SADC Plant Genetic Resources Centre (SPGRC)

FAO-TCP Inception and SPGRC/NPGRCs Technical Review and Planning Meeting Report

September 2018
Lusaka, Zambia

Acronyms

ABS	Access and Benefit Sharing
APPSA	Agricultural Productivity Programme for Southern Africa
ARC-VOPI	Agricultural Research Council – Vegetable & Ornamental Plants Institute, South Africa
BUAN	Botswana University of Agriculture and Natural Resources
CIMMYT	International Maize and Wheat Improvement Centre
COSPE	Cooperation for the Development of Emerging Countries
CTDT	Community Technology Development Trust, Zimbabwe
DAR	Department of Agricultural Research
DOI	Digital Object Identifier
DRC	Democratic Republic of Congo
DSA	Daily Subsistence Allowance
FANR	Food, Agriculture and Natural Resources (Directorate at SADC Secretariat)
FAO	Food and Agriculture Organisation
FIFAMANOR	Center for Rural Development and Applied Research, Madagascar
FOFIFA	National Centre for Applied Research in Rural Development, Madagascar
GEF	Global Environment Facility
GIS	Geographic Information System
GLIS	Global Information System
GPA	Global Plan of Action
IIAM	*Instituto de Investigação Agrária de Moçambique* (Agricultural Research Institute), Mozambique
INERA	*Institut National pour l'Etude et la Recherche Agronomique* (National Agricultural Research Institute), DRC
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
MLS	Multi-Lateral System (under ITPGRFA)
MRTC	Minor Root and Tuber Crops
NPGRC	National Plant Genetic Resources Centre
NPGRCom	National Plant Genetic Resources Committee
NSAP	National Strategic Action Plan
PGR	Plant Genetic Resources
PGRFA	Plant Genetic Resources for Food and Agriculture
RISDP	Regional Indicative Strategic Development Plan, SADC
SAA	Seychelles Development Agency
SADC	Southern African Development Community
SANBio	Southern African Network for Biosciences
SDIS	SPGRC Documentation and Information System
SFS	Sub-regional Office for Southern Africa, FAO
SMTA	Standard Multilateral Transfer Agreement
SPGRC	SADC Plant Genetic Resources Centre
SPO	Senior Programme Officer, SADC
TCP	Technical Cooperation Programme
TO	Technical Officer, SADC
UNDP	United Nations Development Programme
UNESWA	University of Eswatini
UNZA	University of Zambia

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FAO-TCP Inception and SPGRC/NPGRCs Technical Review and Planning Workshop

27th – 29th August 2018, Lusaka, Zambia

1. Objectives

The FAO-TCP Inception and SPGRC/NPGRCs regional planning and review workshop was held in Lusaka, Zambia with the following main objectives:

a) Inaugurate commencement of the FAO-TCP project that will assist four (4) Member States develop national strategies for conservation and utilization of PGRFA;
b) Deliberate on national annual PGRFA progress reports; and
c) Consider and endorse PGRFA national annual work plans and budgets for the coming year.

2. Expected Outputs

Accordingly, expected outputs from the workshop were:

a) Inaugurated FAO-TCP project covering Angola, Mozambique, Namibia and Zimbabwe
b) National annual PGRFA progress reports; and
c) Endorsed PGRFA national annual work plans and budgets for the coming year (2018 – 2019).

3. Attendance

Thirty four (34) participants attended the meeting from NPGRCs and SPGRC. Due to logistics, Mauritius and South Africa could not attend the meeting. Besides the scientists from SPGRC and NPGRCs, FAO country representatives from TCP project participating Member States (Angola, Mozambique, Namibia and Zimbabwe) were present to witness inauguration. A representative also attended the meeting from the FAO Sub-Regional Office for Southern Africa, as well as a FAO Consultant engaged to coordinate the project.

4. Venue

The meeting was held at the Taj Pamodzi Hotel in Lusaka from 27th to 29th August 2018.

A detailed meeting programme is found in Annex I.

5. Opening Ceremony

The meeting started by the Session Chair recognizing and welcoming all participants to the 2018 regional meeting that played role as an inception meeting for the FAO-TCP project. It was also a platform for reflecting on achievements made over the last year of implementing programmes related to plant genetic resources for food and agriculture (PGRFA). Participants were advised that this was a first paperless meeting and therefore

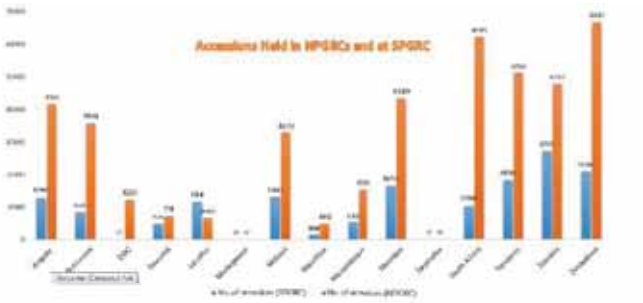
should strive to follow the proceedings on their laptops and on the screen for presentation.

5.1 Welcome Address by Head of SPGRC

The Head of SPGRC, Mr Justify Shava welcomed participants to Lusaka. He extended a special welcome to FAO representatives from the Regional Sub-Office in Harare, Zimbabwe and those from countries that are participating in the project.

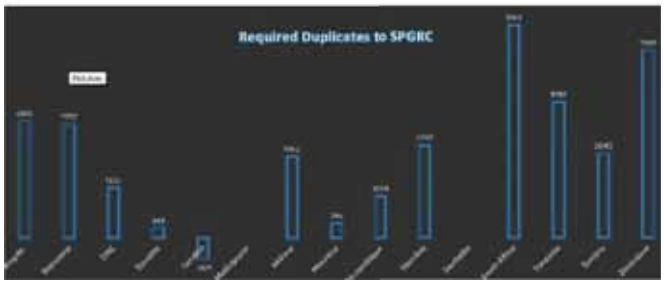
In his overview, the Head questioned if the network was conserving the SADC PGR for prosperity. In responding to that, he made a an overview of the regional conservation programme, highlighting on the key operations under regeneration and characterization, information and documentation, evaluation and distribution at all levels, starting from active collections upwards to the long-term conservation at SPGRC and finally to safety duplication of germaplasm materials for safety duplication.

The Head presented the status of the SADC PGR conservation reflecting on accessions held by SPGRC versus NPGRCs, proportion of NPGRC accessions held at SPGRC. He extrapolated what NPGRCs need to duplicate to SPGRC and also gave figures of what the network has deposited germplasm materials to Svalbard Seed Vault in Norway



He then made summaries of what can be concluded from the data give as:

- Many NPGRCs do not have germplasm in the SPGRC base collection.
- Only a small proportion of the germplasm is at SPGRC.
- A very small amount of SPGRC base collection is duplicated at the Svalbard.
- Very small proportion of the region's PGR are characterised and fully documented.



The reasons for the above include:

- Lack of funding necessary for conducting field work, training staff and for establishing modern facilities
- Lack of skills and which has also culminated into high staff turn-over.

The FAO-TCP project presents a great opportunity for

- multiplication of materials so as to increase seed quantities needed for duplication and distribution;
- characterization so as to identify available traits contained in conserved material so that they can be more effectively utilized in crop improvement programmes; and

- resources for shipment of germplasm materials to SPGRC for long-term conservation

He wished the meeting fruitful deliberations.

5.2 Remarks by FAO Representative

The FAO representative from the Southern African Sub-Regional Office, Dr Joyce Mulila-Miti conveyed greetings from the FAO-SFS Director in Harare, Zambia.

She expressed pleasure of attending the meeting that will see Phase II of the TCP project inaugurated after successfully concluding Phase I (2014-2016) that was implemented in six (6) SADC Member States. She had hopes that some of the activities listed in the drawn-up strategies were by now, being implemented in respective countries.

Dr Mulila-Miti stressed the importance of strategies to guide and act as a bargaining tool to source funds from governments. She echoed FAO request that Member State clearly state on what NPGRCs without reinventing the wheel. She was of the opinion that NPGRCs know a lot of information on the PGRFA and should capitalise on that to implement the TCP Project.

