## Rewarding traditional farmers as providers of ecological and cultural services

any traditional farmers provide environmental services such as watershed conservation, biodiversity protection and carbon storage. These strongly benefit external stakeholders. GIAHS intends to build momentum and public interest in rewards for environmental services, and to develop ways of offering incentives to poor farmers who protect ecosystems of local and global significance. Farmers' organizations and NGOs, working with external financial support, could play an important role in developing and maintaining programmes to utilize and conserve agricultural biodiversity, e.g. bridging between farmers and agencies that pay for environmental services, or facilitating the production of 'added

value' products that come from GIAHS farming systems that utilize and conserve unique agricultural biodiversity. In addition, stakeholders outside agriculture sector e.g. ecotourists may be induced to pay for conservation measures that offset the loss of biodiversity in agricultural landscapes to increase farmers' income and livelihood security. As GIAHS sites constitutes heritage landscapes of global significance, recognition and rewards for environmental services from beneficiaries within countries and from outside can generate financial and other incentives for environmental service providers to maintain biodiversity-rich agricultural landscapes.

The resiliency of agricultural heritage systems depends on their capacity to adapt to new challenges without losing their biological and cultural wealth, and productive capacity. It does require continuous agro-ecological and social innovation combined with careful transfer of accumulated knowledge and experience across generations. The GIAHS Initiative will not "freeze" agricultural systems in time, but instead stimulate "dynamic conservation", emphasizing a balance between conservation, adaptation and socio-economic development. It aims to empower smallholder family farming communities, traditional communities, and indigenous peoples and minority or tribal groups, to continue to conserve their traditional agricultural systems, and create an economic value for the conservation of biodiversity so that nature and people can prosper together.

## Opportunities for promoting dynamic conservation of Globally Important Agricultural Heritage Systems

t is imperative that the common world agricultural patrimony is recognized at the national and international level and that the values of agricultural heritage systems such as cultural, social, environmental and economic assets, be assessed properly. Agricultural Heritage systems satisfy the expectations and demands for food, energy health, culture and recreation of millions of people at the national level but also provide global benefits. Such recognition can open a new opportunities for generation of employment and income through what may be called the "cultural economy" (ecotourism, cultural identity products, local gastronomy and other products pertaining to richness of local cultures and resources).

In many GIAHS sites the eco-cultural patrimony is associated with "poor people". Public recognition of their knowledge and skills can also help in enhancing the rural poor's identity, self esteem and sense of belonging to the global community. Their cultural resources may also be calculated as economic resources. The challenge is to search for new ways of valuing such assets, in order to develop strategies of territorial development based on investments in all rural livelihood assets as well as products and services of specific cultural identity. By obtaining economic benefits from their

"products with cultural identity", local farmers can sustain their traditions without abandoning rural areas and continue their role as stewards of biodiversity and the environment. Identifying and promoting food diversity, local varieties and other products with cultural identity at GIAHS sites can lead to the creation of market processes tailored to informed local and other consumers that prefer products identified by origin and cultural identity and quality. In the case of GIAHS sites located in biodiverse areas of global importance, linking cultural capital with natural resources can provide the foundation for territorial development directly involving the small farmers, indigenous peoples, and the overall local population and their evolving knowledge systems.

Farmers at GIAHS sites maintain in-situ crop and animal genetic diversity and are actually net-subsidizers of modern agriculture and food consumers worldwide. These custodians of genetic portfolios are not compensated for the potential global benefits that they provide. Certainly rewarding such ecological and social service providers to continue agrobiodiversity conservation is a major goal of the GIAHS initiative.

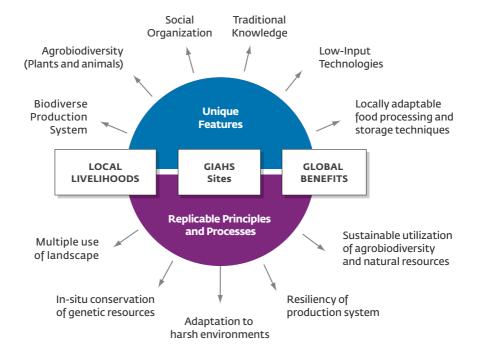
In many countries, conservation of the eco-cultural patrimony is still threatened by the

low value attributed to traditional products and skills. Markets need to be developed and improved, although other non-market mechanisms may be available and preferable to enhance income and well-being. Likewise, the tourist industry must aim at creating more awareness of the significance of this patrimony, and support it by consuming local foods, promoting ecotourism of natural areas and traditional agricultural landscapes, donating to local projects that support community projects, and other initiatives. When ecotourism is managed by local people or local businesses committed to the GIAHS concept, projected results should include reduction of poverty, greater conservation of biodiversity and generation of socio-economic benefits for local populations.

