

## Our November/December issue

Welcome to our Christmas and New Year issue.

The past two months have very active and productive for SPIDER. Our workshop in collaboration with Jönköping University, held in the beginning of December, was successful with more than 60 participants taking part in the two days of interesting discussions.

As always we encourage that you share your experiences with us. Please send your articles and contributions to [afourla@spidercenter.org](mailto:afourla@spidercenter.org) before the 15<sup>th</sup> of each month to get them published in the next issue.

*From all of us at SPIDER, we wish you Merry Christmas and a Happy New Year full of ICT4D adventures!!!*

*Athanassia Fourla, SPIDER*

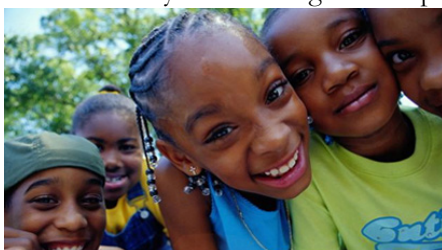


### Disclaimer

The views and opinions of authors expressed herein do not necessarily reflect the opinions of SPIDER.

## A new opportunity for a Junior ICT Expert

We are hereby announcing a new position, in the framework of the Junior ICT Experts program, for 12-18 months at [TanEdu](#) (Tanzania Education), Tanzania for a junior expert in web design, online publishing and content development. The assignment will start in early 2007; you can read more about the position on [SPIDER's web site](#).



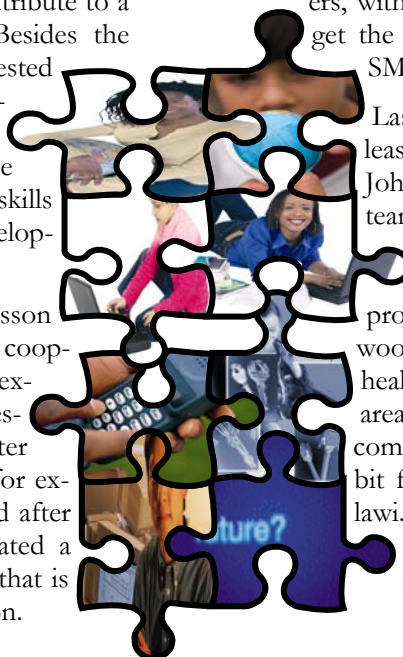
## E-learning in Tanzania

A new project in collaboration with the Open University of Tanzania ([OUT](#)) has started in November, 2006. SPIDER supports the building of an e-learning center for Tanzania situated in OUT. This will be the first phase of the project, which concerns mainly capacity building as the staff of the University will attend specialized workshops on e-learning. At the end of this phase, the first prototype e-learning modules will be developed and then evaluated by students and teachers. The project duration is 12 months. Depending on the results of the pilot phase, the project will continue with the development of e-learning courses and the completion of the e-learning center.

## Inspirational evening with EWB Linköping

The evening of the 7<sup>th</sup> of November was all about how engineering, science and communication technology can help developing regions. Well, at least in the mansion in Ryd, Linköping it was all about that. It was the second, and hopefully annual, "Inspirational evening" that **EWB** (Engineers Without Borders) Linköping held for engineers, scientists and students interested in how their knowledge can contribute to a better situation in developing regions. Besides the opportunity to network with people interested in the subject, the main focus for the evening was the invited speakers. The purpose of the evening was also to inspire more people and show them that their skills can be of great importance in helping developing countries.

First out was Dag Nielsen, head of Ericsson Response. He spoke about how Ericsson cooperated with the UN in disaster relief. He explained how they used their products to establish cellphone communications at disaster areas to help relief workers do their job, for example after the earthquake in Pakistan and after the tsunami in 2004. He also demonstrated a new mobile system for wireless networks that is under development for the same application.



After him Lotta Rydström and Karoline Beronius from SPIDER demonstrated the opportunities with the use of ICT for socioeconomic development. Among other things they demonstrated how simple SMS-applications can have great impact on the life and business of people in developing regions. A couple of examples were fishermen that could find buyers, without relying on expensive middle men, and get the market prices and the widespread use of SMS in the Philippines.

