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## List of Abbreviations

<b>AIMS</b>	Agricultural Information Management System, SADC
<b>Bioversity</b>	Bioversity International
<b>CBD</b>	Convention on Biological Diversity
<b>CBU</b>	Copperbelt University
<b>COP</b>	Conference of the Parties (of the CBD)
<b>DANIDA</b>	Danish International Development Agency
<b>DRC</b>	Democratic Republic of Congo
<b>FANR</b>	Food Agriculture and Natural Resources Directorate (SADC)
<b>FAO</b>	Food and Agriculture Organisation (United Nations)
<b>FARA</b>	Forum for Agricultural Research in Africa
<b>ICART</b>	Implementation and Coordination of Agricultural Research and Training (SADC)
<b>ICT</b>	Information and Communication Technology
<b>ITPGRFA</b>	International Treaty on Plant Genetic Resources for Food and Agriculture
<b>LAN</b>	Local Area Network
<b>NordGen</b>	Nordic Gene Bank
<b>NPGR</b>	National Plant Genetic Resources Centre
<b>NPGRCom</b>	National Plant Genetic Resources Committee
<b>NTSYSpc</b>	Numerical Taxonomy and Multivariate Analysis System
<b>PGR</b>	Plant Genetic Resource
<b>PMS</b>	Performance Management System
<b>RCWG</b>	Regional Crop Working Group
<b>SADC</b>	Southern African Development Community
<b>SANBio</b>	Southern Africa Network for Biosciences
<b>SDIS</b>	SPGRC Documentation and Information System
<b>Sida</b>	Swedish International Development Co-operation Agency
<b>SPGRC</b>	SADC Plant Genetic Resources Centre
<b>SPO</b>	Senior Programme Officer, SADC
<b>TO</b>	Technical Officer (SPGRC)
<b>UNZA</b>	University of Zambia
<b>ZITF</b>	Zambia International Trade Fair



## Report Highlights

- 27<sup>th</sup> SPGRC Ordinary Board Meeting Held in Lusaka, Zambia
- Technical Review and Planning meeting in Lusaka, Zambia
- Strategic Issues after the Ending of the Donor Funding

## 1 MANAGEMENT AND ADMINISTRATION

### 1.1 The 27<sup>th</sup> Ordinary Board Meeting, Lusaka, Zambia

The 27<sup>th</sup> SPGRC Ordinary Board meeting was held at SPGRC in Lusaka, Zambia between 14<sup>th</sup> and 15<sup>th</sup> October 2010 under the chairing of Dr Gillian Maggs-Kölling who was also representing Namibian in the Board. The meeting was officially opened by the Zambian Permanent Secretary for Agriculture and Cooperatives, Mr Banda.



After welcoming the Members to the 27<sup>th</sup> SPGRC Board Meeting, Dr Gillian Maggs-Kölling reminded the members that this was the last meeting in the 5<sup>th</sup> phase of the SPGRC Project and encouraged the Board to look at the new avenues for the project instead of dwelling on the Project's past successes.

The Sida representative, Mr Pedro de Figueiredo reaffirmed ending of Sida support in 2010 and encouraged SPGRC to contribute to new challenges of Climate Change and look for funding opportunities to move the programme forward.

The Director of FANR, Mrs Margaret Nyirenda acknowledged that SADC had come a long way in battling on how to sustain the achievements that were established at SPGRC and that there was a challenge of how to go beyond this era. She said SPGRC had come a long way with the Donors and still needed them and hoped that the new strategies would take the relationship further beyond this reach. She urged SPGRC management to vigorously work on fund mobilization.

The new Tanzanian Board member, Dr Hussein Mansoor was welcomed to the Board having assumed the position of Assistant Director for Research & Development in the Ministry of Agriculture and Food Security in Tanzania. The Board directed SPGRC to collect and keep the theses for the MSc Students in the library. It further urged the network scientists to publish their findings in relevant international journals – as a concrete output of the capacity building component of the network.

The Board was informed that the SADC PGR Short Course that had been taking place in Sweden over many years would relocate to the SADC region in 2010. The course could not take place in June 2010 as planned because preparations for its regionalization had not been finalized. The course was eventually held in November/December 2010 in Pretoria, South Africa.

## **1.2 Workshops and Meetings**

### **1.2.1 Annual Technical Review and Planning Meeting**

The SPGRC/NPGRCs annual technical review and planning meeting was held between 6<sup>th</sup> and 10<sup>th</sup> September 2010 at the Protea Hotel – Cairo Road, Lusaka with the objective of reviewing implementation of the technical activities for the previous (2009/2010) cropping season and evaluating technical plans for the 2010/2011 cropping season. The meeting, attended by more than 30 participants, provided a forum for information sharing and exchange on technical and networking issues. Genebank staffs from all SADC Member States except Mauritius, Madagascar and Swaziland, were in attendance.

The participants were reminded 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 thus compelling both SPGRC and NPGRCs to strive to raise additional funds from different sources. Participants were urged to play a proactive role in writing proposals that would enhance flow of supplementary funds.

Great concern was on the future funding of the planning meetings. It was agreed that ensuring continuity of these meetings it remains the responsibility of the network to mobilize funds.

The participants were also briefed on developments so far achieved in the development of the web-based SDIS, and the quest for transfer of SPGRC portal for hosting it within the region.

### 1.2.2 Regional Crop Working Groups

No Regional Crop Working Groups (RCWGs) Meetings were held during the reporting period due to financial constraints.

### 1.3 Visitors

There were a number of visitors to SPGRC during the reporting period. Names and designations listed in Appendix III.

## 2. PERSONNEL, EQUIPMENT AND SUPPLIES

### 2.1 SPGRC Personnel

The staffing levels at SPGRC have remained unchanged after the filling-in of the previously vacant Head's and one general worker's positions since last financial year.

### 2.2 Staffing in NPGRCs

Mr. Pedro Moçambique finished his PhD in Brazil and returned to Angola in 2010; whereas, Mrs. Domingas Tomás is on study leave for her MSc. Degree in Brazil since March 2010.

During the reporting period, the Malawian NPGRC staff compliment changed with the Curator, Mr Lawrent Pungulani going for further studies (PhD) in Australia, and with the recruitment of one technical officer, Mr Louis Yalaukani.

The staffing status at the Namibian NPGRC had a slight change with the recruitment of an Agricultural Research Technician (Ms Kahimbi Sikute) who joined the Centre during the year.