She explained that FAO as such does not have funds but mobilizes funds part of which is utilized for harmonisation of seed regulatory systems as part of the Treaty requirements. It also targets to contribute adequately to sustainable use of PGRFA. As for SPGRC, TCP project support value addition of conserved genetic material. She urged the network to continue the TCP project even after the end of 2 years and that SADC Members States will continue project by sourcing funds from elsewhere.

5.2 Programme and Logistics Announcements

The Senior Programme Officer – *In-situ* Conservation took participants through the workshop programme, which was endorsed without alterations. She also made logistical announcements regarding the filling and submission of registration and claim forms.

6. Matters Arising from the Last (2015 and 2017) Meetings

SPGRC/NPGRC Planning and Review Meeting (2015)

a) The NPGRC in DRC has an office at INERA in Kinshasa - with one faulty desktop computer. As a result of joining the network late, DRC has not received any kind of equipment and was therefore asking SPGRC to enable it to establish conservation and use activities/facilities.

   Action: A new desktop computer was delivered at INERA and installed with the current web SDIS

b) **Documentation and maintenance of data for *in-situ* conservation/on-farm or available diversity using web SDIS**

   The meeting commented on the importance of proper documentation of *in-situ*/on-farm conserved materials which many times is ignored.

Against proposal to commit SPGRC to find ways how a study can be made; considering possible financial implications, the meeting agreed that SPGRC develop indicators and matrix from selected global initiatives to make own reporting format (to clearly inform tools and elements needed in the standard format).

The web-SDIS, unlike the standalone version, did not take into account of *in-situ* materials but developers have now included fields for *in-situ*/on-farm conservation.

Action: It is work in progress

2017 Joint SPGRC-FAO/Treaty Cape Town meeting:

a) Regional update of ITPGRFA implementation

Contracting Parties obliged to forward notifications of PGRFA material to the Treaty, which is in the Multilateral System (MLS). This was to be done through the use of Digital Object Identifiers (DOIs) and the MLS descriptors. This is also valid for the monitoring and evaluation of the Global Plan of Action (GPA).

National Reports on the implementation of the Treaty ought to be submitted by Member States who have ratified the Treaty. However, there are currently only three countries that have submitted. SPGRC expected to submit a regional report.

Action: Report not yet submitted. In addition, countries need to regularly update the information in the Web-SDIS.

b) Use of SMTA to Transfer PGRFA

The Standard Multilateral Transfer System (SMTA) ought to be used for the transfer of PGRFA material that is in the Multilateral System and reporting be done using the Data Store through the Easy-SMTA. Utilization of PGRFA can be strengthened whenpartnership with the Private Sector is done.

Adaptation and characterisation of farmer varieties needs to be promoted and formulation of descriptors done to allow the registration and commercialization of preferred adaptive varieties by smallholder farmers.

In order to cover the above and other contentious material transfer issues, preparation of national and regional proposals on on-farm conservation and PGRFA documentation (ABS Fund) were proposed.

Action: Proposals were submitted and unfortunately not considered by the ABS committee.

c) Support for Establishment of New NPGRCs

SPGRC to consider outlining the approach to use in supporting new Member States of the network.

Action: The Head of SPGRC visited DRC and Madagascar to meet with Senior Officials. The M'vuazi Research Institute was affirmed to be the NPGRC for DRC and the Seed Laboratory facility at FOFIFA Headquarters proposed for Madagascar. Further consultations ongoing.

d) **The Head should visit countries and an extra day at planning meeting for training on Web-SDIS proposed**

One extra day required during the next planning meeting for training on the use of the web-based SDIS. An SDIS tutorial to be finalized and distributed.

Action: A training workshop was held in Pretoria (16 - 20 April 2018) Countries that were not represented: Botswana, DRC, Mauritius, Madagascar and Tanzania. The end-user manual that includes system installation files was finalized and has been distributed to Member States.

e) **Establishment of MoU between SPGRC and ITPGRFA**

Establish an MoU on the collaboration between SPGRC and the ITPGRFA Secretariat on documentation and information sharing and other issues of common interest.

Action: MoU not yet established. Negotiations underway.

f) **Capacity building for genebanking infrastructure upgrade in the network**

Expressed need for capacity building on infrastructure (including regional molecular infrastructure) and information management, in particular, data analysis and GIS. Capacity building also required for human skills, etc.

Action: Started implementing FAO-TCP activities in four Member States. Another AU-supported project (in collaboration with SANBio) on pipeline

g) **Resource Mobilization**

Mobilize resources for regional workshops on Farmers' Rights.

Action: Work in progress through fund mobilisation efforts

7. Highlights on FAO-TCP Project

This was represented by the FAO-TCP Regional Coordinator, Ms Thandie Lupupa who is also the SPGRC Senior Programme Officer responsible for in-situ/on-farm conservation.

Ms Lupupa highlighted that the FAO-TCP project will run from September 2018 up till June 2019 on four SADC Member States, namely: Eswatini, Namibia, South Africa and Zimbabwe. The project will support development of national strategies for conservation and utilization of PGRFA, multiplication, characterization and shipping germplasm material to SPGRC.

The project work plan was presented and elaborated for information purposes. Individual project-participating Member States met for detailed briefing and planning.

The project Consultant, Dr Claid Mujaju, engaged by FAO was also present and interacted with Members States. He particularlly discussed activities contained in the four project outputs: (i) strategy, (ii) gap filling whilst doing multiplication and characterization, (iii) strengthening linkages between breeders and farmers, and (iv) linking genebankers with germplasm material users.

Dr Mujaju informed the meeting that a Project inception was key to encouraging ownership and to identify strategic areas to work on by the participating Member States as well s sensitization of stakeholders, in particular, members of the NGRCom. The National project coordinators present recommended to consider incorporating the project in performance agreements to measure progress and also encourage ownership and commitment to deliver on the project. It was suggested that activity 1.2 be revised to include consultative meetings with stakeholders for the important purpose of capturing more information.

A desktop study will come up with a draft that will be shared within small group under NPGRCom. This can also be sent to FAO/SPGRC for input. A multi stakeholder workshop including FAO, SPGRC, farmers, line ministries will be held up to around December 2018.

While the Head of SPGRC wanted the clarification of the constitution of NPGRCom for the countries to be aware of, it was mentioned that NPGRComs will be revived with TCP Project. Work will be coordinated by the National Coordinators. It was emphasized that countries should take ownership by coming up with the document taking cognisant of key stakeholders views at the national level. Specific budget per quarter must be submitted to SPGRC for further submission to FAO. The strategies were initiated because there should be a regional one will be derived to the TCP projects strategies.

The meeting recommended to use ITPGRFA as an overall guiding document for producing strategic action areas for the (National Strategic Action Plan (NSAP) and for that, the Project Consultant was requested to develop and share a skeletal template outlining possible areas to be contained in the NSAP with view to guiding members in the development of the NSAP strategy. Members were requested to submit their workplans and budgets for the first quarter to SPGRC for final submission to FAO for disbursements of funds for the first quarter. This expected to be done as soon as possible so that progress made can be reported at the SPGRC board meeting in October 2018.

Administrative and Financial Issues Governing the TCP Project

It was reported that the main budget for four countries inclusive of consultations and regional meetings is US$ 340,000. The budget for workshops, and drafting of strategy for four countries is US$ 70,000 and cost for the FAO consultant is estimated to be US$ 13,000; all in total, amounting to US$ 83,000.

Since Namibia which is a participating country already has a national strategy, it was decided that it is given a smaller amount of money. The budget breakdown for the strategy was therefore reported to be US$ 20,000 per country and Namibia gets US$ 10,000.

The budget of filling the gap of germplasm materials between the Base and Active collctions is estimated to be US$ 30,000 implying, each country is allocated US$ 7,500. On-farm activities were allocated a lump sum of US$ 42,000, translating to US$ 10,500 per country. In summary, Namibia gets US$ 18,000 for on-farm and gap filling activities while all other countries get US$ 30,500 each. Each country will also get US$ 600 in the form of a router for the Web-SDIS.

The roles were also clearly defined between FAO and Regional Coordinator:

a) The FAO group is to ensure quality of the work done. If there is a need to hire a consultant, it will be done through the FAO team and they can come up with ToR for the consultant. Keep consultation fees at US$ 250 – 200 per day;
b) While the Regional Coordinator ensures implementation of activities, the National coordinator will do the actual work and link up with the regional coordinator;
c) Countries are to budget in collaboration with FAO focal points for this project. Only when agreements are reached then such budget should be sent to the Regional coordinator;
d) It was agreed that Daily Subsistence Allowance (DSA) can only be claimed when activities are done outside office in a different town or region; and
e) It is up to countries to hire a vehicle to carry out activities as long as the budget allows.

