



Using Information and Communication Technology to Support Mountain Development

ICIMOD

FOR MOUNTAINS AND PEOPLE

In 2014, ICIMOD started the ICT for Mountain Development Award. The award recognizes ICT-enabled innovations, good practices, and applications that promote mountain development and environmental conservation in the Hindu Kush Himalayan (HKH) region. In the first year, seventeen submissions were received under five categories – ecosystem services, livelihoods, water, geospatial solutions, and other – from individuals and organizations, most of which are based in the HKH region.

Winners were selected by a team of ICIMOD experts based on the following criteria: quality of the content and creativity, innovative use of ICT, the application of the technology for mountain development in the HKH region, and impact on the ground. Four projects received the ICT for Mountain Development award. The awards were presented by Mahabir Pun, a pioneering social entrepreneur and Magsaysay Award Recipient who used ICT to promote education, health, tourism, income generation, agriculture, and rural energy in more than 175 villages in the Nepal Himalayas.

Through the ICT for Mountain Development award, which is now an annual event, ICIMOD aims to create a platform to showcase innovative ICT practices that improve the lives and livelihoods of mountain communities and to promote the exchange and use of these tools across the region. Some of the outstanding submissions from 2014 are featured below.



Crop Nutrient Calculator for Mountain Farmers

Extension workers and farmers in Nepal can calculate soil nutrient requirements in order to optimize crop productivity using a simple mobile application. The application, developed by Helvetas Nepal, can be used on mobile phones, tablets, or laptops on site in rural farms. The tool can be used with or without soil sampling and analysis. It helps farmers accurately calculate the amount of fertilizers and/or organic supplements (e.g., farmyard manure, compost, or livestock urine) to apply in order to improve the soil nutrient regime. This will help optimize agricultural yields, thus enhancing food, nutritional, and livelihood security, as well as the income of rural mountain farmers. For more information, contact bishnu.bishwakarma@helvetas.org.np.

ICT for Agriculture

In Nepal, an SMS-based information system has been providing farmers with valuable real-time agricultural information, including on weather, current market rates for agricultural produce, offers from traders, and various agricultural products. After successful implementation in Ratmata Village Development committee in Sindhuli District, the service is now being expanded to parts of Kavre District and is looking for partnership to scale it up further. This is implemented by a team of new engineering graduates that have named themselves as a non-profit entity, namely 'ICT for Agriculture.' Find more information at <http://ict4agri.com>.

Web-Based Inventory and Mapping of Irrigation Schemes

Using an interactive web mapping technique, the 'Local Infrastructure for Livelihood Improvement' project has built or rehabilitated 500 small farmer-managed irrigation schemes in eight hill districts of Nepal – Dailekh, Jajarkot, Achham, Kalikot, Ramechhap, Okhaldhunga, Khotang and Dolakha. The project is being implemented by Helvetas in collaboration with the Government of Nepal with funding from the Swiss Agency for Development and Cooperation (SDC). Find more information about the different irrigation schemes at http://lili.helvetas.org.np/google_earth/google_earth.php.



Mobile GIS Application for Tourism Development in Gilgit-Baltistan

An application has been developed to facilitate the sharing of information between tourists, tourism professionals, and local communities in Gilgit-Baltistan, Pakistan. The application, which is currently available for Android operating systems, acts as a virtual tour guide, providing concrete location-based information to guide tourists through their trip. Features include maps of Gilgit-Baltistan with administrative boundaries, roads, land uses, settlements, and points of interests (hotels, lakes, valleys, peaks, glaciers, fuel stations, hospitals, etc.) as well as 3D models of mountains and tourist sites. The application functions offline to ensure continued services in areas where internet connectivity is not available. The platform is populated with content from local communities, tourism professionals, and service providers, including places to visit and available activities and services. It is hoped that the application will support better tourism planning and management, as well as the development of the tourism industry in the area. For more information, contact engraami@gmail.com

The Inside Stories of Mountains

A large collection of digital resources on environmental, development, cultural, and social issues in Uttarakhand, India is being managed by Channel Mountain Communication (CMC), a development communication organization. The online database includes information on a variety of topics – from natural disasters and hydropower to biodiversity and migration – which is shared through various platforms, including television, radio, short video series, and social media. Find more information at www.channelmountain.com.



Development of Geospatial Data-Loggers for Monitoring Transhumance Grazing Patterns

A collar for sheep designed with simple, low-cost data loggers is supporting research on the impacts of climate change among grazing communities in Pakistan. The power optimized collars are linked to global positioning services (GPS) to monitor the seasonal herding movements of pastoral communities in northern Pakistan. A team from the Ghulam Ishaq Khan Institute of Engineering Sciences and Technology in Topi, Khyber Pakhtunkhwa tested two different models: one model tracks herd movements using GPS services and then transmits the data through mobile GSM services; the other saves geo-positioning information on a removable storage device for later download. For more information, contact sulemanmazhar@gmail.com or suleman@giki.edu.pk.

The Way Forward: Future of the ICT for Mountain Development Award

The projects presented above offer a glimpse of how, where, and what is being done in the HKH region in terms of applying information and communication technology to mountain development activities. In the following years, through the ICT for Mountain Development award mechanism, ICIMOD hopes to gather more examples and share them in order to support the sustainable development of mountain communities using innovative, state-of-the-art technologies.





ICIMOD Mobile App: Sharing Mountain Good Practices

Using the ICIMOD mobile app, available freely from mobile application stores, one can access a growing collection of information on mountain good practices. These are carefully documented mountain technologies, solutions, good practices, adaptation measures, and livelihood options. Users can also submit new content and can rate and comment on available content. The application also provides updates on ICIMOD's work through an embedded news and events section.



For further information contact

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