HIGHER EDUCATION AS A STAKEHOLDER FOR ICT IN DEVELOPMENT[1]

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Two recent events convince me that my message today is important. But the message goes largely unheeded in the international community. It needs to be delivered at Tunis.[2]

Several months ago I was standing outside the arrivals terminal at the Los Angeles airport when I overheard one side of a cell phone conversation. Apparently the person I overheard had not been picked up at the airport at the proper time. The conversation went something like this. (Imagine frustration.) "But I left word on your cell phone." There apparently was a response on the other end _ and then, at the arrivals terminal, I heard: "Oh, you didn't check your cell phone." The brief, simple lesson from this episode is that the tools for connectivity are not enough to produce the benefits that the new information and communication technology promise.

And only a few weeks ago you probably learned of the newest technology from the Apple Computer people. Apple displayed the latest iPod technology _ an Ipod that will allow you to play television programs.on this amazingly small and compact device.

Accompanying the announcement of the new technology was the breathless announcement that Apple had forged an agreement with the Fox television network that would provide episodes of the television program "Desperate Housewives" to iPod users the day after the regular network broadcast version of "Desperate Housewives." The brief signal here is that information and communication technology is important _ but there are major challenges in generating constructive content that make the technology worthwhile.

This is especially important regarding the movement to apply information and communication technologies to development. In fact, the convergence of the World Summit on the Information Society and the world wide focus on the Millennium Development Goals accentuates this essential partnership between ICTs and development. As you know the central elements of the ICT mix are the computers and the Internet. It's important to note that a report just posted this week on the Development Gateway indicates that the number of Internet users in developing countries now numbers around 500 million mark, surpassing industrial nations for the first time. "Yet " the report says, "the long-heralded promise of ICT remains far out of reach for most of the developing world. I would argue that "out of reach" is more than a connectivity issue. But more on that later.

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[1] Presentation prepared for the 3rd Annual Learning Networks Consortium (LINC) Conference, Massachusetts Institute of Technology, Cambridge, October 2005.
[2] Tunis is the site for the World Summit on the Information Society, November 2005.

There are some important international players in the movement to put ICTs within the reach of those on the wrong side of the digital divide. These include the International Telecommunications Union, UNESCO, the United Nations Development Program, and the UN ICT Task Force, among many others, including both national governments and NGOs.

ITU recently announced an initiative to connect the world's 800,000 villages that don't presently have a telephone or Internet connection. It's a public and private sectors partnership with 22 founding members. The target date is 2015 _ which corresponds with the due date for the Millennium Development Goals. But there's something missing in this whole drive toward connecting the world in the interests of development.

Not present or not obvious are universities, or other higher education institutions. Except for distance learning where many universities in developing nations have excelled, and in the development of new technologies where the institutes of technology have excelled, universities have not been systematically challenged to become part of the ICT and development action.

To support this claim, I point to a few of the major documents that have been released in the past year concerning the directions of ICT and development.

- Profiles and Experiences: ICT Innovation for Poverty Reduction (UNESCO)
- **The World Summit on the Information Society (UNICT Task Force)**
- With the Support of Multitudes: Using Strategic Communication to Fight Poverty Through PRSPs (DFID)
- **Information and Communications Technology for Sustainable Development: Defining a Global Research Agenda (Carnegie Mellon University)**
- Innovation and Investment: Information and Communication Technologies and the Millennium Development Goals (UNICT Task Force & Millennium Development Project)
- **ICT and MDGs, A World Bank Perspective (The World Bank)**

And the Development Gateway Report titled *The Information Society: The Next Steps* does not headline universities among its topics or its spokespeople. Of course, we must wait for the posting of the full text to make a final judgment. [By now it may be posted at http://topics.developmentgateway.org/special/informationsociety.]

Let me turn specifically to the subject of telecenters, because it is by means of community-based telecenters that people in those 800,000 villages are most likely to be connected to the world. In fact, India has launched a program to connect all of its 600,000 villages by the year 2007, primarily through the use of telecenters _ telecenters being a place in the community where people can have access to ICTs and other services.

And speaking of India, we've been associated with a project in Tamil Nadu in which a university has played a major role in providing ICT access to rural people, with considerable attention to women and girl's access. Here is a group of photos taken in Cuddalore District. The university incubated several village information centers. The staff of the university trained many of the young people, and middle aged and older women. They underwent training for 10 days after which they learned enough to start practicing by themselves. Women belonging to Self Help Groups started entering their daily activities and money saving accounts into the computer. This has lead to transparency in financial dealing among the members. Furthermore the university helped the village information centers build content for web pages and organize small libraries for the community.

It is important to note that the universities incubated the telecenters but that the community took them over and they exist today as the community's telecenters. Their sustainability results from the content and services and other support provided by the university.

What telecenters need

Of course, besides local information, telecenter computers and networks and other ICTs provide access to a huge inventory of information. However, as Secretary General Kofi Annan noted at the first World Summit on the Information Society (WSIS), there is a “content divide.” He and other experts agree that a lot of web-based information is not relevant to the real needs of people and “at times it crowds out local voices and views.” This is where universities can become an important stakeholder in ICT for development.