Last, and so far in terms of turnover, the least, was the organizer EWB Linköping. Johan Boström, the head of the "Project team" spoke about a couple of smaller projects that are being planned and how the listeners could participate in them. One project is aimed at Bolivia, and especially their wood industry which has an environmentally healthy structure, but needs assistance in other areas to be able to develop their business and compete internationally. The other project is a bit further away in time, and is aimed at Malawi. There is a lot to do here but exactly what is needed and where EWB can help the most is still under evaluation.

Igor Milososki, EWB Linköping

**EWB Linköping** is a part of the **Swedish Engineers Without Borders** organization which in turn is a member of the international EWB network. EWB Sweden and its local chapters are politically and religiously independent nonprofit associations. Their mission is *"to contribute to a sustainable global development by sharing technological and scientific knowledge with disadvantaged communities, thereby helping to improve their quality of life"*.

EWB Linköping was started last year and since Linköping is a city where about one sixth of the population are university students, most of the members in the organization are students, but it is open to all with any kind of science or engineering background. During the first year most of the work was about creating contacts and to establish a frame for what kind of organization we wanted to become. Also a couple of local projects were carried out and a few minor events such as the inspirational evening was held. One of the projects was helping a local Red Cross project that assists mainly young people in their studies and our primary focus was the science subjects and mathematics. Inspired by this we started our own "homework" project but aimed only at high school pupils taking science and maths. This got the attention of the university which considered the project to be such a success that they continued to fund and run it.

We hope things like these will get the attention of more people with theoretic knowledge and show them that they too can make a difference, and that we will be able to channel that knowledge to the ones who need it, in useful forms. Now we want to take the step outside our own country and get experience of working with larger projects and to learn and grow to become a significant contribution to the aid for developing countries. This will take time and effort, and it might require more coordination and organization within the EWB, but taking one step at the time we will get there.

## Key milestone for development of ICT infrastructure and ICT services at UNAH achieved with support from Sida/SAREC and SPIDER.

On 11<sup>th</sup> November 2006 the management board of the Universidad Nacional Autónoma de Honduras (UNAH) presented the ICT policy and ICT master plan to representatives of the national government, NGO's, the local ICT industry, the World Bank, the Central American Bank for Economic Integration (CABEI) and stakeholder groups from the university itself. More than hundred stakeholders attended the presentation. Sweden was represented by the Counselor of Sweden to Honduras, Ms Anne Stödborg and the national program officer Mr Orlando Valladares, the director of SPIDER Dr Afzal Sher and the SPIDER consultant Mr Bert Geers. The policy and master plan has been approved by La Comisión de Transición de la Universidad Nacional Autónoma de Honduras (CT-UNAH).

The ICT policy and ICT master plan provides UNAH with an instrument for attracting the needed financial and technical support and for optimal coordination

The ICT policy and ICT master plan has been formulated during 2006 with financial support from the Sida/SAREC and technical assistance provided by SPIDER. For this purpose a participatory approach involving representatives of

the various stakeholder groups at the UNAH at large has been applied. The aim was to identify common ground for all stakeholder groups and the development of university-wide ICT solutions. This approach also ensures commitment and ownership of the ICT services and facilities which will be put in place when implementing and deploying ICT. This phase also comprised the design of a comprehensive, university-wide network spanning almost the whole country. The network will provide access to the global Internet and to the information services, which will eventually become available to all campuses, regional centers and distance learning centers at UNAH. At a later stage, the network in principle will be also be (conditional) open to other educational and research institutes in the country, thus becoming a national ICT backbone for education and research. The network design has been made by a joint team from UNAH and SPIDER, with assistance from the KTH/SPIDER consultant and project supervisor Enrico Pelletta.

With the recent approval of the ICT policy and ICT master plan, the respective documents will be made

available before the end of 2006 in English and Spanish via the Internet, summary reports and brochures.

In the UNAH ICT Policy, the long term ICT goals that support strengthening the research and educational capacity of the UNAH and strategies are defined to reach these goals. The UNAH ICT master plan provides a framework of implementation strategies and action oriented plans, which are a translation of the UNAH ICT policy in implemental projects. The importance of the ICT master plan is not only the provision of the implementation projects but also the specific information it provides regarding the resources requested in time, skills and financing for such implementation.

The above mentioned goals will be addressed by:

- Improved co-ordination capacity.
- Transforming the educational system through e-learning
- Transforming the library organization from a traditional library into an organization consisting of information and knowledge navigation centers
- Developing local content
- Management information systems
- Promotion of office computing
- Competence development for different categories of ICT users
- Data communication infrastructure
- Development of ICT-Support Services

“The UNAH deploys information and communication technology to strengthen academic performance in contribution to the sustainable development of the national and global society.”