8. NPGRC PROGRESS REPORTS

8.1 Angola

The staff composition at NPGRC remained unchanged at 17, during the reporting period. The NPGRCom did not hold any meeting in the year.

The Angolan Curator reported that the NPGRC is currently holding 4,202 seed accessions of different crop species in conservation. Out of the collections, seed viability tests were conducted on 89 seed accessions and 15 accessions multiplied. Study on the genetic diversity between and within maize accessions is underway mainly those collected from Huambo and Uíge provinces. Molecular characterization of some accessions of gengiber (*Zingiber officinale*) have been carried out.

Besides the genebank staff attending various training workshops and professional meetings, the NPGRC conducts training of students and allow them to do research, mostly with the genebank materials.

During the year, the NPGRC was updated with most current web-SDIS database software, done by the SPGRC Documentation staff.

Angola NPGRC is organising a National Conference on PGR to take place in November 2018.

While the Centre reported is in requirement of laminated foil bags and pollination bags, it also reported that the genebank was running of conservation space for putting freezers in the genebank.

Angola reported budgetary constraints, lack of space in genebank, and lack of aluminium foil bags and pollination bags.

8.2 Botswana

Staffing for Botswana NPGRC has not changed since last year, by having six staff members.

The NPGRC reported to hold 4,850 accessions ex-situ of species and wild species. Out of these, 3,733 are cultivated species. During the reporting period, NPGRC characterized 30 and multiplied and regenerated 42 accessions of different crops. The NPGRC executed seven (7) collection missions during the year.

During the year, 30 accessions of bambara groundnuts were characterized and the data will be compiled analyzed and availed to potential germplasm users. Thirty (30) accessions of cowpea were multiplied, dried, viability tested, fumigated, packed and dispatched to SPGRC.

In support of *in-situ*/on-farm activities, the NPGRC held two on-farm genetic diversity workshops in two districts – one the Kweneng district was attended by 70 farmers; the second – in the North-east district at the city of Francistown where 55 farmers and 23 extension officers attended. Discussions with farmers revealed that if farmers continue to grow varieties of old landraces they are indeed conserving their diversity on farm. Participants appreciated the workshops and requested conservation officers to follow-up their on farm activities.

Additionally, farmers in the Central District of Botswana have formed two on-farm conservation groups and in their support, they have been supplied with different accessions of sorghum, pearl millet, cowpea, groundnuts and maize to plant in the coming season.

In terms of utilization, 64 accessions of different crop species were distributed to end users: Botswana University of Agriculture and Natural Resources (BUAN) – 9 for BSc students, farmer - 4 for restoration, Tshiamo Matshaba (farmer) -0 10 for restoration, DAR (Entomology and Oil & Legume sections) – 39 for research.

In order to step up publicity and trigger increase in material utilization, the genebank published and distributed a seed catalogue. The staff attended a number of workshops and meetings for training, exchange of experience and expertise, policy matters, *etc.*

8.3 Democratic Republic of Congo

The Democratic Republic of Congo (DRC) is still in the process of establishing a national genebank (NPGRC) that will see germplasm materials from across the country conserved at a central location thus ease access and exchange, management and conservation.

For now, the interim staffing include Coordiunator and Documentation Officers both of whom are at the INERA Headquarters in capital, Kinshasa. Meanwhile, consultations indicate preference of M'Vuazi INERA Research Station that is about 200 Km away. It has reliable power supply, water, communication and most conservation facilities, as well as support staff.

Meanwhile, DRC is engaged in multiplying accessions that could be duplicated to SPGRC starting financial year 2018/2019.

In terms of field genebank maintenance, there are no specific locations as there is yet to be established a national genebank but some field activities are going on. During the reporting period for example, on 15 May 2018 cassava collection (42 accessions) conserved in Kipopo Station (near Lubumbashi, in Katanga Province) were duplicated to M'vuazi centre (Kongo Central Province) which is a national genebank designate. Otherwise, in the republic, vegetatively-propagated germplasm in conservation include cassava, sweet potato, yam, yam-bean (*Haricot igname*) and Colocasia spp.

The Interim Curator requested for SPGRC network support in infrastural development and in training staff.

8.4 Eswatini

There was no change in staffing reported during the period, but recruitment of the substantive Curator and a Technician is on going.

The Eswatini NPGRC reported that it had in possession of 712 seed accessions out of which 678 are seed accessions conserved in the genebank. 34 accessions are vegetatively propagated and are conserved in field genebank. Out of these, 65 and 127 accessions were respectively multiplied and characterized during the reporting period. No collection missions were executed although 2 accessions (bean and cowpea) were collected from Tikhuba Local Agricultural Show. Research experiment trial on cowpea and maize legume mixed was conducted and conclusions are yet to be made on the findings.

A total of 65 accessions and collections were multiplied. The Curator indicated that further multiplication and regeneration is needed for both distribution and duplication.

Assessment of genetic diversity of maize landraces (PhD research work in collaboration with UNESWA lecturer at University of Orange Free State) is still on-going: Done Molecular analysis of 127 accessions through INCOTEC Lab in South Africa in 2015; and morphological characterization of 70 selected genetically diverse accessions in 2017/18 and continuing 2018/2019. Preliminary evaluation of 16 sorghum accessions for birds' tolerance was initiated in 2016/17 and is on-going.

Germplasm materials were distributed to users for research, and to farmers for restoration programmes. Information dissemination through exhibitions at farmers' centre, local agricultural shows and RSTP symposium were conducted in the year, and people have shown interest in genebank material.

The chronic inadequate staffing cannot be overemphasized but the government is in process of some more staff. Transport is an outstanding challenge whose solution might not be reached at soon. A non-functional standby electric generator, diminishing genebank storage space, aging freezers, and seed processing equipment are some of the challenges the genebank faces.

Nevertheless, the genebank takes advantage of opportunities arising from collaborations with on-going collaboration with UNESWA on characterization of germplasm; the FAO-TCP project; as well as the Cooperation for the Development of Emerging Countries Project (COSPE) "Prevent and Respond to Climate Change: Resilient Practices of mitigation of drought Effects in Swaziland and Mozambique"

8.5 Lesotho

There has been no change in terms of staff strength at the NPGRC, currently standing at five that include the Curator, Documentation Officer, Laboratory Technologist, Technical Officer and one General Assistant.

The major constraints reported which impede the optimal maintenance of collections at the NPGRC are frequent power cuts which often damage the electronic equipment, shortage of staff and inadequate funds for fulfilling different genebank activities.

At the moment, the NPGRC holds 4,209 seed accessions dominated by landraces (90%). Of these, 3,822(90.8%) are landraces, 19 (0.45%) are indigenous vegetables while 368 (8.74%) are wild species. More collections were made during the reporting period. The new collections yielded 184 seed samples collected from 14 crop species.

With a broken seed drrier in place, the NPGRC has devised an alternative seed drying whereby air drying is used. Seed is dried in doors at room temperature/outside using the movable open trolleys with a minimum of three shelves. The challenge is that the seed gained and lost

moisture due to varying external wet and dry weather conditions respectively. This calls for more research and experimentation.

The genebank conducted germination tests on materials which were found to be within the desired level (85-97%), The SDIS was updated with 555 seed accessions and also distributed 12 Accessions fodder and wheat to users.

As part of information dissemination strategy, NPGRC submitted two articles in Department of Agricultural Research (DAR) Quarterly Newsletter. It also submitted exhibits for display at the World Food Day and Districts agricultural shows. On its own, it produced brochures and pamphlets. During the year, NPGRC hosted many visitors including the new Permanent Secretary who toured the facilities. College, high school and primary school pupils on educational trips.

The NPGRC challenges reported include understaffing, lack of usable vehicle and standby electric generator, as well as lack of other genebank equipment and facilities. However, the genebank sourced through GEF and also funds to upgrade NPGRC facility through Agricultural Productivity Programme for Southern Africa (APPSA).

