SPGRC

SADC Plant Genetic Resources Centre

Twenty Seventh Annual Report
2017/2018

SPGRC
Lusaka, Zambia
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Regional workshop on strengthening national capacities on plant genetic resources in the context of the Information System under International Treaty held in Cape Town, South Africa on 10-15 December 2017

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Abbreviations

APPSA	Agricultural Productivity Program for Southern Africa
BIOFISA	Finnish-Southern African Partnership Programme
CWR	Crop Wild Relative
DRC	Democratic Republic of Congo
FANR	Food, Agriculture and Natural Resources (Directorate at SADC Secretariat)
FAO	Food and Agriculture Organization (United Nations)
FAO-TCP	FAO-Technical Cooperation Programme
FOFIFA	National Centre for Applied Research & Rural Dev., Madagascar
ICT	Information Communication Technology
ITPGRFA	International Treaty for Plant Genetic Resources for Food and Agriculture
Mbps	Megabit per second
MoU	Memorandum of Understanding
NPGRC	National Plant Genetic Resources Centre
LAN	Local Area Network
PGRFA	Plant Genetic Resources for Food and Agriculture
SADC	Southern African Development Community
SANBio	Southern African Network for Biosciences
SDIS	SPGRC Documentation and Information System
SPGRC	SADC Plant Genetic Resources Centre
SPO	Senior Programme Officer, SADC
TEEAL	The Essential Electronic Agricultural Library
TO	Technical Officer, SPGRC

SPGRC Profile

Vision, Mission and Objectives	
Vision:	Be 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:	– Reduce plant genetic erosion and increase options of 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

Background

The Centre was established in 1989 as a 20-year project, initially funded by Nordic donors and, later supplemented with SADC member country contributions on an increasing scale - until the end of the project in 2011when Member States started to fully fund SPGRC.

Located about 25 Km off Great East Road in Lusaka on an 89ha land, generously provided by the Government of Zambia on a 99-year lease, The Centre is entrusted and mandated with conservation and evaluation for sustainable utilization of regional plant genetic resources for the present and future generations thus contributing to food security and improved livelihoods. It also coordinates regional/national conservation activities through the network of National Plant Genetic Resources Centres (NPGRCs).

Achievements and Challenges

Though challenged by lack of adequate funds, low germplasm utilization and domestication of the ITPGRFA, outstanding construction of the biotechnology facility at SPGRC; the Centre has trained staff up to PhD level, collected over 45,000 germplasm samples from the region, implemented several projects in developing policies, strategies, provided equipment o NPGRCs, *etc*.

1 MANAGEMENT AND ADMINISTRATION

1.1 34th SPGRC Board Meeting

The 34th SPGRC Ordinary Board meeting was held in Johannesburg, South Africa from 30th November to 1st December 2017.

Cognizant of the Guest of Honour, Mr Winston Makabanyane, (Acting Director General for the South African Department of Agriculture, Forestry & Fisheries) the Board Chairperson, Mr Godfrey Mwila welcomed Board members to the meeting. He extended a warm welcome to Mr. Justify Shava, the new SPGRC Head, thanked Mr Barnabas Kapange for acting for one year up until the Head took position after the departure of Dr Paul Munyenyembe, the former SPGRC Head. The Board Chair said the network deserve to be active players regionally and internationally in the field of plant genetic resources conservation and that this needs to be reflected in the revised MoU framework, as deliberated during the previous Ministers of Agriculture meeting.

On behalf of the Acting Director General of the South African Department of Agriculture, Forestry and Fisheries, the Director of Africa Relations in the Ministry of Agriculture, Forestry & Fisheries, Mr Winston Makabanyane delivered the official opening remarks. He welcomed everyone to South Africa and then read his speech in which he highlighted that the SADC region has witnessed profound changes in environmental conditions due to the effects of climate change. The average annual ambient temperatures were reportedly increasing; droughts and floods were now negatively affecting the region more often than before. He said all these scenarios require a wide crop genetic base from which newly adapted varieties must be developed. Plant genetic resources form a broad pool of diverse genes with a potential for resilience against all forms of challenges in agriculture.

2017 SPGRC Board group photo

Mr Makabanyane commended SPGRC efforts of enhancing its cooperation with potential funding institutions in the area of plant genetic resources conservation and utilization such as the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), Global Crop Diversity Trust, Southern African Network for Biosciences (SANBio) Network, Bioversity International as well as the Nordic Gene Bank. All these efforts, he said, were critical as they sought to supplement funding provided by Member States in support of PGR conservation and utilization programmes coordinated by the SPGRC. He then declared the meeting officially opened.

Giving a vote of thanks on behalf of the other Board Members, the Angolan Board Member, Dr Pedro Mo□ambique thanked the Director, Africa Relations in the Ministry of Agriculture, Mr Winston Makabanyane for representing the Acting Director General who could not officiate at the 34th SPGRC Board Meeting due to other official commitments. Dr Mo□ambique thanked South Africa for hosting the SPGRC Board Meeting. He thanked the Acting Director of FANR at SADC Secretariat for attending the meeting. He also thanked the SPGRC Management for organising the meeting. He then wished the Board fruitful deliberations during the meeting.

