

ICT for Rural Community Development - Interview with Mahabir Pun

Tek Jung Mahat



Mahabir Pun, 52, is a Nepali citizen. After receiving his Master's degree in Education at the University of Nebraska at Kearney, he returned to his native village, Nangi, and founded the Himanchal Education Foundation. Mr. Pun is currently at work establishing wireless networks in rural Nepal and is associated with several organisations working in ICT for rural development. Mr. Pun has won the Magsaysay Award 2007 for his community leadership and innovative application of wireless computer technology that has connected his village Nangi to the global village. Mr. Tek Jung Mahat from APMN discussed with Mr. Pun ICT for rural development in the Nepal Himalayas and his ongoing projects.

Q. Can you please tell us something about your ongoing projects? What is your future plan re: wireless technology in Nepal?

Pun: There are many projects in progress where we are expanding our services upon request from communities, government and other agencies. Now we are connecting the internet to some villages in the Mekanwanpur district and planning to provide tele-medicine and tele-education services. Rato Bangla School has planned to conduct training for teachers and also tele-education to schools in rural areas of Mekanwanpur. We are working with Kathmandu Model Hospital in expanding a tele-medicine service to Dolkha district. Upon request from Winrock International, we are currently linking rural southern villages of Palpa district to the internet. We are expanding our earlier work in Myagdi to 6-7 more villages which will be provided with tele-education and tele-medicine services. Moreover we are connecting the service to four districts in between Kathmandu and Pokhara. Apart from this, we are working on the introduction of Nepali Windows and Nepalinux with Madan Puruskar Pustakalaya (MPP), with development and organisation of contents through the Open Learning Exchange (OLE). Contents in mathematics are being developed for grade six and eight in consultation with the Ministry of Education. We are also working in the development of video-conferencing applications with the Kathmandu Engineering College and on some other applications with the Gandaki Engineering College.

Q. What are some of the major challenges you encountered during the implementation of your projects?

Pun: When we go to many rural villages it can be seen that there are very few qualified teachers. Not only trained and qualified teachers, many schools lack teachers. In such context, it's a big challenge how we can use ICT to promote education in those areas. My interest is to expand the use of the internet as a means of education promotion and internet expansion itself has no meaning until and unless we enable people to use the services that can be made available through the internet. When they don't understand English they can't make good use of the Internet and then it simply becomes a "show piece."

We have faced a few technical problems in tele-medicine and tele-education and our technical team is responsible for fixing problems. Currently we have only four paid staff and the rest

all are working on a voluntary basis. Financial capability is another challenge in order to upscale and expand services. Since we have a very poor literacy rate in the mountainous and hilly areas, development of capacity to use the ICT services among the rural community is another challenge, which can't be solved overnight. It's a gradual process and needs to be integrated with the overall education system of the country.

Lack of coordination among the similar organisations is another problem.

Q. Do you see the possibility of replicating/upscaling your work in Nepal to other remote mountainous regions of Asia and the Pacific?

Pun: Yes, however, our current activities are in Nepal only. Currently we are doing homework to start a relatively big project in three remote districts in far-western Nepal with support from National Panning Commission (NPC), most probably in Bajhang, Bajura and Jumla. Projects in Mekanwanpur, Dolkha etc. are a few of the examples of replication and upscaling. However, as we move from hilly areas to the plains areas we may have some problem of line-off sites. In the plains, we cannot see farther like in hilly areas and we have to spend more resources in setting up of line-off sites but in the hilly areas we can easily see peaks from very far-away and that makes the wireless system easier to connect and also cheaper as we don't need to invest much in setting-up many towers. Very recently a team of Television Programmes has arrived from India who is willing to develop some video clips of our work in Nepal and plan to broadcast them in India. We are receiving similar requests from other media also.

Q. What are some of the challenges faced by the mountain community of Nangi? In addition, how has wireless technology helped address them?

Pun: The case of Nangi is not much different from other parts of Nepal. I don't know the situation of far-western hilly districts where people are facing problems of famine most of the time. In general, most of the mountainous communities have traditional agricultural systems and somehow they are able to produce minimum grains to eat and they are able to sustain subsistence livelihood. Not only in mountains but also in other parts of Nepal, the major problem is people don't have jobs or other alternatives of cash income, for which they migrate seasonally (and in some cases for many years) to neighboring countries. It has become an unavoidable option, as people don't have the opportunity to generate income to cover the expenses of basic necessities such as salt and oil. Similarly in the villages, they don't have hospitals, schools and communication facilities, adding more pressure for the overall development of the region. However these problems are not limited to Nepal or the Nepalese mountainous areas.

The contribution of technology in improving livelihoods of rural people is not as easy to measure as it seems. In relatively developed areas or the areas which are closer to markets, the technology can make people aware about market related information of their range of products so they can sell their products for better prices. Take a case of herbs and other high value low volume products that are common in our mountain regions. Presently the collectors, the local people are selling their products for very cheap prices to the middlemen who are mainly from the cities or at least don't belong to those areas and they resell the products for better prices. It's because the local communities are not aware of the market system and the further processes after they sell it to these middlemen. If we manage to

develop a system to inform them about their products, markets, market rates and so on through the application of ICT tools, the local communities will benefit more than they are benefiting now and we can see a remarkable improvement in income generation of local communities. But this is not equally beneficial for all the products and areas. Application of ICT should be supported side-by-side with road and other means of transportation to market the rural goods more effectively. For example Jumla and Humla grow very good quality apples and the people are aware of their market; however, they are still not able to sell their products because of the large investment required and lack of transportation facilities.