The staffing at Tanzanian NPGRC changed with the retirement of the Curator, Mr Herman Akonaay and also, with the demise of Dr Wazael Ntundu who was the Documentation Officer as well as the Coordinator of MSBP. A Research Scientist, Mr S Kabululu and one field officer, Mr Z. Bundala were recruited during the reporting period.

Many NPGRCs held regular meetings to discuss among other things, training of staff, sensitization, and domestication and implementation of the Treaty. Such meetings also discussed fund-raising and communication (LAN, Internet, etc.) issues affecting NPGRCs. Composition in the Tanzania NPGRC changed, appointing new Chair, Dr Hussein Mansoor who assumed the position of Assistant Director for Agricultural Research &



Development. Some countries could not hold their NPGRCom meetings for various reasons.

## **2.3 Equipment and Supplies**

A new Toyota Hiace minibus was procured in 2010 to replace the ageing one. The old Land Rover Discovery and old Toyota Hiace minibus which were advertised for sale have now been sold.

A new network-ready LaserJet printer was procured that will relieve the heavy-duty photocopier that has been used for both photocopying and printing on the network after the network printer had technical problems.

Frequent power outages from the State utility company have caused damage to some equipment and the biggest challenge still remains on the Generating Set which is quite old as it is running more hours than what is expected for a stand-by gen set. A major overhaul is needed to sustain the continuous running of the gen set. But the long-term solution to provide sufficient and reliable power to the genebank would be to replace the stand-by generator and this is being pursued by SPGRC through different sources.

## **1.4 SPGRC Buildings (Offices and Staff Houses)**

SPGRC continued to pay heavily for frequent and expensive maintenance of office buildings and staff houses due mainly to initial poor workmanship, for example poor plumbing materials were used. Major maintenance work on buildings including replacement of substandard materials is required to solve the problem of frequent breakdowns of infrastructure once and for all.

## **3. MEETINGS, TRAINING AND EDUCATION**

The annual NGB-sponsored short course in PGR management was not held in Sweden as per tradition. Instead, funds for the same course were re-routed to fund two regional courses in Information Technology and in Database Server Management both of which were held in Pretoria, South Africa, attended by more than forty participants and delivered by experts from within the region.

Several network staff attended various short training courses in different areas including biosafety, molecular techniques, and other areas of PGR management.

Currently, there are three network scientists pursuing PhD studies from Malawi, Zambia and Zimbabwe with the later two being sponsored by the SPGRC

project. The Malawian candidate is studying in Australia and the Zambian and Zimbabwean candidates are studying in Sweden, the latter two under project sponsorship.

There is also one MSc candidate from Zimbabwe pursuing her studies in PGR management and related fields in the Netherlands on sponsorship by the Dutch Government.

### **3.1 Training for SPGRC Network Staff**

#### **3.1.1 Performance Management System**

A planned Performance Management System (PMS) training in Lusaka could not be conducted by SADC Secretariat (Human Resource Department) and consultants could not be held during the reporting period and this affected the timely awarding of the incremental remunerations which however, have now been effected.

#### **3.1.2 Training and Education for NPGRC Staff**

The traditional annual plant genetic resource (PGR) management short course conducted in Sweden was replaced by IT and database server management courses conducted within the region in Pretoria, South Africa. This followed expression for such need and consensus reached during the 2010 SPGRC/NPGRCs annual technical review and planning meeting held in Lusaka, Zambia.



At first, it was felt needful to have it conducted in the region, and secondly, the content and target group changed to Curators and Information Management Officers of the National Plant Genetic Resource Centres (NPGRCs).

The two-weeks IT course aimed at capacitating the region in information management, in particular: SPGRC Documentation and Information System (SDIS), Geographic Information system (GIS), and data analysis (using NTSYSpc programme). This targeted to add value to both the national and regional collections, which will eventually lead to an increase in the use of conserved germplasm in a sustainable manner.

The database server management course aimed at capacitating the region in the management of SDIS servers in readiness for the web-based SDIS due for launch early in 2011. Specifically, the course aimed to cover basics of server maintenance and trouble-shooting as well as highlights on Linux operating system.

It implies that, even though the NPGRCs server administrators will often require liaising and consulting with the administrators where the central SDIS server will be hosted, their being introduced to the basics of maintenance and trouble-shooting equipped them with the basic maintenance and trouble-shooting tips. It introduced participants to perfect environment (air-conditioning, ventilation, security) for servers and resuscitation after power outages that are common in the region.

While the IT course was attended by 32 participants, the database server management course was attended by 12 participants.

As for the long-term training, Mr Dickson Ng'uni and Mr Claid Mujaju from the Zambian and Zimbabwean NPGRC respectively continued with sandwich 4-year PhD programme at SLU-Alnarp under the funding of Nordic/Sida. Meanwhile, Mr Lawrent Pungulani (NPGRC Malawi) has started his PhD programme in New Zealand on a Commonwealth scholarship

### **3.1.3 Other Training**

The Assistant Finance Officer, the Assistant Administrative and the Senior Finance Clerk attended a training session on the use of the Sun Systems in Gaborone, Botswana from 29<sup>th</sup> June to 3<sup>rd</sup> July 2009.

Under the SANBio project capacity building initiative, the SPO – Documentation & Information underwent training in project management using MS Project software in Pretoria, South Africa between 13<sup>th</sup> and 15<sup>th</sup> October 2009. Under the same, he was also trained in ICT Skills and Database Management in a course held in Namibia between 23<sup>rd</sup> and 28<sup>th</sup> May 2010.

