

IN SITU CONSERVATION OF CROP WILD RELATIVES AND LANDRACES

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Abstract

Genetic resources of field crops comprise crop species and their wild relatives, varieties, landraces, and genetic variation within the species. Indigenous varieties, even though adapted to local conditions, are getting replaced by a few high-yielding hybrids leading to the almost extinction of traditional farming systems and traditional varieties of crops. The local breeds are more tolerant to climatic stress, are more resistant to local parasites and diseases and are valued by plant breeders for breeding programmes for resistance to diseases and tolerance to climatic stresses like drought, salinity and temperature. The loss of agro biodiversity narrows the genetic base. Efforts to conserve plants in gene banks are vital but an even more important task is to maintain biodiversity on farms and in natural habitats where it can continue to evolve and adapt to changing conditions.

The major mandate of National Biodiversity Authority is documentation of knowledge of the local people on the status, uses and management of biological resources in the People's Biodiversity Registers (PBRs). PBR envisages the creation of database of biological resources, of floral and faunal diversity at LSG level and local knowledge on properties and uses of biodiversity resources. The Bio-diversity Management Committees (at local level) are entrusted with the documentation of bio-diversity – in order to protect bio-resources. As per Biological diversity Act 2002 Section 41. (1) Every local body shall constitute a Biodiversity Management Committee within its area for the purpose of promoting conservation, sustainable use and documentation of biological diversity including preservation of habitats, conservation of land races, folk varieties and cultivars, domesticated stocks and breeds of animals and micro organisms and chronicling of knowledge relating to biological diversity. Since ex situ conservation simply

cannot capture or conserve all of the diversity in agricultural systems, in situ conservation serves as a back-up. It also covers types of genetic resources that cannot be protected in gene banks, such as crops that show recalcitrance to off-site conservation.

KSBB is in the process of documenting the Agro diversity of Kerala and the PBR developed at LSG level provides a wealth of traditional knowledge relating to agro conservation practices of varieties grown in different locality and based on this targeted programmes are being taken up for strengthening and integration of in situ, on farm and ex situ conservation. As custodians of agricultural biodiversity, farmers are better suited to conserving and developing these genetic resources, and awards has been instituted to honor their contribution. Efforts are underway to identify hotspots of agro-biodiversity under different agro-ecozones and cropping systems and promote on-farm conservation. The record serves as a baseline database for future genetic resource management strategies, identifying conservation priorities and lacunae.