8.6 Madagascar

Madagascar has several genebanks and conservation activities that are not centralized yet. Frantic efforts are underway by both the SPGRC and the government in finding place and means to establish an NPGRC where all national PGRFA will be conserved. In that note, the Head of SPGRC visited the country to hands-on information based on which he solicit funding for establishmeny of NPGRC.

Currently, Madagascar has 7,184 accessions including rice, and many other crop species conserved *ex-situ*. Other species include: maize - 10, cassava – 170, beans – 149, voandzou – 40, groundnuts – 244, forage plants – 22, leguminous plants - 14, sunflower - 1, and sesame – 1,

With the material at hand, during the year, Madagascar has conducted the following activities:

- Seed analysis
- Implementation of BCS
- Characterization
- Development of PGRFA strategy
- Monitoring
- Multiplication
- Characterization

Madagascar reported about the unveiling of its new seed and molecular laboratories

located at the FOFIFA Head offices in Antananarivo. These, are anticipated to assist in the work of conservation and analysis of PGR materials.

Madagascar reported that one of its major constraints is inadequate funding for conservation and utilization of PGRFA. It alo indicated lack of packaging materials for the germplasm.

8.7 Malawi

There are nine members of staff. One of the reasrchers Ms Nolipher Mponya is pursuing PhD programme in the UK, sponsored by APPSA programme. Due to financial constraints, the NPGRCom has not been meeting for the past years.

Staff have attended meetings and undergone trainings in areas that include, Seed Production Techniques, information management, intellectual property rights, *etc.*

With regard to information dissemination and publicity, during the year, the genebank was visited by Norwegian Deputy Minister of Agriculture, the ITPGRFA Secretary and other Treaty officials. It conducted Seed and Food Fairs and also was visited by students and other stakeholders.

Malawi NPGRC has to date a total of 5,324 registered against the 4,453 inventory accessions in freezers. There are two field genebanks that conserve sugarcane and banana. So far, 871 samples of vegetatively propagated materials have been collected, and 766 have been cleaned using tissue culture.

While no characterization was done during the reporting period, the NPGRC multiplied and rejuvenated 76 pigeon peas, 76 cowpeas and 11 hyacinth beans. A few collection missions were undertaken, yielding into addition of collected materials of five species namely (quantities in brackets); ground yam (55), Livingstone potato (20), cocoyam (70), air yam (13), and wild cowpea (16).

With regard to on-farm conservation, the NPGRC trained farmers on climate agriculture and community seed bank, demonstrated farmers on on-farm conservation in plots, and conducted seed food fairs. Plans are underway to establish community seed banks in the country.

8.8 Mozambique

The Mozambique NPGRC personnel ststus has not changed since last year. Staff attended workshops and meetings including 7TH Session of the Governing Body Meeting on ITPGRFA, Multi-stakeholder Dialogue on Bioversity Mainstream Across Agriculture Sectors, and

course on Documentation Information System and Proposal Developing Plant Genetic Resources Management. It is worth noting that one of the technicians, Francisco Reis, still pursuing his final year degree studies at the Universidade Pedagógica (UP) in Maputo, Mozambique.

The NPGRC conducted collection mission through the APPSA programme financing and got 86 seed accessions. The collection mission targeted 24 farmers and the collected seed samples were properly documented using SPGRC collection forms and kept at NPGRC for conservation and use. Representative seed samples collected in these 5 districts will be multiplied and stored at the NPGRC and the duplicates will be taken to SPGRC.

The NPGRC successfully multiplied and characterized in a trial 100 rice and 75 cowpea accessions.

The genebank is currently holding 3,439 seed accessions comprising both cultivated and wild species and during the year, 436 accessions were distributed to the users. The NPGRC also duplicated germplasm to SPGRC Base collection.

The NPGRC sourced pollination bags from a South African company. However, the NPGRC still needs a seed drier, 6 deep freezers, 2 GPS, 1 altimeter, 1 desktop, 1 Laptop computer, 3 air conditioners, pollination bags, paper labels, carton boxes, and 7 thermometers.

In 2017, a new desktop was acquired through support of SPGRC and the new Web-SDIS was successfully installed and is reported to working very well. However, there is a need for updating the information on SDIS and hands-on practice. Although the genebank staff have not been regularly using the web-SDIS database for some time due to logistical challenges, especially staffing; the Curator promised to start intensively using it by entering and updating data, *etc.*

8.9 Namibia

Staff strength has remained unchanged at NPGRC, i.e. still remains at 4 staff members. The NPGRCom has been dormant but will be revived under the FAO-TCP project, onwards.

As mandated by SPGRC, the Namibian NPGRC has been conserving the genetic materials for their immediate or potential usefulness to humans, in breeding or in some other form of research or development as per prescribed standards. The NPGRC is currently holding 4,463 seed accessions.

About 143 seed samples of different crop species were collected during the reporting period. Meanwhile, 63 seed accessions of different crops were distributed locally.

Documentation of farmer's crop conservation practices and seed collection of landraces in Kavango West and East resulted in identifying rare crops with their unique qualities as: Kakuti (owpea) - highly productive, Mululu (groundnut) – has three seeds/per pod, Kaumbe (sorghum) - short duration variety, Hupa (*Lagenaria*) – rare, *Pennisetum glaucum* long bristle (keep birds away).

In terms of utilization, NPGRC distributed 62 seed samples locally (28 *Zea mays*, 12 *P. glaucum*, 2 *S. bicolor*, 2 *V. unguiculata*, 2 *V. subterranean*, and 14 fodder species (grass and trees species).

The Curator requested that a new updated web-SDIS be installed at Namibian NPGRC.

8.10 Seychelles

The Seychelles Agricultural Agency (SAA) is the national institution with portfolio responsible for plant genetic resources development. However, this section of the SAA has been crippled for the past years due the lack of institutional and human capacity. This has lead to loss of a wide range of genetic resources as a result of other sectors activity. NPGRC Seychelles functions under the umbrella of the Department of Crop and Livestock Development Support, as a unit of the Research and Development section.

There is no proper genebank facilities and equipment but it is hoped that the genebank will be situated at the SAA Soil Laboratory premises. In prteparation for that, staff have received a number of training from SPGRC and elsewhere in information and genebank management, collection procedures, laboratory procedures, *etc*.

Some activities related to genebanking were implemented with support of Germination 2 project - *Genetic Resources Management in Actions* - an Indian Ocean Network – Phase II with participating countries being: La Reunion, Madagascar, Ile Maurice (Rodrigues), Seychelles, Comoros, Tanzanie, Zanzibar. The Seychelles is challenged with lack of staff and funds for establishing and running the genebank but efforts by SPGRC and Seychelles Government are underway to mobilize resources for the same.

Through the Germination II Project, Seychelles has implemented the following:

- Inventory and collection of Genetic Resources for Food and Agriculture (PRGVA), followed by inventory on PGRFA and morphological characterization of starchy plants
- Training Intra network Research Actions covering training in the management of fruit trees, collection management, nursery management
- Training nursery management.

Seychelles gave updates on the development of national ABS regulations for Genetic Resources. It was noted that the Ministry of Environment, Energy and Climate Change was currently working on the development of a comprehensive legislative/regulatory

ABS framework in order to meet the obligations of the Nagoya Protocol, and that, UNDP-GEF Project "Strengthening human resources, legal frameworks, and institutional capacities to implement the Nagoya Protocol was on.

SPGRC staff visited Seychelles in order to install, configure and train users of the SPGRC Documentation & Information System (SDIS). A total of 10 SAA technicians were trained; on data entry, information querying and basic maintenance procedures of the databases. Users were configured and conducted guided hands-on practices on data entry for more than 12 accessions, registered at least 2 seed germplasm accessions - *Capsicum frutescens* and *Annona reticulate.*

Meanwhile, another SPGRC Team trained 14 SAA officers on how to develop an inventory for crops/Crop Wild Relatives and on how to prioritize threatened germplasm for collection and conservation. Morphological characterization of cassava, yam and taro/cocoyam – using established descriptors was demonstrated. Officers were trained on germination test procedures that are used in genebanks.

8.11 South Africa

South Africa did not attend the meeting but sent a progrees report which was shared with participants.

The staff strengthy at NPGRC stands at 9 officers who actually form the compklemtarity to manage all the genebank technical activities including *ex-situ* and *in-situ*/on-farm conservation, documention and information, and laboratory work.

