SPGRC

SADC Plant Genetic Resources Centre

Annual Technical Review and Planning Meeting: Report

SPGRC

September, 2010

Acronyms

ARC	Agricultural Research Council, South Africa
BCH	Biosafety Clearing House
BioFISA	Finnish-Southern African Partnership Programme (to strengthen Biosciences)
CEPA	Centre for Environmental Policy and Advocacy, Malawi
CGIAR	Consultative Group on International Agricultural Research
CNRF	Centro Nacional de Recursos Fitogeneticos
COSPE	Cooperation for the Development of Emerging Countries, Italy
CTDT	Community Technology Development Trust, Zimbabwe
CWR	Crop Wild Relative
DANIDA	Danish International Development Agency
DAR	Department of Agricultural Research
DEO	District Extension Officer
DRC	Democratic Republic of Congo
EPA	Extension Planning Area
FAO	Food and Agriculture Organisation
GCDT	Global Crop Diversity Trust
GIS	Geographic Information System
GMO	Genetically Modified Organism
GPA	Global Plan of Action
GPS	Global Positioning System
IAB	Agrarian Institute of Boane
IBPC	Interim Bio-prospecting Committee
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IIA	Agricultural Research Institute (Angola)
IIAM	Instituto de Investigação Agrária de Moçambique (Agricultural Research Institute of Mozambique)
INERA	Institut National pour l'Etude et la Recherche Agronomique (National Agricultural Research Institute), DRC
IPGRI	International Plant Genetic Resources Institute (now Bioversity)
ITF	International Trade Fair, Swaziland
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
IUCN	International Union for Conservation of Nature (and Natural Resources)
LAN	Local Area Network
LUSIP	Lower Usuthu Small-holder Irrigation Project
MRS	Malkerns Research Station
MSBP	Millennium Seed Bank Project
NBRI	National Botanical Research Institute, Namibia
NEPAD	New Partnership for Africa's Development
NGO	Non Governmental Organisation
NordGen	Nordic Gene Bank
NPGRC	National Plant Genetic Resources Centre
NPGRCom	National Plant Genetic Resources Committee
PGR	Plant Genetic Resources
PGRFA	Plant Genetic Resources for Food and Agriculture
PGRU	Plant Genetic Resources Unit, Mauritius
RBG	Royal Botanical Garden, Kew (UK)
SADC	Southern African Development Community
SANBio	Southern African Network for BioSciences
SCCI	Seed Control and Certification Institute, Zambia
SDIS	SPGRC Documentation and Information System
SPGRC	SADC Plant Genetic Resources Centre
TAS	Technology Assessment Site
TCP	Technical Cooperation Project
UEM	Eduardo Mondlane University
VSAT	Very Small Aperture Terminal (Communication Satellite)
WVL	World Vision Lesotho
UPS	Uninterruptible Power Supply

Table of Contents

1. Objectives

The SPGRC/NPGRCs Annual Technical Review and Planning meeting was held in Lusaka, Zambia with the objective to:

- review the implementation of the technical activities for 2009/2010 cropping season;
- evaluate the technical and budgetary plans for the 2010/2011 cropping season; and
- facilitate information sharing on any other technical and networking issues.

2. Attendance

Thirty one (31) participants from NPGRCs, SPGRC, NordGen/Sida were in attendance. Unfortunately, due to logistics, representatives from Mauritius, Mozambique and Swaziland could not make it to the meeting. Their reports were however, sent by mail and are hereby incorporated.

3. Programme

The meeting was held at the Protea Hotel – Cairo Road, Lusaka from 6th to 10th September 2009. The first four days were dedicated to technical review and planning; whereas, the last day (10th September 2010) was set aside for reviewing and refining the regional PGR policy review project that is coordinated by SPGRC and funded by the Southern African Network for Biosciences (SANBio).

The meeting agenda included the following major items:

i) Opening ceremony (opening remarks)
ii) Issues and matters arising from the last (2009) meeting
iii) NPGRC Reports
  - General progress reports;
  - *Ex-situ* conservation progress (2009/10) and proposals for 2010/11;
  - *In-situ/*On-farm conservation progress (2009/10) and proposals for 2010/11;
  - Documentation & Information progress (2009/10) and proposals for 2010/11;
  - PhD progress report

iv) Project Reports
  - Assessment of community seed genebanks
  - SANBio policy review project
v) General Issues: Summary of Presentations (Technical Sections)
vi) Closing Remarks

The detailed Programme is given in Appendix 1.

4. Opening Ceremony

The meeting was called to order by the Chair Mr. B. Kapange at around 09:30 on 6th September 2010. The Chair announced the death of Dr Wazael Ntundu, Documentation Officer of Tanzanian NPGRC which occurred only two days before the meeting after a short illness. The Chair requested participants to stand up and observe a one-minute of silence in his remembrance.

The Chair welcomed all participants to the meeting after their long travel from respective countries. He also welcomed them to Lusaka and hoped that they will enjoy their stay and have fruitful deliberations from the meeting. He announced the logistics by directing where the SPGRC Secretariat was in the Hotel and asked participants to hand in any claim forms so that they are processed in time.

4.1 Welcome Address by Head of SPGRC

The Head welcomed the participants to the meeting apologizing for lack of translation facilities which could not be availed through the SADC Secretariat as promised last year. But he promised that all will be done to get the facilities in future. He also apologized for late disbursements of funds from the donors for the last season. This, he said, was beyond the controls of the Technical Advisor and SPGRC and hoped it had not adversely affected the work in the field.

The Head reminded participants about the coming to an end of the donor funding in December 2010 and therefore the Network was challenged with the future funding with no guarantee of funding by Nordic and therefore, both SPGRC and NPGRCs should strive to raise additional funds from different sources. He advised participants to play a proactive role in writing proposals that would enhance flow of supplementary funds.

The major concerni was the future source of funding for the planning meetings. He mentioned that SADC rules do not allow use of Member States money to fund meetings and therefore, must remain the responsibility of the network through other sources to ensure the meetings continue.

4.2 Welcome Remarks by Project Technical Advisor

The Project Technical Advisor, Dr M. Fatih expressed his shock over the demise of Dr Ntundu and asked the Tanzanian representative to convey network condolences to the family, colleagues and employers.

He reminded participants of the ending of Nordic funding by 31st December 2010 but encouraged them not to consider this as an end of the network, but rather the start of yet another successful stage of ensuring a network sustainability and advancement. He said with the presence of eminent experts in PGR, there was no doubt, with courage and resilience; the network should be able to source more funding for the network.

Dr Fatih challenged participants to ask themselves sentimental questions as to whether the network has been putting SADC money in the rational and cost-effective way; whether we have been doing enough in our technical activities (collection, documentation, conservations, gap-filling, in-situ, on-farm, *etc*.). Taking stock of rationale and justification for spending would lead the network to a more viable and sustainable business and attract resources from partners.

He lastly apologized for the late disbursement of donor funds which he said was beyond his control.

4.4 Programme and Logistics Announcements

Mr Kapange briefly read through the programme of the meeting and a few changes were made including his announcement that the last day of the meeting (10th September 2010) was dedicated to discussing the PGR policy project. He also announced logistical announcements with regard to the filling-in of Claim forms as well as registration forms.

5. Matters Arising from the Last (2009) Meeting

5.1 Community Seed banks

SPGRC has been engaged in assessing the impacts of community seed banks.

Action: Assessment done in five countries (Malawi, South Africa, Swaziland, Zambia and Zimbabwe) and report will be presented.

5.2 Budget Layout in Reports

Member States expected to include government expenditure or any other funding when reporting for progress and proposals. Countries were urged to follow agreed guidelines for reporting that were circulated last year.

Action: As agreed last year, report format re-circulated to countries that made request.

5.3 Standard Quantities of Seed Sent to SPGRC

SPGRC was asked to send reminder notes to NPGRCs on the standard quantities expected for base collection. SPO – Documentation tried to get this information from previous planning meeting reports, in vain.

Action: SPO – Documentation informed SPO – Conservation about this and advised him to find other ways for establishing standard seed quantities.

5.4 Start-up Activities in DRC

The DRC designated NPGRC is also in need to rehabilitate its infrastructure and have its documentation and information system installed and used after some initial training.

Action: DRC established the NPGRCom and identified a building for the NPGRC.

5.5 Funds for Multiplication/Characterisation in Mozambique

It was reported that money that was sent to Mozambique 2 years ago for multiplication and characterization could not be traced by NPGRC. Mozambican delegates were asked to follow up and ensure that money is recovered and utilized.

Action: Money received.

5.6 Technical Support for Mozambican NPGRC

The NPGRC has requested assistance from the SPGRC for re- installation of the SDIS software and as soon as it will be installed, the PGRC will continue editing information in order to reduce the backlog data.

Action: Technical backstopping could not be done, but will be done this year.

5.7 Additional Module

Angola would like to propose that additional software is added to the SDIS programme to allow for the registering of data obtained from molecular characterization work.

Action: Will be considered when adding modules

5.8 Development of Web-Based SDIS

Work on developing the web-based SDIS on tracks and conversion of database from Access to SQL is pending, waiting for software. Many interface design and data cleaning has been done.

Action: After conversion, database will be sent to Project Technical Advisor. Software procurement process going-on.

5.9 SPGRC Web Portal

Re-designed up-to-date new portal accessible at http://www.spgrc.org.zm hosted by a local company in Zambia active. NordGen promised to act on reclaiming the older domain name (www.spgrc.org) which is better known by partners and stakeholders.

Action: SADC has officially requested NordGen for the transfer and are awaiting response.

6. Discussions on Strategic Issues and the Continuation and Development of SPGRC

6.1 Sharing of Responsibilities between SPGRC and NPGRCs

Due to diminishing resources, sharing of responsibilities between SPGRC and NPGRCs is the ideal way but clear responsibilities and commitments need to be put in place.

Action: SPGRC was asked to develop a working document for people to comment on.

6.2 Role of SPGRC in Multilateral Systems

Member States should take a leading role in domesticating the Treaty. SPGRC urged to play a stronger role in international collaborations, such as ITPGRFA, representing the regional collaboration.

Action: SPGRC continued with its role. Member States domesticating the Treaty

6.3 Benefits to the Network from Global Frameworks

Partners felt important to develop partnerships with global partners and enhance relationships with other institutions, participate in international gatherings like the Commission meetings and strive to develop convincing regional project proposals for funding.

Action: SPGRC writing joint proposal with Bioversity and University of Birmingham

6.4 Capacity Building

It was agreed that training on MSc. and PhD should continue even though the project is winding up, especially given the fact that money for such training had already been committed.

Action: Training on course for PhD (Sweden) and short course (Zambia) on schedule.

6.5 Gap Filling Between Active and Base Collections

Although it was agreed in Pretoria in 2007 that countries will multiply their materials to bridge gap between active and base collections, it was observed at this meeting that NPGRCs were not fully honouring their obligation of bridging the gap.

Action: Discussed by Board. Member States urged to honour their obligation.

6.6 General Issues on In-Situ / On Farm Conservation

It was noted that those countries where on-farm activities were piloted way back since 2003/4 were now at the stage of scaling up and spreading out to reach other communities while others were at the initial level of conducting base line surveys for the identification of farmers and target crops. It was encouraging to note the increase in the number of countries carrying out on-farm activities (6 to 9).

Action: NPGRCs to clearly report on on-farm conservation achievements.

6.7 General Issues on Multiplication and Characterisation

Meeting observed that viability testing equipment was required by almost all countries. However, it was revealed that driers in use in NPGRCs can easily be used for germinations tests. Agreed that, an inventory should be taken to assess which countries do not really have the germination facilities and if possible, action taken to rectify the situation.

6. NPGRC PROGRESS REPORTS

Angola

General

(i) Introduction

In the period under review, the Angolan NPGR Centre was working without two members (Mr. Pedro Moçambique and Mrs. Domingas Tomás). They are studying in Brazil for PhD and MSc. respectively.

NPGRC reported to have found a new site to set up the experimental field genebank. It is located about 25 to 30 Km from the center (in Kikuxi area).

(ii) Staffing

The Angolan NPGRC staff is the same as reported last year with the exception that Mrs. Domingas Tomás is studying in Brazil since March of 2010 until March 2012. Mr. Pedro Moçambique finished his PhD in Brazil and was expected to return to Angola by October 2010.

(iii) National Plant Genetic Resources Committee (NPGRCom)

The Angolan NPGRCom composition remained the same as reported last year. It continue to include membership from ADRA (Agricultural Development NGO), Angolan NPGRC (CNRF), Extension Service (IDA) and Seed Service (SENSE) and of course, Agricultural Research Institute (IIA).

(iv) Training, Workshops and Meetings

Mr. Pedro Moçambique finished his PhD in Brazil and was expected to return to Angola around October 2010. Mrs. Domingas Tomás is on study leave for her MSc. Degree at the University of Santa Catarina (Brazil) since March 2010.

Mrs. Joana Salvador, Mrs. Lizeth Gabriel and Mrs. N´temo Mata who are final year biology students from Science Faculty have been working on molecular characterization of 36 accessions of maize, 25 accessions of cowpea and 24 accessions of common bean respectively.

(v) Equipment, Supplies and Facilities

Motor vehicles in use at NPGRC include a Toyota Hilux, which is in excellent working order and used only for collecting missions. A Nissan Terrano II is also in reasonable working order for use in town.

The NPGRc has 40 vertical deep freezers that are functioning properly. In terms of computing facilities, the NPGRC has five desktops computers, five notebooks, five printers, and a photocopier, all functioning properly.

It has two driers: one received from SPGRC (Termaks) and the other from Global Diversity Trust (Termo Kyl), all of which are functioning properly. There are two working sealers and a Snijders Scientific germinator that is functioning very well.
The NPGRC needs 500 large, 1,000 medium and 2000 small size laminated foil bags, 1000 large pollination bags, and seed cleaning sieves.

(vi) Constraints

There is need for more physical space for the conservation activities.

Technical Progress Reports

(i) *Ex-Situ* Conservation

Conservation
The current holding of accessions in the active collection is **3,515** including the last collections made in June 2010.

Regeneration and Multiplication
During the year under review, NPGRC is still working in some accessions in the small space located at Kikuxi which is 25 Km from the NPGRC.

The NPGRC multiplied 43 and characterized 10 accessions in 2010 and these include maize, common beans, cowpeas, groundnut and okra. Only 2 maize accessions were multiplied and 10 characterized. All common bean (1), cowpeas (28), groundnut (12) and okra (2) accessions were characterized.

(ii) Field Genebank Maintenance

There are field banks in some Agricultural Research Stations, roots and tubers in Malange and Mazozo, some fruits including mango and banana in Benguela and *robusta* coffee in Huambo and in National Coffee research stations in Kwanza Sul and Uige provinces.

(iii) Utilisation of Plant Genetic Resources

NPGRC distributed 36 accessions of maize, 25 accessions of cowpea and 24 accessions of common bean for molecular characterisation purpose of a final thesis of three students. The principal requests for this material was from the Science Faculty.

(iv) Germplasm Collection

A total of 3,515 accessions are conserved in the active collection of Angola genebank. As promised last year to collect in other areas where the municipalities were not represented before, at the end of May and beginning of June 2010, the Centre organised a collection mission to Malanje, Bié and K. Sul and as a result 122 accessions were collected.

(v) Documentation and Information

SPGRC staff visited on 25th - 31st July 2010 and reinstalled the database WinSDIS and the system is now working very well. The Angolan NPGRC staff found the visit very helpful in terms of verification of what is in the genebank (compared to SDIS) as well as the collection activities carried out by the Centre. The DIVA-GIS version 7.1 is working but in transmitting coordinate data from excel to DIVA-GIS, the locations are incorrect (possibly because the previous DIVA-GIS was 5.2).

Botswana

General

(i) Introduction

During the review period, the overall activities of the NPGRC went well. Generally, the rainfall was evenly distributed, resulting in uninterrupted implementation of the planned activities.

(ii) Staffing

The staffing for the NPGRC has remained unchanged from what was reported last year. The NPGRC received one intern, Lesego Keakantse to serve in the genebank. This has filled up the gap left by transferred Technical staff as reported last year.

(iii) National Plant Genetic Resources Committee (NPGRCom)

(iv) Training, Workshops, Courses and Meetings

While Mr C. Gwafila attended proposal writing and intellectual property rights workshops; Ms M. Molefe attended trainings in intellectual property rights, African Consultation for the update of the Global plan of action on the conservation and sustainable use of PGRFA, indigenous knowledge, and in African Regional Intellectual Property Organisation (ARIPO).

(v) Equipment, Supplies and Facilities

The NPGRC has two types of storage facilities: 10 upright freezers and a cold room all of which are functioning well. While the drier room and two sealers are working well, the desktop that hosts SDIS is not in good condition and needs attention or replacement. The germinator, seed counter and seed grinder are still in good working condition. The newly received database server is in place but not yet installed.

(vi) Requirements

The NPGRC is in need of a desktop computer, installation of irrigation facilities, standby electric generator, germination trays, aluminium foils and support for installation of database server.

