



Enhancing the link between *in situ* conservation and use of crop wild relatives (CWR) in the SADC region to underpin regional food security and mitigate predicted adverse impact of climate change

What are crop wild relatives (CWR)?

CWR are species closely related to crops (including crop progenitors) and are potential sources of traits beneficial to crops, such as pest or disease resistance, yield improvement or stability in changing environmental conditions.



The challenge

Crop wild relatives (CWR) species are often neglected and thus threatened in the wild, due to ignorance of their value to agriculture by policymakers, decision-makers and ecologists. CWR are not taken into account in environment policy planning processes and their conservation is not given high priority in the management plans of protected areas. Often, breeders and farmers are unaware of these resources, and lack skills and tools to assess the occurrence of CWR and to mine their genetic diversity for developing new varieties.

The context

Farmers in developing countries are regularly facing food shortages as a result of significant climate uncertainty. They use locally available and indigenous varieties, but those may no longer be sufficient to meet their needs. Farmers will need to have access to crop varieties that are better adapted to the new climate scenarios. CWR provide a source of traits adapted to various and harsher environmental conditions. The effective use of this diversity can greatly enhance the adaptive capacity of farmers to cope with climate change in marginal areas and prevent them from falling deeper into poverty.

The project

The 'SADC Crop Wild Relatives' project will **enhance the scientific capacities** within the partner countries (Mauritius, South Africa and Zambia) and the Southern African Development Community (SADC) region to conserve CWR and identify useful potential traits for climate change adaptation.

The project will carry out two tailor-made regional training workshops:

1. *In situ* conservation training to inventory and prioritize CWR for conservation, and identify diversity hotspots for conservation actions
2. Predictive characterization and pre-breeding training, which will enable partners to identify traits in CWR populations and use these resources in research and breeding programmes.

On-the-job training and the use of a toolkit for the development of national conservation plans will support national environmental and conservation scientists and managers.

The project will also develop exemplar National Strategic Action Plans (NSAP) for the conservation and use of CWR to respond to the challenges of climate change across the SADC region.

Main project activities

- Conduct an assessment of the needs and capacities in CWR conservation and use in the partner countries and in the SADC region;
- Train and build the capacity of personnel from partner countries in innovative science and technology tools for the conservation and use of CWR;
- Generate knowledge on the diversity and conservation status of CWR in the partner countries and their value for use;
- Prepare National Strategic Action Plans on conservation of priority CWR in partner countries and promote them among policymakers and decision-makers.

Project partners

- Bioersity International, Italy (coordinator)
- University of Birmingham, UK
- University of Mauritius, Reduit, Mauritius
- Directorate Genetic Resources, Department of Agriculture, Forestry and Fisheries, South Africa
- National Plant Genetic Resources Centre (NPGRC), Zambian Agricultural Research Institute, Zambia.



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Cover Photo: Coffee Wild Relative, *Coffea mauritiana* in Black
River Gorges National Park, Mauritius. Credit: Ehsan Dulloo.

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