The genebank is well equipped with 13 chest freezers (all of them functioning), 2 upright freezers (none of them functioning), 3 labcons/Low temp. incubator (only one labcons functioning). So far, the NPGRS has sufficient storage facilities. The drying room is currently in good working condition

It was reported that the NPGRCom that has been inactive is due for revival soon. The NPGRC staff attended workshops that address Strengthen National Capacities on Plant Genetic Resources in the context of the Global Information System of Article 17 of the International Treaty on ITPGRFA, practical guidance to the use of the genebank standards, and on morphological characterization of selected crops.

The NPGRC reported to have regenerated 9 sweet potato under tissue culture. It also multiplied 31 accessions of sweet potato and characterized 10 accessions. It is also maintaining field genebanks. With regard to utilization, South African genebank distributed 79 accessions to users.

During 2017/2018 period, the NPGRC received two germplasm requests for research purposes - leafy vegetables, *Amaranthus hybridus* (48), *Corchorus olitorius* (1), *Solanum*

nigrum (3) by Department of Crop Science from North West University. The other request was for 100 cowpea and 60 bambara nut accessions by Plant Breeder and Researcher from Agricultural Research Council – Vegetable and Ornamental Plant Institute (ARC-VOPI). For both requests, seeds have not been distributed as yet due to some logistical and departmental processes that needs to be adhered to (*by reporting time, September 2018*).

The on-farm conservation and multiplication of PGRFA was implemented in both Free State and Northern Cape Provinces, to re-introduce the lost varieties in different areas thereby reducing genetic erosion and to also increase the quantities of these materials in the gene bank. In implementing the on-farm project for 2017/2018 season, about 50 and 29 different crop accessions ranging from: maize, pumpkins, beans, calabash, sorghum, sweet sorghum, cowpea, bambara, melon and watermelon were planted in the Free State Province and Northern Cape Province, respectively.

During the year, a collection of cowpea (*Vigna unguiculata*) and groundnuts (*Arachis hypogaea*) was undertaken in Mpumalanga Province, Enhlanzeni North as per target including other crops that were occurring in those areas during collection such as jugo beans (*Vigna subterranea*), mungbean (*Vigna radiate*) and wild cucumber (*Echinocystis lobata*). Total of 39 cowpea samples, 7 groundnuts samples, 4 jugo beans samples, 3 mungbean samples and one wild cucumber were added to the gene bank collection. The collection mission was conducted as a result of the gap identified *ex-situ*. A collection of *amadumbe* was undertaken in Kwazulu-Natal, King Cetshwayo district and a total of 12 samples of the 4 varieties of amadumbe were collected. This collection was undertaken to fill the gap identified in the vegetatively propagated accessions conserved in tissue culture.

SPGRC installed the new SDIS and the NPGRC used excel spreadsheet to align data from the old SDIS for uploading on the new SDIS. Four officials of the NPGRC been allowed access to the new SDIS.

The NPGRC is planning to send 20 seed accessions to SPGRC for long-term conservation.

8.12 Tanzania

During the report period, there was no change in staffing at NPGRC. The number of staff is inadequate because there are 7 staff against 12 on establishment. The NPGRC Committee is non-functional include crop working groups due to logistics.

The NPGRC has quite a number of working equipment and facilities that include: 38 freezers (3 chests and 35 upright), drying room, motor vehicle, standby electric generator, and

more impressively, a molecular and tissue culture laboratory as well as seed processing equipment.

The NPGRC is holding 6,195 accessions of which, 825 are considered threatened with genetic erosion. During the year, germination and moisture content tests were conducted on 140 accessions. 160 accessions from 7 crop species were regenerated, multiplied and characterized.

From an inventory conducted at the genebank, results are that duplicated 2,894 accessions have been duplicated to SPGRC for long-term conservation. The NPGRC distributed 202 accessions mostly to students and research institutes for research purposes. The NPGRC entered data for 300 accessions in web-SDIS.

Though not fully functioning to capacity, the NPGRC has molecular and tissue culture laboratory facilities. It has four motor vehicles and worn out greenhouses. It has freezers whose number is inadequate, and the genebank building is dilapidated.

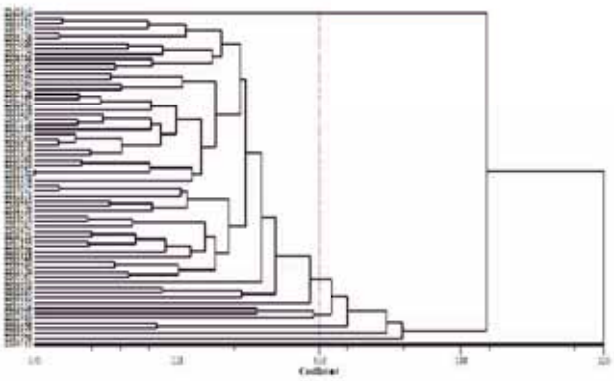
The genebank's planning budgeted under government under which it may be able to regenerate accessions with low performance, establish community seed banks, build capacity in on-farm conservation, and conduct seed collections.

The NPGRC acknowledged that NPGRCom was not functioning. due to funding, and they have a proposal to elevate/raise profile of NPGRCom as supported by most countries. Planning to elevate profile and develop ToRs.

Tanzania intends to elevate the centre to an Institute to tap into funding. The government budgets are institutional. Government also has increased the scope of activities. The Centre (Tropical Pesticides Research Institute – TPRI) has 129 work force meeting the criteria of an Institution.

8.13Zambia

During the period under review, the understaffing challenge at the genebank was reported both at professional and technical levels.



The NPGRC reported to have 6,500 seed accessions under conservation. It collected a total of 210 accessions of bambara, cowpea and pigeon peas. During the period under review, the NPGRC distributed 48 accessions of various crops mainly to students at University of Zambia and Mulungushi University. It also multiplied 72 and 62 accessions of bambara and cowpeas respectively. It has 100 cassava collections in the

field genebank. A total of fifty (50) accessions of various crop species were regenerated and multiplied.

The NPGRC staff underwent training and attended professional meetings in the areas of intellectual property rights, information managemnent and in genebank management.

The genebank has 37 freezers but which are inadequate, considering ongoing collections and multiplications being undertaken that will bring in more materials for conservation. The NPGRC procured a new germination chamber but which is yet to be installed.

8.14 Zimbabwe

During the reporting period, one senior officer left for postgraduate studies; whereas, one technical assistant continues with on BSc studies and one senior officer is nearing completion of PhD, indicatively by end of the year.

NPGRC staff attended a variety of training workshops and meetings that included Governing Body meeting, SDIS training workshop and several localised workshops on various issues (National Biodiversity Forum, national Biotechnology and Neglected and Underutilized species). It also conducted a learning visit by local farmers together with genebank staff, Community Technology Development Trust (CTDT) staff and local extension staff to SPGRC, time during which it also deposited materials at Base collection.

Germplasm under *ex-situ* storage was reported to be 6,333 accessions among which about 3990 (63%) need to be regenerated. Zimbabwe NPGRC has duplicated 2,274 accessions to SPGRC implying, from its total collection, has a gap of 64%. Out of the total, only about 30% of the materials have been characterized.

During the year, NPGRC collected 44 samples from the North-eastern part of the country - Mudzi and Marambapfungwe districts.

Through an ITPGRFA funded project, the genebank availed to farmers 300 accessions (sorghum, pearl millet, cowpea and bambara nut); had 40 advanced lines evaluated through participatory variety selection; and trained farmers on variety selection, germplasm collection and seed production. It also constructed community seedbanks.

Under in-situ/on-farm conservation, farmers were trained on collection of germplasm at Mudzi, Uzumba and Rushinga; and also trained on community seedbank management at Matobo, Gwanda, Bulilima and Mangwe (Matebeleland South).

The genebank acquired five new freezers and had its drier refurbished.

9. NPGRC PLANNED ACTIVITIES FOR THE YEAR 2018/2019

9.1Angola

With the FAO-TCP Project funding, Angola is planning to characterize 120 seed accessions (30 accessions each for cowpea, maize, sorghum millet), at an estimated budget of US$ 17,650. It also intends to multiply and regenerate 51 accessions (10 each for common beans, cowpea, maize, sorghum millet, and 6 for millet and 5 for okra).

