What is an agricultural heritage system?

All over the world survive ancient agricultural systems, developed over thousands of years. These systems combine rich natural resources with human ingenuity, resulting in the capacity to provide for local livelihoods and nutrition while respecting, and even improving, natural resources.

Why are they globally important?

Resilient landscapes and livelihoods that have been maintained sustainably for thousands of years offer many insights to the challenges facing modern agriculture. How do you increase production, for example, without depleting soils? How do you combine biodiversity conservation with the health and wellbeing of rural communities?
What is GIAHS?
Globally Important Agricultural Heritage Systems (GIAHS) is a programme of the UN Food and Agricultural Organization (FAO), founded as a UN partnership initiative for sustainable development in 2002. It aims to identify, support and safeguard globally important agricultural heritage systems and their livelihoods, agricultural and associated biodiversity, knowledge systems, cultures and landscapes around the world. GIAHS sites are not living museums, but places where people practise ‘dynamic conservation’. They retain the best of the past to build a sustainable future.

How do we support GIAHS?
The FAO has a mandate to review and designate GIAHS and follow up their compliance with set criteria and action plans. Bioversity International works hand in hand with the World Agricultural Heritage Foundation (WAHF) to provide on-the-ground technical support to farmer communities, promote market opportunities and mobilize financial resources for the implementation of GIAHS dynamic conservation action plans. Bioversity International and WAHF strongly believe that GIAHS can be viable systems that contribute to contemporary and future challenges of food and nutrition security and conservation of biological diversity and genetic resources.

GIAHS focus on biodiversity at a genetic level – looking at the conservation and use of indigenous varieties and species. They also focus on biodiversity at a landscape level – the mosaic of different land uses which produce ecosystem services such as clean water and food security. Bioversity International and WAHF have expertise and knowledge in several areas which support GIAHS to become stronger and more action oriented. These include:

The Ifugao Rice Terraces are a Globally Important Agricultural Heritage System in the mountains of northern Philippines. Home to a remarkably sophisticated system of livelihood and landscape management, the terraces, are fed by an ancient irrigation system from the rainforests above them. The rice terraces, recognized as a UNESCO World Heritage site since 1995, are a feat of engineering ingenuity carved into the mountain by ancestors of the indigenous people approximately 2000 years ago. The agricultural system provides a complete diet, with rice varieties, vegetables grown on drier mounds, fish raised in holes and molluscs and algae sourced from the water. The terraces have been managed through the ancestral land use traditions of the indigenous Ifugao community. The maintenance of the living rice terraces reflects detailed knowledge of the rich diversity of biological resources existing in the agroecosystem, respecting lunar cycles, zoning and planning, extensive soil conservation, and the mastery of a complex pest control regime based on the processing of herbs, accompanied by religious rituals.
On-farm conservation
Community biodiversity management
Dietary diversity and nutrition
Payment for Agrobiodiversity Conservation Services (PACS)
Certification and markets of neglected and underutilized species (NUS)
Biocultural heritage, traditional foodways and intergenerational transmission

The main activities include:

- Resilience assessments using scientifically validated measurements¹ to assess different aspects of a livelihood system to see how able it is to adapt to shocks, such as changing and variable climate patterns. By understanding and improving their environmental and economic conditions, local people can increase the social and ecological resilience of their landscapes.

- Capacity building programmes of local farming communities and local and national institutions to conserve and sustainably manage GIAHS.

- Mitigation of risks of biodiversity decline, land degradation and loss of traditional knowledge.

- Development of incentive mechanisms for biodiversity conservation and sustainable management efforts of local communities.

¹ The measurements used are the indicators developed with partners in a global partnership called the Satoyama Initiative: Indicators of Resilience in Socio-ecological Production Landscapes and Seascapes (SEPLS) https://www.bioversityinternational.org/uploads/bx_news/Toolkit_for_the_indicators_of_resilience_in_socio-ecological_production_landscapes_and_seascapes_1844.pdf
Where does Bioversity International work?
Bioversity International currently works with the World Agricultural Heritage Foundation in four GIAHS sites:

- Ifugao, a rice and vegetable terraced system in the Philippines
  Credit: University of Los Baños/T. Borromeo

- Hani rice terraces in China
  Credit: WAHF/P. Koohafkan

- Qingtian rice-fish culture in China
  Credit: Bioversity International/N. Bergamini

- Date palm oases in Tunisia
  Credit: Bioversity International/N. Bergamini

What is next? Harnessing the wisdom of crowds

The World Agricultural Heritage Foundation together with Bioversity International have developed the AgLegacy app to help farmers gather their knowledge and learn from one another. A farmer can document traditional knowledge through photos, writing or voice recording. Other farmers can connect within the app to share information and discuss successes and challenges. Scientists can use the data to measure and help manage what is in the system. The app, currently being piloted in GIAHS in Tunisia, is still in its early stages but has potential to strengthen the systems through knowledge sharing.

Figure 1. Screen shot of prototype app

Credit: Bioversity International/N. Bergamini

Credit: University of Los Baños/T. Borromeo

Credit: WAHF/P. Koohafkan

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