Major drivers of traditional agricultural biodiversity loss include land use changes, introduction of new crop varieties, over exploitation of wild resources, over fishing, highly consumptive food practices with considerable waste and perverse effects of trade liberalization and agricultural subsidies. The consequences of these losses disrupt the lifestyles of the poor farmers who depend upon local ecosystems for their livelihoods especially in terms of food security. Therefore, policies are needed to support dynamic conservation of GIAHS and safeguard it from negative external drivers of change. It is also important to protect the natural and cultural assets of GIAHS sites from industrial development, which often extract labor and cause market distortion as well. Special attention should be given when introducing modern agricultural varieties and inputs to avoid upsetting the balance of traditional agroecosystems.

In addition to conserving local production systems and compensating farmers for their services, one of the goals of the GIAHS Initiative is to engage in a process of scaling up the agroecologically-based innovations, which incorporate elements of both traditional knowledge and modern agricultural science. The analysis of hundreds of farmer-centered projects around the developing world shows convincingly that under agroecological approaches, crop yields of most poor farmers can be increased several-fold. This is achieved based on internal inputs through reliance on their own labor and know-how and not on external inputs such as the purchase of expensive inputs. GIAHS sites capitalize on processes of diversification and synergies amongst activities. Scaling up such approaches can have a positive impact on the livelihoods of small farming communities in many countries. Success will depend on the use of a variety of agroecological improvements that, in addition to farm diversification, favor better use of local resources, emphasize enhancement of human capital and empower communities through training and consultative, participatory methods. Finally, there has to be greater access to equitable markets, credit and income generating activities with the support of enabling policies, local farmers and rural areas.

Figure 3. Unique features and principles of GIAHS derived from such sites that may be replicated in other farming systems to achieve sustainability and resiliency.



GIAHS systems represent a continuation of historic traditions and knowledge that have evolved over the centuries. These cultures, settlements, landscapes and habitats have suffered dramatically in the wake of industrial and agricultural revolutions and advances of science, technology, commerce and communications in the 19<sup>th</sup> and 20<sup>th</sup> centuries.

The few that still survive as flag bearers of the earlier tradition are worth safeguarding as a part of the protection of the world cultural and natural heritage. Agricultural heritage landscapes are not only important landmarks of historical value but also depend on living and evolving agricultural communities. These communities are the custodians of an institutional, ecological and cultural heritage which provides a variety of benefits and services at the local, national and global levels.

## **Conclusions and Way Forward for Sustainable Agriculture and Rural Development**

Osystems are living, evolving systems of human communities in an intricate relationship with their territory, cultural or agricultural landscapes or biophysical and wider social environments. The humans and their way of life have continually adapted to the potentials and constraints of the social-ecological environments, and shaped the landscapes into remarkable and aesthetic beauty, accumulated wealth of knowledge systems and culture, and in the perpetuation of the biological diversity of global significance.

Many GIAHS and their unique elements are under threats and facing disappearance due to the penetration of global commodity driven markets that often create situations in which local producers or communities in GIAHS have to compete with agricultural produce from intensive and often subsidized agriculture in other areas of the world. All of these threats and issues pose the risk of loss of unique and globally significant agricultural biodiversity and associated knowledge, aesthetic beauty, human culture, and thereby threaten the livelihood security and food sovereignty of many rural, traditional and family farming communities. Moreover, what

is not being realized is that, once these GIAHS unique key elements are lost, the agricultural legacy and associated social-ecological and cultural, local and global benefits will also be lost forever. Therefore, policies are needed to support dynamic conservation of agricultural heritage and safeguard it from the negative external drivers of change. It is likewise important to protect the natural and cultural assets of GIAHS sites from industrial development, which often extract labor and cause market distortion as well. Special attention should be given when introducing modern agricultural varieties and inputs to avoid upsetting the balance of traditional agroecosystems.

Success in sustainable agriculture development will depend on the use of a variety of agroecological improvements that in addition to farm diversification, favor better use of local resources; emphasize human capital enhancement; empower rural communities and family farmers through training and participatory methods; as well as higher access to equitable markets, credit and income generating activities, and all should be supported by conducive policies.

## 66 A Heritage for the Future ??

The Earth is dotted with a myriad of home-grown agricultural systems that are humanity's common heritage. These systems provided essential ecosystem goods and services and food security for millions of local community members and indigenous peoples, well beyond their borders.