(vii) Constraints

With the transfer of technical staff reported last year, NPGRC is in need of additional qualified staff. At the same time, it has expressed need for training of staff both in short- and long-term courses (finances).

Technical Activities

(i) Conservation

Out of the total 87 accessions planted comprising of sorghum (64), pearl millet (10) and tepary bean (13) in December 2009, 63 accessions harvested and 24 failed (dried before maturity) due to poorly distributed rainfall.

Some of the problems experienced in the field included stalk borer that caused severe damage in sorghum trial. Though noticed at an early stage of plants growth, the Entomology section responded late to destroy them.

Quelea quelea birds were also a problem as they damaged the pollination bags, but birdscarers were engaged.

(ii) Multiplication of Groundnut and Bambara Nuts

25 accessions of groundnuts and 25 bambara groundnuts were planted in December 2009 at Sebele Research Station. While 11 accessions failed to germinate, 39 accessions were characterised.

(iii) Groundnut and Bambara

Characterisation data for the trial was subjected to cluster analysis using the NTSYSpc.

(iv) *In-situ*/On-farm

The proposed activities under on-farm conservation in the last planning meeting were not carried out because the funds were received late in May 2010. The activities are pending as they were in last planning meeting. However, the time frame for implementation has now changed. An additional budget of US$ 5,550.00 is requested from SPGRC that will mainly cater for driver and extension officer expenses.

(v) Utilisation of Plant Genetic Resources

During the reporting period, 168 accessions were requested from the genebank by the users. The Department of Agricultural Research topped in the list by requesting a total of 120 accessions (100 *Sorghum bicolor* and 20 local cowpeas for Cereal and Legume improvement Programmes respectively).

Other requests came from Botswana College of Agriculture (13 finger millet and 11 cowpeas accessions), followed by Denman Rural Training Centre (12 *Arachis hypogeae* and 11 *Vigna subterranean*) and lastly, by Seed Multiplication Unit which requested 1 *Vigna unguiculata* accession. They were requested for various purposes including evaluation, screening for specific traits and for academic purposes.

(vi) Germplasm collections

Five field trips were undertaken (2009/10) that yielded 69 seed samples of both cultivated (5) and wild plant (62) species.

(vii) Documentation and Information

There were no problems reported with regard to use of SDIS. However, the desktop with the database is phased out of the government system and it is no longer under IT service and therefore loading it with vital information is risky as it may crash anytime. The IT office was tasked to replace the desktop but has since not done so**.**

Despite the shortfall, registration of accessions is ongoing for the active and characterisation files. This year, 59 accessions were registered in the main register and also which brings the number of registered accessions to 3,244 of which 1,448 batches were registered in active file. 59 characterised groundnut accessions were entered in the characterisation data file.

Democratic Republic of Congo (DRC)

General

(i) Introduction

The National Research Institute for Study and Agronomic Research (INERA) has the national mandate of implementing the National Plant Genetic Resources Programme that deals with different species and varieties of food crops, perennial crops, and forestry.

Major food crops include cassava, legumes, cereals, roots and tubers, fruits trees; and major commercial crops are palm oil, rubber, cotton, coffee, the quinine, medicine plants, jatropha, etc.

INERA covers six different agro-ecological zones with its five centres and stations spread through the whole country. The NPGR programme operates in five main Centres (M'Vuazi, Mulungu, Gandajika and Yangambi) and also in the research stations of Bambesa, Boketa, Bongabo, Kipopo, Kiyaka, Luki and N'Dihira.

(ii) National Plant Genetic Resources Committee (NPGRCom)

The NPGRCom which is now formal comprises of participants from three Ministries: Ministry of Agriculture (Chair), Ministry of Research (Implementation), and Ministry of Environment and Tourism.

(iii) Staffing

Since the NPGR programme in DRC is cross-cutting, staffs belong to each decentralized Research Centre or Station and each work in one or more thematic research programmes (food crops, industrial crops and forestry) encompassed in the activities of the NPGRC. All agro-ecological zones have their own gene banks.

(iv) Training, Workshops, Meetings

Some of trainings, workshops and meetings regarding species have been conducted in the specific thematic programmes.

(v) Facilities and Equipment

Due to political situation, the DR Congo was not on board network when the activities of SPGRC started, but the NPGRCom meeting has given the opportunity of claiming what remains in the pipeline for DRC.

The inventories will be undertaken to get realistic figures of each experimentation site to get the insights and plan way forward for proper establishment and conduct of activities in the DRC. A bank account for NPGRC has been opened to facilitate transfer of funds.

(vi) Constraints

Having not participated in SPGRC network activities has kept DRC with insufficient funding and without reliable communication, transportation as well as Internet access between centres/stations, Head office and other SADC network members, i.e. NPGRCs.

The DRC designated NPGRC is also in need to rehabilitate its infrastructure and have its documentation and information system installed and used after some initial training.

(viii) Germplasm Conservation and Collection

DRC is reported to have substantial numbers of germplasm materials, especially at Yanganbia and M'Vuazi Research Stations. In 2009/2010, Yangambi was holding cocoa (43), coffee (10), forest trees (1770), oil palm (6322), rice (20), cassava (39), maize (13), groundnuts (29), cowpea (3), Soybean (1), agrostological species (42), wild fruits (8), banana (53).

Meanwhile, M'Vuazi Research station holds cassava (240), groundnuts (100), soybean (27), cowpea (31), common bean (110), banana (49), forest trees (13), *Cajanus cajan* (5), rice (5), maize (2), mango (29), sweet potato (11), Lansium spp. (1), taro (2) and *Xanthosoma sagitofolium* (1).

Lesotho

General

(i) Introduction

The year under review was constrained by the fact that disbursement of funds was done late, thus affecting execution of activities (behind schedule) which in many cases resulted into very low yields for most accessions.

(ii) NPGRC Staff

There is an improvement in staffing following recruitment of a Laboratory Technologist who will handle seed and herbarium issues.

(iii) National Plant Genetic Resources Committee (NPGRCom)

The NPGRCom membership has remained unchanged and the committee is active. Meetings held during the year focused on underutilization of materials held in the genebank, financial constraints in view of the decreasing donor funding and limited government budget. It also dwelt on low progress of on-farm and in-situ conservation activities, as well as the unreliable Internet facility and delayed connection of LAN server at the NPGRC.

(iv) Training, Workshops, Meetings

While the Curator attended workshops on SADC MAPP, Agricultural Information Communication and Knowledge Management; the in-situ officer attended a seminar on plant variety protection and on PGR access benefit sharing. The in-situ and documentation officers attended locally organised crops seed fairs.

(v) Equipment and Facilities

Facilities
Following renovations, the NPGRC building has now 3 new offices, a drying room, bigger storage room, receiving room, a kitchen, toilets, small storage room for tools and equipment.

Equipment
The equipment at NPGRC includes 12 freezers, one seed drier, one each for precision weighing balance, aluminium bag sealer, moisture analyser, seed grinder, a desktop computer, altimeter, camping equipment, GPS, photocopier and a motor vehicle.

Facilities and Equipment Required
Boxes, pollination bags and labels, non-destructive moisture analyzer. Funds were received from SPGRC for procurement of a stand-by generator but the process was on hold until extension of the building was completed.

Technical Activities

***(i) Ex-situ* Conservation**

Over the past two years, accessions at the genebank increased by 22 and 21% in 2008/09 and 2009/2010 respectively. The total number of manually registered accessions now stands at 3030.

***(ii)* Multiplication and Characterization**

Lesotho received US$ 13,067 to undertake multiplication and characterization. Out of the 390 accessions proposed from last year, 265 were multiplied and characterized at Thaba Tseka and Machache Research Stations.

170 accessions (26 peas, 95 beans, 8 lentils, 1 sunflower, 33 wheat, 5 barley and 2 cowpeas) were multiplied and characterized at Theba-Tseka but proposed maize accessions could not be planted due to

late arrival of funds. 71 accessions of sorghum, 3 sweet reed, 21 cucurbits were planted at Machache Station.

(iii) Accessions for Sending to SPGRC Base Collection

Out of a total of 265 accessions planted during 2009/10, about half of them will be sent to SPGRC. The exact figure will only be known after completion of processing.

(iv) Field Gene Bank Maintenance

The field genebank experienced a wild fire that resulted in loss of some accessions that will need replacement. With limited recurrent budget, major activities for the field genebank including plant protection to and replacement of some of the plants could not be undertaken.

(v) *In-situ*/On farm

***In situ* conservation**
The NPGRC continued with promotion campaigns and awareness raising through public gatherings to encourage local communities to conserve their plant biodiversity through community conservation gardens. The NPGRC was approached to assist group of locals to promote tourism through conservation of local wild plants.

On-farm Conservation
Conservation activities by local crop diversity by farmers had taken off very well at two sites in Butha Buthe and Nazareth in collaboration with the World Vision Lesotho (WVL), which unfortunately, is currently challenged with staff shortage. This resulted into being unable to closely follow up, supervise and monitor farmers during the year, what resulted into farmer demoralization and dropping out the activity.

In order to boost morale, NPGRC organised one-day meetings with the farmers at both sites to discuss challenges and come up within strategies for a way forward.

Germplasm Collection
The NPGRC received funding for a rescue seed collection mission targeting areas that will be affected by Phase III of the Lesotho Highlands Water Project through construction of Polihali Dam.

This was carried out in Mokhotlong District and 476 accessions of multicrop species were collected including 154 maize, 111 sorghum, 133 beans, 50 pumpkins, 7 lentils, 9 wheat, 3 barley, 1 sweet reed, 2 oats, and 1 Basotho tobacco seed samples.
The Centre also undertook daily gap filling seed collection trips in the Southern part of the country which is drought-prone, targeting crops that have narrow diversity and form a small percentage of the existing active collections such as lentils, common peas and cowpeas. Trips were however, not very successful in terms of collecting the diversity as a result of the decrease in yield due to drought.

(vi) Germplasm collection

Rescue Collection of multicrop species in Polihali Dam construction area in Mokhotlong District
The collecting mission was undertaken in August 2010 after the summer harvest. Seeds were collected from farm stores. The idea was to visit as many villages as possible to cover good part of the reservoir area. Farmers were requested to donate the landraces they have, in the amount they can afford to donate. All cultivated crops which are grown in the area were collected during the mission. Polihali is the area in Mokhotlong district named from the river flowing through the area. This area has been marked as the area where the second phase of the Lesotho Highlands Water Scheme. Arrangements have been made to start the second phase necessitated collection in this area because most of the local material may disappear as some communities will be resettled and/or fields inundated.

From the mission, 476 samples were collected. These included maize (154), beans (133), sorghum (111), cucurbits (50), wheat (9), lentils (7), peas (5), barley (3), oats (2), sweet reed (2), and tobacco (1).

While due to the topography of the country, it was not easy to reach other village; farmers wanted to donate even sample with few seeds because they felt that if they do not they will be left out during the compensation process. At the same time most farmers do not have names for the varieties they grow.

(vii) Documentation and Information

SDIS
The SDIS is running well. The status of stored materials in the genebank was updated in Genebank Management Information System and Germplasm Collection Information System modules.

Internet Access
The NPGRC accesses Internet through the Department's Internet connection which has of late, become unreliable.

Constraints
Unavailability of funds for the Internet quarterly rental fees is currently a major challenge that has resulted into disconnection of the Department and ultimately the NPGRC.

(viii) Achievements and Constraints

- Recruitment of a Laboratory Technologist improved staffing situation;
- Inadequate budget a major setback on PGR activities;
- The cost-reduction exercise due to financial challenges faced by Ministry has resulted in reduction of research vehicles and hence NPGRC vehicle is now to be equally shared with other sections within the Department;
- Lesotho experiences harsh climatic conditions and shorter growing season which are a major threat to the multiplication and characterization activities.

(ix) Requirements

Equipment
The Centre is in need of a germinator, colour chart, Seed counter, and moisture analyzer. It is also in shortage of pollination bags, aluminium foil bags and also needs a laptop computer.

Malawi

General

(i) Staffing

During the reporting period, the Malawian NPGRC staff compliment did not change except for the recruitment of one technical officer (Mr Louis Yalaukani) done during the year.

(ii) NPGRCom

No meeting was held since last year, but one is expected to be held end of September 2010.

(iii) Training and Workshops

During the review period, the Curator, Mr Lawrent Pungulani, attended the following meetings:

- Non-monetary benefit sharing of plant genetic resources for food and agriculture, in Bogor, Indonesia, March, 2010;
- Access and benefit sharing training in South Africa, May, 2010;
- Review of Global Plan of Action of Plant Genetic Resources for Food and Agriculture, Nairobi, Kenya in June 2010;
- Priority setting on research and utilization of neglected and underutilized crop species in Eastern and Southern Africa, Nairobi, Kenya in July 2010;
- Review of regional policies on conservation and sustainable utilization of plant genetic resources, Siavonga, Zambia, August, 2010;
- Review of biodiversity activities in Malawi: Preparation of Nagoya Cop 10 meeting, Liwonde, Malawi, May 2010.

(iv) Visitors

The Centre was visited by the SPGRC Head, SPGRC Project Technical Advisor, SPO – In-situ and a group of students from Bunda College

(v) Equipment and Facilities

Building

As reported last year of the renovation works of the genebank, the NPGRC building is now fully renovated with office buildings (new look, re-roofed and repainted), fully equipped with a walk-in drier that is perfectly working. The building is now connected to the Internet and a new Internet Service Provider (Malawi Net) contracted.

Equipment

The genebank equipped with 29 deep freezers, 6 functional computers, a bag sealer, seed grinder and 2 balances, 3 digital cameras. Other equipment includes 3 printers, database server, hygropalm for monitoring humidity and temperature for the drier.

Requirements

The genebank is in need of pollination bags, support for Internet subscriptions, deep freezers, and toner for sharp printer.

Technical Activities

(i) Gap Filling

Malawi NPGRC planned to conduct multiplication of cucurbits and bambara on behalf of other NPGRCs. This activity will be implemented this year considering that money came very late. The NPGRC is requesting NPGRCs with problems in multiplying these two crops to send samples to Malawi for multiplication. Botswana, Namibia and Zambia were identified as in need.

(ii) Multiplication and Regeneration

During the year, NPGRC multiplied and regenerated 357 samples of various crop species that included bambara (5), maize (40), pearl millet (4), gourds (2), sorghum (27), sunflower (71), pumpkins (5), finger millet (60), livingstone potato (12), air yams (1), yams (13), watermelons (42), and beans (75).

(iii) Duplication to SPGRC

In the current year, Malawian NPGRC will duplicate 146 samples to SPGRC for long-term conservation.

(iv) Promotion of Fingermillets On-farm Conservation and Utilisation: Phase IV

The Centre continued to promote conservation of finger millet and other crop landraces, and expanded

on-farm conservation activities to cover Mzimba and Rumphi Districts through on-farm demonstrations, field days, diversity seed fair, and training on community seedbanks.

This year the activity covered other crops like bambara nuts, livingstone potato, yams, lima beans, cocoyams.

Formation and Training of New Clubs

In order to expand the promotion new clubs were formed where all participants gathered at one place and facilitators explained the background to the project and examples of its success in other areas. The participants were asked to mention all the crop landraces and farmer varieties known to be grown or utilized in their areas. Thereafter, six groups were formed to separately conduct a four square analysis on all the varieties in order to determine those at higher risk of genetic erosion. On the same venue, principles of on farm conservation were taught.

On-Farm Demonstrations and Field days

Thirteen demonstration plots were managed during the season. Out of these, seven were newly formed clubs.

Three field days were conducted during the month of May, 2010 in Manyamula, Mbawa, Mzimba and Rumphi RDPs, and also in Katowo EPA. Farmers, local leaders and extension personnel participated and proved very successful for imparting knowledge on the farmers about conservation.

(v) Diversity Fairs

This season, three seed diversity fairs were held at Katowo in Rumphi Bulala and Mbawa RDPs, where; unlike in the previous seed fairs, this time around a number of crop landraces, besides finger millet varieties and their processed products were on display.

Local leaders were particularly impressed by the interest the Government, through NPGRC, was showing on promoting on farm conservation and utilization of crop landraces.

(vi) Water Melon (*Citrullus lanatus*) Recollection

With the objective to ensure conservation of water melon germplasm for use in future crop improvement programmes, household food security and income generation, water melon germplasm samples were collected from all the different ecological zones of Malawi and, more importantly, major production areas of Shire Valley, Balaka, Mangochi, Salima, Rumphi and Karonga.

During the collection mission, forty five (45) samples were collected. Of these, 24 samples were collected from the Southern, 8 from the Central and 13 from the Northern regions of Malawi. It was sadly observed that water melons were being grown by fewer farmers than previously reported and that hybrids were grown on larger scale than landraces.

In some areas like Nkhotakota, Salima and Zomba water melons are grown in the dry season under irrigation hence the need to collect in these areas during September and October.

In other areas people chew the seed and claim that they improve body immunity as is being practiced in Kenya and Uganda.

(vii) Safeguarding Cowpeas, Fingermillet and Pearl Millet Genepool in Climate Change-Prone Areas of Malawi

This project aimed at collecting crop wild relatives of cowpeas, finger millet and pearl millet in Malawi and eventually conserving them for future use. It also aimed at publicizing information on distribution and threats of crop wild relatives of target species.