The investment required for implementing the complete ICT policy and ICT master plan are estimated to SEK 70 million. Nevertheless the formulation of the ICT policy and ICT master plan were regarded to be the first necessary step for setting up the ICT services and facilities needed by the research groups within the UNAH supported by Sida/SAREC (respectively microbiology, civil engineering and social science). The main focus of continued support from Sida/SAREC will be on the implementation of

*(Continued on page 5)*

## National Research and Development Centre for Wireless Ad hoc and Sensor Networks at the University of Colombo School of Computing in Sri Lanka: a report from Sri Lanka

With support from SPIDER, the establishment of a National Research and Development centre for Wireless Ad-hoc and Sensor Networks (WASNs) at the University of Colombo School of Computing (UCSC) in Sri Lanka started in January 2006. The current vision for the WASN centre is to establish itself as a leading research centre for wireless communication and sensor networks in the South Asian region.

The WASN centre is offering a 15-week course, starting in January 2007 in the fourth year of the undergraduate program for Bachelor of Science in Computer Science at UCSC. This course is covering wireless ad-hoc communication and sensor networks with emphasis on hands-on studies.

At the moment there are five ongoing research projects in the WASN centre. In short these are:

- Vehicle mounted sensors for road condition monitoring
- Vehicle mounted sensors for environmental monitoring
- Statistical modelling of sensor network traffic
- Surveillance camera network
- Power efficiency modelling

There are two projects on sensor network security and on electronic fencing to constrain movements of dangerous animals, e.g. rouge elephants. In addition, a demonstrator situation picture application for rescue missions has been developed.

Two public research workshops have been conducted with participation from other universities and the industry. One international research workshop has been arranged with participation from universities and industries. As part of the WASN project, a keynote address was presented by Dr. Leif Axelsson at the International Information Technology Conference in Colombo in October 2006.

Dr. Kasun De Zoysa is lecturer and coordinator of the WASN centre including a WASN course. Dr. Chamath Keppitiyagama is advisor for WASN centre. Mr. Kenneth Manjula Thilakarathna and Mr. N. M. Laxaman are research assistants and technical project managers for project students. Mr. Niyomal Boteju is an instructor at the WASN course.

A team from the WASN centre, Dr. Kasun De Zoysa, Dr. Chamath Keppitiyagama and Mr. Kenneth Manjula recently had a study visit (7th to 14th November 2006) to various Swedish organizations including Ericsson AB, Halmstad University and Swedish Institute of Computer Science (SICS). The visit started with a half-day workshop on ad-hoc routing and embedded operating systems. This course was conducted by Ericsson and CRL Sweden. The team visited Halmstad University on 8th November and attended training on computer programming. In this training program, the team exchange their programming experience with researchers at Halmstad University. Ericsson conducted a one day workshop on Open-SIS and its applications. Later in the week, the team got an opportunity to meeting developers at SICS and exchanged their research experiences. In addition, the team had a project meeting with Ericsson and Volvo participants. During this project meeting at Ericsson, the status of the project was discussed and a roadmap for the rest of the project period was developed.



*Workshop at Halmstad University, Sweden*



*Planning for communication node deployment. From left to right: Martin Gustavsson, Leif Axelsson, Chamath Keppitiyagama, Henrik Riömar, Kasun de Zoysa and Kenneth Manjula.*

Dr. Kasun De Zoysa, Dr. Chamath Keppitiyagama and Mr. Kenneth Manjula who were the representatives from UCSC were very well received by Ericsson and immediately felt part of the team. The visit was very successful with a lot of things achieved, but nevertheless there is a lot of work to be done to reach the goal of building a WASN R&D centre at UCSC.

*Kasun de Zoysa, University of Colombo, School of Computing kasum@cmb.ac.lk*

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the ICT services and facilities needed by these research groups. In parallel, the UNAH will be supported for attracting the needed funding for the full implementation of the ICT policy and ICT master plan by making these plans available to potential funding agencies (national government, World Bank and CABEL). Having the policies and master plan now in place, various international agencies have already shown serious interest in supporting parts of the ICT master plan and negotiations for securing the full budget are expected to be finalized during the first half of 2007.