Term of office tenure for the Board Chair and Vice-Chair were expiring and therefore the Board, through a secret ballot, elected Lesotho to be the Chairperson of the SPGRC Board taking over from Zambia and Zambia was elected the Vice Chairperson.

The Board commended the fund mobilization work done by SPGRC during the year and urged it to vigorously follow up on funding promises made. Some of the mobilized funds were used to conduct a training workshop on Conservation of PGR resources in August 2017 in Lusaka, and capacity building workshop on Global Information Systems. Other fund mobilization initiatives include FAO-TCP project of development of national conservation strategies, Global Crop Diversity Trust initiative to raise funds for rehabilitation and maintenance of conservation activities in SPGRC network.

The Board endorsed the SPGRC Business Plan and Budget for 2018/19 and recommended it for consideration and approval by the SADC Council of Ministers.

1.2 Visitors

The SPGRC received many visitors from within and outside Zambia. These included university scholars, scientists, farmers and prominent individuals, listed in Appendix III.

1.3 Resource Mobilization for SPGRC Network

SPGRC Management continued with efforts to raise additional financial resources by writing project proposals and negotiating on bilateral agreements with donors. Thus far, SPGRC, with support from the Board Chairperson and Vice Chairperson, is in negotiations with the Global Crop Diversity Trust whose Director General visited SPGRC to ascertain viability of the proposed request for technical and financial support.

In August 2017, a meeting was held with the Global Crop Trust and deliberated on possible funding mechanisms. Pursuant to that, the Trust conducted an evaluation of the institution and three representative NPGRCs from 20th to 24th November 2017. The recommendations from the review will be used to come up with fund raising modalities.

Late in 2016, SPGRC developed a project proposal that was submitted to FAO seeking support in developing national strategies for conservation and utilization of plant genetic resources. The project document has been in circulation for signing by participating Member States and implementation of the project scheduled to commence in 2018.

The SPGRC conducted a training workshop on conservation of PGR resources in August 2017 in Lusaka through resources outsourced from the SANBio Network.

The SPGRC also mobilized funding for a capacity-building workshop on Global Information

Systems held in Cape Town from 12-14 December in partnership with the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA).

Justify G. Shava

2. PERSONNEL, EQUIPMENT AND SUPPLIES

A new Head for SPGRC was recruited. Mr Justify Gotami Shava, a Zimbabwean national assumed position of Head of SPGRC on the 9th July 2017.

Mr Shava, a plant breeder by profession, brings along with him vast experience in crop improvement, plant genetic resources conservation; and human and financial management accumulated over years whilst working at the Tobacco Research Board of Zimbabwe (TRB) from 2009 to 2017 when he joined the SPGRC. At TRB, Mr Shava developed and registered many tobacco and Katambora grass varieties. Prior to joining the TRB, Mr Shava was a fulltime lecturer in the Crop Science Department of the University of Zimbabwe from January 2008 to June 2009. He also deed part-time lectureship at the Women's University in Africa from2007 to 2017 and at the Zimbabwe Open University (ZOU) from 2007 to 2008. Mr Shava also has some experience in primary and secondary school teaching.

He has a Bachelor's Degree in Agriculture (Crop Science), a Master's Degree in Crop Science (Plant Breeding) and a Masters in Business Administration all from the University of Zimbabwe.

2.2 Staff Grievances

Staffs (former driver and 4 General Workers) at SPGRC contended the overtime underpayment (given new salary grades). Their grievances were positively considered and were approved by the SADC Council of Ministers. SPGRC processed and paid money owed by the concerned staff.

2.3 Equipment, Facilities and Supplies

Forty (40) deep freezers that were purchased during the beginning of the current financial year were installed in the gene bank, to replace the same number of old freezers and an additional set of ten (10) deep freezers were purchased to replace an additional ten old deep freezers in the genebank.

Using the SADC asset replacement fund SPGRC repaired walk-in drying cabinet which had been down for quite long.

In order to provide ambient climate for preservation of seed materials in the genebank, SPGRC replaced and serviced the air-conditioning system in the genebank, acquired new germination cabinet and drying cabinet, installed new dehumidifier components for 'walk-in' seed drying room, replaced old 50 chest freezers and acquired and installed a new fire suppression system for the genebank. Future plans are to replace most of the old equipment with up to date equipment through funding by SADC asset replacement plan

2.4 SPGRC Buildings (Offices and Staff Houses)

Ablution facilities at the offices were renovated and so were the kitchen units in staff houses. The inside of the SPGRC complex was painted and lock sets repaired on some doors. A new aluminium door and a biometric access control system were installed on the SPGRC office complex main entrance door and the door to the genebank. For improved security, the SPGRC security alarm was upgraded and the electric fence at the housing complex repaired. A new 60 inch television set was purchased for the boardroom.

3. MEETINGS, TRAINING AND EDUCATION

3.1 Training of SPGRC Staff

Due to financial constraints, no training of staff from SPGRC took place during the reporting period. However, through running projects in which SPGRC participated, some training opportunities were utilized by staff such as training through the World Bank funded initiative, Agricultural Productivity Program for Southern Africa (APPSA) for participating Member States (Malawi, Mozambique and Zambia), etc.

