

Bioversity International

Background Paper on Content Development and Distance Education For the Global Open Food and Agriculture University (GO-FAU) Program Stakeholder Consultation on Program Implementation, Washington, D.C.¹ 1-2 November 2007

Background

The purpose of Bioversity's work is to ensure that individuals and institutions are able to make optimal use of agricultural biodiversity to meet the current and future development needs of people and societies. The primary objective of the capacity development work is to ensure that there will be a supply of young graduates to fill future leadership positions for the conservation and use of plant genetic resources and that NARS scientists and genebank managers have updated knowledge and skills to address current and new challenges for sustainable use of their countries' diversity for food and agriculture.

Our partners in capacity development are: NARS; International Agriculture Research Institutes, including other CGIAR centers, UN agencies such as FAO, UNESCO or UNEP, Botanical gardens, Centers of Excellence for Training, NGOs, Universities and University networks in the South, e.g. RUFORUM, ANAFE, SEANAFE, SEARCA, Universities in the North, e.g. Wageningen, Birmingham, Cornell, Swedish University of Agricultural Sciences and others; and plant genetic resources, and forest genetic resources networks in all regions.

Bioversity's capacity development has both a training and an education focus. We work primarily through strategic links with training and educational institutions and research partners. For example, Bioversity works with tertiary educational programmes on plant genetic resources through activities such as:

- participatory curriculum development or curriculum guides
- production of value added learning materials to enhance curricula
- sponsored research internships and
- targeted thesis research and research fellowships that strengthen individual capacity, address knowledge gaps in agricultural biodiversity and foster institutional linkages between education and research

Equally important is strengthening capacity of NARS partners, including crop and genetic resources networks, in conservation and use of agricultural biodiversity. Here Bioversity works with global or regional training centers of excellence to support their efforts to deliver very specialized face-to-face training in short, 1-2 week courses to update skills and knowledge, particularly of mid-career professionals.

Bioversity also strengthens NARS partners' capacity to understand, implement and shape policies and laws relating to the management of plant genetic resources in their role as custodians and developers of this resource or as decision-makers and to understand their options within a multi-lateral system for the exchange of PGR for food and agriculture. This is done through learning modules and training of trainer courses on law and policy.

¹ Background paper prepared by Elizabeth Doupé Goldberg, Head, Capacity Development, Bioversity International

Content development and open and distance learning

Bioversity's content development and training activities are embedded in its multi-disciplinary research programmes, which address the following focus areas:

- Managing agricultural biodiversity for better nutrition, improved livelihoods and more sustainable production systems for the poor
- Conserving and promoting the use of diversity in selected commodity crops of special importance to the poor
- Enhancing the *ex situ* conservation and use of diversity
- Conservation and sustainable use of forest and other wild species
- Status, trends and valuation of agricultural biodiversity
- International collaboration on conservation and use agricultural biodiversity

Examples of recent short courses organized with training partners include:

- The role of genebanks in promoting the use of agricultural biodiversity to combat desertification
- Crop wild relatives and *in situ* conservation
- Cryopreservation and in-vitro conservation for recalcitrant tropical fruits
- Using molecular technologies for characterization of diversity
- Forest genetic resources conservation and management strategies
- Enhancing agrobiodiversity use through markets and chains
- Using geographic information systems for locating and mapping genetic diversity, conservation decision making and data modeling
- Value chain approach to improving smallholder competitiveness in markets
- Farmer's rights and seed policy and law
- Participatory approaches in genetic resource management and crop improvement.

To address knowledge gaps in agricultural biodiversity education, Bioversity develops curricula and instructional materials in collaboration with partners. These are tested and delivered through face to face training and published on the web and/or on CD-ROM as eLearning materials. Recently, there has been some experimentation with open and distance learning, using different technologies, to increase the reach and impact of learning. For example:

- A distance learning course on law and policy for the management of plant genetic resources. (By UPLB and Open University of Philippines using the PGR policy learning module jointly developed by Bioversity and IFPRI/ISNAR.)
- A knowledge base on 'Best practices for genebank management' in collaboration with other CGIAR Centers through the System-wide Genetic Resources Program (SGRP)
- A dictionary for plant genetic resources using the Media Wiki virtual platform in collaboration with COL, CG Centres, NARS genebanks and others
- A self-learning module for technicians on Seed Handling in Genebanks, on CD-ROM and on the web developed by Bioversity and ILRI
- Partner in a distance course on *ex situ* conservation for genebank managers in Latin America with CIAT, National University of Colombia and REDCAPA
- We are in the early stages of developing a learning module on forest genetic resources, with a focus on key processes for their conservation and sustainable use. This module could be delivered both conventionally, and using an IT platform.