## 1.2 Some Important Meetings Attended by SPGRC Staff

<b>Apr 2010</b>	<p>SPO – <i>Ex-situ</i> visited Mozambique and Tanzania to monitor Trust project activities;</p> <p>SPO – <i>Ex-situ</i> and SPO – <i>In-situ</i> visited Serenje, Zambia to collect threatened ground orchids;</p> <p>SPO – Doc. &amp; Info visited SADC Secretariat to explore relocation of SDIS central server at the Secretariat IT Unit;</p> <p>The Head, SPO – Doc &amp; Info and TO – Doc. &amp; Info visited the Republic of Seychelles.</p> <p>SPO- Doc &amp; Info attended a SANBio training workshop on intellectual property management and commercialization</p>
<b>May 2010</b>	<p>SPO – <i>Ex-situ</i> visited Mansa Research Station, Mansa, Zambia to monitor Trust project activities;</p> <p>SPO – <i>In-situ</i> visited Botswana and South Africa to assess the extent of threat and extinction of <i>Tylosema esculentum</i> in the region;</p> <p>SPO – <i>Ex-situ</i> visited Bamako, Mali to attend a watermelon's for life conference;</p> <p>SPO – <i>Ex-situ</i> visited Copperbelt University and Mansa Technology Assessment Site in Zambia;</p> <p>SPO – Doc &amp; Info attended a SANBio regional training workshop on ICT skills and database management.</p>
<b>Jun 2010</b>	<p>The Head attended a consultative meeting between Sida and SPGRC in Nairobi, Kenya;</p> <p>SPO – <i>In-situ</i> visited Malawi and Zimbabwe to assess the extent of threat and extinction of <i>Tylosema esculentum</i>;</p> <p>The Head attended FANR Internal meeting and consulted Directorate of Finance, HR and Administration and Legal Units</p>

<p><b>July 2010</b></p>	<p>SPO – <i>In-situ</i> travelled to Ougadougou, Burkina Faso to attend a Forum for Agricultural Research for Africa (FARA) conference ;</p> <p>All SPOs and TOs attended and exhibited at the Zambia International Trade Fair in Ndola and at the Zambia National Agricultural and Commercial Show in Lusaka.</p> <p>The Head attended a Seed Diversity fair in Chikankata, Zambia</p>
<p><b>Aug 2010</b></p>	<p>The Head attended a SADC Council of Ministers meeting in Windhoek, Namibia;</p> <p>All SPOs attended a SANBio Task Force meeting in Siavonga, Zambia;</p> <p>SPO – <i>In-situ</i> to attended a FANRPAN planning and budgeting development meeting for harmonized seed security project held in Pretoria, South Africa;</p> <p>SPO – <i>Ex-situ</i> and To – Doc. &amp; Info. travelled to Luanda, Angola on a technical backstopping mission.</p>
<p><b>Sep 2010</b></p>	<p>The Head attended a SADC-ICART Symposium in Johannesburg, South Africa;</p> <p>SPO – Doc &amp; Info visited Namibian NPGRC on technical backstopping;</p> <p>SPO – <i>In-situ</i> attended a FANRPAN regional policy dialogue conference in Windhoek, Namibia;</p> <p>SPO – <i>Ex-situ</i> travelled to Rome, Italy to attend a FAO expert panel reviewing genebanking standards;</p> <p>SPO – <i>In-situ</i> travelled to Zimbabwe to attend a farmers' seed fair.</p>
<p><b>Oct 2010</b></p>	<p>SPO – Doc &amp; Info attended a SANBio training in science communication;</p> <p>The Head attended a Conference of the Parties (COP)-10 of the Convention on Biological Diversity (CBD) in Nagoya, Japan</p>

<b>Nov 2010</b>	<p>SPO – Doc &amp; Info attended and facilitated a training course in IT for Curators. The course was also attended by SPO – <i>Ex-situ</i> and SPO – <i>In-situ</i> conservation;</p> <p>The Head attended a FANR Ministers meeting in Windhoek, Namibia. He also attended a meeting on Biotechnology and Safety and the Finance Sub-Committee in different dates in Gaborone, Botswana</p>
<b>Dec 2010</b>	<p>SPO – Doc &amp; Info attended and facilitated a training course in database (SDIS) server management;</p> <p>The Head attended a FAO Regional workshop on Project Cycle held in Nairobi, Kenya</p>
<b>Jan 2011</b>	
<b>Feb 2011</b>	<p>SPO – <i>In-situ</i> attended a dialogue meeting to review exploration of strategic priorities for regional agricultural R &amp; D investments in Southern Africa, held in Johannesburg, South Africa;</p> <p>The Head attended a FANR Internal meeting in Gaborone, Botswana. He also attended a SADC Council of Ministers meeting in Windhoek, Namibia</p>
<b>Mar 2011</b>	<p>The Head, SPO – <i>Ex-situ</i>, SPO – <i>In-situ</i> and AAO attended a FANR Directorate's strategic planning retreat held in Kasane, Botswana;</p> <p>The Head attended a 4<sup>th</sup> Session of ITPGRFA Governing Body in Bali, Indonesia;</p> <p>SPO &amp; TO – Doc &amp; Info visited Tanzanian NPGRC on technical backstopping</p>

## 4. TECHNICAL ACTIVITIES

### 4.1 GERMLASM COLLECTING AND *IN SITU* CONSERVATION

#### 4.1.1 Germplasm Collection

Germplasm collection missions were only conducted in seven countries. A rescue mission could not be carried out in Lesotho due to delayed fund disbursements. A total of 1,769 samples were collected as reflected in Table 1.

**Table 2: Germplasm Collections in 2009/10**

Country	Number of Samples	Remarks
Angola	122	Mixed crops
Botswana	69	Crops, wild species
Lesotho	511	Mixed crops
Malawi	115	Yams, wild relatives, Citrullus
Mozambique	218	Mixed crops
South Africa	35	Mixed crops
Tanzania	53	Mixed crops
<b>Totals</b>	<b>1,769</b>	