The project intends to safeguard 18 targeted species of crop wild relatives of cowpeas, pearl millet and finger millet that include *Vigna comosa V. fischeri V. frutescens V. gazensis V. heterophylla, V. luteola, V. pygmaea, V. vexillata, V. unguiculata, Eleusine africana, E. indica, Pennisetum clandistinu, P. longistylum, P. macrourun, P. polystachion, P. polystachion atrichum, P. polystachion polystachion, P. purpureum* and *P. sagittatum.*

The already implemented activities of the project include literature search, visits to herbarium, and online resources such as Flora Zambesiaca, IPNI, *etc*. The NPGRC has conducted a national wide collection mission based on the eco-geographic survey results under which 33 samples belonging to 16 species were collected.

It is observed that since some of the herbarium specimens were collected as far back as 1950s, their habitats had been destroyed due to various factors including infrastructure development, agriculture, flooding or drying in some areas. However, the most destructive factor to crop wild species habitat has been human activity and overgrazing. It is therefore being recommended that crop wild relatives unlike their cultivated cousins flower and produce mature seeds at different times throughout the year and therefore in order to make a complete coverage, collection need to be continued up to June 2011 as it started in July 2010.

It may be concluded that there is need to intensify collection of crop wild relatives in Malawi as their natural habitat is fast disappearing due to several factors, including human activity resulting from population pressure as well as factors influenced by climate change.

(viii) Conservation and Sustainable Utilization of African Potato – The Miracle Traditional Herb

The main objective of the project was to ensure safe and long-term conservation (both *in-situ* and *ex-situ*) of the African potato (*Hypoxis goetzei*) for present and future use.

Specifically, it aims at exploring and identifying the African potato and their relatives in all known and potential areas, determining levels and extent of threat to existing plant populations, collecting samples for *ex-situ* conservation and establishing the field genebanks for African potato and their relatives.

During the reporting period, the programme was carried out by personnel from the NPGRC, a plant taxonomist from Forestry Research Institute (FRIM) and a local expert from the District Forestry Office.

Exploration

During the active vegetative growth of the African potato, when the aerial part is visible and easily identified, exploration missions were carried out in all known and potential areas to ascertain the availability of the plant and determine the extent and its levels of genetic threat. During exploration, geographical coordinates for sites where African potato is found were collected. The exploration was preceded by visit to National Herbarium and also literature search. Flora Zambesiaca was used to identify the available species.

Collection

When the plant species are physiologically mature collection missions will be conducted. Collection will aim at capturing all the morphological variation in the plant species. The collection mission has not been initiated since most of species will be physiologically mature in September/October.

Flora Zambesiaca and National Herbarium records indicate that in Malawi there are 9 species of African potato that include *Hypoxis angustifolia* Lam., *Hypoxis bampsiana* Wiland*, Hypoxis filiformis* Baker*, Hypoxis goetzei* Harms*, Hypoxis nyasica* Baker*, Hypoxis parvifolia* Baker*, Hypoxis polystachya* Welw. *ex* Baker*, Hypoxis* sp. A*, and Hypoxis subspicata* Pax.

Utilization of Hypoxis

Local communities in Malawi use the species for medicinal purposes. It heals a lot of diseases and also it is used to strengthen manhood. Mostly used species is *Hypoxis goetzei* but still in areas where the species does not occur, other species are also used. The tubers are ground into powder and mixed with porridge or the tuber is soaked in water and the concoction is taken as a drink by patients.

Threats to Survival of the Species

- Hypoxis is highly threatened by several factors including the following:
- Over-harvesting from the wild by communities due to high demand of the species
- Drying up of wetlands where these mostly grow
- Clearing of bushes due to development projects as well as expansion of farmlands
- Changing of environmental conditions due to climate change.

Way Forward

As proposed last year establishment of field genebank will facilitate future availability of the important species in the country.

(ix) Yams (*Dioscorea* spp.) Germplasm Collection

During Field Days and Agricultural shows that yams, generated a lot of interest from the farming fraternity and resulted in demand for planting materials. At the 2010 Chitedze Annual Field Day, the Guest of Honour showed particular interest on the yams displayed by the gene Bank and wished if the planting material could be made available to farmers.

As a follow up to this request, the Director of Agricultural Research Services provided logistics to the genebank to have the yam germplasm collected.

The main objective of the mission was to collect yam germplasm for conservation at the genebank and distribution to selected groups of farmers as seed starter packs. A country wide collection mission was conducted to collect yams for distribution to farmers.

As a result of the collection, 37 samples of yams (*Dioscorea* spp.) germplasm were collected throughout the country.

Mauritius

The Mauritius delegates did not attend the meeting and their report not made available to SPGRC.

Mozambique

The Mozambican delegates did not attend the meeting and their report not made available to SPGRC.

Namibia

General

(i) Staffing

The staffing status at NPGRC had a slight change with the recruitment of an Agricultural Research

Technician (Ms Kahimbi Sikute) who joined the Centre during the year. She is mainly responsible for documentation and overseeing processing of germplasm as well as management of multiplication and characterization trials.

(ii) National Plant Genetic Resources Committee (NPGRCom)

No NPGR Committee meetings were held during the reporting period and there is still sufficient funds left to facilitate the next NPGRCom meeting.

(iii) Training, Workshops and Meetings

- Dr. Maggs-Kölling, the SPGRC board member and chair of the NPGRCom chaired the SPGRC Board meeting in September 2009.

- Mr. Steve Carr, who is a member of the NPGRCom and the head of the Plant Product Development section at the NBRI, was nominated to be the Focal Point of the ITPGRFA and he will attend the regular sessions of the Governing Body in future.

- R. Moses and S. Sikute attended a training course on the BRAHMS (Botanical Research and Herbarium Management System) software in August 2010.

- S. Loots attended a workshop on *Welwitshcia mirabilis* in January 2010.

(iv) Equipment, Supplies and Facilities

Building

The NPGRC occupies the building next to the NBRI. It is in good condition. A strong extraction fan was installed in the threshing room this year to facilitate outflow of dust, pollen, spores and plant debris.

Vehicles

The NPGRC is currently in possession of two 4x4 vehicles. The Toyota Hilux is a 1996 model and the Nissan is a 2006 model. Both are in excellent working condition and are regularly used for field work.

Freezers

There are currently a total of 48 upright freezers in the NPGRC of which seventeen are filled. Currently the storage capacity of the NPGRC in terms of freezers is sufficient. The oldest Bosch freezers are giving trouble with regards to maintaining a temperature of -20 °C. We are investigating the possibility of having digital controls installed.

Computers

The NPGRC currently has three computers and one printer in working order. They are linked to a network that is maintained by a consultant. There are currently challenges with regards access to e-mail and the internet but they are being sorted out. The NPGRC is currently featuring its own web page in the website of the National Botanical Research Institute at the following address: www.nbri.org.na. The website has links to the SPGRC website as well as that of the ITPGRFA. The server that we received from SPGRC was installed recently to serve the whole NBRI network.

Dehumidifiers

The NPGRC currently has two dehumidifiers. The new drier is not functioning properly. One of the digital controls has ceased and we are having trouble to adjust the temperature and Relative Humidity. We are currently investigating obtaining a new digital control. The refrigeration function of the Termaks drying cabinet was fixed and it is being used for drying with the aid of silica gel.

Equipment

The NPGRC currently has two sealers, two grinders, two growth chambers (germination cabinets), 4 electronic scales, two moisture content analysers, an autoclave and a laminar flow cabinet, which was

tested and the filters replaced so that it too is in working condition.

(v) Requirements

The Namibian NPGRC has the following requirements:

- A new digital temperature control for the Termo Kyl drier and instructions on how to set the temperature and RH; and
- Small and large laminated foil bags

(vi) Constraints

The distance of 900 km between the NPGRC and the research station where multiplication trials are normally carried out, is the single most important constraint to conducting activities efficiently. Other stations that are closer to the NPGRC either do not have expertise in crop trials or the climate and/or soil is not suitable. Other possibilities for multiplication and characterisation of especially *Citrullus* accessions were investigated this year.

(vii) Awareness seminars

Ms. Moses attended the annual Ongwediva Trade Fair on behalf of the NPGRC, held in September 2010 in the north-central region, which is the subsistence farming area. The Ongwediva Trade Fair attracts many communal farmers and Ms. Moses used the opportunity to sensitize farmers to the on-farm research project. The ministry sponsored the production and printing of a brochure and posters to introduce/advertise the NBRI activities during the fair.

In February 2010, a delegation of environmental ministers from some 50 African states visited Namibia on an "Access and benefit-sharing tour". The purpose of the tour was to discuss access and benefit-sharing legislation for genetic resources in Africa. The NBRI, and more specifically the NPGRC, was one of the two institutions in Namibia that were visited by this group.

Technical Progress Reports

(i) *Ex situ* Conservation

Conservation

Some 116 new accessions of wild endemic, threatened and useful species have been added to the collection by the Millennium Seed Bank Project. The number of accessions in the collection has increased from 3674 to 3790. And the number of batches has increased to 4014.

For the first time in the history of the Namibian NPGRC, the number of accessions for wild species (1903) has overtaken the number of crop (1887) accessions. The accessions of wild species are represented by approximately 1000 species and will not be multiplied or characterised in the foreseeable future.

(ii) Germplasm Regeneration and Multiplication

All pearl millet accessions have been multiplied at least once, but several hundreds still need to be characterised.

Of the total of 1887 crop accessions, 1793 (95%) have been multiplied and 844 (44.7%) have been characterised to date. Theoretically only the 65 remaining cucurbits still have to be multiplied (3.4%) as well as those accessions that could not be multiplied successfully. It should be noted, however, that for a number of accessions, multiplication has not been successful and there are no longer any seed left. Most of the pearl millet accessions that could not be successfully multiplied are those accessions that were repatriated to the NPGRC by South Africa, where they were stored under conditions that were not

optimal.

As approximately half of the crop accessions remain to be characterised, the NPGRC would appreciate any support in this regard, especially with accessions of pearl millet.

(iii) Characterization

120 accessions of pearl millet were characterized in the off season of 2009 and main season of 2010. The seed characterisation and processing of the accessions are taking place at the moment. The proposed and actual budgets for this activity follow.

The NPGRC received US$ 4933 in April 2010. SPGRC was requested to cover the casual labour and consumables, which amounted to US$ 2100. The NPGRC therefore has US$ 2833 left under this activity and no additional fund is required.

(iv) Utilisation of Plant Genetic Resources

Dispatch of germplasm samples from the Namibian NPGRC is dependent on the signing of a comprehensive Material Transfer Agreement. Namibia has draft legislation on access and benefit sharing. The draft bill on Access to Genetic Resources and Associated Traditional Knowledge was initiated in the 1990s and considers mainly indigenous species. An Interim Bio-prospecting Committee (IBPC) was established and considers applications for access to genetic resources that are to be used for commercial purposes.

(v)* On-farm/*In-situ

In situ
In the year under review, the NPGRC completed the following tasks:

- Monitoring of *Lithops ruschiorum* monitoring squares at the Rössing Uranium Mine;
- Tagging of 100 specimens of *Adenia pechuelii* at the Rössing Uranium Mine, for future long-term monitoring. Preliminary results seem to indicate fluctuations in the numbers of plants over consecutive years;
- Updating the national Red List by assigning a conservation status to some 60 additional taxa, bringing the number of threatened species to 32 (table 9) and the total number of taxa on the Red List to 1456;
- Conducting field assessments for the first time on *Lithops karasmontana*, *L. fulviceps*, and *L. vallis-mariae* and establishing monitoring squares for a number of populations in the Karas region to enable long-term monitoring;
- Conducting assessments on *Commiphora oblanceolata*, which is believed to be affected by future uranium mining;
- Conducting field assessments on *Neoluederitzia sericeocarpa*, an endemic in the Zygophyllaceae family which will be threatened by the building of a new dam in the Fish River in the near future. It was assigned an updated status of Critically Endangered; and
- Conducting field assessments on a new species of Gladiolus, which was firsts discovered by scoping environmentalists in the Fish River and which will, by all indications, also be inundated by the building of the new dam in that area. A conservation status is still to be assigned.

On-farm

Documentation of farmer's crop conservation practices in Namibia through a participatory methodology

On-farm conservation is a mandate of the SPGRC network and was emphasised as a priority by the network. Until now, the NPGRC had no capacity to do work on on-farm conservation and the situation

has deteriorated again with the resignation of the technician. However, Ms. Moses has taken on a small scale project on on-farm conservation to start the process and to familiarise the NPGRC with the situation with on-farm conservation and traditional farming practices in Namibia. The fact that the NPGRC has a new technician will aid in this endeavour.

The NPGRC has the support of the NPGRCom, who has offered some advice in this regard. Although the NPGRC has no experience in doing on-farm work, we will be able to draw on research that was already conducted in the region through the network.

During the year under review, the NPGRC improved the proposal in coordination with SPGRC's *in situ* officer, for a small project in the Oshana region. Staff time was spent on improving and translating the questionnaire. This was done with the assistance from the Vegetation Ecology section of the NBRI.

The Governor of the Oshana region was contacted in order to inform him of the project and to get permission for the project to be conducted. This unfortunately took such a long time that field work had to be postponed until the middle of September 2010. A flyer and a poster were designed in order to introduce the project to farmers at the annual Ongwediva Trade Fair of 2010.

(vi) Germplasm Collection

The NPGRC did not plan any collecting missions, and therefore did not carry out any collecting missions. The NPGRC is currently understaffed and is therefore not planning any collecting missions for 2009 / 2010. The current phase of the Millennium Seed Bank Project will come to an end in December 2009.

(vii) Documentation and Information

SDIS

The country profile has been updated and the manual register contains 3633 accessions. The number of accessions in the registration module in SDIS also stands at 3633. The active collection module also contains 3633 accessions. Characterisation data from 60 accessions multiplied and characterised in the off season of 2008 were entered, exported to an Excel file and is now being processed.

Challenges: The Germplasm collection information system is still behind, but 250 accessions were added so that the module now stands at 3,352. Most characterisation data still need to be re-entered into the SDIS characterisation module.

Internet Access

Access to the internet is reliable at the moment. Internet access in the new facilities is provided through wireless technology. There are some problems at the moment, but these will be sorted out in time.

Seychelles

General

(i) Country Background

Seychelles is an archipelago occupying the Western part of the Indian Ocean between 4^0 and 10^0 south of the Equator, not less than 1.3 million km^2.

The total land area is $455km^2$ (45, 500ha) that is distributed in 115 islands (40 granitic and the rest coralline).

The climate is humid tropical with an annual mean temperature of about 27^0C, relative humidity of about 80% throughout the year and has an average annual rainfall 2,350 mm. Seychelles has a population of approximately 87,000 people.

(ii) Staffing

There is only one staff at present and one recruitment for 2011 has been approved. The NPGRC is mostly engaging NGOs and other individual to handle most of the ground work.

This way we can help to make the conservation not a matter of the government and the Seychelles Agricultural Agency but everybody's business.

(iii) List of NGOs and Other Individuals

A number of NGOs are involved in the conservation work in Seychelles and these include Plant Conservation Action Group, Nature Seychelles, and Sustainability for Seychelles.

There are also individuals committed to contribute to NPGRC Seychelles. A few prominent ones are listed below:

- Mrs. Helda Antoine (Seychelles only MSC Graduate in PGR Management/Biotechnology from Birmingham University)
- Mr. Jose Lalanne (Ex-Director for Plant Genetic Resource Development Section of the Department of Natural Resource)
- Mr. Lewis Julie (Ex-Curator for SPGRC in Seychelles)
- Mr. Denis Matatiken (Chief Executive officer for Seychelles National Parc Authority)
- Mrs. Veronique Herminie (Ex-Principal Secretary for the Department of Natural Resources)

(iv) The National Plant Genetic Resources Centre

The NPGRC Seychelles is still in its very early stage at the moment being just an office being maintained by the Curator. Work to secure a new place is ongoing.

The building is surrounded with more than 2.5 hectares of land out of which 1 hectare have been requested for the field gene bank. The Government has also allocated Rs. 200,000 for the refurbishment of the genebank building. Another Rs. 500,000 more is likely to be secured from the Government. Should this come into reality, the amount that will be routed to the building

will be in total of Rs700, 000 an equivalent of US$ 5,4687.50

(v) National Plant Genetic Resources Committee (NPGRCom)

Formulation of the committee is yet to be finalized but it has in principle been agreed that the committee will comprise of 7 members as follows:

- Chairperson (SPGRC Board member)
- Vice Chairperson (Curator)
- Secretary (SAA)
- PCA (Plant conservation action group)
- SFS (Sustainability for Seychelles)
- Nature Seychelles
- Mr. Jose Lausteau Lalanne

Seychelles is planning to initiate the work of the committee before December 2010 in order to decide on long-term strategic plan for the NPGRC, based on which most of the NPGRC activities will be governed. Second, most important work of the committee will be to work on a proposal for a policy that will ensure the protection of Agro-Biodiversity which is in line with what SPGRC is intending to do for the SADC region.

