

# Climate Change and Agrobiodiversity

Strengthening adaptability and resilience, facilitating adaptation and transition



**Traditional agricultural varieties remain essential to small-scale farmers and indigenous peoples. The continuing management and selection of these materials remains an important strategy for change.**

The Quechua-Aymara Association for Nature and Sustainable Development brought together Quechua communities in Peru to create the Parque de la Papa, the Potato Park, covering more than 12,000 ha, situated between 3,150 m to 5,000 m. It maintains many hundreds of potato varieties and ensures access to a wider range of traditional variety propagating material for local communities.

Parque de la Papa, 2009. "The Potato Park as an Indigenous Biocultural Heritage Area" www.parquedelapapa.org



**Indicators are needed to help identify the changes occurring, to improve forecasting of extreme events and to develop responses.**

In seven African countries, opportunities for adaptation have been identified based on farmers' perceptions of climatic changes. Farmers in Wenchi, Ghana identified changes that might lead to useful indicators including reductions in soil fertility and crop yields, loss of forest and wild species, changes in rainfall and in the occurrence of pests, diseases and proliferation of weeds.

P. Mapfumo, R. Chikowo, F. Mtambanengwe, S. Adjei-Nsiah, F. Bajjukya, Ricardo Maria, A. Mvula and K. Giller, 2008. "Farmers' Perceptions Lead to Experimentation and Learning" - LEISA Magazine, Vol 24.4. www.leisa.info



**Maintaining high levels of agrobiodiversity provides adaptability and can increase stability and resilience in the face of change.**

The Adi people in Arunachal Pradesh, East India maintain a great diversity of crops and useful wild plant species as part of their livelihood strategies. Many indigenous varieties of cereals, pulses, oil seeds vegetables and spices are maintained under rotational agriculture. New diversity is being introduced to meet change, including climate change.

United Nations Framework Convention on Climate Change, 2009. "Diversifying crops in Arunachal Pradesh, India". <http://maindb.unfccc.int>



**In many situations new crops, varieties and livestock materials will be needed to meet changed production conditions.**

In the Meili Mountain area of China, near the sacred mountain of Khawa Karpo, increasing temperatures result in significant changes in the extent and distribution of useful plants, including many used in traditional medicine. However, Tibetan communities in the area have developed a new grape growing and wine production enterprise whose products already receive national recognition.

J. Salick, Y. Yongping and A. Amend, 2008. "Tibetan land use and change near Khawa Karpo, Eastern Himalayas" - Economic Botany, 21 May 2008. Pp 312-325. www.springerlink.com



**Traditional knowledge combined with new scientific information is an important part to improve resilience and ensure adaptability.**

The Mangrove forests that provide natural barriers against cyclones and tsunamis are disappearing due to anthropogenic activities. Mangroves host a diversity of aquatic and floral species important as sources of medicinal plants and fish. In India, the M.S. Swaminathan Research Foundation has initiated long-term rehabilitation programmes working with communities to protect coastal villages and develop alternative livelihood options.

M.S. Swaminathan Research Foundation, 2007. "Tsunami and Pichavaram Mangroves" www.mssrf.org



**Farmers, pastoralists, forest dwellers and fisher folk are adopting alternative livelihood strategies, developing new skills and have increased needs to exchange information and knowledge.**

The semi-nomadic Tamasheq people of central Niger are developing a fixed point or permanent base from which they have begun new activities including regenerating degraded land, diversifying their livelihoods and engaging in political processes to fight for a policy environment that will allow them to continue to adapt to climate change.

J. Ensor and R. Berger, 2009. "Understanding Climate Change Adaptation: Lessons from Community-based Approaches" - Practical Action Publishing, UK. Pp 115-129 <http://developmentbookshop.com>

**Agrobiodiversity can improve adaptability and resilience in production systems and forms part of the coping strategies of indigenous and rural communities meeting the challenge of climate and other changes.**

Over the past 18 months the Platform for Agrobiodiversity Research has compiled information about the use of agrobiodiversity by indigenous peoples and rural communities to help adjust to changing conditions and provide improved livelihood strategies. Based on analysis of more than 200 case studies some key issues have been identified which are illustrated with examples in this poster. The full set of studies can be accessed on the Platform's web site.

[www.agrobiodiversityplatform.org/climate\\_change](http://www.agrobiodiversityplatform.org/climate_change)