Using Information and Communication Technology to Support Mountain Development

Examples to Learn From

ICIMOD

ICIMOD launched the ICT for Mountain Development Award in 2014, which now continues in its third year. In this flyer, we feature some of the outstanding submissions from 2015 that we hope will provide inspiration to future ICT innovators and development practitioners. What all of these submissions have in common is a focus on improving livelihoods, conservation and development through unique (and sometimes simple) changes in the way we use ICTs for mountain development.

Last year we received 18 submissions from around the Hindu Kush Himalaya (HKH), which were sorted into five categories: ecosystem services, livelihoods, water, geospatial solutions, and "other." The submissions came from individuals and organizations, including universities, government agencies, donor-funded projects, the private sector, and non-governmental organizations. We selected four of these submissions based on four criteria: 1) quality of content and creativity; 2) innovative use of ICT; 3) clear focus on the HKH for mountain development; and 4) impact on the ground.

Here are a few of the excellent submissions from 2015:

1. Early landslide warning system for the communities in the Chittagong Metropolitan Area

Submitted by the BUET-Japan Institute of Disaster Prevention and Urban Safety project team, Bangladesh: Prof. Tahmeed M. Al-Hussaini, Md. Shahinoor Rahman and Bayes Ahmed. Advisors: Prof. David E. Alexander and Prof. Ikuo Towhata.

Using the latest geospatial techniques and tools, this team developed a dynamic GIS and web-based early warning system, combining with local knowledge with past landslide locations and layers of biophysical parameters for the communities living in the Chittagong Metropolitan Area, Bangladesh.

See more at their website: www.landslidebd.com
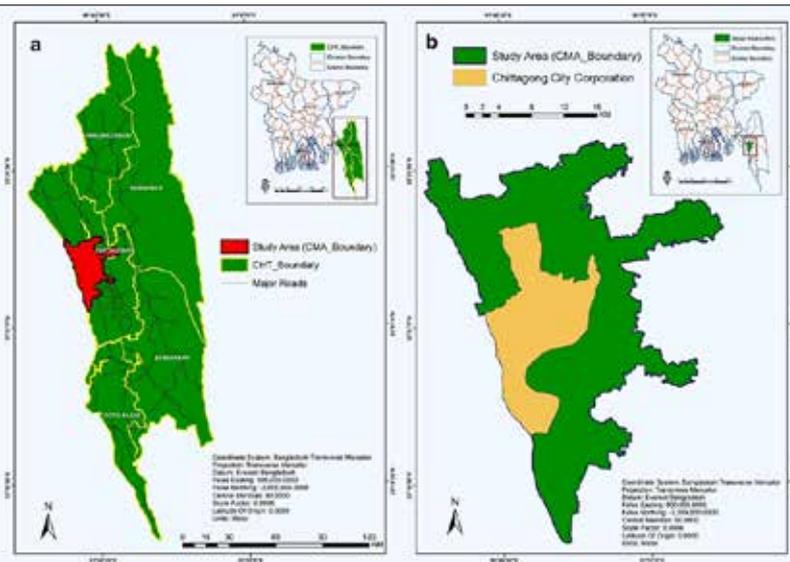
2. Mobile Services for Flood Early Warning

Submitted by the Regional Integrated Multi-Hazard Warning System (RIMES), Bangladesh: Raihanul Haque Khan.

The Flood Forecasting and Warning Center (FFWC) of the Bangladesh Water Development Board (BWDB) together with technical and implementation support from Regional Integrated Multi-Hazard Early Warning System (RIMES) submitted this pilot project to support early warning preparation, communication, and response using mobile services in the Sirajganj District of Bangladesh. The system utilizes both voice messages and SMS to disseminate early warning information.

See more at their website: http://bit.ly/1I2Fl4I, http://bit.ly/1P4UHaJ

3. Android Application to enhance Ecosystem Services (Pollination) and Safeguarding of Bees and Butterflies

Submitted by the Earthwatch Institute, India: Pranab Patar

The Butterflies and Bees App facilitates easy identification of butterfly and bee populations present in an area using a mobile application. The app is intended to increase public awareness and generate greater interest in butterflies and bees among the young people in India. The app allows users to submit their own observations about bees and butterflies, helping to promote citizen science while building a relevant knowledge base.