9.2 Botswana

Botswana NPGRC will conduct the following activities:

- Collection activities
- Characterization
- Multiplication
- SDIS - Update
- On-farm conservation: seed fairs, workshops, establishment of on farm conservation groups

9.3 Democratic Republic of Congo

DRC plans to conduct an inventory on accessions at INERA and multiply and characterize 9 species amount to about 200 seed accessions

With regard to on-farm activities, DRC will condyuct seed fairs, farmers training sessions across the country.

9.4 Eswatini

Through funding by FAO-TCP project, NPGRC plans to close up the gap of 147 accessions to be multiplied in three seasons: 71 accessions for the first season, 46 accessions second season and 30 accessions for the third season. Multiplication will be carried out both at the Malkerns Research station and Lowveld Experimental Station.

Under on-farm conservation, the NPGRC targets areas – Shewula (Lubombo), Sandleni (Shiselweni), Ntfonjeni (Hhohho) and Ngwempisi (Manzini) where it plans to establish at least one on-farm conservation and community seed banking activities in the regions mentioned. These will be covered under FAO-TCP funding.

9.5 Lesotho

The NPGRC plans to undertake the following activities:

a) Multiplication and characterization of multi-crop species, aimed at filling the gap between NPGRC and base collections;

b) Plant collection trips to revamp the field genebank subsequent to loss due to fire;
c) Documentation and Information- Data entry in all modules of the SDIS;
d) Upgrade *ex situ* conservation given the backlog of material awaiting transfer to the freezers

9.6 Madagascar

In 2018/19, Madagascar NPGRC plans to regenerate 1,000 accessions of rice. However, duplication will depend upon availability of funds

9.7 Malawi

The Malawian NPGRC plans to implement the following activities in 2018/2019:

a) Evaluation of Minor Root and Tuber Crops (MRTC) – Irish Aid
b) Continue phenotypic characterization of pigeon pea, bambara, cowpea
c) Molecular characterization of pigeon pea, bambara, cowpea
d) Continue nutritional profiling of cowpea leaf vegetable and grain for pigeon pea, bambara and cowpea
e) On-farm conservation in Chikwawa, Mzimba, Chiradzulu and Salima

9.8 Mozambique

Mozambique plans to conduct:

a) Germplasm collection of food crop legume germplasm collection missions in Central and Northern provinces;
b) Germplasm multiplication & characterization at morphological level for about 200 accessions of cowpea
c) Germplasm characterization at molecular level of about 50 rice accessions & 50 cowpea accessions in collaboration with Eduardo Mondlane University (Centre of Biotechnology, Mozambique)

9.9 Namibia

Under FAO-TCP Project, Namobia intends to:

a) Bridge the gap through multiplication and duplication of 279 seed accessions at Manheim Research Station;
b) Strengthen networking and collaborative partnerships for PGRFA conservation use and seed delivery through conduct of meetings on collaborative partnership for PGRFA conservation use and seed delivery;
c) Strengthen national and regional capacities for the conservation and sustainable use of PGRFA through mobilization of famers' groups to promote on-farm conservation, farmers seed systems and Climate Smart Agricultural Practices; and
d) revive the NPGRC Committee and awareness creation on the NNSAP 2016-2026

9.10 Seychelles

In the financial year 2018/2019, Seychelles plans to do the following activities:

a) Prepare list of genebank equipment to be shared with SAA
b) Characterization of starch plant
c) Training in genebank management

9.11 South Africa

The NPGRC shall continue with the documentation/recording of diversity and also train Jericho farmers on Beads and seed processing. It will develop and update an accession database of CSBs; officially hand over the Jericho CSB and organize the traditional seed/food fair and CSB awareness.

The NPGRC plans to explore crop improvement components: Participatory plant breeding in selected provinces and conduct a learning and exchange visit to Zimbabwe.

For the financial year 2018/19, NPGRC have planned the collection of *amadumbe* (*Colocasia esculenta*) and cassava (*Manihot esculenta*) landraces crops in Mpumalanga province, Empangeni South district and Kwazulu-Natal province, King Cetshwayo and Umkhanyakude districts.

The NPGRC intends to upload into the new SDIS data of characterised accessions. All new accessions collected are also to be uploaded into the new SDIS.

9.12 Tanzania

The Tanzanian NPGRC plans to regenerate and characterize 200 accessions: *Phaseolus vulgaris* (119) and *Eleusine coracana* (81), whose accessions have indicated low germination rates.

The genebank targets to establish at least 6 field gene banks and 2 Community Seed Banks in targeted rural communities. It will also purchase new freezers.

In order to strengthen on-farm conservation of common beans, finger millet, Irish potatoes and rice landraces in Southern Tanzania, the NPGRC plans to:

- document indigenous knowledge on crop management and utilization;
- collect seeds and vegetative materials of the named crops;
- conserve the named species in farmers' fields (Community seeds and field gene banks);
- build local capacity of on farm conservation among rural communities and extension officers;
- create public awareness to about 50 % of the local population on the value of local crop diversity.

Challenges that SDIS database does not produce information for the data entered before the system was upgraded will require SPGRC Documentation staff to assist.

9.13 Zambia

In 2018/2019, Zambian NPGRC plans to implement the following activities:

a) Continue with multiplication and characterization of legume crops (Bambara, cowpea sesame) Project were crafted from different strategies and they are thematic area to direct research
b) Continue with regeneration, characterization, multiplication and management of germplasm.
c) The crops being focused are cowpea, bambara nuts, sesame and castor, this is because these are being supported by projects.
d) All accessions that need duplication to SPGRC will be multiplied in order to close the gap between NPGRC and SPGRC.

9.14 Zimbabwe

Under the FAO TCP Project (2018-2019), Zimbabwe will implement the following:

- Develop National PGRFA Strategy and Action Plan
- Regenerate, multiply and characterize 600 accessions (sorghum, pearl and finger millets, bambara and maize)
- Bridge the gap between base and active collections

10. Summary Reports by Senior Programme Officers

10.1 *In-situ*/On-farm Conservation

It was noted that member countries conducted many collections but made little efforts to duplicate the materials at SPGRC

Table 1: Summary of *In-Situ* Conservation Activities in NPGRCs

On-farm Conservation

Country	Progress (2018)	Plan (2018/19)
Botswana	– 2 farmer training workshops: Kweneng - 70 farmers Francistown - 55 farmers. – One on-farm conservation group established in 2 villages in Mahalapye. Target crops: bambara, cow pea and sorghum	– Monitoring of established on-farm conservation activities. – Organize crop diversity fairs
Malawi	– Farmer exchange visits – Crop Diversity and food fairs – Zomba – Training on climate smart agriculture practices – On-farm conservation plots developed	Establish Community Seed Bank structures On-farm conservation training programs to be scaled up in the country
Seychelles	4 farmers identified in Praslin to form an on-farm conservation groups One farmer participating in Agro-tourism	More farmers to be identified in Mahe Agro-tourism to be promoted
Eswatini	Cassava distributed to the Shewula on-farm group	Activities to be rolled out to other sites
Tanzania	On-farm conservation on going in Liwale, Mtwara, and Nyasa Districts. Target crops: yam, cucurbits and finger millet	Follow up visits to be carried out
South Africa	– A new Community Seed Bank was established at Jericho village in the North West Province. The Historical Trend Analysis, Four Cell Analysis, Seed Network mapping and a brief survey to understand the knowledge that farmers has with their seeds. – On-farm conservation and multiplication of PGRFA was implemented in both Free State (50) and Northern Cape (29) Provinces, to re-introduce the lost varieties and to also increase the quantities of these materials in the gene bank.	– Exchange visit to Zimbabwe – Organize the traditional seed/food fair and CSB awareness (Gumbu and Jericho)

	– Distributed crops: maize, pumpkins, Beans, calabash, sorghum, sweet sorghum, cowpea, bambara, melon and Watermelon	
Zambia	– No follow up done by NPGRC to existing groups – Strengthening sorghum seed delivery system: Kazungula, Sinazongwe, Siavonga and Kaoma	Train Lead farmers and cooperatives in seed production in collaboration with the Seed Control and Certification Institute
Zimbabwe	– 300 samples availed to farmers – 120 Farmers trained germplasm collection for Community Seed Banks – Participatory Variety selection activities carried out – CBC4 cow pea variety developed and released – Seed fairs held – Materials maintained in Community Seed Banks	Activities to be continued