Q. How do you see the role of ICT in transformation of rural communities in next five years or so?

Pun: Five years is a very long time when talking about technology and its advancement. In the next five years definitely the technology will be cheaper and will be easily available to poor people. Today's sophisticated technology will be common in practice and more improved technology will be available for our use and can be used for rural communities. When the cost of ICT falls and affordability of local people increases, it will be easier to expand the services and the poorest of the poor can also have access to the technology and benefit from it. However, ICT is not magic in itself and can't transform rural communities drastically. ICT should be promoted side-by-side with other literacy-related programmes and income generating activities, after which some remarkable changes will occur. One tragedy in our country is that many short-term projects are working in the areas of ICT. They do a pilot project in some particular areas and then they just disappear within a couple of years. As a result neither the communities can benefit, nor the technology can be tested in a more exhaustive way. In such cases, no transformation can be expected. But in their reports, they claim big achievements. This should be discouraged for better implementation of ICT projects.

Thank you Mr. Pun for the great work you have accomplished and for taking the time to answer our questions. We wish you all the best in your future endeavors.

Local Access, ICT and Sustainable Mountain Development

Frans Neuman



Technology in rural areas. Photo: Bibhusan Bista, SAP International.

Sustainable mountain development is a matter of local communities managing and implementing activities that sustain the natural resource base whilst ensuring their livelihoods in terms of income and health. Information and communication are key factors in this process. Traditionally this has been by storytelling, newspapers, magazines, radio and television. Internet is one of the more recent channels by which local communities can access information and communicate with others.

There are many examples where ICT can help rescue people from poverty and improve livelihoods:

- **Health:** Telemedicine allow medical staff in villages to link with doctors in hospitals to diagnosis diseases and provide second opinions. Local people can access information to prevent diseases;
- **Agriculture:** Market prices, help with marketing, advice on crop diseases, treatments or measures to improve soil; information on innovations and contact made with agricultural experts;
- **Education:** E-learning for students; access to higher level specialist courses;
- **Commerce and business development:** Information on loans, technical innovations and business developments such as mobile banking useful for small-scale enterprises; tourism is a major source of income for many, so advertising and payment systems are useful;
- **Governance:** Information on government policies such as road-building;
- **Reducing the digital divide:** People in mountain communities can use the internet to communicate with family or business partners in the 'outside world' by email or making cheap calls via voice-over IP (VOIP). Access to news from across the globe help to reduce the digital divide.

The potential of ICT to enhance livelihoods is high, but the reality of making it work is tough:

- Content is available in billions of websites, but finding relevant and validated information is a challenge;
- Accessing the internet requires new technologies: laptops and computers, connection via telephone lines, cable or more costly satellite. Power is needed and links to the grid may not be possible. Solar, wind or hydropower needs to be used. Mountain communities are usually remote, so economics are against them;
- Sustainability is a major challenge as often the initial set-up is sponsored by donors but operations stop when no income is generated to repair equipment and pay internet fees or due to a lack of technical knowledge.

Media such as radio can reach further but has limitations, being a one-way medium of communication. Mobile telephones have gained rapidly in importance. A recent study by APC underlined the need for local telecentres. These play a key role serving the needs of individuals, as well as having a community role in supporting local organisations such as women groups, small entrepreneurs, farmers etc. with information, support and training.

For the Asia Pacific region, the UN Economic and Social Commission for Asia and the Pacific (UNESCAP) set up a Regional Network of Telecentres Asia-Pacific. In Latin America, the Inter-American Development Bank (IDB) and national governments are investing in developing rural telecentres. The Latin American Mountain Forum network, InfoAndina supports rural telecentres by providing content to serve local communities.

It is important for the Mountain Forum community to link up with these initiatives in mountain areas. The importance of ICT for mountain communities is clear. Enhancing access to information is a priority in the Mountain Forum Strategic Plan.

Selected telecentres information resources

- Global information on telecentres: Telecentre.org <http://www.telecentre.org>;
- I4D magazine by CSDMS <http://www.i4donline.net>;
- Regional Network of Telecentres Asia-Pacific: UNESCAP Consultative Meeting 27-29 Sept 2007 http://www.telecentresap.org/index.php?option=com_content&task=view&id=22&Itemid=30;
- Telecentre network in Africa: CTA workshop 17-19 June 2008, <http://www.share4dev.info/telecentres>;
- Rural Access: Options and Challenges for Connectivity and Energy in Tanzania, IICD, 2007 <http://www.infobridge.org/asp/documents/3782.pdf>;
- APC study: (<http://www.apc.org/en/news/wireless/all/rural-communication-there-still-need-telecentres-n>).