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COMMUNITY GENE BANK

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Abstract

The use of plant genetic resources has contributed to the nurturing of agricultural biodiversity for millennia. The local and indigenous communities have not yet profited from commercialization of these resources and are often not facilitated by the products of modern plant breeding. For these communities, community gene banks could not only provide back up storage to increase food security, but also form a measure for putting the concept of farmer's rights in to practice. However, the success of CGB largely depends on a national legal framework

Diversity is the essence of life. Biodiversity, particularly of plant species, is the base for plant improvement. Conservation of biodiversity in general and plant genetic resources in particular, assumes crucial importance for global food, health, and livelihood security. Genetic stocks conserved in tribal areas often harbour rare and unexploited genes for productivity as well as resistance to biotic and abiotic stresses

Local communities all over the world have been engaged in creative agricultural practices by selection of traditional cultivars, landraces, medicinal plants, fruit crops and horticultural crops with desired traits, which are well adapted to local environmental conditions. However these communities based practices are now rapidly being eroded

In the current of dynamic changes caused by urbanization, industrialization of agriculture and the development of global markets. A practical approach towards preserving agricultural biodiversity is to collect valuable Germplasm along with a file of relevant information in a specially designed Community Gene Bank (CGB)

In recent years, the interest in CGBs as a strategy for conserving and using crop diversity has grown rapidly. CGBs are now being developed as a result of action by communities and non governmental at grassroots level. Many communities have already developed methods to maintain their resources of agrobidiversity for use when needed. Such as in case of emergencies or natural disasters. For example, the Dani tribe in Waga -Waga Indonesia, uses a CGB since 1994 to preserve sweet potato. Community grain pits are used to store different crop seeds. In some communities in India, sacred groves serve this purpose. Among Brazilian indigenous groups, women are charged with maintain a secret resource as planting material. In Ethiopia, for example a number of CGB have been planned under fund of the Global Environmental Facility in collaboration with the Ethiopian Biodiversity Institute. This facility will be based on different region of the country to hold local materials and will be managed by the communities in collaboration with the Plant Genetic Resources Centre (PGRC) in Ethiopia

CGB can also provide a resource of material for onfarm breeding and crop improvement which will continue to be available to the communities. Land races, maintained by individual farmers, as selected and frequently exchanged with in and between communities through traditional seed supply systems. In Kerala, India local communities occasionally exchanged seeds when they meet in the context of a festival. In Andhra Pradesh, India, the Deccan Development Society (DDS) a grass root organization working with voluntary associations of poor women work in drought prone areas where people have traditionally practiced dry land farming. CGB projects in these areas help farmers to raise local crops and to start preserving seeds. Also in Chengam, Thiruvannamalai Tamil Nadu, seeds of traditional, varieties are preserved at the community seed bank.

The CGB have the potential to make a significant and innovative contribution as back up facilities for local farming communities and as elements within networks of exchange for local communities and Non governmental organization. CGBs thereby serve as insurance for national and global food security. At the same time, depending on national legislation, CGBs may also provide a mechanism to ensure that economic benefits accrue to the community

that has identified and supplied the potentially viable material. In contrast, the absence of such a mechanism can deprive communities and countries of their legitimate economic benefits and recognition

To avert over exploitation and commercial losses, farmers can maintain more control over the distribution of seed material and information if the seed material is stored in a CGB. The documentation on Germplasm by the use of passport information that is available with CGBs will help to identify a particular community for any suitable reward or recognition for their effort in conservation and help to prevent future misappropriation

A practical approach towards these ends is to establish a specially designed CGB. The activities of such a CGB are carried out with the understanding that the donating community can make use of a restored variety, and that varieties be made available to others only with the prior informed consent of the concerned groups

In India, the Scarscia Mugnozza Genetic Resource Centre at the M.S.Swaminathan Research Foundation has established a CGB to provide access to Germplasm that was conserved and developed by farmers. This technical resource centre is a facility for exsitu conservation, evaluation and sustainable utilization of landraces. The establishment of this facility was made possible by a grant from the governments of Italy, through the International Plant Genetic Resources Institute.

This system will help farmers to obtain recognition and reward for their valuable contribution to conservation. The farmers are already aware of their materials being preserved at eh CGB and have responded well in establishing linkages with the communities. In most cases, they give seed material voluntary for conservation.

Thus this CGB acts as back-up store for indigenous communities and local farm families. At the same time, it serves to recognize and reward their contribution to conservation. Since 1994, seeds of landraces, traditional cultivars, and rare, endangered and medicinal plants have been collected and preserved from biodiversity rich areas in India such as Wayanad (Kerala), Jeypore (Orissa) and Kolli hills (Tamil Nadu). This seed conservation activity is strengthened by the organized herbarium specimens and the multimedia database of the MSSRF. These facilities help to highlight the IPR related to the contributions of indigenous and rural families and to gain recognition under the proposed Indian Plant variety protection and Farmers' Rights Act and Biodiversity Act. The CBD recognizes biodiversity act as the sovereign property of the nation in which it occurs. Recognition of Farmers' Rights and reaffirmation of sovereign rights of nations over their contribution can, for example, be implemented through the provision of an International Community Gen fund for PGR ad suggested by Swaminathan (1995, 1996)

A national legal framework should facilitate and stimulate the work of CGBs by encouraging and supporting projects and funds to the involved agency or organizations where possible. CGBs can help participatory conservation for site-specific crops in respective locations and stimulate commercialization by forming farmer networks. Rewards to the community may include creating facilities, such as the construction of schools, hospitals, and transportation. At the time of remuneration, the CGB can provide all required information about the seed material

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