How Bioversity works with various regional capacity development programs

Bioversity works through existing institutional platforms, networks and education and research organizations, in different regions to encourage re-use and scaling up and out of these knowledge products through adaptation and contextualization for

local/regional use. Bioversity's organizational structure with regional and sub-regional offices in five regions of the world provides a comparative advantage to create partnerships, identify needs and respond to demand with focused and locally relevant products.

All of Bioversity's capacity development activities are carried out with international, regional or national partners—specialists in the content area and/or delivery of training and education. For example, we work with existing academic networks, as noted above, to build on ongoing initiatives and collaboration and to strengthen their capacity to deliver education. In the past, Bioversity supported efforts of a target university in each region to establish a Master's level program or specialization in Plant Genetic Resources Conservation that could meet demand at the regional level.

More recently Bioversity has set agreements with a few strong national research institutes to serve as training centers of excellence for focused themes to update knowledge and skills of mid-career professionals in the region through individual and group training. Our involvement in crop, PGR and forestry networks in all regions also helps to identify needs and participate in product development targeted to NARS, policy makers and change agents.

Bioversity and GO-FAU

Possible contributions

Content areas which have been identified for contribution to the GO-FAU program for which substantial content already exists, include, among others,

- 1) Managing ex situ collections in the context of the global conservation system (includes many sub-modules on different topics, e.g. Eco-geographic surveys, Collecting missions, Seed handling, Molecular characterization for diversity analysis, Management of germplasm collections, Ex situ conservation);
- 2) Participatory approaches in genetic resources management and crop improvement (includes On-farm, in situ and community level conservation and use of genetic resources for improved livelihoods, participatory research, methodologies and tools for participatory learning and action);
- 3) Conservation and use of underutilized species for sustaining livelihoods and enhancing environmental health;
- 4) Policies in support of use and conservation of genetic resources in the global system;
- 5) Conservation and sustainable management of forest and tree genetic resources in fragmented landscapes, particularly regarding intra-specific diversity.

Bioversity's contributions would require adequate resourcing of inputs to develop and convert these materials into formats appropriate for ODL since these resources and specialized expertise are lacking in-house.

New activities that could be developed with Bioversity's content and experience

We believe there is an opportunity and a demand for 'executive' seminars, particularly in the area of policy and law for plant genetic resources, targeted to genetic resource managers and decision makers in the countries that have ratified the ITPGRFA and that are in the process of developing national policy frameworks to implement it and participate in the multi-lateral system. Bioversity would be able to offer content and expertise in collaboration with key partners, including other CG Centres who have previously partnered in other policy training.

We also believe that we could make a strong contribution to GO-FAU program by providing value added products such as a series of case studies, specifically for teaching in agricultural biodiversity management, that link environment, policy, nutrition and economics knowledge resulting from multi-disciplinary, systems-based research carried out by Bioversity with its partners. These contextualized, problem-based cases could be used in classroom teaching at the tertiary level to supplement textbooks and to stimulate critical thinking applied to agriculture for development.

Other relevant information

We believe that the GO-FAU program would benefit by coordinating with the CGIAR ICT-KM Program that is producing standards, tools, applications and partnership models that are relevant to training. In particular, those activities currently under development that are related to GO-FAU program objectives are the Online Learning Repository and Quality Assurance Standards and Systems for Training, including opportunities to experiment with learning management platforms such as Moodle..

We would also like to suggest that an option for the GO-FAU program, in addition to enhancing content delivery and use of CGIAR research, would be to take on an 'observatory' role to monitor NRM education and capacity over the next 10-15 years. This might include a combination of conferences, workshops and studies that could be designed to look into the future of agriculture education and capacity. This could be done in collaboration with key universities, academic networks, and education associations (including student associations such as Young Professionals in Agricultural Research and Development (YPARD)) and initiatives for agriculture and the environment.