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“Exploring opportunities ...
for managing natural resources and a better life for all”

Genetic resources and genebanks

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Abstract

Food security is one of the most critical global challenges. In view of climate change and the ongoing loss of biodiversity, a transformation of agricultural and food systems is necessary to feed a rising world population.

Genebanks, which have so far received little public attention, make an important contribution to this. Advances in agricultural productivity and food quality are due in large part to improved seeds. The demands on accessible seeds are changing in times of climate change, which means that corresponding criteria (e.g. tolerance to drought and heat) are becoming more important. Breeding new, more nutritious seeds that are better adapted to climate change requires recourse to the genetic diversity of crops and their wild relatives. This is endangered by the steady decline in agrobiodiversity in agricultural production systems. For example, the variety richness of agricultural fields worldwide has decreased by 90% in the last 100 years. Genebanks preserve agrobiodiversity and make it available to breeders and other users.

On behalf of the FAO, the Global Research Partnership for a Food-Secure Future (CGI-AR) operates international collections at 10 locations and preserves hundreds of thousands of samples in the form of seeds, tissue culture, tubers, cryopreserved samples, trees and plants in accordance with the International Treaty on Plant Genetic Resources for Food and Agriculture. The Global Crop Diversity Trust with its endowment fund has the task of maintaining these collections in perpetuity.

During the session, the system of international collections and the role of the Crop Trust will be examined in more detail and selected examples of genebank work will be presented. The following presentations are planned, after a general introduction by BMZ:

1. Stefan Schmitz, Global Crop Diversity Trust, Germany: “Genebanks as Drivers of Food Systems Transformation”
2. Rainer Vollmer, International Potato Center, Peru: “Conserving Plant Genetic Resources for future generations: The construction and implementation of the largest plant cryobank of Latin America - A Center of Excellence in Crop Cryopreservation hosted by CIP”
3. Anja Gassner, World Agroforestry/Center for International Forestry Research, Germany: „Securing tree genetic resources for people and the planet”
4. Falalou Hamidou, International Crops Research Institute for the Semi-Arid Tropics, Niger: “Quality seeds for producers to boost millet and sorghum production in the Sahel”

Keywords: Agro-biodiversity, food security, genebanks, international plant treaty