(vi) Training Workshops, Meetings

The workshop took place at the Grand Anse Research meeting room. It was an in-house training on the usage of the SDIS run by SPGRC Documentation staff and it was important to the establishment of the local NPGRC.

We manage to have participant from the extension services, research and development, IT Unit, and the Soil Laboratory. The Workshop was launched by Mr. Moustache (CEO SAA) and lasted for four days where participant could get an extensive insight about the different modules of the SDIS in both theory and practical session.

(vii) Meetings, Official Visits

The NPGRC had the pleasure to be visited by the SPGRC Director who besides visiting the SAA Office at Grand Anse, Anse Boileau Research station, including the root crop unit and the tropical fruit nursery. He also visited the area proposed for the new NPGRC office (The ex-nursery building at Grand Anse), Biodiversity Centre at Barbaron, Botanical Garden office and the garden itself.

The Director also visited and consulted with the Nature Seychelles and the Heritage garden, other government offices through SAA and DOE, NGO's including Nature Seychelles, PCA (Plant Conservation Action group), and SIF Botanical Garden foundation.

Among other things, the Director discussed: setting up of NPGRCom, training of staff member in PGR management at MSc level, training of staff member in PGR documentation and database manage. He also discussed on retracing information on inventory carried out by ex-officers responsible on PGR in Seychelles. Together with the SAA Director, the SPGRC Director discussed establishment of a network/ NGO and all parties interested in conservation of PGRFA.

Technical Activities

Achievements from 2009/2010 Programme

- Initiated discussion on the creation of a Unit to deal with the conservation of PGR under the Seychelles Agricultural Agency. ***National Agricultural Crop Conservation Unit (NACCU).***

- Seek training under SPGRC and other donors to equip NPGRC staff with adequate knowledge in the field of PGR conservation and decision making.

- The Seychelles Agricultural Agency is at the moment financing infrastructural setup to accommodate the NPGRC. The total cost of the project is estimated to Rs. 1.5 million and equivalent of US$ 117187.50

- Support local initiative in the development of an action plan on agro-biodiversity conservation.

- Main the tropical fruit nursery and the root crop unit through government budget to supply local demand.

- The SAA continue in its effort to promote the "Every home a garden campaign" in which we are encouraging members of the public to conserve traditional food crop in their home garden.

- On-farm conservation have now because passion amongst few farmers following SPGRC visit to the Seychelles. This is expected to be a key method for the NPGRC Seychelles to conserve PGRFA.

South Africa

General

(i) Staffing

The staff compliment at NPGRC include a newly appointed Curator, Mr Thabo Tjikana and three (3) professional officers, supported by three (3) technical officers. In addition to the above, there is also one Technician, and the NPGRC receives Department of Agriculture, Forestry and Fisheries (DAFF) interns.

(ii) **National Plant Genetic Resources Committee (NPGRCom)**

Report shows that the NPGRCom is due for re-appointment.

(iii) Training, Workshops and Meetings

The following course was attended during the year 2009/2010:

- Masters in Sustainable Agriculture and Rural Development

(iv) Equipment, Supplies and Facilities

The National Plant Genetic Resources Centre on the Roodeplaat Farm consists of the following facilities: tissue culture laboratory, moisture determination and purity laboratories, walk-in drier room and cold room for seed storage. Furthermore, the genebank has a glasshouse, 2 shade houses, base and active seed storage rooms and 5 Offices

In terms of equipment, the NPGRC is in possession of 12 chest and 5 upright freezers, 12 low temperature incubator labcons and a drying oven. It also has an infrared moisture balance, precision weighing balance, stereo and light microscopes, waterbath, and lamina flow cabinet

Additionally, the genebank has the following at its disposal: Autoclave machine, Peristaltic pump dispenser, orbital shaker, cryo 100 unit, Liquid Nitrogen supply tank, Bicycles, Electronic/temperature RH meter, pH meter, compass and aluminium bag sealer.

It also has a GPS, 4X4 D-Cab bakkie, 3 notebook computers, 7 desktop computers, camera, camping equipment, 5 printers and seed cleaning machine.

(v) Constraints

- Insufficient seed from multiplications at Roodeplaat
- Caring fields utilized by NPGRC
- Lack of awareness seminars

Technical Report

(i) *Ex-situ* Conservation

Conservation

There were no new accessions entered on SDIS for the period under review due re-arrangement of the base collection; exercise completed on all 12 chest freezers. Updated electronic version will be completed as soon as possible.

The NPGRC received samples from MSB project, and its manual registration is ongoing.

Regeneration and Multiplication

Proposed number of accessions per crop species for 2009/2010 were 200 *Zea mays* (awaiting seed processing, ARC), 100 accessions each for *Phaseolus vulgaris* (poor harvest, ARC), *Arachis hypogaea* (poor harvest, ARC) and *Vigna unguiculata* (awaiting seed processing, Roodeplaat). The NPGRC also planned to multiply 40 accessions each for *Sorghum bicolor* (poor harvest, Roodeplaat) and *Pennisetum glaucum* (poor harvest, Roodeplaat). 18 Curcubits (awaiting seed processing, Roodeplaat) were also planned for multiplication.

All accessions of which poor harvest was obtained will be re-planted during the next 2010/2011 season and these include: 100 accessions each for *Phaseolus vulgaris* and *Arachis hypogeae*. 50 accessions each for *Vigna subterranean*, *Sorghum bicolour*, and *Pennisetum glaucum* will also

be re-planted.

Characterisation

- 200 accessions of maize were planted at ARC for characterization purposes. Characterization completed on vegetative and inflorescence characters;

- Cob and seed characterization is on-going at the moment, followed by seed processing;

- 100 accessions of cowpea were planted at Roodeplaat field for characterization purposes in collaboration with ARC (GCDT Project). Only flower and fruiting characters were scored by NPGRC personnel, data analysis will be done by ARC personnel.

Field Genebanks

Currently having a living collections of sweet potato (51); cassava (8); taro (11) growing in glass- and shade houses and strawberry (79) accessions at ARC. Re-establishment of the prickly pear field genebank at Roodeplaat field was done during the year.

(i) Utilisation of PGR

- NPGRC has distributed the following crop species for various research purposes:
- ARC- Grain Crop Institute: *Hibiscus trionum (200 seeds), Hibiscus cannabinus (200 seeds), Solanum nigrum (200 seeds).*
- CSIR- Plant Biotechnology Unit: *Sorghum bicolor (9 accessions)*

(ii) *In-situ* Conservation

The on farm conservation activities started in 2007 in Eastern Cape and Limpopo Province. This was stepped up in 2008/2009/2010, with the pursued efforts toward the establishing community seed banks in Matshiding (Mpumalanga). The concept was introduced to farmers, accompanied by a scoping session with farmers. However, all efforts were put on hold due to an extension recovery programme.

As for Sterkspruit (Eastern Cape), concept of on-farm conservation was introduced to Provincial Senior management whilst engaging farmers to determine the scope of the project. An awareness campaign to revive farming of indigenous crops in Thulamela/Mutale municipalities of Limpopo was also done, engaging Provincial Department Officials in introductory meetings.

Awareness Day

A Community Seed Bank Awareness Day was held at the Bensonville Community Hall in Sterkspruit.

The event was attended by 54 people (12 Officials and 42 farmers). During the planning stages of the event, it was overlooked that the date scheduled for the awareness day would clash with the community's pension collection date which resulted in the reduced numbers (89 to 42) of farmers attending the event.

The outstanding commitment in this community is the actual construction of a seed bank.

Options are that of constructing a temporary structure, use of Department of Public works, or utilisation of Provincial government buildings.

Farmers' Concerns and Constraints

The Seed Bank Concept is still relatively new to farmers and that they would like to learn more about it. Farmers are doubtful about support receivable from extension officers, training - in terms of the proper process of preparing seeds for storage, transport for farmers to the community seed bank, *etc*.

On-Farm Multiplication

Individual farmers and organised small-scale farmer organisation were given seed for planting. In Mapheke (organisation), cows were allowed to graze in the same enclosed field as the multiplied accession and unfortunately, all planted cowpea were eaten.

In KwaNgwanase, farmers were not allowed to plant in the organisation fields. A side was identified where planting was carried out. Of the 35 planted cowpea accessions, 9 produced no harvest. 25 Bambara accessions were planted and 2 produced no harvest.

Masibuyele Emasimini Mechanisation Scheme

This project will afford rural farmers a realistic chance to improve production, increase yields and gain access to domestic and global markets. It will also seek to ensure that rural communities become self-sustaining by producing their own foods. The project will also ensure the utilisation of fallow land and will seek to resuscitate collapsed land reform projects.

(iii) Germplasm Collection

A total of 35 samples were collected from 15 Farmers in 4 villages. These samples belong to 11 different species. The following samples per species were collected; Bambara (3), Cowpea (5), Watermelon (5), Melon (4), Maize (1), Mungbean (1), Peanut (1), Grain sorghum (8), Sweet sorghum (1), Pearl millet (5) and Lagenaria (1).

Swaziland

General

(i) Staffing

The NPGRC has all along manned by one Research Officer (stand-in Curator) who was joined by Laboratory Assistant less than a year ago. Despite that challenge however, the request for the creation of NPGRC posts is still being pursued and is now awaiting approval or disapproval from the Government Public Budgeting Committee.

(ii) National Plant Genetic Resources Committee (NPGRCom)

During the year under review, Swaziland Environmental Authority (SEA) confirmed Ms Cal'sile

Mhlanga as the replacement for Ms Lungile Gumbi. The Swaziland National Trust Commission (SNTC) on the other hand appointed Mr. Sandile Gumedze to participate in the committee's activities.

One NPGRCom meeting was held in January 2010 despite that there was a series of meetings that were to be held to pave way for the proposed awareness workshop on the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA).

(iii) Training, Workshops and Meetings

The curator attended the 12th Session of the Genetic Resources for Food and Agriculture held at FAO Rome, Italy on 17th to 23rd October 2009. However the short course on management of plant genetic resources never materialized.

(iv) Equipment, Supplies and Facilities

The NPGRC possess a running but ageing vehicle, together with operational 11 upright, 2 chest freezers, freeze drier, moisture analyzer, and grinder. The genebank has two desktop computers, sealer and digital camera that are in good condition. It also has a label printer, printer/fax/scanner and is connected to Internet.

The Centre is needful of a GPS, non-destructive moisture meter, a colour chart, seed blower and counter, refractometer, and 1,000 cartons. It is requesting for at least 6 upright freezers, a drying shed and a cold room.

(v) Constraints

Shortage of staff is a major limiting factor. Although Swaziland participated in the regeneration project funded by the Trust most of the harvested accessions have been attacked and infested with storage insect pests. This is due to shortage of adequate cold storage space. Unfortunately, the Trust who initially promised to provide refrigerators have not positively kept to their promise of assisting with equipment and facilities to assist in the handling of the large volumes of regenerated accessions which was not anticipated.

Renovation of the NPGRC building is still outstanding as it has always been pointed out in the past but quotations on the cost of material for renovating the NPGRC as well as the installation of the standby generator have been forwarded to NordGen on several occasions as per the request of SPGRC Technical Advisor. The installation of the electric standby generator is also still pending, awaiting authorisation procedures by the donor.

Technical Activities

(i) *Ex-Situ* Conservation

Conservation

There was no germplasm acquired during the year under review as all efforts were directed towards regeneration and multiplication. As such the NPGRC's accession holding in the active collection remained at 988 accessions. 788 accessions are seeds whilst the remainder is

vegetatively propagated material.

Regeneration and Multiplication

The NPGRC embarked on regeneration of four (4) of the country's major crops, which include maize, sorghum, beans and cowpea which are some of the crops that also listed among high priority crops in Annex 1 of the Treaty

Out of 131 maize accessions harvested, 49 produced an ample amount of seed between 3500 to 24300 seeds; whereas, 47 accessions on the other hand produced below 3500 but still above the 2000 seeds that was to be targeted according to the Trust standards. 35 accessions produced seeds below the Trust target.

As for the beans, 15 of the harvested 40 bean accessions produced an ample amount of seed (above 3500 seeds) that met all duplication sites seed requirements. Eight accessions on the other hand produced below 3500 but still above the 2000 seeds that was to be targeted according to Trust standards whilst 15 accessions produced seeds below the GCT (2000 seeds) target. Forty five (45) cowpea accessions were successfully harvested and shelled, they are yet to be properly cleaned or sorted in order to remove damaged seeds. Sixty seven (67) sorghum accessions that were harvested in May 2010 are yet to be processed.

Characterisation of Regenerated Accessions

Whilst vegetative characterization has accomplished in all the four crop accessions, further seed characterization is still ongoing alongside with data capturing. Due to simultaneous ongoing processing of most of the regenerated as well as multiplied cucurbits accessions, the seed characterization on selected samples had been suspended. This important activity will resume as soon as all accession have been processed and safety packaged and stored.

Multiplication and duplication of cucurbits, jugobean and groundnuts accessions

Following the NPGRC's unsuccessful multiplication of bambara, cucurbits and groundnuts among other crop accessions in 2008/09, SPGRC was requested to assist in the multiplication of cucurbits whilst the NPGRC was to focus on regeneration of the 4 crop accessions under Trust. NPGRC found it proper to multiply the cucurbits, jugobean as well as groundnuts accessions which due drought stress could not yield quantities that meet duplication requirements in the previous season.

Even though the cucurbits, jugobean and groundnuts crop accessions were harvested, only groundnuts and Citrullus have been partially processed. The rest are yet to be processed. Also, whilst 13 Lagenaria and 8 Citrullus of the 25 harvested Cucurbits crop accessions produced ample fruit quantities, the number of accessions which meet the 2000 seed requirement for SPGRC duplication is yet to be determined as sorting of groundnuts accession is ongoing.

(ii) Field Genebank Maintenance at Malkerns

Maintenance of conserved vegetatively propagated germplasm mainly of sweet potato, cassava, Livingstone and Zulu potato in the Malkerns Research Station field genebank continued even during the 2009/10 season. Sweet potato accessions were transferred to a new site in order to minimize loss of material due to increase in disease populations. Monitoring of wild germplasm at the Lowveld Experiment Station field genebank on the other hand was not always possible

due to other to other important assignments. There were no changes in conserved germplasm of in the field genebanks.

(iii) Maintenance of Germplasm

The NPGRC will continue maintaining the local germplasm of sweet potato, cassava, and Taro by applying general crop husbandry practises and thereby ensuring their survival and continuation. Sweet potato in particular will be replanted so as to avoid loss of older material as a result of cold and also ensure that clean and highly viable germplasm is available. This is more so because the Root and Tuber crops Agronomy Section lost most of its sweet potato material.

(iv) Utilisation of Plant Genetic Resources

The NPGRC distributed 25 maize accessions to University for research work and one cowpea accession for utilization by a community. It also distributed 3 taro and 7 sweet potato accessions to the Department's Root Crop Section for research purposes.

(v) *In-situ*/On-Farm

Last season, the NPGRC proposed to collaborate with COSPE, to expand on farm conservation in the Lubombo region by promoting the conservation and sustainable use of local crop diversity to both the Shewula and Mafucula communities. A seed fair was proposed for both communities in order to promote the continued conservation and sustainable use of traditional crop diversity on-farm.

Hence at the beginning of the 200/10 season, seed of cowpea, mungbean and sorghum was distributed to vulnerable families at Mafucula and Tsambokhulu in the Lubombo region. However, due to drought stress, the target farmers group could not plant in time. As a result, farmers' crops were affected and as such the Seed Fair could not materialize. Thus the funds to a total of US$6,000 were not utilized. Hence, after some discussions with SPGRC Senior Programmes Officer – In situ/ On-farm conservation, it was proposed that this activity be postponed to the 2010/11 cropping season, and last year's budget (US$6,000) will be used to continue with promoting on-farm conservation this year.

(vi) Documentation and Information

Currently documentation is still on hold. The NPGRC hopes to receive the long awaited user Excel based SPGRC documentation system. In the mean time documentation in simple Microsoft Excel will be resumed this coming season especially to ensure the all characterization data for the regenerated crop accessions is fully documented.

Internet Access

The NPGRC's Internet is still working even though network congestion sometimes makes it difficult or even sometimes impossible to access Internet. The only challenge pertains is subscriptions which according to the ISP, is the non-payment of Internet service by government since its installation in April 2009.

Tanzania

General

(i) Staffing

The list of staff remained the same as in previous year except for the change brought about by arrival of Mr S Kabululu and one field officer, Mr Z. Bundala. A tragic loss of one senior staff, Dr W. Ntundu has left a big gap.

(ii) Meetings, Seminars, Workshops

- Mr B. Akonaay attended the 12th Session of the Commission on GRFA held at FAO, Rome, October 2009;
- Dr W. Ntundu travelled to Denmark for seminar/presentation in capacity of external supervisor of Mr J. Sariah – a PhD student;
- Dr M. Mollel went to Bamako, Mali to attend a workshop where she presented a paper "Collection and morphological characterization of water melon cultivars in Tanzania"
- **Training and Education**
- Mrs A. Makundi returned after successful completion of MSc studies in New Zealand;
- Mr W. Hamisy went to University of Cape Town for a PhD course work between January and June 2010;
- Mr E. Mausa and Mr. S. Shedrack are in China on a short course on biotechnology since June 2010.