See the app here: https://play.google.com/store/apps/details?id=com.earthwatchindia.butterfliesandbees&hl=en
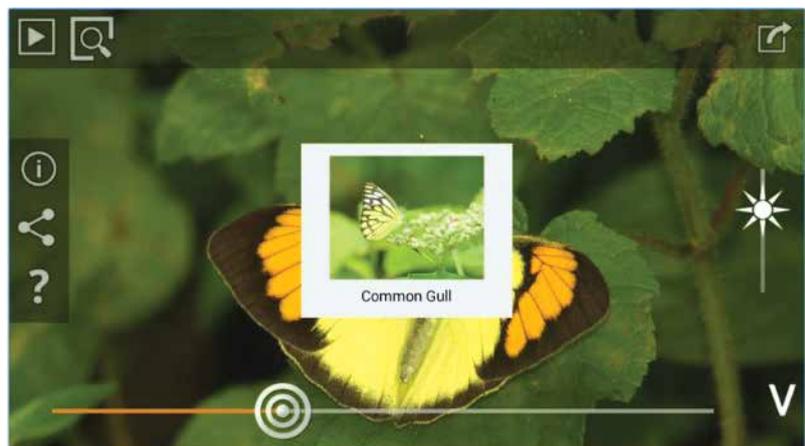
4. StoryCamp Everest: Stories from Mountains and Beyond

Submitted by Story Cycle, Nepal: Saurav Dhakal

Story Cycle has collected panoramic images of the Khumbu region of Nepal and combined them with stories and voices of Sherpa people to create a dynamic web experience for those interested in this popular region. Through this website you can hear the sound of yak bells, chanting monks, and visit (virtually) a local school or museum – all the stunning beauty of Khumbu in one place.

See their website here: http://storycycle.com/everest

Here are a few outstanding ICT examples from 2014.

- Crop Nutrient Calculator for Mountain Farmers
- ICT for Agriculture using SMS Advisory
- Web-based Inventory and Mapping of Irrigation Schemes
- Mobile GIS Application for Tourism Development in Gilgit-Baltistan
- The Inside Stories of Mountains
- Development of Geospatial Data-Loggers for Monitoring Transhumance Grazing Patterns

You can learn more about these projects online here: http://lib.icimod.org/record/31178?ln=fr
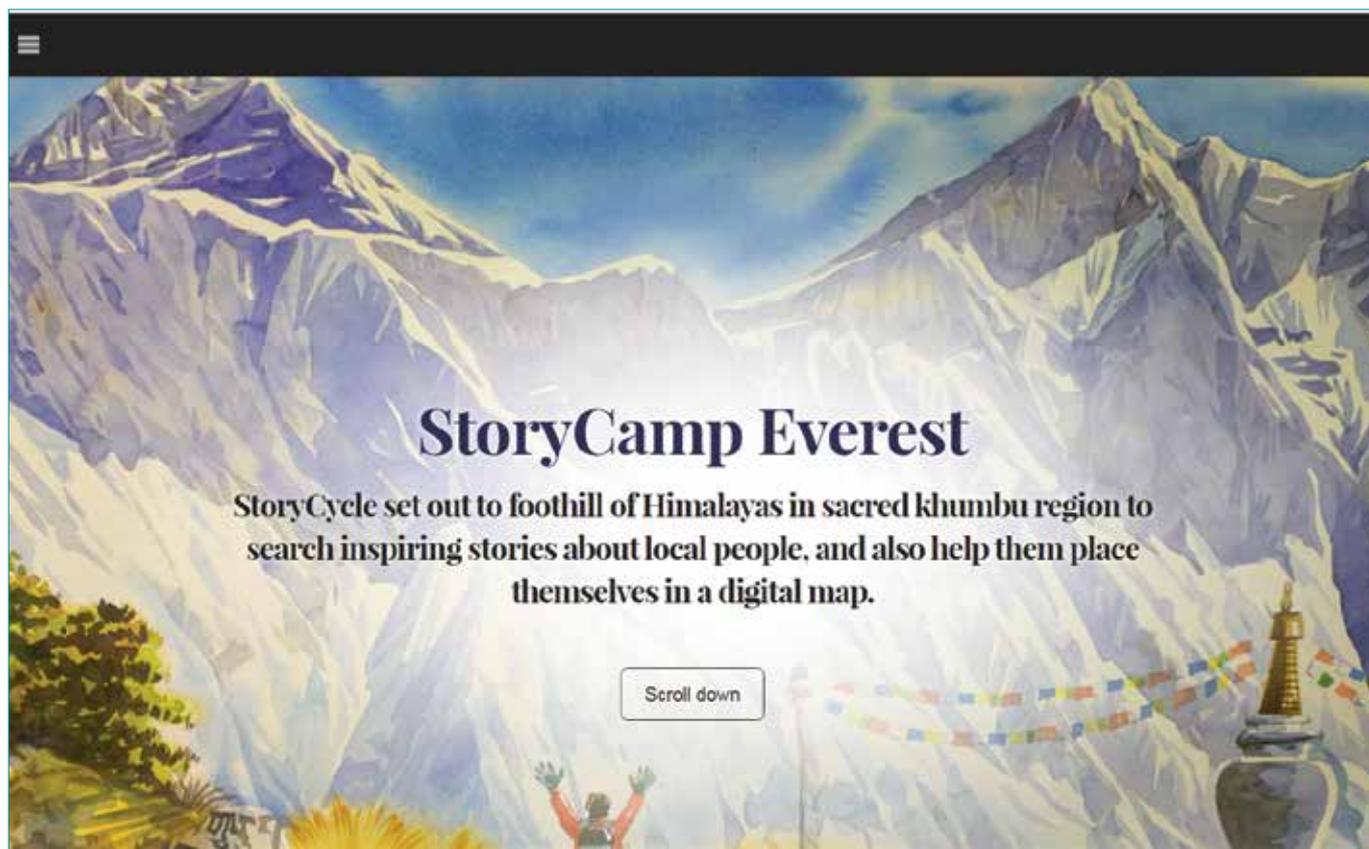
Lessons to Be Learned