#### 4.1.2 On-Farm Conservation

**Table 1: Status of On-Farm Conservation**

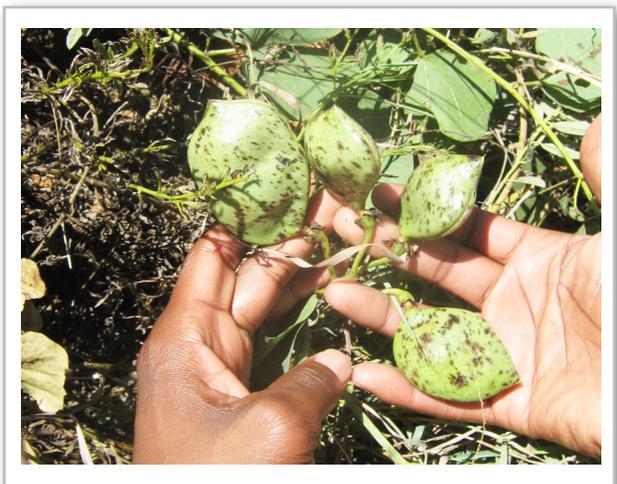
Country	Progress
<b>Botswana</b>	Conservation sites at Paje, Mmashoro, Mogorosi, Moiyabana, Tshimoyapula and Serowe. Seed fair not conducted due to delayed funding. Activity to be done in 2011/12
<b>Lesotho</b>	Activities are implemented in 2 sites: Butha Buthe and in Nazareth. Individual farmers growing traditional crops were visited in order to roll out the activity to other areas.
<b>Malawi</b>	Conservation of crop diversity by farmers carried out in Mzimba and Rumphu Districts where three (3) demonstration plots were done for finger millet and other promoted crops. Seven newly formed farmer groups were trained to introduce the concept of maintaining crop diversity on-farm. Three (3) field days and three (3) seed fairs were done for sharing information and seed.
<b>Namibia</b>	The on-farm conservation concept has been introduced in the Oshana/Omusata region where a survey is on going to identify the farmers' groups and target crops. Most farmers in the northern region still maintain their farmers' varieties.
<b>Seychelles</b>	Farmers are encouraged to maintain local crops through the 'every home a garden' campaign.

<b>South Africa</b>	Farmers involved with Community Seed Banking collaborate with the NPGRC in the multiplication of bambara and cowpea. Active groups are in KwaZulu Natal and at the Eastern Cape (Sterkspruit). Farmers' groups to be established in Mpumalanga and Limpopo Provinces.
<b>Swaziland</b>	On-farm activities carried out in Mafucula and KaShewula. Restoration of cowpea, mungbean and sorghum done at Mafucula where most of the farmers are growing sugarcane. Seed was distributed by the NPGRC. The KaShewula Community Seed Bank to be revived.
<b>Tanzania</b>	A baseline survey done in Morogoro and Dodoma to identify target crops to be promoted. Crops identified include sorghum, finger millet, lablab, beans and yams.
<b>Zambia</b>	Activities carried out in Rufunsa, Nadezwe, Sithumbeko, Mamvule and Simutwe. A total of 197 farmers are participating. Target crops promoted include beans, bambara, groundnuts, maize and cowpea. Seed fairs were done in 3 sites.
<b>Zimbabwe</b>	Conservation of root and tuber crops ongoing at Marondera by a women's group. Community Seed Banks linked with on-farm activities done at Chiredzi, UMP and Tsholotsho. A joint seed fair was held in September, 2010, officiated by Honourable Vice-President Joyce Mujuru.

#### 4.1.3 *In Situ* Conservation and Under-utilized Plants

SPGRC continues to maintain wild fruit trees and medicinal plant species. NPGRCs maintain live collection of root and tuber crops in field genebanks either at the national centre or in specialized institutions.

The exercise of finding out the threats against *Tylosema esculentum* was finalized in Botswana, Namibia and South Africa. In all countries, human settlements do affect the occurrence of plant through the destruction of the natural habitat, over-harvesting of the dibble roots and selling of the nutritious seeds. The city developmental projects in Pretoria have posed a serious threat to the plant such that only two plants were found in Ga-Rankuwa, 47 Km Northwest of Pretoria. The NPGRC was advised to liaise with the National Herbarium to ensure that the plant is monitored and added to the Red Data List. There is also need to do more domestication trials.



## **4.2 DOCUMENTATION AND INFORMATION**

### **4.2.1 Hardware and Software**

A network-ready laser jet printer and two laptops were acquired and installed during the reporting period.

Antivirus software was procured and installed, together with software for conversion of SDIS database from Access to a PostgreSQL. Procurement of the library automation software together was deferred to next financial year due to logistical difficulties.

### **4.2.2 Database Development**

Development of the web-based SDIS from a stand-alone window based system has progressed well and the database in SQL has been sent to Sweden (Sida/NordGen) for loading on to the central server.

In preparation for the launch of the web-based system, a course on IT for Curators and on database server management for administrators were conducted in November/December 2010 in Pretoria, South Africa. Each SADC Member State was represented and the course was very successful.

A few countries still have their database servers in place (in countries) but awaiting installation and DRC and Seychelles are yet to have their servers in place.

### **4.2.3 Information**

#### **5.2.3.1 Network News**

The SPGRC annual report for 2009/2010 was published and distributed; whereas, the network newsletter issues for January-June 2010 could not be published for lack of articles despite of a number of solicitation reminders to NPGRCs. Countries have since been asked to send as many articles as possible and a number of countries are assigned to submit before end of the year.

To expedite publication and ensure quality, the planning meeting constituted an editorial board to help with the publishing activities for the network.

#### **4.2.3.2 Connectivity to the Internet**

During the implementation of the SPGRC project on connectivity (building LANs and connecting to Internet), Angola, Botswana, Lesotho, Namibia and South Africa were connected to the Internet through their respective government funding.

Zimbabwe NPGRC has LAN cabling which is now installed/operational and has access to Internet; whereas, Tanzania has a LAN that is connected to the Internet, but which is unreliable.

To date, DRC, Mozambique, Seychelles, Tanzania, and Zimbabwe remain unreliably connected to the Internet and extra support is needed, especially in the anticipation of the operationalization of the web-based SDIS.

Seychelles will need to be supported in building a LAN and annual subscriptions be provided for Seychelles, DRC, and Tanzania.

#### **4.2.3.3 Publicity and Awareness of SPGRC**

In order to raise awareness across the SADC region and beyond, the Section coordinated institutional participation in both the Zambian International Trade Fair (ZITF) in Ndola and the Zambian annual agricultural and commercial show in Lusaka. These raised awareness on the network activities and SPGRC's role in enhancing food security and economic well being of the SADC people.

During the year, SPGRC printed calendars and distributed to NPGRCs, Board Members and other stakeholders. It also published and distributed 500 copies of annual report.

SPGRC continued with the updating and maintenance of the re-designed SPGRC portal that is accessible from <http://www.spgrc.org.zm>. Efforts to reclaim the older domain name ([www.spgrc.org](http://www.spgrc.org)) through the Project Technical Advisor has been negatively uptaken by the donor.

#### **4.2.4 Library**

SPGRC continued to purchase new books, and journal and serial titles as well as other publications while renewing the existing ones. Six new titles related to biodiversity management were purchased and added to the library collections that serve network scientists to keep themselves abreast with new information, technology and other developments in PGR management.

The process to procure library automation software is going on.