Let's be specific about the connection between universities and telecenters. We start with what telecenters need for sustainability. Relevant content has already been mentioned.

_ Research _ A large percentage of telecenters struggle for survival. The reasons vary, but prominent among them is the failure of telecenters to be *demand-driven.* And this happens because telecenter people often lack an understanding of the communities' information, education, and training needs, and the telecenter people often lack the know-how and resources to build the content and services that could respond to those needs. Research helps telecenters become demand-driven. Telecenters generally have neither the skills, time, motivation, nor interest in systematic research about the

communities around them. Telecenters also need research to evaluate continuously how well they are serving the needs of their communities.

_ Training _ People in telecenters need to be trained in how information can contribute to development. Telecenter managers need to go beyond computers and program and learn how to link telecenter potential to health clinics for health education, or to schools, agricultural extension, or local government.

_ Community awareness.. Likewise, telecenters need to make their communities aware of the value of information, such as agricultural marketing, micro enterprise management, or the chances for more education through distance learning. Training a community about the value of information can help communities realize the value of the telecenter. Logically, universities have the capacity to teach and train, and these skills could be applied to these telecenter-related needs.

_ Human resources. _ Telecentres need volunteers who can help make telecenters good places to visit _ volunteers who can help people understand the basic rewards of a digital experience and help those people navigate the various media in the telecenter. Volunteers are important in welcoming persons in special groups such as women and the elderly who are frequently shut out of access to ICTs and telecenters by culture. A major challenge for telecenters is to "gain, train, and retain" volunteers.

What HEI can offer

You can take that list and match it with what universities could be capable of doing.

_ Research support for on-going needs analysis and evaluation.

_ Package knowledge into locally relevant information and learning content.

_ Train telecenter staffs and the community to use ICTs for development. For the community, this includes attention to awareness and skills.

_ And, through their academic programs and through internships, provide students as telecenter volunteers.

Building the eReadiness of Universities for ICT4D

Can it be done? Can universities in developing nations be constructive partners in helping push beyond connectivity to make ICTs and telecenters more vital to the welfare of people in developing countries. Can we "scale up" the example we saw earlier in India's Tamil Nadu state?

For the first part of the answer we turn to the on-line publication called *Science and Development Network*. Recently there Harvard University Professor Calestous Juma argues that there is a new awakening of interest within international development

agencies about the role of technological innovation in economic growth. Yet, he says, much of the discussion on development only marginally addresses the need to harness the world's *existing fund of knowledge* in the pursuit of development. Professor Juma's point is that universities and other institutions of higher education *can* be "engines of development and social renewal" but that a qualitative change in the goals, functions and structure of the university is needed. He suggests that we need to *reinvent the university*. We need a new generation of universities that can serve as engines of both community development and social renewal.

The second part of the answer we hope to provide in a new $8-million 3-year project in the concept stage. The "we" in this case is a partnership between the World Bank and a consortium of U.S. universities led by Cornell _ and, of course, our partner African universities. This is a project linked to the agricultural research networks spanning the African continent. NEPAD and IFPRI are central agencies in this activity. The project is an attempt to build the capacity of agricultural universities to make the high level research more meaningful and more useful and more accessible at the grassroots. A vital part is the incubation of community-based telecenters as a means of building an exchange between agriculturalists and the research centers. Those African universities and the telecenters will also focus on information related to the Millennium Development Goals and contribute to the Poverty Reduction Strategy process.

The project has five principal components as part of the "reinvention" process.

These are:

_ICT facilities _ Of course, the hardware and the connections are important as a basic step toward building an ICT system. So, on the agenda is developing the ICT infrastructure that includes computer-related and media-related facilities, along with trained staff support that can adapt, produce, and package information resources for telecenters and other information channels.

_ICT4D academic programs _ Design academic programs, including specializations, workshops, and internships (for example, at telecenters) that will encourage students to apply information and communication technologies to important national priorities such as agricultural development and the Millennium Development Goals.

_Outreach Policies _ Developing university policies and programs that foster ICT-supported initiatives in outreach, and in interaction with regional research centers. This also includes creating the outreach/extension mechanisms for *institutionalizing* contacts with its related telecenters and other local bodies such as extension and schools.

_Human resources _ The project will emphasize leadership in the telecenters themselves and will work on mechanisms that will put students into the real world environment of the telecenter.

ICT “Posture” This means building an ICT posture among the faculties. And this involves training “ICT champions” and encouraging active participation of faculty in research and outreach projects using competitive grants programs.

[A "concept note" prepared for the New Partnership for Africa's Development (NEPAD) laying out further details is attached as an appendix to this paper.]

Benefits for the universities

Although the major focus of this project in Africa is on agricultural and rural development, it will influence the character of the participating universities, hence the "reinvention." The universities can benefit from an affiliation with telecenters in at least three ways:

(1) Telecenters provide universities with a means for reaching beyond their "ivory tower" to extend their knowledge and learning resources to the surrounding communities and to other populations in the region. This includes translating, adapting, localizing and re-packaging information from external sources to fit the agronomic and cultural characteristics of those local communities. This function is especially vital to the worldwide priorities identified in the Millennium Development Goals. Ultimately this makes universities and their faculties more relevant and better candidates for financial support from the public and private sectors and donors.