3.2 Training and Education for NPGRC Staff

A number of network scientists and technicians attended a variety of training workshops and meetings that aimed at building capacity in conservation and sustainable utilization of PGRFA. A number attended workshops on Biodiversity, traditional knowledge and intellectual property, implementation of national biosafety frameworks, amongst others.

While Mrs Nolipher Mponya, Mr S. Kabululu (Tanzania) and Mr K. Kusena (Zimbabwe) continued with their PhD study programme, Malawian Ms Ireen Nyirenda and Jackson Chikasanda as well as Mr F. Reis (Mozambique) continued with BSc studies in Malawi. Mr C. Gwafila (Botswana), Ms R. Hilukwa (Namibia), and Ms. G. Kanyairita (Tanzania) successfully completed MSc studies at various universities.

3.3 Some Important Meetings Attended by SPGRC Staff

Table 3.1: Meetings attended by SPGRC Staff

Apr 2017	
May 2017	– SPO – Doc. & Info. (Acting Head) attended a SADC Ministers of Agriculture Extra-Ordinary meeting in Ezulwini, Swaziland – SPO – Ex-situ travelled to Malawi to monitor the rice multiplication project
Jun 2017	– SPO and TO – Doc. & Info. configured, installed and trained users of web-based SDIS in Swaziland – SPO – *In-situ* participated in a germplasm collection mission in Zambia
Jul 2017	– SPO and TO – Doc. & Info. configured, installed and trained users of web-based SDIS in Zimbabwe – The Head and SPO – Doc. & Info. attended Finance Sub-Committee and Audit Committee meetings in Gaborone, Botswana
Aug 2017	– Head attended a SADC Council of Ministers and Summit of Heads of State And Government in Pretoria, South Africa
Sep 2017	

Oct 2017	– The Head attended a Governing Body of the ITPGRFA meeting in Kigali, Rwanda – SPO – In-situ Conservation in collaboration with NPGRC undertook a collection mission in North-Western Province in Zambia – SPO and TO – Doc. & Info. configured, installed and trained users of web-based SDIS in Botswana and Mozambique SPO – *In-situ* participated in a germplasm collection mission in Zambia
Nov 2017	– SPO and TO – Doc. & Info. configured, installed and trained users of web-based SDIS in Tanzania
Dec 2017	- The Head of SPGRC and all SPOs attended a workshop on strengthening national capacities on plant genetic resources in the context of the Information System of Article 17 of the International Treaty held in Cape Town, South Africa
Jan 2018	– SPO and TO – Doc. & Info. configured, installed and trained users of web-based SDIS in South Africa
Feb 2018	– The Head of SPGRC visited the Svalbard Global Seed Vault in Norway – SPO - Doc. & Info. updated system and trained users of web-based SDIS in Botswana, Namibia and Swaziland
Mar 2018	– SPO – Doc. & Info. updated system and trained users of web-based SDIS in Democratic Republic of Congo

In February 2018, the Head of SPGRC visited the Svalbard Global Seed Vault in Norway to commemorate its 10th year since its establishment. The Vault is the final repository of seeds of diverse species that form the core of food security of the peoples of the world. Created after the realization that there is increased genetic erosion of crop species caused by actions of man and other natural disasters commonly attributed to climate change, the Vault has in its custody over one million unique crop varieties deposited in the past 10 years by 73 institutions.

4. TECHNICAL ACTIVITIES

4.1 GERMPLASM COLLECTING AND *IN-SITU* CONSERVATION

The *In-Situ*/On-farm conservation section coordinates on-farm conservation, germplasm collection, conservation of root and tuber crops in field genebanks, *in-situ* conservation and crop production at the SPGRC Farm.

4.1.1 On-farm Conservation

The region is experiencing significant effects of climate change that are threatening the continued farming of traditional crops, which are the building blocks for the breeding for improved varieties. Farmers are mobilized into groups, encouraged to maintain different crops in their fields and to conduct annual seed and food fairs for information and seed sharing. The management of crop diversity at farmer level is linked to agro-ecological farming practices to build up resilience in coping with the moisture stress and degraded soils. This is why on-farm conservation is linked with climate smart agriculture practices.

Farmer exchange visits were facilitated in Malawi between farmers from Mzuzu and Salima to share experiences on Community Seed Banks, on-farm conservation and agro ecological farming systems. Other countries where on-farm conservation and Community Seed Banks activities are ongoing include Botswana, Lesotho, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. Seychelles is promoting a concept on "Every Home a Garden" where households living in flats are encouraged to plant vegetables in containers to improve access to food.

4.1.2 Climate Smart Agriculture for Sustainable Use of PGRFA

Rural communities are vulnerable to climate impacts and need to be empowered on how to adapt. They are faced with challenges of prolonged draught spells, degraded soils, high temperatures, unreliable rain patterns, which are climate change effects that call for a change in farming strategies to ensure continued management of local crop diversity by farmers. SPGRC in collaboration with NPGRCs convened farmer-training workshops on sustainable agro-ecological farming practices linked to the promotion of continued farming of local crop diversity and production of adaptive preferred traditional varieties. During the year, workshops were convened in Botswana, Malawi, Tanzania and Zambia. Famers were trained on agro ecological farming practices (climate smart agriculture), registration and formal commercialization of preferred traditional varieties that are tolerant to the biotic stress brought about by climate change.