#### **4.2.5 Support to NPGRCs**

The Documentation & Information Officers undertook technical backstopping missions in Angola, Namibia, Seychelles, and Zambia NPGRCs. During the missions, hard- and software problems were resolved and staff training conducted on effective utilization of the SDIS and the information contained therein.



In the course of the visit in Namibia, it was agreed by both SPGRC and NPGRC staff that the species list of wild crop relatives (mostly found in Botswana,

Namibia and South Africa) be appended to the system and updated. This has been started and is continuing.

The Senior Programme Officer – Documentation & Information as Principal Investigator of the SANBio Project travelled to attend a Steering Committee meetings and capacity building training workshops. He also, attended a SADC Agricultural Information Management System (AIMS) Steering Committee meeting to which he is a member.

### 4.3 EX-SITU CONSERVATION

#### 4.3.1 Seed Handling and Storage

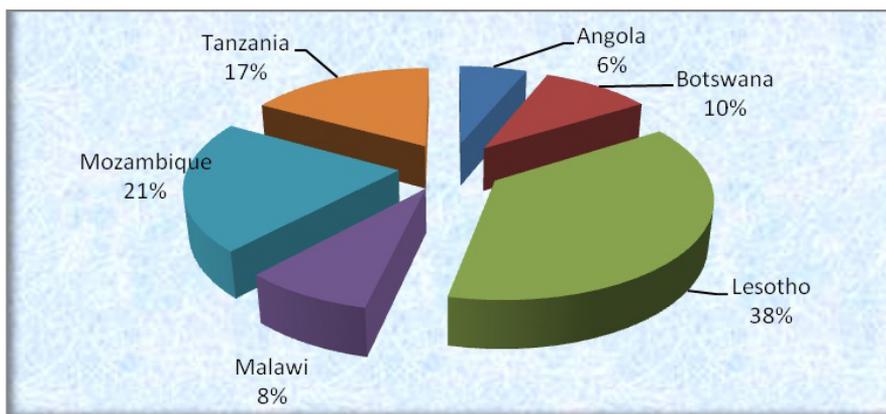
National genebanks exported more than thousand seed collections to conserve under long-term storage conditions at SADC genebank. The SADC genebank received a new seed moisture analyser to enhance seed processes and process of 'power conditioning' the gene bank to enhance storage efficiency was started. The Zambia National Institute of Scientific and Industrial Research leads the process of power conditioning the genebank. However, genebank 'power separation' process was sub-contracted to a private contractor. The process is intended to advance the life span of freezers. The table below is a presentation of information of seed collections SPGRC received, processed and were conserved as a base collection at SPGRC.

**Table 3: Accessions Received from NPGRCs between June 2010 and May 2011**

Country	Number of Accessions	Date Received
Angola	81	Sept 2010
Botswana	131	Sept 2010
DRC	0	-
Lesotho	493	Sept 2010
Malawi	109	Feb 2010
Mauritius	0	
Mozambique	282	Jan 2011
Namibia	0	-
South Africa	0	-

Swaziland	0	-
Tanzania	222	May 2011
Zambia	0	-
Zimbabwe	0	-
Total	1,318	

**Figure 1: Number of accessions received at SPGRC, in percentages**



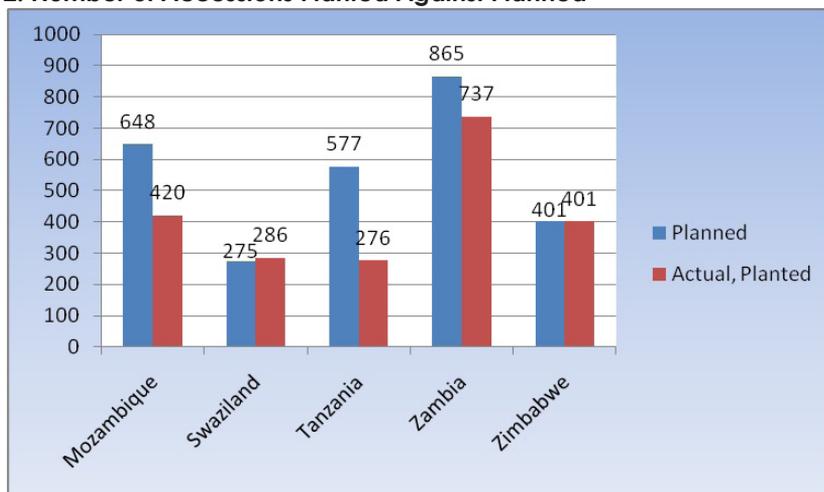
#### 4.3.2 Regeneration

Safety duplication to SPGRC, other designated International genebanks and to Global Seed Vault at Svalbard has been limited over the years. To rescue accessions threatened with loss due to low or poor viability condition, and also address the problem of backlog of accessions held under active collections national genebanks had not duplicated in the base collection of SPGRC, a total of 2151 accessions from a planned target of 2766 accessions of seven major food crops were regenerated by the participating national institutions. Seed safety duplication by participating national institutes is planned to be undertaken during 2011.

Some countries reported that characterization could not be done or was done partially due to shortage of technical personnel. In addition, data was entered into Excel and SDIS databases for further utilization.

**Table 4: Summary of Performance for Germplasm Regeneration Project**

Country	No. of Accessions for Regeneration		Variation	% Achieved
	Planned	Actual, Planted		
Mozambique	648	420	-228	64.8
Swaziland	275	286	11	104
Tanzania	577	276	-301	65
Zambia	865	737	-128	85.2
Zimbabwe	401	401	0	100
<b>Total</b>	<b>2,766</b>	<b>2,120</b>	<b>-640</b>	<b>76.6</b>

**Figure 2: Number of Accessions Planted Against Planned**

### 4.3.3 Multiplication and Characterisation

Overall, over 60 percent of accessions that were multiplied were characterized and data has been entered in the Excel and SDIS databases in individual institutes. Reports confirm that some collections were not characterized at all or were partially characterized due mainly to lack of technical expertise. More than 50% of collections were adequately characterized.