*Afzal Sher and Bert Geers*



*ICT policies presentation in Honduras*

## ICT and adult education for alternative livelihood opportunities

On December 8<sup>th</sup>, 2007, the SPIDER board approved a three-year collaboration project between partners in Kenya, India and Sweden. The overall objective is to empower Self Help Groups (SHGs), in coastal communities to identify viable livelihood opportunities in order to improve their socio-economic status, whilst ascertaining that the wellbeing of the environment is brought into the equation. This will eventually make their communities more resistant to environmental and economic shocks. ICTs will be introduced in parallel with education following the Swedish adult educational form – “folkbildning”.

The fundamental idea of folkbildning is to help people acquire tools to improve their own life situations. It is a bottom-up learning process, where participants are considered active, able and responsible agents in their own learning. The values of folkbildning, regardless of participants and subjects studied, remain focused on equality, personal growth and responsibility, strengthening of citizenship and democratic processes. Folkbildning together with the access to information and communication technologies will therefore provide necessary tools to empower members of coastal communities to search alternative livelihood opportunities that also protect the sensitive environment. Implementation will primarily be carried out in communities along the Kenyan coast and in the coastal district of Tamil Nadu in India. ”



*Alternative livelihood training in India*

The two collaborating institutions responsible for implementation of the project are [CORDIO](#) (Coastal Oceans Research and Development -Indian Ocean-) in Kenya and [SDMRI](#) (Suganthi Devadason Marine Research Institute) in India. In both areas the project will draw on existing relationships with villages in the areas and it is believed that the two organisations will benefit from collaboration and sharing of information and experience. The educational component will be

provided by Nyköpings folkhögskola in Sweden.

## **“Empowering people through ICT for sustainable development”: the Jönköping University-SPIDER workshop**

More than sixty participants from the SPIDER Network in Sweden and abroad met during a two-day workshop in Jönköping on December 6-7, 2006 to discuss the opportunities of ICT in the development of cross-cutting sectors, the possibility of ICT in the struggle for democracy and human rights as well as the use of ICT in regards to entrepreneurship.

Thomas Andersson, the President of Jönköping University, and Dr. Afzal Sher, Director of SPIDER, welcomed the participants and stressed that the impact of ICT for development is not only decided by the technology alone, but more based on the ability to successfully use the technology as a mean for poverty alleviation. In his welcome speech, Dr. Sher elaborated on the objectives of the workshop.

A number of interesting key note speeches kick-started the workshop and functioned as a base for the discussions. Anders Granlund from the Swedish Environmental Secretariat for Asia (SENSA) in Bangkok, Thailand discussed the importance of raising the awareness of our environmental future and the increasing challenges with e-waste. Jac Stienen from IICD in The Netherlands explained how ICT for development is tightly connected to the potential of achieving the MDGs. The former Director of the Institute of Future Studies, Prof. Åke E. Andersson, raised the importance of education, decrease in knowledge inequalities and access to information and communication in order to achieve democracy and development. The key note speeches were ending with Prof. Mathew J. Manimala who pointed out the need for entrepreneurial actions in order to ascertain sustainable development.



*Anders Granlund in his talk during the workshop*

The parallel sessions: “*Opportunities for ICT to improve Health, Environment and Education*”, “*The role of ICT in promoting Democracy, Human Rights and Social Development*” and “*The use of ICT for Entrepreneurship and Risk Capital*” gave the participants the opportunity to focus on more specific questions. In total, eleven presentations were held during the parallel sessions; covering topics such as ICT in the health sector, ICT as a tool for democracy development, micro-financing, rural development and the use of mobile communication as a mean for poverty alleviation. During the parallel sessions the participants also had the opportunity to give their input on the future development of SPIDER and its activities. The sessions were concluded by a joint discussion where the rapporteurs from each session summarized each group’s findings and conclusions. In general, all the groups recognized the importance of a national resource center such as SPIDER and supported the activities promoting the

benefits of ICT for development.

The main conclusions that were brought to the joint seminar were the need of *capacity building* at all levels and in all sectors, the *importance of information and communication to enable access to commercial and public markets as well as the global information society*, and the role of ICT in *increasing the chances to influence one’s own livelihood*. Further it was pointed out that *sustainability, local ownership and needs driven initiatives* from developing countries are key factors to successfully implemented projects that will have a long lasting affect.