Farmers trained in climate-smart agriculture Mbamba Bay, Tanzania

Selected sorghum variety in Malawi

The SADC region developed

Harmonized Seed Systems, and came up with categories or seed classes where farmer varieties fall under Quality Declared Seed; with a label of green.

During the training sessions, farmers were engaged to understand that there is need for the region to develop procedures for the registration of local seed varieties which in the long run will improve access to seed, commercialization of adaptive local crops and to have sustainable production thus improved food and nutrition security.

4.1.3 *In-situ* Conservation

Wild sorghum

Crop Wild Relatives (CWR) priority lists and National Strategic Action Plans were developed in Mauritius, South Africa and Zambia. National stakeholders' workshops were convened to finalize the priority CWR lists. In South Africa, 258 CWRs out of 1593 were prioritized, in Mauritius 152 were prioritized and in Zambia 50 out of 459 were prioritized. The project "SADC Crop Wild Relatives" funded by Bioversity International came to an end before the development and finalization of National Strategic Action Plans. South Africa has since developed the national Conservation Strategy and Action Plan. There will be need to mobilize additional funds to roll out the activity to other countries**.** On the other hand, Malawi secured a grant to evaluate the "*Status and special diversity of wild sorghum species".* An eco geographical survey for developing the checklist for sorghum Crop Wild Relatives was carried out in Malawi in March 2018.

A concept note on an integrated CWR Regional Conservation Strategy was developed by SPGRC in collaboration with the Birmingham University, and circulated to Member States for their inputs. A draft regional conservation strategy was developed and shared with countries for comments. The document will be presented for further comments during the next SPGRC Review and Planning meeting.

Crop Wild Relatives are increasingly suffering from genetic erosion thus a coordinated, systematic and integrated approach to their conservation is essential and should include both *in situ* and *ex situ* strategies. This can be implemented through well articulated national and regional conservation plans.

4.1.4 Germplasm Collection

The chart below reflects 884 germplasm samples collected in the region during the reporting period:

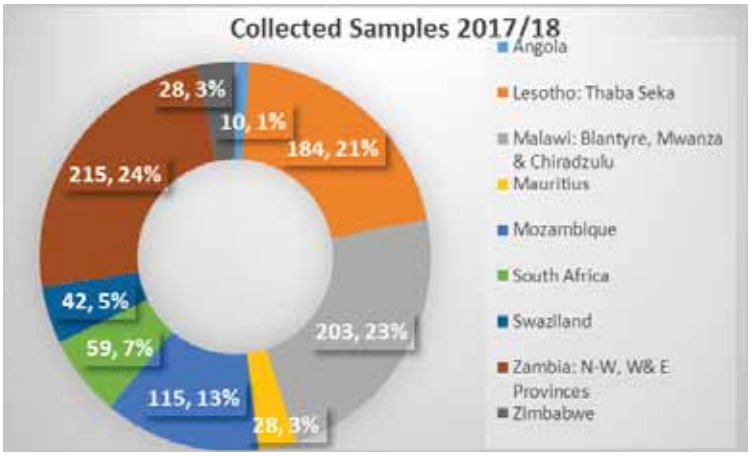


Fig. 1: Collected Samples 2017/2018

4.1.5 Field Genebanks and SPGRC Multiplication Farm

Most countries conserve root and tuber crops in field genebanks and in specialized institutions. It has been difficult to manage the conserved material due to pest and diseases.

A follow up was made on cassava material that was collected from the Katanga province in DRC and conserved at the Kipopo Research Station. DRC requested SPGRC to assist in relocating the material to the Kaniameshi Research Site and to M'Vuazi Research station. The materials have already been relocated to the two sites.

SPGRC is stepping up efforts to raise additional funds to support in vitro and cryopreservation of vegetatively propagated crops in the region.

4.1.6 Farm Activities

Cereal crops have been rotated with beans. A variation of local crops was planted in small panels for educational purposes and to enhance the institutional visibility at agricultural shows. Crops grown included local maize, sorghum, pearl millet, cowpea, pigeon pea, green gram, okra, *Corchorus* spp., amaranths, melons and pumpkins.

4.2 *EX-SITU* CONSERVATION

Future SADC food and nutrition security needs can partly be met through conservation of germplasm materials *ex-situ* that ensures that the regional requirements are met in future without compromise by maintaining an up to standard working regional genebank that conserves SADC Base collection supplied by Member States.

4.2.1 Seed Handling and Storage

During the period under review, seed samples were received from the following NPGRCs: Malawi (104) Zambia (430) and Zimbabwe (42). More seeds were expected to be hand-carried by participants to the annual technical review and planning meeting, which however did not take place.

Although seed processing was disrupted by malfunctioning of old germination chamber and the drying facility, new germinator and the dehumidifier component of the 'walk-in drier' were imported from abroad and installed enabling seed drying and testing processes for seed viability to take place smoothly. In addition, SPGRC purchased and installed moisture analyser, seed weighing machine, and a drying cabinet.