Table 2: Collection Missions: 2017/18 season

Country	Progress (2018)	Crops	Wild species	Total	Plan: 2018/19
Angola	No collection carried out				Funds permitting, a mission will be held
Botswana	No collections				2 sub-districts to be targeted to collect crops, vegetables, wild species.
Lesotho	184 multi crops	184		184	Medicinal plants
Malawi	174 Root & Tuber crops	Air and ground yam, taro	Wild cowpea	174	Legume crops Root and tuber crops
Mozambique	86 cow pea	86 cowpea		86	Central and Northern Provinces
Namibia	279 ((143 collected for on-farm	244 mixed	35 Crop Wild	279	A planned collection for Kavango

	conservation activities)	crops	Relatives		
South Africa	54 (39 cowpea samples, 7 groundnuts samples, 4 jugo beans samples, 3 mungbean samples and one wild cucumber)	53	1 wild cucumber		Cassava and taro is planned to be undertaken in Mpumalanga and Kwazulu-Natal
Eswatini	Agric show collections	2		2	
Tanzania					
Zambia	210 legumes	210 cow pea, bambara ana pigeon pea		210	
Zimbabwe	44 mixed crops (11 maize, 10 pearl millet, 9 finger millet, 14 sorghum)	44		44	No planned activities
Total				**979**	

Table 3: Field Genebanks

Country	Status
Angola	Material conserved in specialized institutions: – Roots and tubers in Malange (Malange province) and Mazozo (Bengo province) – Mango and banana at the IIA Benguela, Fruit Research Station – *Robusta* coffee in Huambo and in national coffee research stations in Kwanza Sul and Uige provinces.
DRC	Fruits and other crops conserved in specialized institutions. 49 Cassava from INERA Kipopo, duplicated at M'vuazi through the assistance of SPGRC
Lesotho	Medicinal plants and irrigation facilities burnt. Material to be restored
Madagascar	Fruit trees, coffee, forage grasses, cassava, potato, sweet potato and taro conserved in specialized institutions
Malawi	– Sugarcane field gene bank at Kasinthula Research Station, 871 Banana suckers collected and conserved at Kandiyani (766 suckers cleaned using tissue culture, 566 in the field and 210 in the green house - 8 different varieties.

	– 158 (55 ground yam, 20 Livingstone potato, 13 air yams, 70 taro) conserved at Chitedze research station –
Seychelles	Field genebank established in partnership with a private farmer. Collections yet to be done
South Africa	31 accessions of sweet potato
Eswatini	34 acc. (7 cassava, 7 banana, 5 sweet potato, 6 Zulu potato, 2 taro) in the field genebank
Zambia	100 cassava

10.2 *Ex-situ* Conservation

Members requested to present on composition of materials conserved at NPGRCs and also the changes in totals of germplasm to reflect on trends in conservation.

Table 4: Summary of *Ex-Situ* Conservation Activities in NPGRCs

Country	Number of Germpalsm Accessions				Challenges
	Conserved	Multiplied/ regenerated	Collected	Distributed	
Angola	4 202	22	None	None	Budgetary constraints, storage space, aluminium foil bags, pollination bags
Botswana	4850	72	7	64	Shortage of staff, Power outages, Lack of funding
DRC	None	none	None	none	
ESwatini	712	192	2	1	Lack of generator, vehicles, inadequate storage space, old freezers, seed processing equipment
Lesotho	4 209	none	184	12	
Madagascar	7184	None	None	None	Budget, SDIS not installed, packaging material
Malawi	5324	157	174	None	Transport, unreliable power supply, Storage materials, limited capacity for molecular characterization
Mauritius					
Mozambique	3 439	175	86	436	Understaffing
Namibia	4463	None	143	63	
Seychelles		None	None	none	Shortage of staff, lack of funds
South Africa	None	40	None	79	
Tanzania	6195	160	None	none	Staff: 7 versus 12, Facilities and equipment
Zambia	6500	134	100	none	Understaffing
Zimbabwe	6333	None	None	340	

Table 5: Planned Activities for 2018/19

Country	Number of Germpalsm Accessions/Samples		
	Multiplication/ characterization	Collection missions	Distribution
Angola	171	Not indicated	Not indicated
Botswana	200	2 collection missions	50
DRC	9 species amount to +-200 seed accessions	Not indicated	Not indicated
ESwatini	147: 71 (1st Year), 46 (2nd Year), 30 (3rd Year)		
Lesotho	Undertake multiplication and characterization to bridge the gap	Not stated	Not stated
Madagascar	1,000		
Malawi	Pigeon pea, bambara, cowpea		
Mauritius			
Mozambique	200	Not indicated	Not indicated
Namibia	279		279
Seychelles	Characterization of starchy plant		
South Africa	20		
Tanzania	200		
Zambia	Legume crops (bambara, cowpea sesame)		
Zimbabwe	600		600

10.2 Documentation & Information

SDIS Installations

The SPO reported that web-SDIS installations had been done in all Member States except in the newcomers – Comoros. Where there are no fully established NPGRCs, web-SDIS is installed at a central location from where stakeholders can access the system. In DRC it is installed at INERA, Madagascar – FOFIFA, and in Seychelles – SAA.

Technical Support

In the past 2 years, most NPGRCs were visited to be provided with technical supports including database updating, system use retraining, among others. During the meeting, the database end-user manual was distributed to users. Meanwhile, SPGRC is working towards printing few copies of the manual for distribution to users.

In terms of skills development, SPGRC expressed hope to source funds for more SDIS training at regional level. It was agreed that the system can only be better understood by doing and any challengers should be communicated to PGRC for resolutions. Finances from Bioversity can be sourced especially if any of the stakeholders comes up with a description of local crops, those that are yet to have descriptors. Countries were encouraged to add more passport and characterization data to the system to add value to our material. SPGRC Documentation staff are currently working to add fields on On-farm data.

Challenges in NPGRCs

The SPO mentioned that password settings in Web_SDIS fall slightly short of SADC ICT policy requirements on Passwords. However, it is difficult to enforce because of the Member States' sovereignty. However, the SPO encouraged users to remember their passwords as it may become very difficult and risky to reset remotely.

Inadequate skills in running SDIS and little knowledge on crop descriptors for characterization are some of the obstacles faced by NPGRCs. The SPGRC has promised that it will continue lobbying for funding that could facilitate training of users. With regard to crop descriptors, SPO advised NPGRCs to access more detailed descriptors from Bioversity International website when they are looking for particular details
https://www.bioversityinternational.org/e-library/publications/categories/descriptors/

Way Forward

Having heard problems faced in some NPGRCs, and resources allowing, SPGRC promised to provide technical support to DRC when eventually the genebank is fully established at M'Vuazi Research Station, Madagascar when NPGRC is established, and to Tanzania, to sort a concern that users are unable to pre-view data entered earlier before migration to web-SDIS.

SPGRC Management urged Curators to do and enter characterization data into the system to enhance material usefulness. Data inputting in its fullness, esp. passport data that will reflect our participation in global initiatives like Global Information System (GLIS), DOI, *etc.*

The SPO informed participants of the availability of discussion forum for web-SDIS on SPGRC portal and that it will in addition, create WhatsApp group as well as twitter account. SPGRC is also adding up web-SDIS fields for materials conserved on-farm.

11. Network Strategic Discussions

11.1 Status of Strategic Plan from the Phase I Project Countries

Participants and funders of the project wanted to know how far the previously funded projects by FAO had gone and what was currently happening in the Member States.

During the updates, it was noted that the Member States who participated in FAO-TCP Phase I (Malawi, Lesotho, Mozambique, Botswana, and Tanzania) did have final copies of their national strategy documents. The Member States pointed out that they had incorporated comments into the strategy documents and returned it to the consultants. It was not good to acknowledge that Member States did not know where exactly were their documents. However, SPGRC stated that the final copies had been printed and sent to Member States.

The FAO representative was concerned that the countries had no final copies of the strategy document and wanted to know what guarantees were there that the countries benefiting under Phase II of the TCP were going to perform better or if it was necessary to fund them. The other option was to find out whether the fund could support the countries to finalise their documents.