(iii) NPGRCom Meetings

No meetings were held during the period under review

Technical Activities

(i) Germplasm Collection

During this period, one pending germplasm exploration and collection from the 2008/09 budget and the eco-geographical survey from the 2009/10 budget, have been conducted, i.e. the period between September 2009 – September 2010, they include the collection mission in Rufiji (Pwani) and Mvomero (Morogoro) districts, (where a total of 53 seed accessions were collected) and the Eco-geographical survey in Zanzibar respectively. Therefore a pending mission and budget for the 2009/10 is scheduled this September 2010 covering Unguja – Zanzibar. Logistics, communication and collaboration are in place for implementation.

Four tree seed collection missions were carried out in Tabora, Rukwa, Kigoma, Lindi, Coast, Kilimanjaro and Tanga regions through funding from MSBP. A total of 115 seed samples were collected and brought for conservation at NPGRC and at the Royal Botanical Gardens, Kew.

(ii) Field Study on Evaluation of Cowpeas for Pest Resistance

Field studies for the project on the evaluation of 200 cowpea accessions for resistance to insect pests was completed at Miwaleni and Madiira with the help of a PhD student. Preliminary results show that out of the 200 accessions, some appear to be promising with respect to insect pest resistance.

(iii) Trust-Funded Regeneration

124 cowpea, 123 sorghum, 50 maize, 60 finger millet, and 120 pigeon pea accessions were sown for regeneration at Miwaleni and Madiira farms using funds provided by the Trust

(iv) Other Externally-Funded Projects

- Studies on impact of Bt cotton on wild biodiversity in East African region were in progress at Thika in Kenya and at Miwaleni and Magugu in Tanzania.

- A collaborative trial on the potential of bambara nuts genetic resources between Tanzania and Burkina Faso was established and harvested successfully at Hombolo, Dodoma.

- The studies on geneflow from cultivated rice to its AA genome wild relatives were continued at Dakawa and Ruvu farms

- Studies on the potential of indigenous African genetic resources of water melon were continued at Miwaleni Farm.

- Germplasm exploration and collection of wild crop relatives was initiated in the Northern and Lake Zones under the Trust funding.

(v) On-Farm Conservation

This aims at strengthening on-farm conservation and use of crop diversity for improved food security and adaptation to climate changes in Tanzania.

The project will contribute to the overall improvement of food security, nutrition quality especially in HIV/AIDS and livelihood of the communities in Tanzania through on farm conservation and sustainable utilization of crop diversities.

Implemented activities include baseline data acquisition through survey under which among other things, indigenous knowledge on the on farm conservation of the selected crop species was documented. Seeds and vegetative materials (tubers) collection were carried out and their passport data recorded in the Collection forms.

On farm trials were established in Ngerengere, Morogoro rural district in Morogoro region and

replicated in Msanga village in Chamwino district in Dodoma region. Common sorghum cultural practices applied in Tanzania were adopted and morphological characterization was carried out using IPGRI descriptor for sorghum.

A total of 4 extension officers from two participating districts (Morogoro and Chamwino) and 40 farmers from two villages in the named districts attended practical training on plant characterization and on farm seed production. PGR and the related policy review work started in August 2010.

As a way forward, data generated on the base line survey have been entered into Excel programme and the analysis is going on.

On farm evaluation of sorghum will be carried out in the previous locations in subsequent years; whereas, during 2010/ 2011 evaluation trials will be established in Mtwara and Morogoro for the Dioscoreas, Singida and Mbinga for finger millets and Dodoma and Kilimanjaro for the lablab with support of ITPGRFA.

Two-day stakeholders' workshop involving senior government officials and policy makers will be organized when results of the survey will be presented.

The collected dioscoreas will be identified to generate the species name for each sample collected and there are plans for the establishment of Community seed banks in four villages.

Lastly, 3 leaflets comprising 100 copies will be produced; and 3 papers will be generated and presented in the local meetings/ workshops; whereas, a diversity fair will be conducted in Morogoro, Dodoma and Mtwara; and also, molecular characterization of the collected accessions will be carried out on the collected species.

(vi) Laboratory Work on Seed Accessions

About 450 accessions of different crop species were cleaned, dried and packed for conservation purposes.

(vii) Documentation and Information

Updating of database of the already computerized data continued while registration and data entry in the computer continued, bringing the total number of accessions recorded to 5274.

(viii) Inventory of Germplasm Maintained Under Cold Storage at the NPGRC

With the help of SPGRC SPO and TO – Documentation & Information, the NPGRC managed to carry out inventory of crop accessions kept under cold storage at NPGRC. After the completion of the exercise, some suggestions to improve the inventory were given by SPO & TO and NPGRC is in the process of implementing them.

(ix) Eco-geographical Survey for Zanzibar/Unguja

This followed the release of US$ 7000 to the NPGRC account. The following offices and regions were visited: 3 regions in Unguja; Zanzibar Central/South; Zanzibar North; and Zanzibar West planned for September 2010.

Expected crops include roots and tuber as well as fruit trees, and spices, legumes, and cereals mostly rice.

Zambia

General

(i) Staffing

The current staff position is not good especially at research technical assistant level. The programme has a total of workforce comprising of 10 workers.

(ii) Training, Workshops

- Ms W. Kamusaki completed her two-year diploma course in General Agriculture;
- Mr G. Munkombwe participated in a three-week course on intellectual property rights in May 2010 held in Sweden; and
- Mr A. Phiri participated in a short course on contemporary approaches and genetic resources conservation and use between 11th and 29th April 2010.

(iii) Equipment and Facilities

The NPGRC has 4 desktop and one laptop computers and 3 working printers. It has one old van that breaks frequently thus impeding the genebank work.

The genebank has functioning seed drier and 27 functional deep freezers. It also has a moisture meter but which faulty.

There is a standby electric generator that is however not functional, thus posing a threat to the germplasm accessions kept in freezers that need stable powering.

Technical Activities

(i) Regeneration/Characterization of Accessions held in Genebank

During the period, NPGRC undertook multiplication and characterization of germplasm accessions of various crop species in the genebank for purposes of rejuvenating the collections and duplication to SPGRC base collection and other international genebanks. Various crop species were planted at Mt Makulu, Nanga Irrigation and Mansa Research Stations.

A total of 154 accessions were planted out which 131 were harvested and part of each harvested accessions was duplicated to SPGRC base collection. A total of 351 accessions of sorghum, maize, and finger millet were characterized during the period under review.

(ii) Regeneration and Safety Duplication of Regionally-Prioritized Crop Collections in

Zambia

Funded by the Trust through coordination of SPGRC, the NPGRC undertook the regeneration of threatened prioritized crop collections in the genebank. A total of 834 accessions of beans, cowpeas, maize, and sorghum were planted the project. Currently, the NPGRC is preparing the passport data, characterization data and materials in readiness for duplication to SPGRC, Svalbard Seed Vault and other international genebanks. Characterization data will be made available both in electronic and hard formats.

(iii) Establishment and Maintenance of Cassava and Sweet Potato Field Genebank

The objective of the proposed project was to conserve local germplasm of cassava and sweet potato crops that are available in Zambia while making them available to enhance increased use for both present and future crop improvement work. This will also ensure maintenance of existing field collections for root and tuber collections.

Activities implemented during the reporting period include planting newly collected cassava and sweet potato germplasm, field maintenance, replanting of existing clones and, irrigation of the field. The field genebank is currently holding 153 cassava and 113 sweet potato germplasm accessions.

(iv) Promotion of On-farm Conservation and Maintenance of Local Crop Varieties in the Traditional Sector

The overall objective of the activity is to contribute to improved food security and livelihoods of people through diversified and sustained crop production among traditional small-scale farmers.

During the reporting period, NPGRC in collaboration with SPGRC and Department of Agriculture continued with on-farm activities in Rufunsa, Lukwipa, and Nadezwe. Though there are fairly less activities in Nadezwe and Lukwipa communities due to reduced participation, Simutwe, Situmbeko and Mamvule are now farming communities that have been added to the programme in 2009/10, bringing a total of 6 sites with a total of 197 small-scale farmers that are multiplying different local crop varieties. Seed diversity fairs were held in Situmbeko, Simutwe and Rufunsa between June and July 2010.

(v) *In-situ*/On-farm conservation

Support of the on-farm activities is largely from SPGRC and the Zambian Government and implementation is usually through collaboration with SPGRC, Department of Agriculture and Community Technology Development Trust (CTDT) Zambia.

The overall objective of the proposed project was to contribute to the improved food security and livelihoods of people through the diversified and sustainable crop production among small scale farmers in Zambia.

Farmers' recruitment and crop selection went hand-in-hand with holding seed diversity fairs, field days and farmers' training. The programme has over the years expanded and currently has 413 small-scale farmers multiplying local crop varieties in various parts of the country.

The crop varieties multiplied include maize, bambara nuts, groundnuts, sorghum, cowpeas and beans. While no field days were held this year due to delayed funding, 3 seed diversity fairs were held

In conclusion, the NPGRC intends to continue with the programme and expand to new areas in other agro-ecological zones like region III in Northern and Luapula Provinces and in the Southern Province.

(vi) Documentation and Data Analysis

The SDIS is working well except that the active gene bank has been reorganised and is only waiting to be reconciled with SDIS; whereas, 7200 accessions have been registered.

It has been noted that on the characterisation module, there are only 8 crops listed namely: Beans, Cucubits, Finger millet, Groundnuts, Maize, Pearl millet, Sorghum and Vigna. Also, some traits on these crops are not included especially on vegetative characters for data entry. In some cases there are only 2 traits while the IPGRI descriptor has more than those presented.

The outstanding activities include characterisation data entry and updating SDIS to match with active collection, this is currently being done with the help of SPGRC.

(vii) Utilization of PGR

The genebank is currently holding a total of about 6,500 germplasm accessions of different crop species. The NPGRC is also maintaining clonal collections of cassava and sweet potato as living collections at Mt Makulu Research Station.

The value of the genebank lies in the facilitation of access to the conserved PGRFA. During the 2009/10, a total of 60 germplasm accessions were distributed. Specifically, 34 accessions of beans were distributed to University of Zambia for research and development purposes. Twenty six (26) accessions of rice were provided to the rice improvement programme within ZARI for evaluation for adaptation to upland conditions.

Zimbabwe

General

(i) Staffing

The staff situation improved during the period under review. Seven new staff members we seconded by the director to joined the Genetic Resources and Biotechnology Institute. There is only one vacant post for Head of Institute and plans are underway to fill that post in future.

(ii) National Plant Genetic Resources Committee (NPGRCom)

The NPGRC committee met twice for the period under review with the main agenda of reviewing progress on the NPGRC activities.

(iii) Training, Workshops, Meetings and Visitors

Training

No one was trained during the period under review

Workshops

The Curator, Mr. K. Kusena attended the following workshops:

- Regional consultation for Africa on the updating of global plan of action on conservation and sustainable use of PGRFA, 2-3 June Nairobi Kenya
- Synthesis of SANBio/BioFISA Policy Review Documents, Siavonga (Zambia) 5-6 August 2010
- Consultation on ABS and farmers' rights in Johannesburg, South Africa
- Regional Seminar on Geographical Indications - Adding value to limited volumes Cape Town (South Africa) 10^{th}-11^{th} May 2010 organized by ARIPO and TradeComm in Cape Town South Africa.

Mr. Kusena, Mr. Chipfunde and Ms Karonga attended a workshop on Domestication of the ITPGRFA in Zimbabwe, 11 August, Jameson Harare

Visitors

- Dr. Fatih visited on the 29 September to 3 October 2009 and he was facilitating internet connectivity and server installation.
- Mr. Qhobela visited on the 13 -19 June 2010 and he was evaluating progress on the regeneration project
- Ms Lupupa and Mr Nyambe visited on the 20-23 June 2010 and they were carrying out an orchid rescue collection mission.
- Mr. Colin Khoury visited on a courteous call for the regeneration project and also mapping chance for future strategic partnerships

(iv) Equipment, Supplies and Facilities

The genebank has 27 freezers that are all full. It also has a faulty drier whose temperature does not stabilize and often drops below 5^0C. The moisture analyser that was reported faulty last year has now been repaired and is functioning well. There is one dehumidifier, a fax-scanner-printer-photocopier machine and 4 printers.

The Centre has one broken grinder, 4 heat sealing machines, 2 of which are faulty. It also has 2 laptops and 3 desktops. The Centre vehicle's engine is faulty

Supplies Received

The genebank acknowledges receipt of a 35 KVA standby generator donated by SPGRC, one laptop and one desktop computers and a cartridge for the printer.

Requirements

The Institute is in need of a utility/collection vehicle, grinder, germination incubators, a seed Counter and at least 2 desktop computers and a laptop.

Technical Activities

(i) *Ex-situ* Conservation

A total of 1158 accessions were cleaned in the laboratory and only 248 accessions are pending. A total of 1298 accessions were packed and stored whilst 979 accessions are pending. A total of 5408 accessions were resorted and repacked whilst 796 accessions are pending. 8 freezers have been sorted and repacked. And there are 9 freezers pending this exercise.

Under viability and moisture testing, 1674 accessions were tested their viability whilst 248 accession are pending; whereas, a total of 87 accessions were moisture censored.

During the year, a total of 767 accessions were re-registered and to date 29 accessions are outstanding; whereas, a total of 904 accessions were manually registered. The process of updating the electronic documentation is planned for the year 2010 to 2011.

(ii) Regeneration and Multiplication

The NPGRC participated in the Tripartite Safety Duplication project with SPGRC and the Global Crop Diversity Trust and table below shows number of materials successfully regenerated.

The project targeted to regenerate 15 accessions of maize and finger millet each, 84 cowpeas, 200 sorghum and 73 accessions of pear millet. But it managed to successfully regenerate 49 accessions maize, 30 finger millet, 84 cowpeas, 200 sorghum, and 73 accessions of pearl millet.

(iii) Characterization

The crops mentioned above (on regeneration and multiplication section) were evaluated and characterized.

(iv) Field Genebank Maintenance

There were no field genebank maintenance activities since there was no budget allocated to the exercise. However some field gene bank work is proposed for 2010/2011 season.

(v) *In-situ*/On farm Conservation

There were no *in-situ* conservation activities done

(vi) Documentation and Information SADC Documentation Information System

Zimbabwe is ready to start the electronic documentation after dedicated two years of resorting accessions and rectification of the manual documentation. However, there are challenges of malfunctioning and limited number of computers and there is need for a computer dedicated to SDIS.

Internet Access

The NPGRC has access to a VHS internet connection which is working very well. Thanks to SPGRC and the Nordic donors for connecting Zimbabwe. However the SDIS server which is already in Zimbabwe still needs to be connected.

Table 1: NPGRCs FUNDING REQUEST FOR THE BOARDS' APPROVAL, (US$)

Item No.	Member State		Mutiplication & Characterisation	Germplasm Collection	In situ/On farm Conservation	miscellaneous	**Total**
		Ref	Table 1	Table 2	Table 3	Table 4	
1	Angola		4,280	-	-	-	**4,280**
2	Botswana		2,513	-	5,550	-	**8,063**
3	D R Congo		-	-	-	25,000	**25,000**
4	Lesotho		12,646	-	7,500	8,000	**28,146**
5	Madagascar		-	-	-	-	**-**
6	Malawi		6,500	10,200	28,500	4,000	**49,200**
7	Mauritius		-	-	-	-	**-**
8	Mozambique		-	10,500	-	-	**10,500**
9	Namibia		-	-	-	-	**-**
10	South Africa		-	-	-	-	**-**
11	Swaziland		3,600	-	-	-	**3,600**
12	Seychelles		-	3,900	3,400	26,042	**33,342**
13	Tanzania		9,437	13,600		6,527	**29,564**
14	Zambia		12,500	19,526	14,100	3,500	**49,626**
15	Zimbabwe		11,000	3,000	6,800	1,000	**21,800**
16	Not country specific		2,000	-	-	-	**2,000**
			64,476	**60,726**	**65,850**	**74,069**	**265,121**

Table 2: Multiplication and Characterisation

Country	Previous Budget	Request to Utilize Balance next season	Request for Funding from SPGRC
Angola			4,280
Botswana			2,513
Lesotho	13,067	1,953	12,646
Malawi	20,700	*11,000	6,500
Namibia	4,933	462	
Swaziland			3,600
Tanzania			9,437
Zambia			12,500
Zimbabwe			11,000
Shipment of seed samples from Malawi			2,000
Total	**38,700**	**13,415**	**64,476**

- Request to utilize the funds, Malawi NPGRC to multiply Cucurbits and Bambara on behalf of the region (Botswana, Lesotho, Namibia, Zambia)

Table 3: Germplasm Collection

Country	Previous Budget	Request to Utilize Balance next season	Request for Funding from SPGRC	Remarks
Lesotho	15,501	11,856		
Malawi	21,000	154	10,200	
Mozambique	11,921		10,500	
Seychelles			3,900	
Tanzania	7,000		13,600	
Zambia			19,526	6,526-eco-geo. survey 13,000–coll. mission
Zimbabwe			3,000	
Total	**55,422**	**12,010**	**60,726**	

Table 4: *In-Situ*/On-farm Conservation

Country	Previous Budget	Request to Utilize Balance next season	Request for Funding from SPGRC	Remarks
Botswana	10,990	10,990	5,550	
Lesotho	3,000		7,500	
Malawi	11,000	450	28,500	12,500 – Crops 16,000–WCR, graveyard
Namibia	2,305	2,305		
Seychelles			3,400	
Swaziland	6,000	6,000		
Tanzania	6,020	284		
Zambia	11,000		14,100	
Zimbabwe			6,800	
Total	**50,315**	**20,029**	**65,850**	

Table 4: Miscellaneous

Country	Previous Budget	Request for Funding from SPGRC	Remarks
DRC		25, 000	Inventory on PGR status in 4 sites/institutions
Lesotho	3,500	8,000	4,000 – awareness raising 4.000 - NPGRCom
Malawi	4,000	4,000	NPGRCom
Seychelles		26,042	Setting up of genebank and nursery
Swaziland	1,500	0	1,500 - NPGRCom. Requesting to utilize funds
Tanzania		6,527	Policy review workshop
Zambia	3,500	3,500	NPGRCom
Zimbabwe	3,000	1,000,	NPGRCom
Total	**15,500**	**74,069**	

Table 5: Summary

Activity	Amount Approved for 2009/2010	Amount Requested for 2010/2011
Multiplication and Characterisation	38,700	64,476
Germplasm Collection	55,422	60,726
In Situ/On-farm Conservation	50,315	65,850
Miscellaneous	15,500	74,069
Grand Total	**159,937**	**265,121**

7. NPGRC PLANNED ACTIVITIES FOR YEAR 2010/2011

Angola

(i) Regeneration and Multiplication

In 2010/2011, the Centre plans to multiply fifteen (15) accessions of maize, twenty (20) accessions of cowpea, thirteen (13) accessions of bambara and nineteen (19) accessions of pumpkin.