Table 4.1: Accessions Duplicated to SPGRC by Member States

NPGRC	Years										Total Accessions per MS
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Angola	71	140	68	65	45	35	20	-	-	-	444
Botswana	-	159	130	-	216	284	-	-	-	-	789
DR Congo	-	-	-	-	-	-	-	-	-	-	0
Lesotho	169	-	490	-	-	-	-	-	-	-	659
Malawi	126	95	14	30	13	9	56	29	83	104	559
Mauritius	38	-	-	-	38	41	42	-	31		190
Mozambique	28	158	-	311	-	-	-	78	-	-	575
Namibia	192	-	-	-	-	32	-	24	-	-	248
Seychelles	-	-	-	-	-	-	-	-	-	-	0
South Africa	-	-	-	-	-	-	-	63	17	-	80

Swaziland	36	-	-	-	51	-	-	-	-	-	87
Tanzania	-	126	-	358	72	-	545	-	-	-	1101
Zambia	-	293	-	-	-	-	-	-	-	430	723
Zimbabwe	-	-	-	281	-	-	-	-	-	42	323
Total Accessions Per Year	**660**	**971**	**702**	**1045**	**435**	**401**	**663**	**194**	**131**	**576**	**5778**

4.2.2 Facilities, Equipment and Supplies

In order to provide ambient climate for preservation of seed materials in the genebank, SPGRC replaced and serviced the air-conditioning system in the genebank, acquired new germination cabinet and drying cabinet, installed new dehumidifier components for 'walk-in' seed drying room, replaced old chest freezers and acquired and installed a new fire suppression system for the genebank. Future plans are to replace most of the old equipment with up to date equipment through funding by SADC asset replacement plan.

Newly acquired seed germinator units

Forty (40) deep freezers that were purchased during the beginning of the current financial year were installed in the gene bank, to replacethe same number of old freezers and an additional set of ten (10) deep freezers were purchased to replace an additional ten old deep freezers in the genebank.

Automatic fire suppression system capable of alerting and extinguishing fire within seconds after it starts is installed in the regional genebank

4.2.3 Multiplication, Regeneration and Pre-breeding

During the year, SPGRC provided resources for multiplication and regeneration bringing the total of 841 rice seed samples multiplied in Malawi by the national genebank where conditions are most suitable. These were successfully multiplied and repatriated to SPGRC for long term storage.

In addition, SPGRC multiplied a total of 473 accessions that included 230 Maize, 73 cowpeas and 170 sorghum accessions to increase seed quantities and ensure that the standard required for seed monitoring processes are not hindered by low seed quantities.

Considering that capacity (manpower, land, irrigation facilities, *etc*.) in some Member States were inadequate, SPGRC consulted all Member States requesting them to provide information on seed samples (type and quantities) they would like SPGRC to assist to multiply and regenerate on their behalf, resources allowing.

During the reporting period, the accessions holdings and major species at SPGRC are as shown in table 4.2 below.

Table 4.2: accessions holdings and major species at SPGRC

Species	Common Name	Number of Accessions
Sorghum bicolor (L.) Moench	Sorghum	5306
Eleusine coracana	Finger millet	1181
Zea mays (L.)	Maize	2322
Pennisetum glaucum (L.) R. Br.	Pearl millet	1648
Vigna anguiculata (L.) Walp.	Cowpea	1553
Arachis hypogaea L.	Groundnut	822
Phaseolus vulgaris L.	Beans	1140
Oryza sativa L.	Rice	500
Vigna subterranea (L.) Verdc.	Bambara nut	417
Cucurbits (*C. Pepo* & P. *maxima*)	Pumpkin	444
Citrullus lanatus (Thumb.) Matsumura & Nakai	Water melon	217
Triticum aestivum L.	Wheat	142
Cajanus cajan (L.) Millisp.	Pigeon pea	174
Cicer arietinum L.	Chickpea	145
Pisum sativum L.	Pea	106
Sesamum indicum	Sesame	104
Lagenaria siceraria	Gourd	1129
Others		547
Total		**17, 897**

4.2.4 Herbarium

Wild rice sites were identified for Tanzania, Zambia and Malawi and herbarium samples to be collected together with other Crop Wild Relatives when germplasm missions are carried out for crops.

4.2.5 Arboretum

SPGRC continued to maintain 25 species of wild fruit trees and medicinal plant at the regional centre. A total of 105 plants, all collected from various parts of Zambia are in the arboretum.

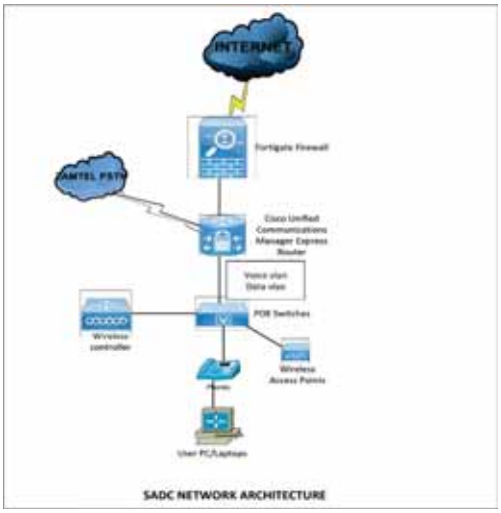
4.3 DOCUMENTATION AND INFORMATION

4.3.1 Hardware and Software_

Hard- and soft-ware were continually updated and maintained. Increased Internet bandwidth to 10 Mbps commenced in June 2018 to allow for SPGRC to access online resources and applications over SADC Secretariat platform.

