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The Beginning of the End of the Digital Divide

How some remote villages without electricity in Cambodia are receiving daily email

One would think that to give a remote village access to electronic mail would require they at least have one phone line or, at the very least, electricity. Think again!

There are 12 villages in Cambodia's Ratanakiri Province that are without access to telephone, TV, running water, and transportation systems, yet they are receiving electronic-mail on a daily basis. Truth is these villages don't even have electricity.

It turns out that all you really need is a bit of goodwill, a motorbike, the world's most efficient internet via satellite system, and pure genius. Now these villages have access to some of the world's best medical minds from Harvard Medical School.

Thanks to the World Bank, the Asian Development Bank, a few private donors and Shin Satellite's state-of-the-art IPSTAR broadband satellite technology, these villages are now enjoying daily communications with the rest of the world.

Internet access for rural Cambodia

The key to this project is the IPSTAR broadband satellite system that was developed to provide low cost and efficient IP based Internet access.

Thanks to IPSTAR, remote areas and villages can now enjoy access to the Internet using a device the size of a box of breakfast cereal and a small satellite dish. Of course, this still requires a computer and electricity - a commodity elsewhere, but something out of reach for most of the population in remote Cambodian villages.

Computers have been set up in schools in each of these villages, connected to solar cells that provide six hours operating time. To allow all 12 villages to share one satellite link located in the provincial capital city, they have organized what can best be described as the past meeting the future:
a wireless computer system mounted on a motorbike tax transfers emails to and from computers within 300 meters reach of the computers that are part of this project.
The motorbike does a daily run between the provincial capital, Banlung, and all the villages. Within range of one of the schools' dedicated computers, it transfers email back and forth automatically. Once back at Banlung, the motorbike's computer connects to a central computer system which facilitates the transfer of all emails to the recipients via the IPSTAR satellite system.

As a result, Ratanakiri's villages, which had been completely out of touch with the rest of the world, are now enjoying regular news updates and,access to all sorts of new services, including remote medical diagnosis, education and electronic government communications.

The General Hospital of the Harvard Medical School is already linked to a remote medicine (or telemedicine) project tied to this province. Hence, these villages now have access to some of the world's best medical minds at their finger-tips.

As the country director of Japan Relief for Cambodia, Nuon So Thero, puts it, "There is no more powerful weapon than the Internet to fight poverty in the developing world. The Internet can reach every corner of the poorest region with information, knowledge and save lives through medical guidance and diagnostics. It also gives 'a voice' to those who have never been represented before. For us here in Asia, it is all possible because of IPSTAR."

Empowering children's education

The computer skill transfer to these villages is also unique in that children at The Future Light orphanage in Phnom Penh pass on their knowledge to the children in the villages.

The motor taxi email delivery system was developed by an alumni team of the renowned MIT Media Lab, based in Cambridge, Massachusetts. The team, called Six Mile Solutions, conceived the ingenuous system to provide remote areas with email access over the IPSTAR satellite.

"Thanks to IPSTAR-enabled Internet access, the first English word of children in our village is Google!" says Nicholas Negroponte, founder and chairman of MIT's Media Laboratory.

It may be a while before people in these villages start accessing the Internet and even longer before they start placing orders on Amazon.com, but it marks the beginning of the end of the digital divide - those with and those without access to broadband