SADC Plant Genetic Resources Centre

Vision
Become the lead institution in the conservation and sustainable use of plant genetic resources, contributing to the enhancement of food security and livelihoods in the SADC region

Mission
Mobilise, conserve and make available plant genetic resources using state-of-the-art technologies and standards, contributing to sustainable development, environment and food security for the well being of the people of SADC

Objectives
The overall goal of the Southern African Development Community (SADC) Plant Genetic Resources Centre underlies in conserving and utilizing plant genetic resources and maintaining and strengthening a network of National Plant Genetic Resource Centres (NPGRCs) in order to:

- reduce plant genetic erosion and increase options of plant genetic resources (PGR) and seed systems to enhance productivity;
- promote generation of knowledge and exchange of information on PGR;
- influence policy environment so as to improve access to and use of PGR in the region;
- mobilize adequate financial resources for conservation and sustainable use of PGR in the SADC region.

Strategic Position of SPGRC
In Africa, SPGRC is the first of its kind being the only fully operational regional genebank financially supported by Member States with high visibility globally. The germplasm materials maintained have regional and global importance in terms of addressing major challenges like, human health and nutrition, livelihoods and adaptation to climate change. The region, under the SADC Regional Indicative

Strategic Development Plan (RISDP), desires to have disaster preparedness particularly for food and nutrition security and access to food. While measures needed to achieve food security are complex, genetic resources are important components for achieving the goal.

Success Indicators

One of the major strengths of this network is its unique characteristic as an established network with regional ownership that allows for national specific priorities with close to 30 years of experience, offering a model for other regions in the world.

Some of the notable success indicators of SPGRC and the network programme include:

- Training: To ensure adherence to the high standards adopted by the network, SPGRC has trained an average of three people per country at MSc. degree level and ten regional nationals have also been trained to PhD level, in plant genetic resources. Many more people have also attended various short hands-on and specific courses on plant genetic resources.

- Policy Development and Harmonisation: SPGRC has actively contributed to development of policy related to PGR conservation in the region and beyond. An example is the formulation of the African Model Legislation for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources, which was later adopted by the African Union. SPGRC also contributed the background draft that led to the development of the SADC Guidelines on Biotechnology and Biosafety. The SPGRC and the network programme has facilitated effective representation of the SADC region at international fora including International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) and the Convention on Biological Diversity (CBD). It has facilitated discussions of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) of the WTO by SADC Member States.

- Maintenance of PGR Collections: Genetic resources of important crop species of the region have been collected and conserved under long-term conditions amounting to over 14,000 accessions stored in the base collections from about 45,000 in the active collections of NPGRCs. Some of these have been evaluated and utilised in crop research and development.

- Institutional Infrastructure: SPGRC has been established as a regional plant genetic resources

conservation facility and is internationally recognised as part of a global network of genebanks and programmes contributing to food security through maintenance and provision of plant genetic resources.

- Standardised Documentation: The SPGRC has developed and established a standardised documentation and information system for the Network, which has been, installed at all the NPGRCs.

- Product & Service Delivery: SPGRC and the network programme draw its clientele for product and service delivery from the public, private and NGO sectors. Others included are CBOs, communities and farmers. Linkages between genebanks and users have constantly been improved to enhance utilisation of collected and conserved plant genetic resources.

Technical Sections

Ex-Situ Conservation

The aim of the section is to bridge the gap between the present and future food security needs by providing a safety net against the current loss of plant genetic resources for food and agriculture. This aim is realised through an efficient management of SADC Regional Genebank and coordination of ex-situ activities carried out both at SPGRC and in the Member States.

In-situ Conservation and On-farm Management

The Section is tasked with facilitating germplasm collection in the region and promoting on-farm crop management and

climate smart agriculture practices for improved crop diversity agricultural productivity. It also assesses and monitors the conservation and sustainable use of Wild Crop Relatives, wild edible plants/useful plants, improve the access to planting material through Quality Declared Seed Systems and facilitates disaster crop restoration plans.

Documentation & Information

The Documentation and Information Section works in close collaboration with the Ex-Situ and In-Situ Conservation Units through provision of support for information and communication services necessary in the management of plant genetic resources. Generally, the Section is tasked with implementation of the SPGRC corporate communications plans and develops and maintains a cost-effective documentation and information system and other ICTs for the PGRFA of the SADC Region.

Operational Priorities

The programmes and functions executed by SPGRC and NPGRCs, in order of priority, are outlined below:

- **Maintenance of Infrastructure and Base Collection:** In order to address all aspects of conservation activities and new challenges related to Science and Technology Development continues with maintenance and upgrading of infrastructure and facilities of the network. It also continues with maintenance of the base collection to ensure availability of functional and adequate equipment for storage and viability monitoring.

- Germplasm Collection: Routine Collections activities precipitated by the need to fill an identified gap, rescue mission recollection for assessing genetic diversity trends and other reasons continue to be core function of the network programme. SPGRC collates information on distribution of cultivated crops, their ecology, extent of threats to genetic

" The network encourages farmers to establish Community Seed Banks to complement national ex situ conservation efforts in gene banks and to improve access to planting material".

erosion, nature of agro-ecosystems and farming systems that maintain landraces in liaison with NPGRCs and other institutions.

- Field Genebanks and On-farm Conservation: More emphasis is being put to provide support to field gene bank activities at the NPGRCs for the maintenance of vegetatively propagated and other plant species. It also continues to play its role of co-ordinating and supporting on-farm and in situ conservation within the network programme.

- Improved Data Management and Communications: The SPGRC Documentation and Information System (SDIS) database enhances real-time data access, sharing and exchange by users from national to global levels.

- Development and Harmonisation of PGR Legislation: SADC member countries participating in the regional PGR network require meeting their obligations under international instruments dealing with PGR management and utilisation, to which most of them are party. SPGRC supports national processes to develop relevant legislation.

- Human Resources Development and Training: Training aims at developing the necessary human resource capacity required to implement the PGR programmes at regional and national level.

- Support to Local Seed Systems: SPGRC supports local seed systems as an effective means through which farmers contribute to conservation. Farmers' varieties and local seed systems provide a viable option for maintaining genetic resources. Establishment of mechanisms for multiplying seed of selected gene bank accessions and identified local varieties for possible re-introduction/restoration in disaster situations is vital. It works with appropriate institutions and programmes in member states to contribute to production of seed especially in small-scale farmer crops and in self-pollinated crops.

- Medicinal Plants: SPGRC promotes conservation and sustainable utilisation of threatened edible wild species, medicinal plants, fodder and ornamental plant species found within the region, through collaboration with stakeholders including; Government, CBOs, NGOs, research and training institutions, donors, service suppliers and providers.

- Traditional Knowledge: SPGRC recognises the need for protection of traditional knowledge related to use of genetic resources and therefore promotes it as it relates to the conservation and use of PGRFA including policy related interventions.

- HIV/AIDS: SPGRC embarks on interventions such as the re-introduction of germplasm conserved in genebanks, aimed at maintaining crop diversity on farm as a strategy towards productive and stable agricultural livelihoods likely to have mitigating effects on the impact of HIV/AIDS among communities.

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