The Centre continued with technical maintenance of servers (mail, SUN accounting system, files). The SPGRC Local Area Network (LAN) and associated IT equipment and facilities were kept running smoothly thus enhancing sharing of information and data resources across with local and outside clients.

During the year, SPGRC upgraded its ICT infrastructure in order to improve efficiency and



effectiveness of its operations. It now uses a Cisco-based VoIP solution and extended wireless Internet access to the residences of staff living in the compound. Firewalls, routers, switches, phones, LAN cabling were overhauled, and new and modern gadgets installed. Regardless of the physical distance, SPGRC has ultimately enhanced its capacity to access applications such as SADC Integrated Management System (SIMS), SUN accounting systems, Procurements Management System, Human Resources System, Electronic Records Management System, and Planning, Monitoring and Evaluation Systems that are centrally hosted at the SADC Secretariat. It also installed infrastructure and software and engaged a service provider for backing up its data and information off-site.

4.3.2 Database Development

A web-based SPGRC Documentation & Information System (SDIS) that was first introduced to Member States in 2015 has now been installed in all SADC Member States except Comoros. During installations, users are trained on basics of the system operation, maintenance and security.

During the year, updated version of web-SDIS was installed in Angola, Botswana, DRC, Malawi, Mozambique, Namibia, South Africa, Eswatini, Tanzania, Zambia and Zimbabwe.

In December 2017, with funding from FAO, SPGRC organized a workshop on strengthening national capacities on plant genetic resources in the context of the Information System of Article 17 of the International Treaty. Held in Cape Town, South Africa, the workshop among others dwelt on how SDIS is working and how it can be linked to global information systems. Representatives attended it from most SADC Member States.

Newly installed rack for servers, UPS and cable terminals

During the year under review, SPGRC conducted a short training workshop at SPGRC that aimed at improving information management in genebanks. Early in 2018, with funding from the (SANBio), SPGRC conducted another training course for genebank technical officers was held at SPGRC mainly focusing on PGR related policies and general plant genetic resources management with funds provided by the Southern African Network for BioSciences (SANBio)/ Finnish-Southern African Partnership Programme (BioFISA II).

4.3.3 Network News and Publicity

The annual report for 2016/2017 was printed and distributed in October 2017. Later on, the annual report was translated into French and Portuguese languages and copies available. Meanwhile, the SPGRC website (www.spgrc.org.zm) has remained a major conduit for updating information regarding activities and achievements made by SPGRC.

The Internet access at SPGRC was upgraded to 10 MBps using funds provided by SADC Secretariat's ICT infrastructure upgrade.

The Management has solicited articles from network scientists which will be published in the July 2018 SPGRC Network newsletter edition.

One of the avenues for publicising activities and achievements of SPGRC is through participation in regional and national shows and fairs and media coverage events. During the year, the Centre did not participate in publicity events. However, SPGRC shall endeavour to commit more resources towards facilitation of participation in such national, regional, global publicity and scientific events.

4.3.4 SPGRC Library

The library serves network scientists to keep them abreast with new information, technology and other developments in PGR conservation, management and utilization. In order to serve the requirements for the clients, SPGRC purchased a few new books, and renewed annual subscriptions to journals and serial titles as well as other publications that are related to biodiversity management.

Even though it cannot always afford to procure all relevant publications, the Centre strives to subscribe to license-free online publications, and is on the move to raise funds that will assist in acquisition of necessary library materials. The SPGRC subscribed to *The Essential Agricultural Electronic Library (TEEAL)* continued being used by scientists. It is a full-text and searchable database of articles from more than 200 high quality research journals in agriculture and related sciences spanning several years and the particular TEEAL station at SPGRC the whole network.

4.4 SPGRC TECHNICAL BACKSTOPPING TO NPGRCs

Compliance to international legal obligations under the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) and Global partnerships including service provision to the SPGRC network guides its coordination and management commitments. The SPOs travelled to the national genebanks during the year and provided technical backstopping on matters relating to commitment for implementation of best genebank standards to ensure longer term conservation and promotion of the use of germplasm, establishment and continuous management on on-farm/*in-situ* activities, and on standardized information sharing/exchange and propagation of use of ICTs in managing germplasm collections using databases.

Following the re-engagement of Madagascar in SADC community, SPGRC initiated the return of the country into the network and a technical support was provided to Madagascar and preliminary fact finding and technical evaluation to establish NPGRC were initiated. Madagascar has asked SPGRC to extend the mission widely to other potential parts of the National Centre for Applied Research and Rural Development (FOFIFA) before coming to a conclusion. There is need for further evaluation to assess on how to reorganize and promote transformation in order to adhere well to the newer demands for effective conservation and utilization of PGRFA for the present and future needs.

SPGRC hosted team of scientists from Malawi Mozambique and Zimbabwe as partners to the Seed centre project supported by the USAID. The reason for their visit was to learn how genetic resources conservation was done at SPGRC and to confirm the safety of their materials. Also part of information sharing took place with various institutions of higher learning about various topics relating to how plant genetic resources conservation contributes to: food security, agricultural business and how it is affected by global warming among other topics of interest.

