

United Nations University

The United Nations University recognizes the real and pressing need to improve the current state of Information and Communication Technology (ICT) use in an educational context in the developing world. Established in 1973 by the UN General Assembly, the UNU functions as a global network university serving an international community of scholars and is composed of a headquarter unit in Tokyo (Japan) and thirteen research and training centres across the globe. Within the UNU, the International Institute for Software Technology (UNU-IIST) plays an important facilitating role in the promotion of capacity enhancement related to software technology through the provision of university-level computer science courses and through curriculum development activities. The Institute is involved in a number of international collaborative research projects and works on the co-design and testing of software systems and tools. UNU-IIST is looking to further expand its activities in Latin America and Africa, and is seeking partners and supporters to enable this plan to move forward.

The UNU is currently acting as a focal point for the on-going global dialogue on how best to utilize online education, e-learning and virtual universities as a means to enhance capacity development activities within the UN system as a whole. For instance, in an effort to help raise the availability of safe water worldwide, the United Nations has created a unique new virtual 'academy' to teach the fundamentals of water management on a global level. Created with materials from over 60 international sources, the 10-subject, 250-hour course offers graduates an unprecedented academic diploma from the United Nations, the first ever authorized by the Tokyo-based United Nations University. The Canadian-based programme of UN University's International Network on Water, Environment and Health (UNU-INWEH) developed the course in partnership with the University of Waterloo, over three years with US \$1.6 million from the UN Development Account. The course will be offered through affiliated institutions in Africa, Asia and the South Pacific, eventually expanding worldwide.

Another highly significant online learning programme is the UNU Global Virtual University, launched in collaboration with UNEP in 2002 with US\$2.2 million support from the Government of Norway. Described in the UN Secretary General's 2003 annual report to the General Assembly as a concrete project designed to bridge the digital divide, the GUVU is a collaborative effort between the UN and a network of universities North and South (particularly those from Africa and Europe in the pilot phase) focusing on the development of courses on environmental sustainability. Curriculum development is well-

advanced, pilot testing is taking place and the first students will enter the online Masters Degree programme from September 2004.

Also in 2002, the UNU in collaboration with Keio University, CISCO Systems and LEAD (Japan) embarked on the development of an Open Content project entitled the Asia Pacific Initiative. This project focuses on the implementation of measures to enhance online communication of environmental science by linking field-based research and capacity development activities, to media production studios and virtual classrooms. Recognizing the current digital divide between Asia-Pacific and the rest of the world as well as the huge cultural and language diversity in the region, the API promotes the development and sharing of content in local languages through an open platform. A network of partners of excellence is being established including initially the Asian Institute of Technology (Thailand), the University of Hawaii (USA) and Griffith University (Australia) to co-develop content and to reach out to other institutions in the region.

Furthermore, the UNU is currently working on plans for a new online learning initiative linking Central and South America in 2004-2005. The objective of all of these online learning activities is to ensure that a multiplier effect takes place with regard to the UNU's spending on capacity development and to build up the technical capabilities of our partners institutions in the South. In this context, the UNU is in discussion with the International Telecommunications Union concerning the possibility of creating an African University Network that would complement the activities of other initiatives on the continent, including the African Virtual University. Some preliminary research from the UNU Institute for New Technologies (UNU-INTECH) in 2002 explored the existing constraints to the use of the Internet in African universities. This cross-country study, which combined empirical research with interviews of over two hundred academics in 10 universities in Kenya and Nigeria, found that academic use of the Internet in Africa is constrained by both structural factors (telecommunications and connectivity infrastructure as well as income levels at the aggregate country, individual and organizational levels) and cost-related factors (local telephone and Internet service provider subscription fees). The study represented an important first step in understanding the ways in which ICTs are being adopted and used in African higher education. Given that universities are the gatekeepers of knowledge on advanced technologies as well as the first users of the Internet in most parts of the world, low Internet penetration in African universities remains a problematic proposition. The kinds of state support that led to the rapid diffusion of the Internet in the USA and Europe are yet to be seen in African countries. Working with the ITU and a consortium of partners, the UNU would seek to implement measures to improve Internet connectivity for the institutions of higher education in Africa over the next few years.

The World Summit on the Information Society (WSIS) is a key platform for the development of concrete measures designed to assist the international community in achieving many of the goals set out in the UN Millennium Declaration and an important step forward in fostering enhanced distribution of the potential benefits associated with the use of ICT for development. Within the UNU system, six of the thirteen research centres have undertaken research activities of direct relevance to the WSIS process. This research includes an assessment of the relationship between the Information Society and global economic development undertaken at the UNU World Institute for Development Economics Research (UNU-WIDER), exploration of the impact of learning and innovation in ICT firms and of the potential benefits of ICTs use in small and medium-sized enterprises in Africa (UNU-INTECH). The UNU would endeavour to introduce findings from these research activities into the Summit process through to Part two in Tunis in 2005. One UNU project that has attracted much attention internationally focuses on the assessment of the environmental impacts of ICTS. Initiated in 2001, the project has produced a number of publications on a range of topics, including the environmental impacts of production of microchips,

environmental comparison of conventional retail and e-commerce, and end-of-life management of computers. The most recent publication is entitled *Computers and the Environment: Understanding and Managing their Impacts*, published in 2003 by Kluwer Academic Publications and the United Nations University.

In conclusion, recognizing the potential of the Information Society as a means to promote the spread of democratic practices, good governance and environmental sustainability, the UNU works with universities, national governments, international organizations, civil society across the globe to ensure the implementation of projects designed to contribute to the successful attainment of the goals set out in the WSIS action plan. The UNU will continue to implement four main areas of work with respect to the WSIS. These are: (1) promotion of the use software including Open Source for development (through UNU-IIST), (2) assessment of the environmental impacts of ICT (through the UNU Centre) (3) evaluation of the patterns of adoption of ICTs in small enterprises (through the work of UNU-INTECH) and (4) the further development of online learning and Open Content (through the entire UNU network).