusion

The potential of ICTs in increasing access and improving the quality of education and overall socio-economic development in general is well known by African governments except for their caution about the risks, which keep interventions at low levels.

A number of partners including UNESCO have assisted with projects and initiatives to showcase what could be achieved in the area of education, from classroom teaching and learning, teacher training, and teacher support through Open Educational Resources, but the generic problems inhibiting the effective and widespread use of ICTs still remain.

In order to realise the necessary investments to leverage the power of ICTs for development in general the old adage “no one country or sector/Ministry or donor can go it alone” is even more relevant in today’s interconnected and globalised world.

1. Partnerships/Cooperation

There is need for partnership and cooperation of various forms and at different levels ranging from:

- ✓ Inter-ministerial cooperation on ICT (bringing together the social sectors and productive sectors of governments to think through joint financing for building human capabilities and tackling especially youth employment for a more vibrant economic growth, sustainable development and peace;
- ✓ Combined efforts of multi-lateral, bi-lateral and public-private partnerships taking the form of north-south and south-south cooperation to address the challenges of ICT infrastructure, skills and technology transfer.

2. ICT Human Resources Development

The lack of ICT human resources is also a constraining factor in the optimal use of ICTs for education and for development in general. There is need to produce the IT system administrators and technicians to provide technical support, services and maintenance to ensure the systems operate, as well as train the teachers, university professors, nurses, doctors and agricultural engineers among others to improve quality delivery of social services in education and health in particular.

Partnerships and Cooperation could be in the form of South-South and North-South through universities. As countries in Africa are at different levels of developing their ICT/IT

capacities/capabilities, it would be useful and sometimes cheaper to engage at that level as well. For instance, South Africa, Mauritius, Namibia and some of the North African countries namely Egypt, Tunisia and Morocco, generally ahead of the others, could be engaged in capacity building of ICT personnel from other countries in Africa.

3. Innovative financing for infrastructure development

Laying the infrastructure for Internet-based ICTs is a very expensive undertaking. With African governments already spending a significant proportion of their national budgets on education and the constraining factors of limited financial resources, governments must find innovative financing and ways to partner with others to lay the IT backbone.

The African Union and the Regional economic communities could in fostering the principles of regional integration and Africa Unity develop policies and plans for Pan-African projects to scale up successful ICT projects and develop the right level of financing through joint negotiations with multi- and bi-lateral partners similar to the Pan African University project.

It is therefore important that the right levels of investment are made to address these challenges and unleash the potential of ICTs for African countries.

In conclusion let me once again underscore the importance of smart choices and investments by African governments, regional institutions like the African Union and its subsidiaries the Regional Economic Communities (RECs), the donor communities, civil society and parents alike to gradually graduate from a high consumer economy to a more balanced and productive economy through customised solutions in ICT. In this age of high technology, access to quality education and health for all should be possible. The challenges may be many but not insurmountable. It is possible to move from the conventional approaches to social services delivery to integrating ICT as a tool to reach the unreached while at the same time benefit from the quality of the services for a better, more dignified and just society. Business as usual will not get us there!

I thank you for your kind attention.