5. INTERIM FINANCIAL REPORT 2017/2018

Table 5.1: Statement of Financial Performance for the Year Ended 31st March 2018

	2017/18 US$	2016/17 US$
Revenue from Non-Exchange Transactions	**1,410,081**	**1,419,647**
Member States' contributions	1,406,747	1,413,640
Exceptional revenue from Member States	-	-
Development Partners' contributions	3,334	6,007
Revenue from Exchange Transactions	**24,041**	**4,148**
Institutional property rentals	24,041	4,148
Investment revenue	-	-
Total Revenue	**1,434,122**	**1,423,795**
Expenditure		
Programme Expenditure	**1,353,008**	**1,288,046**
Staff costs	900,438	855,422
Transport, subsistence and conferences	157,107	118,246
Lease expenditure	-	-
Contingent rental on finance leases	-	-
General expenses and supplies	160,120	186,987
Communications	17,634	13,491
Audit and professional fees	5,400	5,016
Depreciation current year change	112,309	108,884
Depreciation effect of changes in residual values	-	-
Finance cost	-	-
Other Gains/(Losses)	**10,124**	**51,009**
Gain/(Loss) on sale of assets	(18,753)	-
Gain/(Loss) on foreign exchange transactions	28,877	51,009
Surplus/(Deficit) for the Year	**70,990**	**84,740**

Source: *SADC Financial Statements for the Year Ended 31st March 2018*

Table 5.2: Statement of Financial Position as at 31st March 2018

	2017/18 US$	2016/17 US$
Assets		
Current Assets		
Cash and cash equivalents	899,788	862,560
Receivables exchange transactions	-	-
Receivables non-exchange transactions	62,777	36,230
Prepayments	25,840	16,338
Value Added Tax receivables	-	-
	988,406	**915,127**
Non-Current Assets		
Property, plant and equipment	1,852,129	1,856,141
	1,852,129	**1,856,141**
Total Assets	**2,840,535**	**2,771,268**
Liabilities		
Current Liabilities		
Trade and other payables from exchange transactions	134,687	126,470
Trade and other payables from non-exchange transactions	-	-
Finance lease liability	-	-
Post-employment benefit	284,235	240,933
Deferred Revenue from Development Partners	2,421	422
Member States' Special Funds	17,584	-
	438,927	**367,825**
Non-Current Liabilities		
Post-employment benefit	-	-
Finance lease liability	-	-
	-	**-**
Total Liabilities	**438,927**	**367,825**
Net Assets	**2,401,607**	**2,403,444**
Reserves	63,678	154,994
Accumulated surplus	2,266,940	2,248,450
Surplus for the year	70,990	-
Total Net Assets and Liabilities	**2,840,535**	**2,771,268**

Source: *SADC Financial Statements for the Year Ended 31st March 2018*

Table 5.3: Statement of Cash Flows the Year Ended 31st March 2018

	2017/18, US$	2016/17, US$
Cash Flows from Operating Activities		
Surplus/(Deficit) for the year	70,990	84,741
Adjustments:		
Depreciation	112,309	108,884
Gain on sale of assets	18,753	-
Finance Income	-	-
Finance costs	-	-
Revenue from donations of assets	-	-
SADC House revenue realised	-	-
Member States Special Funds	(72,826)	82,660
SADC House contributions	-	-
Gratuity Funds	43,302	21,875
Development Partners Funds	-	-
(Increase)/Decrease in payables	12,693	37,627
(Decrease)/Increase in receivables	(36,049)	(7,343)
Net Cash Flows from Operating Activities	**149,172**	**328,444**
Cash Flows from Investing Activities		
Purchase of property, plant, equipment	(93,190)	(12,373)
Proceeds from sale of property, plant, equipment	(18,753)	-
Interest received	-	-
Interest paid	-	-
Net Cash Flows from Investing Activities	**(111,943)**	**(12,373)**
Cash Flows from Financing Activities		
Finance Charges Paid on SADC House	-	-
SADC House lease repayments	-	-
Net Cash Flows Used in Financing Activities	**-**	**-**
Net Increase/(Decrease) in Cash and Cash Equivalents	**37,229**	**316,070**
Effect of exchange rate adjustments	10,124	51,008
Opening cash and cash equivalents	862,560	546,489
Closing Cash and cash equivalents	**899,788**	**862,560**

Source: *SADC Financial Statements for the Year Ended 31st March 2018*

6. APPENDICES

Appendix I: Members of the Board of SPGRC, 2017/2018

Dr Lefulesele Lebeso	– Lesotho - Chairperson
Dr Pedro Mozambique	– Angola
Dr Wametsole Mahabile	- Dr Wametsole Mahabile
Prof Mbuya Kankolongo	– DRC
Dr Wiseman Kanyika	– Malawi
Dr Jacqueline Rakotoarisoa	– Madagascar
Ms Carla do Vale	– Mozambique
Mr Nitish Goupal	– Mauritius
Ms Johanna F. Andowa	– Namibia
Mr Finley Racombo	– Seychelles
Dr Noluthando N. Nkoana	– South Africa
Dr Innocentia S. Kunene	– Swaziland
Dr Hussein Mansoor	– Tanzania
Mr Godfrey Mwila	- Zambia (Vice-Chairperson)
Dr Cames Mguni	– Zimbabwe
Ex-Officio Members	
Mr Bentry Chaura	– SADC Secretariat
	– Donor
Mr Justify Shava	– SPGRC (Secretary)

