



National strategic plan for the conservation and use of priority crop wild relatives in Republic of Mauritius

Project Overview

Crop wild relatives (CWR) are plant species that are related to cultivated crops. They include the ancestors of cultivated crops.

CWR are a critical source of genes for resistance to diseases, pests and stresses such as drought and extreme temperatures that can be used in plant breeding, with the potential to enhance sustainable food security in the face of challenges such as climate change and population growth.

CWR can be found in all types of habitats. They are often vulnerable and require urgent conservation, but are not commonly included in national conservation programmes. The ACP-EU supported SADC CWR Project, implemented in Mauritius, South Africa and Zambia, aims to enhance the *in situ* conservation of CWR by developing capacity in the SADC region to conserve and sustainably utilize CWR for climate change adaptation and to persuade governments to endorse national strategies and implement an action plan for the effective conservation of CWR.



Coffea mauritiana
Credit: Ehsan Dulloo

CWR in Republic of Mauritius

Mauritius and Rodrigues are islands in the southwest Indian Ocean, part of the Mascarene islands east of Madagascar. The islands are volcanic in origin and the organisms on them evolved in a relatively isolated environment until human travellers arrived. As a result, both islands have many endemic species, organisms found nowhere else.

Several crops of economic importance cultivated in Mauritius have wild relatives that occur locally, including banana, eggplant, ground nut, pigeon pea, pineapple, potato, and tomato. However, they are not native to Mauritius. In Rodrigues, wild relatives of cultivated crops include those of eggplant and pineapple.

Mauritius has a long-standing programme for the conservation of endangered endemic species. The Ministry of Agro-Industry and Food Security hosts several units (Forestry Division, National Parks and Conservation Services, Plant Genetic Resources Division and the National Herbarium) that carry out conservation and eco-geographic surveys on a regular basis. In addition, other organisations including the Mauritius Wildlife Foundation (MWF), the Mauritius Sugarcane Industry Research Institute (MSIRI), Food and Agricultural Research and Extension Institute (FAREI), and the University of Mauritius have also contributed to research on plant genetic resources and conservation.



Elaeocarpus bojeri
Credit: Mukesh Rughoo



Solanum violaceum
Credit: Mukesh Rughoo

While these groups know about the conservation of priority species, the idea of CWR was relatively unfamiliar. The project introduced the concept of CWR and, with the support of the Deputy Permanent Secretary of the Ministry, established a local committee of members of the different units.

In Mauritius, the CWR checklist contains 234 genera and 528 species, 131 of which are endemic to Mauritius. The priority CWR species for conservation

in Mauritius are those of coffee (*Coffea* 3 species), fonio (*Digitaria* 2 species), fig (*Ficus* 2 species), olive (*Elaeocarpus* 2 species; *Olea* 1 species) and palm (*Acanthophoenix* 1 species; *Dictyosperma* 2 species). The CWR checklist for Rodrigues identifies 116 genera and 142 species, 28 of which are endemic to Rodrigues. The priority CWR species in Rodrigues are aloe (*Aloe* 1 species), asparagus (*Asparagus* 1 species), fig (*Ficus* 2 species), fonio (*Digitaria* 2 species), olive (*Olea* 1 species) and sweet potato (*Ipomoea* 2 species).

Impacts and Results

As a result of the workshops and priority-setting exercises, the committee was able to draft a National Strategic Action Plan and submit it to the Ministry.

The project has been a major driving force for collaboration among different institutions. Data from many sources had to be collected and collated in order to derive the lists and describe the occurrence of CWR on the two islands. Public and private organisations and NGOs contributed fully to the results obtained.

Looking forward

The project resulted in greater interest in CWR in the Republic of Mauritius, where the Ministry of Agro-Industry and Food Security is now more aware of their importance. Many of the CWR identified as a result of the project checklists are already within conservation management areas, and the various conservation units are now taking steps to ensure that all the listed CWR will be properly managed for conservation. In addition, a research student has been recruited to carry out molecular characterization of selected CWR in Mauritius.

SADC CWR Project Partners

The project was implemented by a research and technical team at the Faculty of Agriculture (University of Mauritius) with strong support from the Ministry of Agro-Industry and Food Security and various local stakeholders.

Representatives from MSIRI, FAREI, and the National Herbarium, Agronomy Division, National Park and Conservation Service, and Forestry Service of the Ministry of Agro-Industry and Food Security contributed significantly to the project implementation phase through a project management committee led by the Faculty of Agriculture, University of Mauritius.

Bioversity International and University of Birmingham staff provided backstopping services on key research activities of the project.



Participants to the first National stakeholder workshop for preparation of NSAP on in situ conservation and use of CWR.
Credit: Navindra Boodia



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