(2) Telecenters provide a laboratory for faculty and researchers to carry out ICT and extension-related research and development (R&D) projects especially involving issues ranging from HIV/AIDS to small business enterprises and poverty alleviation. Telecenters as extensions of the classroom can also strengthen student understanding of issues ranging from computer applications in community development to eGovernment and eCommerce. Graduates will be better prepared to enter a world that will increasingly be permeated with information and communication technologies.

(3) Telecenters provide a learning environment for students as telecenter volunteers where they can gain practical experience in helping people in the community. In some countries (for example Taiwan and Ghana) youth have a public service obligation for one or two years. While it is often associated with military service, attention can be drawn to adding community service in telecenters as a means for discharging this obligation.

It is important to note that an active, visible and successful university ICT4D program can have two additional outcomes. One is the simultaneous building of the university's own internal ICT infrastructure _ that is, its ICTD (information and communication technology development) _ which will contribute to the quality and efficiency of its academic and administrative functions. And second is the reshaping of its perception by the outside world as a more active agent of change.

The message

I conclude by recalling a study by the World Bank-supported Task Force on Higher Education and Society. The study was called: *Higher Education in Developing Nations: Peril and Promise.* In its final pages, the Task Force said: that there is little in the way of a shared vision about the nature and magnitude of the potential contribution of higher education to development. And without this understanding, higher education institutions are treated _ essentially by default _ in the same way as other large bureaucracies leaving them without the power to make choices that improve their individual and collective performance.

We need to change that perception and that reality. And the message that some of us will be taking to Tunis next month is that it's time to reinvent those universities in developing nations and build them into the plans for building a knowledge-based Information Society.

APPENDIX

Africa: NEPAD :

University linked rural information, knowledge and services – concept note

by S. Janakiram (World Bank) and Royal Colle (Cornell University)

NEPAD = New Partnership for Africa's Development
CAADP = Comprehensive Africa Agriculture Development Programme
IFPRI = International Food Policy Research Institute
SAKSS = Strategic Analysis and Knowledge Support System
RIKS = rural information , knowledge and services centers.

Summary

This concept note has been prepared at the request of NEPAD to support the implementation of CAADP's cross-cutting themes of: (a) strengthening the information and knowledge systems to support agricultural strategy, policies and operations; (b) academic and professional training to upgrade the skills in the agricultural sector; and (c) alignment of the Poverty Reduction Strategy papers with CAADP priorities and objectives. At the national strategy and policy levels, IFPRI has taken the lead in launching the Strategic Analysis and Knowledge Support Systems (SAKSS) whose main objective is to provide a platform by which credible research, analysis, and information can come to bear in the decision making processes related to planning and monitoring and evaluation of agriculture and rural development strategies in Africa. Pilots are being initiated by IFPRI in cooperation with relevant CGIAR centers in Africa to create Regional Strategy Knowledge Support Systems. The main thrust of this concept note and the proposals being submitted is to develop a complementary system at the grassroots level supported by agricultural universities. At this level, development of appropriate rural information, knowledge and services centers (RIKS) along with institutional mechanisms which link SAKSS with the rural population _ whose livelihoods depend on agriculture _ is vital. This local RIKS component will increase awareness, provide validation and feedback, and encourage other partners to become involved in agricultural development. This new system will also support CAADP's cross-cutting themes.

The main objective of this proposal is *to develop models of sustainable university linked rural information, knowledge and service centers using a combination of traditional and modern information and communication technologies (ICTs).* This objective would be achieved through carrying out pilot initiatives consisting of the following components:

(i) Capacity building in four agricultural universities in each of the three representative countries in Africa – strengthening curriculum related to ICT for agriculture and rural development, establishing effective linkages to SAKSS, improving training related to knowledge and research utilization, and updating their ICT infrastructure;

(ii) Establishment of rural information, knowledge and service centers – whose functions include the timely delivery of locally relevant information, knowledge and services, the strategic application of indigenous knowledge, training, provision of ICT services

for rural populations, and mechanisms for *exchanging* information between grassroots agriculturalists and other stakeholders; and

(iii) Management by a partnership between Cornell University led consortium and the World Bank.

Successful implementation of the above activities over a three year period with an estimated cost of $8.62 million is expected to : (1) develop a variety of institutional linkages to bridge the gap between the end-users consisting of rural households, farmer producer groups, organizations, associations, etc.; and government policy makers at local, national and regional levels; (2) help in the creation of centers of excellence in rural information and knowledge services, (3) complement SAKSS, especially the second module on the development of a communication and partnership strategy for information collection, dissemination and access, and (4) provide support to the multi-country agricultural productivity program for Africa. Furthermore, it is expected that these accomplishments will be institutionalized into the on-going agricultural research and development systems of the participating countries and serve as a model for other African nations.