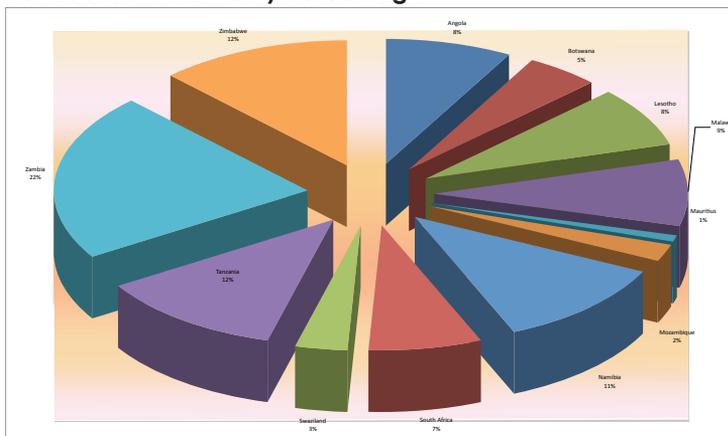
### 4.3.4 SPGRC Base Collection (as of June 2011)

Overall, the SPGRC networks through the NPGRC have collected over 45,000 accessions. Over 30% of collections have safety duplicates conserved under strict genebank long-term conservation conditions at SPGRC. The table below presents a total of seed accessions that have been adequately processed, tested against international standards and have been conserved under long-term storage conditions at SPGRC.

**Table 5: Number of Collections at Base (SPGRC)**

Country	Total Accessions, 2011
Angola	1,238
Botswana	742
DRC	0
Lesotho	1,201
Madagascar	0
Malawi	1,350
Mauritius	115
Mozambique	365
Namibia	1,771
Seychelles	0
South Africa	1,108
Swaziland	519
Tanzania	1859
Zambia	3,380
Zimbabwe	1,886
<b>Total</b>	<b>16,534</b>

**Figure 3: Collections at Base by Percentage**



**Table 6: Accessions of Major Species held at SPGRC**

Species	Common Name	Number of Accessions
<i>Sorghum bicolor</i> (L.) Moench	Sorghum	4,997
<i>Eleusine coracana</i>	Finger Millet	1,129
<i>Zea mays</i> L.	Maize	2,049
<i>Pennisetum glaucum</i> (L.) R. Br.	Pearl Millet	1,563
<i>Vigna unguiculata</i> (L.) Walp.	Cowpea	1,131
<i>Arachis hypogaea</i> L.	Groundnut	748
<i>Phaseolus vulgaris</i> L.	Beans	1,020
<i>Oryza sativa</i> L.	Rice	335
<i>Vigna subterranea</i> (L.) Verdc.	Bambara Nuts	331
<i>Cucurbits (C. Pepo &amp; maxima)</i>	Pumpkin	355
<i>Citrullus lanatus</i> (Thumb.) Matsumura & Nakai	Water Melon	215
<i>Triticum aestivum</i> L.	Wheat	142
<i>Cajanus cajan</i> (L.) Millsp.	Pigeonpea	172
<i>Cicer arietinum</i> L.	Chickpea	144
<i>Pisum sativum</i> L.	Pea	106
<i>Oryza longistaminata</i> A. Chev. & Roehr.	Wild Rice	55
<i>Sesamum indicum</i> L.	Sesame	101
<i>L. siceraria</i>	Gourd	113
<b>Total</b>		<b>16,534</b>

#### 4.3.5 Herbarium

In response to a growing importance of some sorghum species with their potential as bio-fuel species, and the emerging importance for herbaria materials' use in genebank to improve collections' identification, the coordination and strengthening of herbaria network focused on integrating plant identification and collection and analysis systems through combined herbaria materials collection this year, the consultative and technical meetings were held with CBU, NPGRC, and UNZA School of Biology. Ultimately, SPGRC in partnership with School of Biology - UNZA, conducted taxonomic identification-expedition of wild Sorghum relatives in Luangwa National Park aimed at improving species bank, and where possible, to provide a compendium of knowledge about particular species drawn from the region.

#### 4.3.6 Coordination and Quality Assurance for Genebank

Monitoring and technical backstopping as one of the pillars for maintaining international standards in SPGRC's network of genebanks and provision of regular and ongoing support through on-field monitoring to partners was a fundamental component in regeneration and multiplication in the network.



The sphere of work was spread across the entire year cycle. Zambia, Angola, Namibia genebanks were paid visits to support upholding genebank standards.

SPGRC participated at the evaluation workshop in Bamako Mali where members conducted end of project impact evaluation for the Water Melons for Africa project that was funded by DANIDA. The section, participated at the FAO consultative meeting where members reviewed the international genebank standards.

#### **4.3.7 Bridging the Gap between Base (SPGRC) and Active (NPGRCs) Collections**

SPGRC and national genebank managers were invited by the Board to discuss acceleration of bridging of the gap between active collections in national genebanks and long-term base collection conserved at SPGRC genebank. National genebank managers were further advised to conduct inventories for all active collections and share duplicates that were not represented at SPGRC. National genebanks were expected to export collections in 2011.

The results of SPGRC's (*Ex-Situ* Section) investigations to classify the sources of the gap brought to light that investment at the collecting stage is the most important phase to deal with the problem in future. The proportion was lower for seed samples SPGRC received as base collections from Member States than collections that national genebanks received as new active collections in each period indicating a limitation for multiplication and regeneration system to cope with the gap. In that regard, collecting missions offer the biggest opportunity to help balance between numbers of active collections and base collections. The necessity to re-think the way in which genebanks collect and share samples with SPGRC is evident. Collecting expeditions yielding collection sizes adequate to share between active and base collections at the end of a collecting mission would help out reduce more gapping in future and lighten multiplication and regeneration needs.

## **5. Farm**

During the year 2010/11 cropping season, 209x50 Kilogramme bags of maize were harvested and sold. In addition, 62x50 Kilogramme bags of soybean, 18x50 Kilogramme bags of sunflower and 33x50 Kilogramme bags of sunhemp were harvested and sold, mostly to SPGRC staff.

The cumulative rainfall amount received in 2009/10 season was 964.1 mm good enough for a normal crop in Lusaka, Zambia.

## **6. General Issue Discussions at Planning Meeting**

### **6.1 Standard Quantities of Seed to be sent to the Base**

The meeting agreed 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 to SPGRC, the meeting recommended 1,000 seeds so that SPGRC will store 500 seeds and dispatch 500 seeds to Global Seed Vault in Svalbard for safety conservation.