Angolan NPGRC plans to do agromorphological characterization for the 15 each of maize and cowpeas accessions in year 2010/2011.

It also plans to multiply, regenerate and characterize some accessions in the genebank at the cost of US$ 4,280.

Botswana

(i) Multiplication and regeneration of Sorghum accessions

With the objectives of regenerating accessions of sorghum with low seed viability and increasing number of seeds per accession, NPGRC proposes to multiply/regenerate sorghums whose trial failed last season. It will be re-planted in the 2010/11 cropping season in order to have enough viable seeds stock for active and base collection.
Budget: US$ 2,627

(ii) Characterisation

The project proposal is justified by the fact that characterisation of all food crops of major significance in the country is vital to avail information needed for further improvement, and hence the centre has planned to characterise at least 25 accessions of bambara groundnuts per year.

(iii) Seed Fairs

A tool for assessing diversity in farmers conserved landraces and promoting access. In order to assess whether farmers still hold the indigenous landraces, the seed fair will be used as a tool for facilitating exhibition of the landraces as well as assessing species diversity within the exhibits.

During implementation, 10 groups will be identified to participate and exhibit indigenous landraces during the fair. NPGRC will sample landraces for each farmers individual assessing exhibits with most diverse species. NPGRC accessions be displayed to promote utilisation (facilitate access to accessions of interest to farmers). Farmers will have opportunity to exchange information; get sensitised on the best approaches to handling seed. Small prizes will be awarded to best exhibits with more diversity.

(iv) Germplasm Collection

Four field trips have been planned and will target plant species (Jatropha, Grewia, Boscia, grass, crops, Herbaneria), their locality and proposed dates are indicated. Duration of the trips will be ranging from a day to 12 days depending on the situation.

Democratic Republic of Congo

As part of activities in the newly established network member, DRC proposes to undertake the following:

- Organize sensitization workshops on PGR;
- Conduct an inventory on the number of accessions per species;
- Build up capacity through training on collection, evaluation, characterization and conservation of germplasm; and
- Strengthen collaboration in between the thematic programmes and the NPGRC.

Lesotho

(i) Multiplication and Characterization

These include undertaking characterization of accessions collected during the current year and those that yielded significantly low to avail enough seed for both active and base collections.

(ii) Field Genebank

If local funding permits, NPGRC intends to replace all lost plant species in the field genebank.

(iii) *In-situ*/on-farm conservation

The NPGRC hopes to co-opt and collaborate with more NGOs that are interested in promotion of indigenous seeds. More meetings with NGOs are therefore planned together with their sponsors to identify areas of collaboration and possible financial support.

With regard to on-farm conservation, NPGRC arranged meetings with farmers that are already on-board on-farm activities to inform way forward of activities based on their past experiences. Not all targeted groups were met as planned due to closure of the targeted WVL sites.

(iv) Germplasm collection

The NPGRC intends to undertake targeted seed collecting expeditions.

(v) Utilization of PGR

The NPGRCom suggested that there should be more publicity of the genebank activities through, among others: media presentations by NPGRCom itself; open days to exhibit materials in the genebank; and use of posters, pamphlets to publicise genebank activities

(vi) NPGRCom meetings

SPGRC funds are requested for continuity of NPGRCom meetings.

Malawi

(i) Multiplication of Bambara and Cucurbits for the Region

Malawian NPGRC having successfully multiplied bambara and cucurbits is asking for other countries in the region to come forward with their proposals for Malawi to help in multiplying the crops on their behalf.

So far, Namibia and Lesotho have indicated 65 and 20 cucurbit accessions respectively that will require assistance in multiplication by Malawi. There are likely to be more requests to multiply bambara nuts for Zambia and Botswana.

For next season, Malawi has 97 accessions of its own to multiply costing about US$ 17,500. The NPGRC has US$ 11,000 carried forward from last season for the same and will only seek US$ 6,500.

The Malawian NPGRC is advising the sending countries to provide collection site information (latitude, longitude, altitude) for identifying similar environments in Malawi where multiplication could be undertaken. Malawi is also advising countries to reserve some materials for it just in case multiplication fails or should anything happen to the seeds. It will also need to be informed of the details of the samples for processing import permit before the onset of the rainy season.

(ii) Collection of Neglected and Under-utilized Indigenous Vegetables

The importance of indigenous vegetables lies in the fact that it is a chief source of nutrients and vitamins, source of income, and has a relatively low production costs.

In justifying for the project, it is well known that there is an existing gap for the indigenous vegetables and that since there is a lot of infrastructural development works that is destroying natural habitats, safeguarding genetic diversity of indigenous vegetables is of paramount importance. It is also against the trend of many farmers growing improved varieties that conservation and utilization of indigenous vegetables is important.

The objective of the programme therefore is to document indigenous knowledge associated with the indigenous knowledge targeting wild eggplant, cherry tomato, grain amaranthus, Hibiscus spp., African nightshade, spider plant (cat's whiskers), and Jew's mallow.

The project will be done in two phases as follows: Ecogeographic survey, conducted to identify appropriate places where species occur and also to identify appropriate time for collection depending on maturity of the species. This will involve desk studies, visits to National Herbarium, and use of online resources such as floras.

After the eco-geographic survey, collection missions will be conducted across the country.
Budget: US$ 10,200.

(iii) Promotion of Fingermillet On-farm Conservation and Utilisation: Phase V

This is a continuing activity from the previous project and this phase's objective is to scale out the on farm conservation concept to other areas in Malawi where crop landraces are under threat and also plays a critical role in improving livelihoods standards.

In current project, areas mounting of demonstrations, field days and seed diversity fairs will continue. For a wider and faster coverage of non project areas, training of core extension personnel, lead farmers and local leaders will be conducted in each of the eight Agricultural Development Divisions.

Expected outputs of the phase include knowledge and skills on on- farm conservation imparted to a larger number of stakeholders, more crop landraces conserved at farmer level, more crop germplasm to be available to researchers and farming community, and rural livelihoods improved through utilisation of crop landraces.
Budget: US$ 19,000

(iv) Assessing the Potential of Graveyards as *In-situ* Conservation Sites for Crop Wild Relatives

Graveyards in Malawi are rich biodiversity areas but there are no deliberate efforts made to assess how many species of crop wild relatives are found in these areas. Crop wild relatives play a critical role in agricultural development since these species form a strong basis for crop improvement by having important genes including disease resistance, drought tolerance and other important traits.

Malawi is undergoing several developmental changes and these have negatively impacted on forests that harbour important plant species including crop wild relatives. In order to safeguard this rich resource, new and novel conservation strategies need to be put in place. One of anticipated opportunity that will promote conservation of crop wild relatives is exploration of graveyards/cemeteries that have remained undisturbed for long periods of time.

This requires detailed studies to fully understand management practices of the graveyards and how can tradition leaders integrate conservation of landraces and crop wild relatives in the graveyards.

Objectives

The project intends to sensitize traditional leaders and communities on importance of crop wild relatives while conducting surveys of crop wild relatives in selected graveyards/cemeteries as well as survey on management practices of graveyards. Through the project, indigenous knowledge, beliefs associated with graveyards, practices that strengthen conservation of crop wild relatives, and those that threaten survival of crop wild relatives in the grave yards will be documented.

The project shall train communities on importance of conserving crop wild relatives and landraces and introduce crop wild relatives/landraces in graveyards.

Methodology

The project will be conducted in different sites targeting ethnic groups in Malawi. In order to capture wide range of information sites will randomly sampled per district based on the ethnic groups. In the identified sites a survey will be conducted to capture wide range of information as

indicated in the objectives. In addition to the survey, training sessions with communities will be held to build capacity for the communities to embrace the idea of conserving plant genetic resources for food and agriculture. The training sessions will target local leaders, farmers and district assemblies' personnel

Outcomes
The project is expected to come up with the following outcomes:

- Improved knowledge on management of graveyards/cemeteries as *in-situ* conservation sites
- Improved conservation efforts of crop wild relatives
- Improved capacity by local communities on management of crop wild relatives in the graveyards
- Species of crop wild relatives in selected graveyards/cemeteries known
- Role of graveyards/cemeteries as *in-situ* conservation sites known

Impact
The project will have a significant impact on conservation and sustainable management of crop wild relatives. This in long run will contribute to improved security as future breeders will tap important genes from the conserved species.
Budget: US$ 30,500 out of which, US$ 16,000 requested from SPGRC.

Mauritius

No proposals received from Mauritius

Mozambique

No proposals received from Mozambique.

Namibia

(i) Regeneration and Multiplications

The NPGRC is planning to multiply and characterise 5 accessions of *Citrullus lanatus*, in the main season of 2010/2011.

(ii) *In-situ* Activities
Under *in-situ*, the NPGRC is proposing to conduct the following activities in 2010/11:

- Assign a conservation status to new *Gladiolus* species and conduct emergency seed collection;
- Conduct monitoring of *Adenia* and *Lithops* at Rössing Uranium Mine;
- Re-assess conservation status of *Neoluederitzia sericeocarpa*;
- Conduct field assessments and establish monitoring squares for targeted *Lithops* species;
- Incorporate data from field assessments into Red List Database and Ramas files and assess / reassess conservation status of species when new data become available;

- Re-assess taxa that were assessed as LR-nt in Golding 2002, with 2001 IUCN categories, as necessary; and
- Publish report for work done on *Lithops ruschiorum* and *Adenia pechuelii* in *Dinteria*

(iii) On-farm Activities

Documentation of Farmers' Crop Conservation Practices in Namibia through a Participatory Methodology

The activities under on-farm conservation for the coming season will focus on completing the research proposal and implementing a number of activities in the Omusati region, some 900 km north of Windhoek.

This project aims at collecting and preserving such experiences, knowledge and practices within a pilot area in crop-producing, northern Namibia. It is anticipated to later roll out this exercise to all cropping areas, some 5 500 000 ha, in order to compile a comprehensive overview of practices throughout the country. The results of this baseline survey will underpin the development of strong agro biodiversity policy instruments, including those protecting and promoting Farmers' Rights in Namibia.

The lessons learned from documenting how farmers cope with the arid conditions in Namibia, and the translation of this knowledge into strategies for plant genetic resources conservation, may be applicable to other countries in the southern African region that are vulnerable to the effects of global climate change.

The main objective of this study is to investigate and document traditional farming practices with regard to the conservation of genetic resources of local crops in a pilot area in Namibia, in order to develop strategies for on-farm conservation later.

Farmers in the communal area have been conserving genetic materials over many generations and these practices have been passed on from one generation to another. However, these conservation strategies practices have not been documented. The old landraces serve as baseline on which crop improvement relies, but they are now under threat of extinction due to climate change and the adoption of modern crop varieties. Therefore, such practices need be documented and farmers should be encouraged to continue conservation/ monitoring traditional varieties for maintenance of genetic diversity. In addition, SPGRC has emphasised on-farm conservation as a priority for the region.

The project will take approximately three years to be completed witgh the following outcomes:
- Identified crops grown by farmers in Omusati region;
- Identified issues by farmers in Omusati region with regards to exercising on-farm conservation of local/traditional crop varieties;
- Established extent of the genetic erosion of landraces on farm;
- Documented prevailing, adopted, and lost farming practices by farmers; and

(iv) Documentation and Information

The following activities are planned for Documentation and Information:

- Enter characterisation data for 60 accessions that were multiplied in the main season of 2009 onto the SDIS characterisation module;
- Analyse characterisation data of 120 accessions characterised in off season of 2008 and main season 2009, interpret results and publish;
- Register new accessions on SDIS as they come in;
- Update SDIS Base/Active;
- Update SDIS Germplasm collection from 3352 to date;
- Sort out problem with collection data that is not saved in collaboration with SPGRC; and
- Continue to update the NPGRC web page.

Funds requested for activities that had to be carried out in the year under review were received from SPGRC. These funds will now be used in 2010/2011. Therefore no funds are requested from SPGRC for the coming season.

SDIS

With regard to SDIS, the country profile was updated; whereas, the manual register contains 3790 accessions. The number of accessions in the registration module in SDIS also stands at 3790. The active collection module also contains 3790 accessions.

(v) Germplasm collection

- The NPGRC is planning an emergency seed collecting mission in September 2010 to collect seeds of a newly discovered *Gladiolus* species that will be inundated after the building of a new dam in the southern region of Namibia. The current phase of the Millennium Seed Bank Project has ended in December 2009 and new funding proposals were developed for the next phase. Seed collecting as a component of the new phase will continue.

(vi) Documentation

The following activities are planned for Documentation and Information:

- Enter characterisation data for 60 accessions that were multiplied in the off season of 2009 onto the SDIS characterisation module
- Analyse characterisation data of 120 accessions characterised in off season of 2008 and main season 2009, interpret results and publish
- Register new accessions on SDIS Accession Registration module as they come in
- Update SDIS Base/Active Collection module
- Update SDIS Germplasm collection Information System from Accession number 3380 to date
- In collaboration with SPGRC, attempt to sort out problem with collection data that are not saved after entering
- Continue to update the NPGRC web page.

Internet Access

Access to email is problematic at the moment. Internet access in the new Genebank facilities is provided through wireless technology but this is not functioning well currently. There have been problems during the past few months and are taking a long time to be solved as the NBRI has to make use of various consultants.

Seychelles

Below is a list of proposed activities by Seychelles:

- Creation of a unit responsible for PGR and training of staff in PGR conservation, utilisation and management;
- Retracing information on inventory carried out by ex-officers responsible on PGR in Seychelles;
- Documentation of information gathered on PGR in Seychelles so far;
- Updating of data collected from 2001 – 2006 inventories, through field survey/visit and any other means;
- Attend all SPGRC meetings and workshops as requested.

South Africa

(i) Characterisation

The NPGRC is proposing to do characterization of *Sorghum bicolor* (50), *Pennisetum glaucum* (50), and *Zea mays* (number not yet determined).

(ii) On-Farm/In-situ Conservation

The 2010/2011 on farm/*in situ* is planning to revive on farm conservation in KwaZulu Natal (KwaNgwanase) and Eastern Cape Provinces and conclude the establishment of the community seed bank in Sterkspruit. The NPGRC also plans to initiate and establish a community seed bank in Limpopo Province (Mutale or Thulamela district), continue with on-farm multiplication of bambara and cowpea with farmers still to be identified, and conduct an assessment of the utilization of landraces around the areas of Matshiding (Mpumalanga Province)

(iii) Germplasm Collection

Mixed collection in Moses Kotane District of the North West Province will be done in 2010/11.

Swaziland

(i) Germplasm Collection

This season, there is no collection activity planned by the Swaziland NPGRC, mainly due to staffing challenges.

(ii) Re-multiplication of Unsuccessfully Regenerated Accessions

The next challenge is to ensure that those accessions which could not produce enough seeds are once again multiplied so that they can also be duplicated once the required seed amounts are produced. The number of accessions to be multiplied will depend on the seed amounts agreed upon for duplication by stakeholders (SPGRC and the Trust). This proposal would also depend on whether or not the requested storage facilities (refrigerators) are also approved or not to avoid

storage challenges.