Appendix II: SPGRC Staff Members, 2017/2018

Justify G. Shava	Head, SPGRC (09 July 2017)
Ms Thandie J Lupupa	Senior Programme Officer – *In-Situ* Conservation (*16 May 2006)*
Mr Barnabas W Kapange	Senior Programme Officer - Documentation & Information (*09 May 2006*)
Mr Lerotholi L Qhobela	Senior Programme Officer – *Ex-Situ* Conservation (*15 May 2006*)
Mrs Mary B Phiri	Assistant Administrative Officer (*01 March 2000*)
Ms Florence C Chitulangoma	Assistant Finance Officer (*08 March 1993*)
Mrs Peggy S Ng'ono	Technical Officer-Conservation (*01 June 2005*)
Mr Mike Daka	Technical Officer - Documentation & Information (21 May 2012)
Mr Ferdinand Mushinge	Technical Officer – *In situ* (*01 March 2004*)
Mrs Phyllis M Litula	Personal Secretary (*12 November 2001*)
Mr Wilbroad M Chashi	Senior Finance Clerk (*01 July 2002*)
Mr Julius Daka	Driver/Messenger (*01 June 2016*)
Mr Kapelwa E Songa	Typist/Receptionist (*01 September 1989*)
Mr Gibson Zulu	General Worker (*01 August 1989*)
Mr John Mfwembe	Worker (*04 September 1989*)
Mr Stephen Siankachele	General Worker (*01 December 2016)*
Mr Olipen Phiri	General Worker (*05 January 2009*)

Appendix III: List of Some Prominent Visitors to SPGRC (2017/2018)

Nora Patricia Castaneda	Crop Trust, Rome, Italy
Messier Prince Mangela	SADC Secretariat, Gaborone, Botswana
Omphemetse Lesetedi	SADC Secretariat, Gaborone, Botswana
Thato Kherehloa	SADC Secretariat, Gaborone, Botswana
Gift Mike Gwaza	SADC Secretariat, Gaborone, Botswana
Robin Unuth	SADC Secretariat, Gaborone, Botswana
Raynold Goodluck	SADC External Auditor (Tanzania)
Bethusile Dlamini	SADC External Auditor (Swaziland)
Alan Mkhonta	SADC Secretariat, Gaborone, Botswana
Godfrey Mwila	ZARI, SPGRC Board Chairperson
Aness Kaderu	Malawi NPGRC
Rakotoarinjara Tsiry	FOFIFA, Madagascar NPGRC
Kahimbi Charlotte Sikute	Namibia NPGRC
Bambala N. K. Emmanuel	DRC NPGRC
Musa Maxwell Mbingo	Swaziland NPGRC
Esnart Chisveto	Zimbabwe NPGRC
Elizabeth Keimelwe Molaodi	Botswana NPGRC
Claudio Roberto Q. Marques	Angola NPGRC
Thuso Matejane	Lesotho NPGRC
Carla do Vale	Mozambique NPGRC
Fatima Sinon	Seychelles Agricultural Agency
Bhimla Mungra	Mauritius NPGRC
Ernest Bwalya	Zambia NPGRC
Zvikombero Tangawamira	SANBio, Brumwereia, Pretoria, South Africa
Jermina Moeaha	South Africa NPGRC
Lwembe Mwale	COMESA Secretariat, Lusaka, Zambia
Lawrent Pungulani	Chitedze Research Station, Lilongwe, Malawi

Innocentia S. Kunene	Univ. of Swaziland, P/Bag 4, Kwaluseni, SWaziland
Marie Haga	Crop Trust, Bonn, Germany
Luigi Guarino	Crop Trust, Bonn, Germany
Chisepo Lungu	SADC Secretariat, Gaborone, Botswana
Winnie Nachivula	Chilanga, Zambia
Elly S. Mwale	FutureSeeds (Z), Box 313 FW, Lusaka, Zambia
George Mahwite	SADC Secretariat, Gaborone, Botswana
Mercy C. Jere	SADC Secretariat, Gaborone, Botswana
Bonolo Nyambe	SADC Secretariat, Gaborone, Botswana
Rudo Musango	Zimbabwe NPGRC
Onismus Chipfunde	Zimbabwe NPGRC
Leah Mukula	Personal, Zambia
James Campbell	USAID Seed Trade Project, Lusaka
John Muntanga	USAID Seed Trade Project, Lusaka
Takele Tassew	USAID, South Africa
Elizabeth Colarit	USAID, South Africa
Itai Maknda	F+F Seed Trade Project
Thami Somile	F+F Seed Trade Project
Eric Sommeling	F+F Seed Trade Project
Zakayo Bundala	Tanzania NPGRC

NOTES

Our New Telephone Numbers:

Following upgrading of ICT infrastructure and communication systems, our telephone numbers have changed to:

+260 211 399 200 -10

(Please inform others)