### **6.2 Funding of Future Planning Meetings and NPGRC Activities**

The meeting brainstormed on the future of holding SPGRC/NPGRCs annual technical review and planning meetings in light of the ending of donor funding. Participants proposed that a formal communication from SPGRC Board to the SADC Secretariat be written. However, the meeting urged network scientists to write proposals for funding by donors as a more permanent and reliable solution.

### **6.3 Capacity Building in PGR Management**

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 traditional annual PGR management course that used to be conducted in Sweden be held in the region. At the same time, it was agreed that the course should address Information Technology skills for Curators and NPGRC Documentation Officers. Secondly, the course should train the would-be database server managers in basics of server management including maintenance and trouble-shooting. For these courses to continue even after the phasing out of the project, it was advised that the network should embark on aggressive proposal writing.

### **6.4 Internet Connectivity/ Subscription for NPGRCs**

It was reported that support for NPGRC Internet subscriptions is catered for one year only following connection through the SPGRC Project. After a year, NPGRCs through their departments of mother institutions have to pay for the subscriptions. One option could be to connect Internet with lower bandwidth because SDIS server needs not more than 68Mbps. Zimbabwe's

case was cited as a good example for sustainability whereby the NPGRC connected Internet for the whole station and in turn, monthly subscriptions are paid by the government. Participants were reminded to include the cost of communications in all their proposals and budgets so that this money can be used to pay for Internet subscriptions.

## **6.5 Capacity in Maintaining Equipment in the Region**

It was reported that authorized dealers for TermoKyl dehumidifiers are available in South Africa in the name of MUNTAS who also have a branch in Zimbabwe. As for Telmax cabinets, there are no representatives in the region. Addresses for authorized dealers were promised for distribution by the 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 whose cabinets are taken for repair.

## **6.6 SPGRC Publications**

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 Committee to be composed of Ms Natalie Feltman (South Africa), Ms Sonja Loots (Namibia), Ms Evaldina Pedro (Angola), Prof. Mbikai 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. SPO – Documentation & Information was assigned to draft Terms of Reference for the editorial committee. It was observed that decisions by the Board were not always communicated to Curators and SPGRC was asked to be communicating to Curators on the decisions of the Board.

## **6.7 Status of Active Collections 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 visited. Even though these inventories seemed very helpful to the NPGRCs,

there was a concern that this was entirely the responsibility of the Curator. It came out that there were a few problems with curation at the NPGRCs owing to the fact that most of the Curators took over from many serving Curators and never got trained in that discipline. It was therefore recommended that Curators should have some training. Nevertheless, a way forward suggested was that this inventory be carried out by all NPGRCs and a report be submitted to SPO-*Ex Situ* Conservation at SPGRC.

### 6.8 Dispatch of Regeneration Project Materials to Svalbard

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

### 6.9 SPGRC Facilitation of ITPGRFA Domestication

It was confirmed that it is the responsibility of SPGRC to assist Member States in the 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.

## 7. Obituary



We regret to announce the death of Dr Wazael Hillary Ntundu that occurred on 4<sup>th</sup> September 2010 in Arusha, Tanzania. His death was a result of high blood pressure.

Born on the 5<sup>th</sup> of September 1964, after finishing secondary education, he studied Agricultural Sciences at Diploma and Bachelors degree levels, a Masters Degree in Plant Genetic Resources Management at the University of Birmingham in 1997, and in 2002 he successfully finished his PhD.



In his career, he was first a Tutor at Uyole Agricultural Research and Training Institute (1989 – 1995) and later joined The Tropical Pesticides Research Institute under the NPGRC in 1995 as a Research Scientists (Documentation Officer). During his carrier, he also assumed other different responsibilities such as The National Coordinator of the Millennium Seed Bank Project in Tanzania (MSBP) from 2004 – 2009, Principal Investigator of various projects at NPGRC; as well as Co- investigator in many other collaborative Research projects like HOPE project with ICRISAT. On the 1<sup>st</sup> of October 2009, Dr. Ntundu was appointed by the Minister of the Ministry of Natural Resources & Tourism to be a member of the 3<sup>rd</sup> Tanzania Tree Seed Agency (TTSA) Ministerial Board (MAB) for the period of three years, the post he did not serve for longer before his sudden death.

Dr. Ntundu left behind a widow, two sons and a daughter. Dr. Ntundu will be greatly missed by his family, colleagues, staff members both at TPRI and NPGRC, the SPGRC network, relatives, and friends. The gap he left behind will take long to fill.

May God rest his soul in eternal peace! **Amen**

## 8. FINANCIAL REPORT 2009/2010

**Table 7: Income and Expenditure Statement for the Year Ended 31<sup>st</sup> March 2010**

	2009/10, US\$	2008/9, US\$
<b><u>Income</u></b>		
Member States Contributions	1,234,165	987,075
Grants	-	-
Other Income	78,547	99,470
<b>Total Income</b>	<b>1,312,712</b>	<b>1,086,545</b>
<b><u>Expenditure</u></b>		
<b>Operating Expenses</b>		
Employee Benefits Expense	330,158	586,204
Transport, Subsistence and Conferences	26,707	23,901
Rents	-	-
General Expenses and Supplies	113,446	148,006
Communications	16,045	22,220
Audit and Professional Fees	17,630	14,178
Depreciation	95,455	98,293
<b>Sub-Total</b>	<b>599,441</b>	<b>892,802</b>
<b>Programme Expenses</b>		
Member States Funded	670,055	151,513
<b>Sub-Total</b>	<b>670,055</b>	<b>151,513</b>
<b>Total Operating Expenditure</b>	<b>1,269,496</b>	<b>1,044,315</b>
<b>Operating Surplus</b>	<b>43,216</b>	<b>42,230</b>
Finance (Costs)/Income	(5,535)	(5,215)
<b>Operating Surplus</b>	<b>37,681</b>	<b>37,015</b>
<b>Other Comprehensive Income:</b>		
Exchange Rate Gain/(Loss)	(27,620)	(77,721)
<b>Surplus (Deficit) for the Year</b>	<b>10,061</b>	<b>(40,706)</b>