(iii) *In-situ*/ On-farm conservation activities

The NPGRC – COSPE (Italian NGO) collaborative on-farm conservation activity which was suspended during the 2009/10 season after some discussions with SPGRC Senior Programmes Officer – In situ/ On-farm conservation, due to untimely planting as a result of drought stress will again resume during the 2010/11 season. The main aim of the activity is to promote the continued conservation and sustainable use of local crop diversity on-farm to both the Shewula and Tsambokhulu – Mafucula Communities and thereby recognize the contribution that the Shewula Community Seed bank farmers have made in conserving indigenous crop diversity. This it is hope will enhance food security especially to families of vulnerable Swazi people. The seed fair component will play a crucial role in this regard, with use of budget of US$6,000 which could not be utilized in 2009/2010.

Tanzania

Germplasm Exploration and Collection in the Coastal Areas/Eastern Zone

Following half budget remitted for the project for the period of 2009/10 NPGRC wants to direct this year's collection efforts in the coastal areas/eastern zone which could not be covered due to insufficient funding. NPGRC intends to cover Pwani (Kibaha, Kisarawe and Mkuranga) and Morogoro (Ulanga, Kilombero and Kilosa). This proposal therefore entails more detailed collection in terms of coverage and a more comprehensive multicrop collection mission, some of which have not been adequately represented in the genebank, whereas some lack representation.

The project proposal is to collect is justified by the fact that the target areas harbour valuable genetic resources that is threatened by urbanisation pressure, search of land for bio- fuels production, increasing populations, introductions of elite - GMOs', infrastructural developments, etc.

The broad objective therefore would be to conserve and promote the utilization NUCS and the general Agro-diversity of the coastal areas of Tanzania.

Expected crops in the collection will include: spices, vegetables, cereals, legumes, oil crops. In general, it is estimated that 200 accessions will be captured and stored at NPGRC and duplicated to SPGRC as well as documentation of indigenous knowledge.

Zambia

(i) Eco-geographic Survey and Collection of Crop Wild Relatives

There exists a gap in the collection of crop wild relatives. With the advent of climate change and greater ecosystem instability crop wild relatives are likely to prove a critical resource in ensuring food security for new millennium. More recently, plant breeders have utilized crop wild

relatives' genes to improve a wide range of crops like wild maize *(Zea mexicana*), rice (*Oryza sativa*), tomato (*Lycopersicon esculentum*) and grain legumes.

The crop wild relatives have contributed many useful genes to crop plants, and modern varieties of most major crops, thus them being wild plants related to socio – economically important species including food, fodder and forage crops, medicinal plants, ornamental, and forestry species, as well as plants used for industrial purposes, such as oils and fibres, and to which they can contribute beneficial traits, (FAO, 2008).

The **objective** of this project is to collect crop wild relatives of sorghum, cowpea and lusitu grass in Zambia; document local indigenous knowledge relating to the existing diversity; and conserve the collected genetic diversity of crop wild relatives for future use.

Collection mission will be carried out after the detailed ecogeographical survey has been done to determine where these species occur.
Budget: US$ 13,000

(ii) Eco-geographical Study and Review of the Status of *Dioscorea spp* and *Sphenostylis stenocarpa (?)* in Zambia

The project aims at establishing the eco-geographical distribution of the species and conservation status and threat of genetic erosion in Zambia. It will also establish socio-economic importance of the species as well its genetic diversity

The project proposal has been triggered by the fact that little or non-scientific and indigenous knowledge has been documented about these two species. It has also been due to ongoing habitat destruction and fragmentation and changing environmental conditions threaten survival of these species.

In conducting the study, secondary data will be sourced from herbaria, books, scientific journals, geographical maps and questionnaires will be used to source primary data. Study area will cover 4 provinces (Luapula, Lusaka, Central and Southern) representing 3 agro-ecological zones of Zambia whereby one district per provinces will be selected and 2 sites per district.

(iii) Regeneration/Multiplication and Characterization of Germplasm Accessions held in Genebank

The main objective of the proposal is to rejuvenate and increase amount of seeds of germplasm accessions in the genebank in order to sufficiently duplicate germplasm collections to base collection, other international genebanks and enable facilitated access to the genetic resources.
Budget: US$ 25,745.

(iv) Sensitization and Awareness of Stakeholders for Domestication of the Farmers' Rights – Provision of the ITPGRFA

The national process for domesticating the Treaty started by holding of two awareness creation among key stakeholders, targeting policy makers at senior government level and technocrats. The awareness workshops outlined recommendations for the process to be taken forward for the domestication of the Treaty in general and in particular, the realization of the Farmers' Rights. As a follow up to the last stakeholder meeting during which a couple of

recommendations were made as a way forward. The process need to be driven forward with a view of taking the process to another level aimed at taking steps towards the realization of Farmers' Rights.

(v) Viability Monitoring and Germination Testing of Germplasm Accessions in the Genebank for Use in the Breeding Programmes

The proposed project attempts to generate data and information about the viability status of the germplasm accessions for enabling informed decision making in their management of the PGR held in the genebank. Specifically, the project will assess germination rates of germplasm accessions of various crop species, provide informed decision for regeneration of germination tested germplasm accessions, and provide some indicators upon when rational conservation options will be based.

Zimbabwe

(i) On farm/*In-situ* Activities

The GRBI is planning to establish root and tuber crop field genebanks as a complement to frozen conservation. In the next cropping season GRBI is planning to bridge the *ex-situ* collection utilization gap by farmers through development and distribution of composite landrace farmers. The project will take advantage of excess seed from the previous season regeneration project.

(ii) Germplasm Collection

There were no collections done during the period under review. In the coming season GRBI is planning to carry out a mixed crop rescue collection mission along the great dyke. Plant genetic resources found in this environment are usually endemic and these pose unique characters like high tolerance to higher concentration of metal ions. The typical great dyke environment is slowly disappearing due to mushrooming of mines and illegal miners.

(iii) Documentation and Information

The NPGRC is planning to update and correct the electronic documentation based on the revised manual documentation.

(iv) Conservation of Common Root and Tuber Crops

The aim of the project is t**o** conserve, map the diversity and enhance the utilization of common indigenous roots and tubers in Zimbabwe.

In implementation, the project will carry out an eco-geographical survey to map the diversity of taro, sweet potato and tsenza germplasm in Zimbabwe. It will also establish 3 field gene banks of taro, sweet potato and tsenza in different locations of Genetic Resources and Biotechnology Institute, Horticultural Research Centre, and at one community to be identified after eco-geographic study.

It also proposes to characterize germplasm in the field genebanks, while enhancing germplasm utilization through seed fairs, product development, post harvest technology transfer and market linkages. In all, the proposal is estimated to cost US$ 6,800.

(v) Domestication of the International Treaty on Plant Genetic Resources for Food and Agriculture, NPGRCom Meetings (On-going project)

The main objective of this proposal is to facilitate domestication of the ITPGRFA and facilitate NPGRCom meetings at a total cost of US$ 5,500.

(vi) Novel Methods for Increasing Use of Genebank Collections: Pilot for Climate Change Adaptation Response

The main objectives of this project include improvement of the utilization of *ex-situ* collections, through focused introduction or re-introduction of PGR to target communities; encouragement of further development of PGR by farmers through participatory methods for climate change adaptation; and increment of food and seed security in semi arid areas of Zimbabwe.

Through data processing and GIS analysis, the partners will identify accessions from national and international genebank sources originally sourcing from target communities with ongoing farmer field school programmes coordinated by CTDT. Accessions sourcing from other regions with high potential for use under climate change adaptation in the target communities will also be identified.

Accessions held in other sources will be requested and acquired and will be multiplied in Zimbabwe by the national genebank. Target accessions will be introduced to target communities by partners within the FFS curriculum, and tested under *in situ* conditions for desirability for crop production. A participatory method of testing and evaluating the introduced accessions will be developed. Farmer and researcher evaluation of materials will be recorded and published.
Budget (SPGRC): US$ 4,550

(vii) Regeneration, Multiplication and Characterization of Maize, Sorghum, Cowpeas and Finger Millet

The project aims at regenerating, multiplying and characterizing 350 unique but threatened accessions.

The objective is to regenerate, multiply and characterize 50 maize accessions, 200 sorghum accessions, 50 cowpea accessions and 50 finger millet accessions during cropping season 2010 to 2011.
Budget (SPGRC): US$ 11,000

7. Other Presentations

7.1 SANBio-Funded PGR Policy Project

The study and review of national PGR policies with view to harmonizing them into a regional

comprehensive and appropriate policy framework on PGRFA was commissioned through SANBio funding for all SADC Member States. The study outputs are anticipated to feed into the SADC Regional Agricultural Policy through a project that is going on.

The SPO – Documentation & Information presenting on the implementation status reported that desk studies in respective 10 SADC Member States have been completed and the findings have been compiled and circulated.

Besides, the project is supporting one MSc student in plant genetic resources policy and related areas and already a candidate has been identified. SPGRC is scouting for appropriate institution where a candidate should join in summer 2010.

Future activities include continued support of the MSc student, holding of stakeholders' and technical consultative meetings. The project will also facilitate and support sensitization and lobbying for PGR policy and continue with capacity building for project implementation.

7.2 Assessment of Community Seedbanks in SADC Region

Following a concern that rose during the 2008 Planning meeting on whether Community Seedbanks should be strengthened or not in the region, an assessment was made with view to assess their status, establish their relevance to on-farm conservation, and identifying linkages between the seedbanks and the NPGRCs.

The SPO – *In-situ* presented findings uncovered in five countries (Malawi, South Africa, Swaziland, Zambia, and Zimbabwe) and recommended that documentation of labels on bottles need to be standardized and received and distributed material should be documented. She also urged that household information have to be captured through a card system and Community seed banking should be strengthened in the region, as they are relevant to on-farm conservation and there is a link between CSB, NPGRCs and SPGRC. A full report will be published and distributed.

8. Summary of Technical Presentations

8.1 Documentation and Information

From the country presentations, it was observed that few countries indicated need for computers, namely Botswana, DRC, Seychelles and Zimbabwe. It came out that Mozambique already received their computer whereas it was added to the list.

With regard to documentation and information, there are training needs in: basics in hardware and software management, server management, web-based SDIS, DIVA-GIS.

8.1.1 Internet Access

Some countries already have Internet connection but requested SPGRC to pay for internet subscription. In response, SPGRC indicated that it has budget for subscriptions only for one year, but in order for this to be sustainable, the recommendation was that NPGRCs should seek funding from their own governments.

Special case for Seychelles and DRC: In Seychelles, accessibility to the internet is very costly and it was reported that VSAT use is very restricted by the government. Both Seychelles and DRC were advised to make a formal request to SPGRC for procurement of desktop, LAN connection, and SDIS training. On the overall, NPGRCs should ask for assistance from SPGRC for connection of SDIS server, not LAN, especially those countries which already have LAN in place.

Zambia, which currently is out of Internet connectivity was advised to make a formal request to SPGRC for support.

8.1.2 SDIS

In response to some NPGRCs who reported being reluctant to enter data in SDIS, such NPGRCs were advised to continue updating data in SDIS while a web-based SDIS is still being developed, because the web-based version will use the same database.

Concern was raised by SPGRC that no SDIS updates were received (only two countries). Countries were asked to send updates so that the database can be updated.

8.1.3 Publications

It was reported that no articles were received for January- June 2010 therefore no newsletter could be published. NPGRCs were once again requested to send articles for publication. It was recommended that the old system of committing specific NPGRCs to send articles be continued even though it did not work according to the expectations. Some NPGRCs like Angola, Mauritius and Mozambique did not fulfil their promises. Another recommendation was that country reports be edited and be published in the newsletter. Pilot on-farm experiences will also be published. In this regard, it was suggested that an editing committee be formed.

The SPO – Documentation & Information earmarked and requested for articles from Angola, Mauritius, Mozambique and Swaziland. This, however, does not bar other countries to submit articles for the newsletter. In fact, the more articles we have to select from for publication, the better.

8.1.4 Technical Support to NPGRCs

It was reported that Mozambique had asked for technical assistance from SPGRC and the promise was that support would be granted during 2010/2011. Namibia also asked for an urgent technical support from SPGRC. Zimbabwe also asked for technical support from SPGRC.

Tanzania clearly indicated that they would need urgent training in SDIS following the passing away of the Documentation officer, Dr Ntundu.

A question was raised (by Namibia) as to whether it is possible to have a guiding document for use in SDIS. The response was that the manual exists but it has not been updated for some time. A promise from SPGRC was that it will be availed as soon as possible.

8.1.5 Laptops for NPGRCs

There was an issue of whether SPGRC would buy laptops for NPGRCs as opposed to what the policy says or whether they could be given PDAs instead of laptops. This matter was taken to

general discussion session.

8.2 *In-situ*/on-farm Conservation

Summary of the collection missions undertaken during the reporting period was presented as follows:

Angola - 122 samples
Botswana - 69 samples
Lesotho- - 35 + 476 samples (two different collection missions)
Malawi - - 45 + 33 + 7 samples
Mozambique - 218 mixed crops
Tanzania - 53 mixed crops
South Africa - 35 mixed crops

8.3 *Ex-situ* Conservation

The printout was also distributed so that NPGRCs should make all the necessary corrections including those which were omitted.

NPGRCs were promised to get a full list of accessions sent to SPGRC up to March 2010. A suggestion was made that a column be added on the presented table so that it clearly shows accessions which are in the NPGRC register and those in active collection.

9. General Discussions

9.1 Size of Samples for Sending to SPGRC

The suggestion was that NPGRCs should have 5000 seeds (per accession) in active collection to meet all the requests, which is an equivalent of 1 bulk bag, 5 distribution bags or 10 distribution bags for NPGRCs which are not using bulk bags. However, this will depend on crop species.

For dispatch at SPGRC, the recommended number was 1,000 seeds so that SPGRC will store 500 seeds and dispatch 500 seeds to Svalbard for safety collection.

9.2 Funding of Future Planning Meetings and NPGRC Activities

Suggestion was that there be formal communication from SPGRC Board to the SADC Secretariat (supported by a written position paper) and let them decide on this matter. Another suggestion was that we write funding proposals collectively as a network. Again member states should be committed to fund the activities so that they will be sustainable.

9.3 Balance of Funds from Last Year (Growing Season)

NPGRCs should indicate balances from the last year or last growing season and should clearly indicate additional funds requested.

9.4 Funding Requests for 2010-2011

It was reported that SPGRC does not have exact figures for balances for NPGRCs. This meant that approved proposals may be funded or some may not be funded. The Project Technical Advisor did not disclose remaining amounts for NPGRCs.

9.5 Capacity Building in PGR Management in the Region

It was brought to the meeting's attention that there are few remaining slots for long-term trainings (MSc and PhD). For short term-training, it was decided that the course be held in the region and it is expected that PhD holders will play a very important role in this. For these courses to continue even after the phasing out of the project, it was advised that proposals are made together as a region/network.

9.6 Base Collection at SPGRC and in the NPGRCs (the case of South Africa)

The issue was how they handle the documentation system with base collection in the NPGRC and at SPGRC. It came out clearly that what they call 'active collection' is working collections kept for Agricultural Research Council (ARC) and they have a separate documentation system for this. Their 'base collection' is a national collection, that is, active collection in other NPGRCs whose duplicates are sent to SPGRC for base collection, hence no overlapping in the documentation systems.

9.7 Dealing with Excess Seeds at SPGRC and NPGRCs

These could be used for germplasm exchange or be used for on-farm conservation initiatives. Excess material at SPGRC could be sent back to NPGRCs.

9.8 Bridging the Gap between Base and Active Collections

NPGRCs were reminded about the agreements which were made regarding this during the 2007 documentation workshop in Pretoria that they should embark on multiplication other than characterization in order to bridge the gap between active and base collections, though it was not indicated which accessions would be multiplied but only the numbers. However, it appeared most NPGRCs are not keeping to the agreement. NPGRCs are therefore requested to indicate which accessions have been sent to SPGRC and not only the numbers. NPGRCs are also requested to update the NPGRC register with SPGRC numbers.

9.9 Internet Connectivity/Subscription for NPGRCs

It was reported that subscriptions to Internet are catered for 1 year only, after which NPGRCs would have to solicit funds from somewhere. One option could be to connect Internet with less speed because SDIS server needs not more than 68Mbps. Zimbabwe's case was cited as a very good one for sustainability whereby the NPGRC connected the whole station to Internet and monthly subscriptions are paid by the government.

9.10 Distribution of laptops to NPGRC

It was clarified that since the inception of the project, SPGRC's policy was that no laptops would be bought for NPGRCs; however, it appears that most NPGRCs are in need of laptops. Hence it was concluded that this matter would be taken to the board meeting for discussion. Then SPGRC will centralise procurement of those. If not approved, SPGRC will resort to procurement of PDAs for the NPGRCs, even though they have limited capacity.

9.11 Accounting for Disbursed Funds

NPGRCs should provide information of uncommitted funds to SPGRC before the Board meeting. All the remaining funds should be committed by the end of the year. This has to be explained to the Board members at national level so that they will be prepared. NPGRCs are accountable for any uncommitted funds.