As ICIMOD promotes mountain livelihoods and sustainable mountain development, we recognize the importance of ICTs to our mission. The examples presented here, we believe, display innovative ideas being undertaken in the interests of mountain community and promote the exchange of these, including building partnerships and positive collaboration. As we continue to grant this ICT award in years to come, we will continue to share wonderful examples of ICT innovation, linking to development, like those featured in this brochure.

We are most excited when these innovations can be scaled up and replicated throughout the HKH. In 2014, we awarded an SMS-based agricultural information project in Sindhuli, Nepal, that is now collaborating with the HIMALICA initiative at ICIMOD to provide cardamom farmers in Taplejung with real-time information about market prices, agricultural extension, and weather. We believe this system will net gains for local farmers by improving their knowledge of the market while also providing input to enhance their production. The StoryCycle example above from Khumbu has been adopted by the ICIMOD Knowledge Park at Godavari, where we are creating a similar virtual tour that allows

ICIMOD introduced the ICT for Mountain Development Award to recognize innovations in information and communications technology for development that promotes mountain development and environmental conservation. ICT for Development has become an important programme worldwide, especially here in the Hindu Kush Himalaya (HKH). However, the true potential of ICTs for mountain areas is still relatively young and we can do more to assist mountain residents through these important yet attainable innovations. We hope this award will inspire ICT developers today and tomorrow.

ICIMOD's annual ICT for Mountain Development Award is given out each year on International Mountain Day.

visitors to learn more about water management, vegetation, soil conservation, and biodiversity through the convenience of a dynamic web portal. We also believe the website will draw more visitors to our park who would like to experience our attractions first-hand.

The two early warning systems from Bangladesh (highlighted above) call attention to the key role that ICTs can play in disaster preparedness. Even in the aftermath of a disaster, such applications will ensure the timely flow of information needed by citizens, aid organizations, and the government alike. As witnessed after the 2015 earthquake in Nepal, restoring communications and disseminating information are key aspects to facilitating quick recovery and distribution of relief.
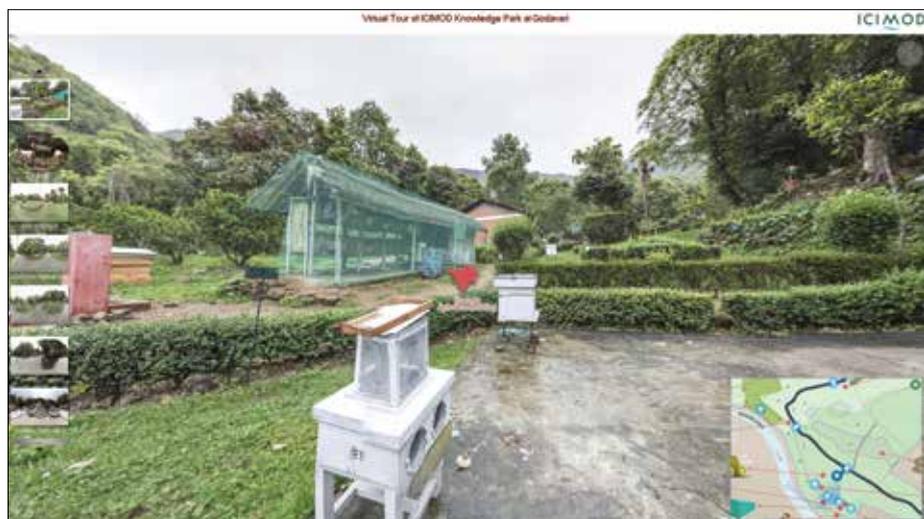
We hope that all of these examples underscore the vital role of ICT in all aspects of development. It can be easy to overlook ICTs when faced with shortage of access to basic needs, but oftentimes, information access is the key to meeting those basic needs and calming potential societal turbulence.

For these reasons, and many others, ICIMOD will continue to prioritize information and communications technologies for enhancing mountain development.

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