**Source:** SADC Financial Statements for the Year Ended 31<sup>st</sup> March 2010

**Table 8: Assets and Liabilities Statements as at 31<sup>st</sup> March 2010**

	2009/10, US\$	2008/09, US\$
<b>Assets</b>		
<b><u>Non-Current Assets</u></b>		
Property, plant and equipment	1,888,994	1,908,112
<b><u>Current Assets</u></b>		
Debtors and prepayments	169,817	110,327
Cash and cash equivalents	489,719	428,847
Current Assets	659,536	539,174
<b>Total Assets</b>	<b>2,548,530</b>	<b>2,447,286</b>
<b>Member States Funds and Liabilities</b>		
<b><u>Member States Funds</u></b>		
Reserve Fund	20,140	20,140
Accumulated fund	252,981	239,120
Staff loan fund	24,815	24,868
Deferred projects income	-	-
Member States Funds	<b>297,936</b>	<b>284,128</b>
<b><u>Non-Current Liabilities</u></b>		
Post-employment benefit	218,398	166,698
Deferred capital grant income	1,815,585	1,863,612
	2,033,983	2,030,310
<b><u>Current Liabilities</u></b>		
Payables	216,611	132,848
Deferred grant income	-	-
	216,611	132,848
<b>Total Member States Funds and Liabilities</b>	<b>2,548,530</b>	<b>2,447,286</b>

**Source:** SADC Financial Statements for the Year Ended 31<sup>st</sup> March 2010

**Table 9: Cash Flow Statement for the Year Ended 31<sup>st</sup> March 2010**

	2009/10, US\$	2008/09, US\$
<b>Cash Retained from Operations</b>		
Surplus for the year	10,061	(40,706)
<b>Adjustments</b>		
Depreciation	95,455	98,293
Profit on Disposal of Fixed Assets	(426)	(5,734)
Interest Received	(3)	(1,041)
Transfer from Capital Grants	-	(85,497)
Transfer from Accumulated Fund		
	36,329	(34,685)
Receivables	(59,489)	300,564
Payables	83,762	(8,794)
<b>Net Cash from Operations</b>	<b>60,602</b>	<b>257,085</b>
<b>Cash Flows from Investing Activities</b>		
Grants Received	20,730	-
Acquisition of Fixed Assets	(76,337)	(51,183)
Proceeds on Disposal of Fixed Assets	426	5,734
Interest Received	3	1,041
<b>Net Cash Flows from Investing Operations</b>	<b>(55,178)</b>	<b>(44,408)</b>
<b>Cash Flows from Financing Activities</b>		
Grants	-	(4,897)
Member States Special Funds	3,800	2,571
Staff Loan Fund	(53)	36
Lease Repayments	-	-
Gratuity Fund	51,699	77,920
Development Partners Fund		
<b>Net Cash Flows from Financing Activities</b>	<b>55,446</b>	<b>75,630</b>
Net Increase in Cash and Cash Equivalents	60,870	288,307
Opening Cash and Bank Equivalents	428,846	140,540
<b>Closing Cash and Bank Equivalents</b>	<b>489,716</b>	<b>428,811</b>

**Source:** SADC Financial Statements for the Year Ended 31<sup>st</sup> March 2010

## 9. APPENDICES

### Appendix I: Members of the Board of SPGRC, 2010/2011

Dr G L Maggs-Kölling	– Namibia (Chairperson)
Dr J Jaffa	– South Africa (Vice-Chair)
Ms Elizabeth Matos	– Angola
Dr P O P Mosupi	– Botswana
Prof Jean-Albert M. Nkonko	– DRC
Dr M M Ranthamane	– Lesotho
Dr A P Mtukuso	– Malawi
Ms Carla do Vale	– Mozambique
Mr Y Mungroo	– Mauritius
Mr A. Moustache	□ Seychelles
Dr S Kunene	– Swaziland
Dr H. Mansoor	– Tanzania
Dr S W Muliokela	– Zambia
Mrs D. Hikwa	– Zimbabwe
<b><i>Ex-Officio Members</i></b>	
Mrs M Nyirenda	– SADC
Dr Jojo Baidu-Forson	– Bioersity International
Dr M B Fatih	– NGB
Mr Pedro de Figueiredo	– Sida
Dr Paul M Munyenembe	– SPGRC (Secretary)

**Appendix II: SPGRC Staff Members, 2010/2011**

Dr Paul M Munyenembe	Head, SPGRC (18 July 2008)
Ms Thandie J Lupupa	Senior Programme Manager – <i>In-Situ</i> Conservation (16 May 2006)
Mr Barnabas W Kapange	Senior Programme Manager - Documentation & Information (09 May 2006)
Mr Lerotholi L Qhobela	Senior Programme Manager – <i>Ex-Situ</i> Conservation (15 May 2006)
Mrs Mary B Phiri	Assistant Administrative Officer (01 March 2000)
Ms Florence C Chitulangoma	Assistant Finance Officer (08 March 1993)
Mrs Peggy S Ng'ono	Technical Officer-Conservation (01 June 2005)
Mr Kennedy K Hamudulu	Technical Officer - Documentation & Information (01 March 1994)
Mr Ferdinand Mushingi	Technical Officer – <i>In situ</i> (01 March 2004)
Mrs Phyllis M Litula	Personal Secretary (12 November 2001)
Mr Wilbroad M Chashi	Senior Finance Clerk (01 July 2002)
Mr Alexius M Nyambe	Driver (01 February 1991)
Mr Kapelwa E Songa	Typist/Receptionist (01 September 1989)
Mr Gibson Zulu	General Worker (01 August 1989)
Mr John Mfwembe	Worker (04 September 1989)
Mr Wale Banda	General Worker (01 April 1990)
Mr Olipen Phiri	General Worker (05 January 2009)



### Appendix III: List of Some Prominent Visitors to SPGRC (2009/2010)

James S Mulungushi	Permanent Secretary, Ministry of Education, Zambia
Fred Hamaamba	ACP, Deputy Division Commander, PU
Abraham Nehemia	Private Bag 13184, Windhoek, Namibia
Musanje Haabula	University of Zambia, Lusaka
Richard Kamona	Director, ZARI, P/Bag 7, Chilanga, Zambia
Mupande Nambala	National Science and Technology Council, Zambia
Abraham Chayo	Zambia national Broadcasting Corporation (ZNBC)
Cuthbert Miti	Zambia national Broadcasting Corporation (ZNBC)
Hachikulu Honesty	Kafue Boys Secondary School, Kafue, Zambia
Phiri Nelly	Mumbwa High School
Bakuluma Julius	Mukamambo II Girls High School
Mutambo Kondwani	Kalonga High School
Nabuyanda M. Mulele	Copperbelt University
Munaike J.	Copperbelt University