The participants emphasized the value of a “good ICT practices-database” that could demonstrate the benefits and impact of ICT for development. Good practices as well as lessons learned from bad practices from all SPIDER-supported projects could be made public in a database format to function as a guide on how to implement successful development projects.

On December 7<sup>th</sup>, an open seminar was organized with Anders Wijkman, member of the EU parliament and Chairman of the SPIDER Board, Thomas Andersson and Gunther Pauli, Director of ZERI Foundation. The presenters raised the issues of environmentally friendly development and the use of a comprehensive knowledge framework for global sustainable development.

The workshop proceedings will be available at the SPIDER website in mid January.

## *African Communication Infrastructure* **Hundreds joined successful week of events at KTH in Kista**

”How can we facilitate Africa’s progress towards the Knowledge Society?” This was the theme of the African Week organized by the Royal Institute of Technology in Sweden December 11–15. More than a hundred participants from Sub Saharan Africa and the rest of the world met in Stockholm to discuss how research and education networks can contribute to the development of ICT usage in other sectors of society, of Africa in the years to come as it was in the developed world during the 1990ies.

– “The lack of communication infrastructure is one of the reasons why Africa is falling behind on the road towards the knowledge society. A trend of change, however, is that a lot of optical fibre is being deployed in infrastructure development projects in Africa, such as in the electrification programs, water supply pipelines, roads, railways, etc”, says Björn Pehrson, KTH professor in telecommunication systems. He stresses that most African countries have a huge need for education and training in the area of communication networks, at all levels, and that Africa should get attention similar to the KTH projects in China and Pakistan. The hosting of the many events during the KTH African Week is part of this effort.

EU, China, India, USA and others are investing heavily in the development of infrastructure on the African continent.

- “This is a dynamic development leading to extraordinary opportunities for academic research and outreach to industry and other sectors of society in most of the Sub Sahara region”, says Björn Pehrson one of the driving forces behind the KTH African Week.

According to Ramon Wyss, KTH Vice President for Internationalization, the African week was a successful beginning of serious discussions about how KTH can strengthen its presence in Africa.

“There are already many interesting and successful projects involving faculty members and students from KTH and several African universities. The early and persistent Swedish engagement in development support and cooperation in the region via Sida is another very good platform for the establishment of an institutional presence”, he says.

The major events during the KTH African Week where as follows:

***Monday: Large Scale Capacity building***

***Tuesday: Academic theses defences***

***Wednesday-Thursday: Open Access 2006***

The proceedings, including all presentations, are available at [www.wideopenaccess.net](http://www.wideopenaccess.net). The Open Access 2007 will be organized in Tanzania by Dar es Salaam Institute of Technology (DIT) to follow up on the development

More details can be obtained from [Björn Pehrson](mailto:Björn.Pehrson@kth.se) +46 70 6256140



*Founding members of UbuntuNet Alliance and Partners at a Planning Retreat in Zomba, Malawi, October 2006*

## In brief...

### International Journal of Computing by UCSC

The University of Colombo, School of Computing Science (UCSC) is starting a new journal of computing in 2007. Initially, the journal will be published in collaboration with UCSC, IEEE and SPIDER but other organizations are welcome to join the group. Besides hardcore computer science, the journal will also focus on ICT4D issues. More details about the journal can be obtained from Dr K. P. Hewagamage at UCSC ([kphewa@gmail.com](mailto:kphewa@gmail.com)).

### High Demand for Junior ICT Experts

The SPIDER supported Junior ICT Expert Program is becoming popular in developing countries. Currently, SPIDER has a request from organizations in Tanzania, Uganda, Honduras, Moçambique, Tajikistan and Sri Lanka to send experts to ongoing projects supported by Sida or SPIDER. We will process these requests in the first quarter of 2007. For more information, please contact Athanassia Fournala at [afournala@dsv.su.se](mailto:afournala@dsv.su.se).

### 2nd International Conference on ICT for Development, Education and Training, Nairobi, Kenya, May 28-30, 2007

The second conference on e-learning in Africa will be held in Nairobi, May the 28th-30th, 2007. SPIDER will be an active participant and supporter of this event. For up-to-date information, please refer to [www.elearning-africa.com](http://www.elearning-africa.com). The conference is arranged under the patronage of the Kenyan Minister for Education, Science and Technology, Dr Noah Wekesa. SPIDER Network members active in e-Learning are requested to submit papers.



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