9.12 Capacity in Maintaining Equipment in the Region

For Termo Kyl dehumidifiers there are authorised dealers in South Africa (MUNTAS), also in Zimbabwe. For Telmax cabinets there are no representatives in the region. Addresses for authorized dealers will be distributed by the Project Technical Advisor. Regarding servicing, it was suggested that for new cabinets nothing should be done for a period of five years other than changing the filters. There was a suggestion that SPGRC should have standby cabinets/dehumidifiers so that they will be used by NPGRCs should cabinets go for repairs.

9.13 SPGRC Publications, Proceedings of the planning meetings

There was a request that proceedings of the planning meetings be sent to NPGRCs early so that they know if their proposed activities have been approved or not in order for them to take the necessary steps.

It was resolved that the SPGRC documentation section should be strengthened by having an editorial committee. It was also suggested that publications should be in English, French and Portuguese. The editorial team to be composed of Ms Natalie Feltman (South Africa), Ms Sonja Loots (Namibia), Ms Evaldina Pedro (Angola), Prof. Mbikayi Nkonko Jean Albert (DR Congo). Everyone in the network is also obliged to do the work when assigned not necessarily only those in the editorial committee. Mr Kapange should draft terms of references for the editorial committee. It was observed that decisions by the board were not communicated to curators. SPGRC will be communicating to curators the decisions of the board.

9.14 Status of Active Collection Inventories in NPGRCs

A report was given by SPGRC on the findings of their inventories on the gap between active collection and the documentation system in the countries they visited. Even though these inventories seemed very helpful to the NPGRCs, there was a concern that this is entirely the responsibility of the Curator. It came out that there are a lot of problems with curation at the NPGRCs owing to the fact that most of the curators took over from many serving curators and have never been trained in that discipline. It was therefore recommended that Curators should have some training. Nevertheless, a way forward was suggested that this inventory be carried out by all NPGRCs and a report be submitted to SPO – *Ex-Situ* Conservation at SPGRC.

9.15 Dispatch of Regeneration Project (GCDT) Materials to Svalbard for Safety Collection

The agreement is that member states should send their materials to SPGRC and SPGRC will dispatch them to Svalbard. The general observation was that member states that are carrying out the Regeneration Project were not informed as to how to handle the materials after regeneration.

9.16 Request for Equipment/Facilities Without Response

SPGRC admitted that this is not correct and promised to improve on this. Responses to be given immediately after the Board meeting via the Board members. On the issue of colour charts, the Project Technical Advisor (Dr Fatih) promised to make a follow-up. As for seed blowers, there is no provision regarding this issue.

9.17 SPGRC Facilitation of domestication ITPGRFA

It was confirmed that it is the responsibility of SPGRC to assist member states in domestication of the Treaty. "Domestication" was hereby described as sensitizing all the role players (policy makers, farmers, *etc*.) so that they are aware of the Treaty, while measures are being taken to internalize/localize it with supporting legislation which will guide its implementation at national level.

9.18 Sharing of Information for Courses not Coordinated by SPGRC

It was agreed that this is a very good point and is highly recommended, e.g. if other NPGRCs knew about the IPR course attended in Sweden, it would be very helpful. It appeared that some of the information is sent to NPGRCs via the Board members after the Board meeting. Suggestion to this was streamlining of communication channels between NPGRCs and Board members after the Board meeting. Other suggestions were that messages be sent to group email or signing up in face book.

Appendix 1: Programme

Sunday, 5th September 2010: Arrival of Participants	
General Rapporteurs: M. Molefe and B. Nourice	
Monday, 6th September 2010 - Chair: B. Kapange	
Session 1:	**Opening Ceremony**
	Rapporteur: K. Kusena
09:00 – 09:20	Welcome address – Head of SPGRC
	Dr M B Fatih – Sida
	Programme and Logistics Announcements - B. Kapange
	Issues arising from the last meeting - B. Kapange
10:30 – 11:00	**TEA BREAK**
Session 2:	**General Progress Reports, Chair: C. Gwafila**
	Rapporteurs: L. Pungulani and T. Thabo
11:00 – 13:00	Country presentations
13:00 – 14:00	**LUNCH BREAK**
14:00 – 15:30	Country presentations
15:30 – 16:00	**TEA BREAK**
16:00 – 16:30	Country Presentations
16:30 – 17:00	Country presentations
Tuesday, 7th September 2010 - Chair: K. Kusena	
Session 3:	***Ex-situ* Conservation – Progress & Proposals**
	Rapporteurs: L. Mapunda and M. Mohloboli
09:00 – 10:30	Country presentations
10:30 – 11:00	**TEA BREAK**
11:00 – 13:00	Country presentations
13:00 – 14:00	**LUNCH BREAK**
14:00 – 15:30	Country Presentations
15:30 – 16:00	**TEA BREAK**
16:00 – 17:00	PhD progress update - Mr D. Ng'uni
Wednesday, 8th September 2010 – Chair: S. Loots	
Session 4:	***In-situ*/On-farm Conservation, Germplasm Collection – Progress & Proposals**
	Rapporteurs: A. Phiri and O. Chipfunde
09:00 – 10:30	Country Presentations
10:30 – 11:00	**TEA BREAK**
11:30 – 12:30	Country presentations
12:30 – 13:00	Report: Assessment of community seed banks – T Lupupa

Wednesday, 8th September 2010 – Chair: E. Pedro	
Session 5:	**Documentation & Information – Progress & Proposals**
	Rapporteurs: L. Feltman and A. Afonso
14:00 – 15:00	Country reports
15:30 – 16:00	**TEA BREAK**
16:00 – 16:15	SDIS Updates – B. Kapange & K. Hamudulu
16:15 – 17:00	PGR Policy review project – B. Kapange
Thursday, 9th September 2010 – Chair: P. Munyenyembe	
Session 6: General Issues	
	Rapporteurs: G. Munkombwe and A. Motloli
11:30 – 13:00	Summary Presentations - *Ex-Situ*: L L Qhobela - *In-Situ*/On-farm: T J Lupupa - Documentation & Information: B W Kapange
13:00 – 13:30	Way forward
13:30 – 14:00	Closing Remarks - Dr P M Munyenyembe - Head of SPGRC - Dr M Fatih – Sida - M. Rasmussen – Nordgen - Bioversity - Trust
14:00 – 14:45	**LUNCH BREAK (at the Hotel)**
14:45 – 16:30	Visit to SPGRC
	CLOSURE
Friday, 10th Sept. 2010	**SANBio Policy Project on Plant Genetic Resources**
Saturday, 11th Sept. 2010	**Departure of Participants**

Appendix II: SANBio Policy Project on Plant Genetic Resources

Friday, 10th September 2010		
Chairperson: K. Kusena		
Time	**Activity**	**Responsible**
09:00 – 09:30	SANBio Policy Project Milestones	B. Kapange
09:30 – 10:30	Presentation: Summary of Country Findings (Desk Study)	B. Kapange
10:30 – 11:00	**TEA BREAK**	**All**
11:00 – 13:00	Group work	All
13:00 – 14:00	**LUNCH BREAK**	**All**
14:00 – 15:30	Group Presentations	Group Leaders
15:30 – 16:00	**TEA BREAK**	**All**
16:00 – 16:40	Discussions, Recommendations	All
16:40 – !7:00	Word/Guidance from RAP	Dr Muchero, SADC

Appendix 3: List of Participants

Mr **Chikasanda**, Jackson
In-situ & Collection Officer
Chitedze Research Station
P O Box 158
LILONGWE
Malawi
Tel: +265 1 707219/707220/707222
Cell: +265-999-809026
Fax: +265-1-707041
Email: jchikasanda@yahoo.com; genebank@malawi.net

Mr **Gwafila**, Chiyapo
Assistant Agric. Research Officer
Dept. of Agric. Research
Private Bag 0033
GABORONE
Botswana
Tel: +267 3668169
Cell: +267 72 441318
Fax: +267 3928965
Email: cgwafila@yahoo.com OR cgwafila@gov.bw

Ms **Chinosengwa**, Fungai
Research Technician
Genetic Research & Biotechnology Institute
P O Box CY 550
Causeway
HARARE
Zimbabwe
Tel: +263 4 702519/704531 Ext 2029
Cell: +263 915 206679
Fax: +263 4 791223
Email: fchinosengwa@yahoo.com; ngbz@mweb.co.zw

Dr **Fatih**, Moneim
Nordic Project Supervisor
P O Box 41
S-230 53 **ALNARP**
Sweden
Tel: +46 40 536655/415575
Fax: +46 40 40415576
Email: moneim.fatih@nordgen.org

Mr **Chipfunde**, Onismus
In-situ Conservation Officer
Zimbabwe NPGRC
P O Box CY 550 Causeway
HARARE
Zimbabwe
Tel: +263 4 704531/9
Cell: +263 11 87682/ 11 567682
Email: ochipfunde@hotmail.com OR ngbz@mweb.co.zw

Ms **Feltman**, Natalie
Deputy Director
Plant Genetic Resources
Private Bag X973
PRETORIA 0001
South Africa
Te: +27 12 3196366
Cell: +27 826532713
Fax: +27 12 319 6385
Email: natalief@daff.gov.za

Mr **Chitezi**, Richard D
Senior Assistant Seed Storage Officer
Chitedze Research Station
P O Box 158
LILONGWE
Malawi
Tel: +265 1 707219
Fax: +265 1 707219/041
Cell: +265 8 888503391
Email: genebank@malawi.net

Mr **Hamudulu**, Kennedy K
TO Doc. & Information
SPGRC
P/Bag CH6
LUSAKA
Zambia
Tel: +206 211 233391/2
Cell: +260 96 6 751451
Fax: +260 211 233746
Email: kkhamudulu@spgrc.co.org or spgrc@zamnet.zm

Ms **Kahimbi**, Charlotte Sikute
Agricultural Research Technician
National Botanical Research Institute
Private Bag 13184
WINDHOEK
Namibia
Tel: +264 61 2022058
Cell: +264 81 2320490
Fax: +264 61 258153
Email: sikute@yahoo.com

Ms **Loots**, Sonja
Curator
National Botanical Research Institute
Private Bag 13184
WINDHOEK
Namibia
Tel: +264 61 2022010
Cell: +264 81 277 5222
Fax: +264 61 258153
Email: sonjal@nbri.org.na

Mr **Kapange**, Barnabas W
SPM - Doc. & Information
SADC Plant Genetic Resources Centre
Private Bag CH6
LUSAKA
Zambia
Tel: +260 211 233815-6 or 233391-2
Cell: +260 979 365122
Fax: +260 211 233746
Email: bkapange@spgrc.org.zm or spgrc@zamnet.zm

Ms **Lupupa**, Thandie J
SPM *In-Situ*
SADC Plant Genetic Resources Centre
Private Bag CH6
LUSAKA
Zambia
Tel: +260 211 233815-6 or 233391-2
Cell: +260 966 551293
Fax: +260 211 233746
Email: tlupupa@spgrc.org.zm; spgrc@zamnet.zm

Mr **Kapila**, Kingsley
Collection/In-Situ Officer
Chitedze Research Station
P O Box 158
LILONGWE
Malawi
Tel: +265 1 707219/707220/707222
Fax: +265 1 707041
Cell: +265 995931802
Email: genebank@malawi.net

Mr **Mapunda**, Lourance N D
Research Officer
TPRI – National Plant Genetic Resources Centre
P O Box 3024
ARUSHA
Tanzania
Tel: +255 27 250 9674
Cell: +255 78 6262635
Fax: +255 27 250 9674
Email: lourance65@yahoo.com ; genetics@habari.co.tz

Mr **Kusena**, Kudzai
Curator
Genetic Resources & Biotechnology Institute
P O Box CY 550
Causeway
HARARE
Zimbabwe
Tel: +263 4 704531/9 Ext 2029
Cell: +263 91 3041186
Fax: +263 4 791223
Email: ngbz@mweb.co.zw

Ms **Matsikoane**, Sefotho
Documentation Officer
Department of Agricultural Research
P O Box 829
MASERU - 100
Lesotho
Tel: +266 22 312395/326042
Cell: +266 63069953
Fax: +266 22 310362
Email: matsikoanem@yahoo.com

Ms **Moeaha**, Matlou Jermina
Ex-Situ Specialist
Dept. of Agriculture
Genetic Resources Directorate
Private Bag X973
PRETORIA 0001
South Africa
Tel: +27 12 808 5394
Cell:
Fax: +27 12 808 5394
Email: jerminam@daff.gov.za

Ms **Mohloboli**, M
Curator
Department of Agricultural Research
P O Box 829
MASERU - 100
Lesotho
Tel: +266 22 312395/326042
Cell: +266 58 857203
Fax: +266 22 310362
Email: maleoacm@yahoo.co.uk

Ms **Molefe**, Mary Kneen
Principal Agric. Research Officer
Department of Agricultural Research
Private Bag 0033
GABORONE
Botswana
Tel: +267 3668100
Fax: +267 3928965
Cell: +267 71912472
Email: mkmolefe@gov.bw

Mr **Munkombwe**, Graybill
Agricultural Research Officer
Zambia Agric. Research Institute
P/B 7
CHILANGA
Zambia
Tel:
Cell: +260 95 5 880490
Fax: +260 211 278130
Email: munkombwegraybill@yahoo.com

Dr **Munyenyembe**, Paul M
Head, SPGRC
SPGRC
P/Bag CH6
LUSAKA
Zambia
Tel: +260 211 233391/1
Cell: +260 977 746219
Fax: +260 211 233746
Email: pmunyenyembe@spgrc.org.zm or spgrc@zamnet.zm

Mr **Naha**, Sebili J
In Situ Officer
Department of Agricultural
Research
P O Box 829
MASERU - 100
Lesotho
Tel: 266 22 312395
Cell: +266 58778411/63282595
Fax: +266 22 310362
Email: cbd19662002@yahoo.co.uk

Ms **Ng'ono**, Peggy
Technical Officer – *Ex-situ*
SPGRC
P/Bag CH6
LUSAKA
Zambia
Tel: +206 211 233391/2
Cell:
Fax: +260 211 233746
Email: pngono@spgrc.org.zm or spgrc@zamnet.zm

Mr **Ng'uni**, Dickson
Senior ARO
Mt. Makulu Research Centre
Private Bag 7
CHILANGA
Zambia
Tel: +260 211 278380
Cell: +260 95 909260
Fax: +260 211 278130
Email: mtmakulu@zamnet.zm or dickson.nguni@gmail.com

Prof. **Nkonko**, Mbikayi Jean-Albert
Scientific Director
P O Box 2037
KINSHASA/GOMBE
DR Congo
Tel:
Cell: +243 813178790 or 994784842
Email: mbikayijeanalbert@yahoo.fr or
inera_dg@yahoo.fr

Mr **Pungulani**, Lawrent
Curator
Chitedze Research Station
P O Box 158
LILONGWE
Malawi
Tel: +265 1 70721919 (Office); +265 1 707168 (Home)
Fax: +265 1 707041/291
Cell: +265 8 386849/995750107
Email: genebank@malawi.net or lawrentp@yahoo.co.uk

Mr **Nourice**, Barry D
Senior Laboratory Technician
Seychelles Agricultural Agency
Research & Development
P O Box 166
MAHE
Seychelles
Tel: +248 715537/378252
Cell: +248 715537
Fax: +248 378428
Email: barnou04@yahoo.co.uk or
antimoust@seyechelles.net

Mr **Qhobela**, Lerotholi L
SPO – *Ex-situ* Conservation
SPGRC
P/Bag CH6
LUSAKA
Zambia
Tel: +206 211 233391/2
Cell: +260 977 815554
Fax: +260 211 233746
Email: lqhobela@spgrc.org.zm or spgrc@zamnet.zm

Ms **Pedro,** Evaldina Jorge H F
Documentation & Information Officer
Centro National de Recursos Fitogeneticos (CNRF)
Avenida Revolucao de Outubro (CNIC)
CP 10043 (BG)
LUANDA
Angola
Tel: +244-222-331811 or 325673
Cell: +244-92-3607939
Email: evaldinajorge@hotmail.com; cnrf@ebonet.net

Mr **Ramazani**, Lumbe
Chief Officer
Division of Management of Genetic Materials
National Institute for Study & Agricultural Research (INERA)
P. O. Box 2037
KINSHASA – GOMBE
DR Congo
Tel:
Cell: +243-815168294
Email: lambertlumbe@yahoo.fr

Mr **Phiri**, Andrew
Agricultural Research Officer
ZARI
Mt. Makulu Research Centre
Private Bag 7
CHILANGA
Zambia
Tel: +260 211 278380
Cell: +260 95 5 758075/978 363702
Fax: +260 211 278130
Email: mtmakulu@zamnet.zm OR
andrewbphiri@yahoo.com

Mr **Thabo,** T J
Curator
Directorate of Genetic Resources
Private Bag X973
PRETORIA 0001
South Africa
Tel: +27 12 808 5392
Cell: +27 72 650 3972
Fax: +27 12 808 5394
E-Mail: thabotj@daff.gov.za