It was agreed that it was necessary to finalise the documents as the drafts are available. Member States were advised to take ownership of the documents as they contained good strategies. Concern was raised that most countries had good strategy documents but have they had challenges in the implementation?.

SPGRC highlighted that they were going to find ways of ensuring that the documents are finalised. SPGRC is now fully owned by SADC. Member States should follow their strategic documents as their reporting formats. The strategy should report to our needs that is multiplication, propagation of vegetative material. Ms Lupupa is to resend the strategy documents.

In capping it all it was stated that the strategy documents posed good opportunities for mobilising funding. Member States appreciated the work being done by SPGRC in terms of mobilising resources and notifying NPGRCs of any window available.

11.2 Mobilization of Resources

Participants discussed on various ways of sourcing funds. Participants were advised to use national strategies to write proposal for funding. SDGC is one of the flacking funders. Strategies are tools to get funding for food and agriculture.

Participants were reminded the SANBio-funded SDIS training was combined with proposal writing. It was suggested that proposal writing should be slotted in most workshops possible. It was also stressed that if a person cannot such training opportunities, in order not to loose an opportunity for a country, they should an alternate person to attend.

It was mentioned that an individual or an entity can also get funding from FAO through country offices.

It was emphasized that benefits from conserved PGRFA must come out clear in proposal write-ups because conserved seeds are not meant for storage but use.

Participants expressed need to develop farmers' varieties description. The network therefore need to do research on this.

11.3 Training: Proposal Writing for Funding

It was noted that resources are not always available to carry out training in proposal writing and that is why the SDIS training workshop held in April 2018 in Pretoria, South Africa combined proposal writing in its programme. During the workshop a proposal was drafted and submitted to the European Union and the funding is likely to be availed.

There was a possibility of upscaling the SDIS training for Curators as the previous training was meant for Curators. However, it was not possible to carry the trainings from time to time, but SPGRC was to take advantage of other workshops to slot the training in other areas of expertise when need arises.

11.4 Possibility of a Regional TCP

The island states were requesting for a regional TCP as crops from island states were different from inland states. The island states were advised to write to their respective FAO country offices seeking funds to develop their strategies as the TCPs are likely to be less than US$ 100,000. This should be for the 2020/2021 workplan as it was no longer possible to access the funds for the 2018/2019 biennum.

It was mentioned a challenge to get funding for the 16 SADC Member States.

11.5 Benefits Derived from Conserved PGRs

It was agreed that what should be guiding the NPGRCs is the benefits of keeping plant genetic resources. The communities should benefit from the conserved plant genetic resources. NPGRCs must be able to state how many people have benefited from the conserved materials. The benefits have not been visible in most countries. It was noted that some NPGRCs were failing to derive benefits from their conserved materials since the materials are not characterised and there were no follow-ups on thge outcome of distributed materials. NPGRCs must be able to identify the benefits to the country and benefits to the future.

Zambia highlighted that 13 varieties of sugar beans were released using material from their genebank. Maize from the same genebank were also crossed with varieties from International Maize and Wheat Improvement Centre (CIMMYT) to come up with drought resistant varieties.

In Namibia, materials from the genebank were being used in reclaiming land where mining activities are taking place. Programmes are also underway to restore materials that have been lost in the communities.

NPGRCs were advised to work with crop breeders and support crop improvement programmes. The informal seed systems are feeding into the formal seed systems.

11.6 Accessions at SPGRC without NPGRC Numbers

Accessions found at SPGRC without NPGRC numbers should be treated very carefully and traced back to their origin and try to establish the missing number. In turn, the

NPGRCs should be careful to send ,materials to the Base withoutproper labelling (firm and non-soluble sticker, *etc.*).

11.7 NPGRCom Activeness

During the year and for the past few years, NPGRComs have not been very active for various reasons but mainly, due to lack of funds. As a result, this has left NPGRCs unguided I many aspects of conservation and administration, exposing to vulnerabilities including allocation of funding through the government and enforcing adequate staffing for continued work in genebanks.

Participants recommended that since Curators were the Secretaries to NPGRComs, they should build a good rapport with their Chairpersons so that meetings can be called and issued of concern to genebanks discussed. It was advised that it should not necessarily be full Committee quorum but even a few members can meet while attending another meeting, they should do so.

11.8 Bridging the Gap between Active and Base Collections.

Generally, it was noted that most Members States are not sending materials from NPGRCs active collections to the SPGRC base; and also SPGRC is not sending materials to Svalbard (last shipment done in 2012).

NPGRCs raised the challenge of insufficient seed quantities which do not meet the required 2000 seeds for duplication to SPGRC. Lack of resources to carry out multiplication dragged behind NPGRCs. SPGRC sighted challenges of broken down drier hence materials from multiplications could not be processed adequately.

It was suggested that NPGRCs with materials ready to send can liase with SPGRC and make arrangements for multiplication at the regional center before duplication although that is subject to availability of resources. As for SPGRC, it was noted that it was in the process of sending a shipment of materials to Svalbard in October 2018.

11.9 Assessment of Lost Materials in the NPGRCs

The issue was raised to encourage NPGRCs to carry out regular physical inventories of materials in the gene banks in order to assess and monitor possiblr loss of germplasm.

11.10 Rationalization of Resources *versus* Annual Technical Meetings

In an effort to rationalize efficient use of resources it was recommended to consider reducing the frequency of annual meetings so that saved funds can be channeled towards pressing technical activities.

The final agreed position was that rationalization was welcome under circumstances where it is possible to consider biannual meetings in place of annual meetings or to reduce the number of days allocated for the meetings. However, most of the funding being utilized is sourced from donors and therefore there is no room for converting use.

NPGRCs were recommended to actively coordinate and have full knowledge of PGR conservation activities at the national level to add more value to reporting at the regional meetings.

11.11 Network Publicity

In order to raise publicity of SPGRC the following measures need to be taken as suggested by participants:

a) Engagement of politicians such as inviting the Minister of Agriculture for Zambia to officiate opening of the annual meetings;
b) Involvement of media (print and electronic);
c) Publishing of articles (short communications, bulletins, full research papers);
d) Creation of a Facebook and/or twitter page for SPGRC where content is shared;
e) link the SPGRC website to the various government websites for Members States;
f) Wider distribution of the SPGRC newsletter and consider circulation of an electronic version *via* email subscriptions; and
g) SPGRC to carryout presentation at international conferences such as the Governing Body meetings of the TPGRFA.

It was strongly recommended to the authors to clearly articulate the value and benefits of PGRFA in the published content.

Members states were encouraged to send materials for publication even certain materials which may seem unsuitable for publishing.

11.12 Duplication of Accessions Without Passport Data

Participants agreed that they should absolutely have all materials duplicated with accompanying passport as this adds value to the material compared to one without.

As for material that do not their passport data entered in web-SDIS, NPGRCs are encouraged to add that information as much as they can.

11.13 SDIS (Descriptors)

It was noted that some descriptors in SDIS are not very well understood by users. It was therefore advised that a training be arranged to bring together SDIS users especially those responsible for characterization to learn more about descriptors.

SPGRC will also consider developing customized descriptors with as much illustrations as possible to assist in characterization.

Closure

In his concluding remarks, the Head of SPGRC highlighted the challenges of famine and starvation affecting Southern Africa and the whole of Africa at large, which he said, reflects lack of capacity to produce food adequately. That being said, means that there is need to increase food production. He further recognized the challenges and gaps that need to be addressed in the network at all levels and stressed the need for all parties to work hard. He further went on to acknowledge support from FAO and other partners through financial and technical means. He closed the meeting by thanking all who managed to attend the meeting and further emphasized the need to work hard in order to achieve objectives in the network.

Annex I: FAO-TCP Inception and SPGRC/NPGRCs Planning Meeting Programme

Sunday, 26th August, 2018: Arrival of Delegates	
General *Rapporteurs*: Mrs. R. Hilukwa and Mr. C Gwafila	
Monday, 27th August, 2018	
Session 1:	**Opening Ceremony**
	Chair: Mr. B. Kapange
	Rapporteur: Dr Nelson Charles
09:00 – 09:30	Welcome address: Head of SPGRC
	FAO Representative: Dr Joyce Mulila-Miti
09:30 – 10:00	Programme and logistics announcements: T. Lupupa
	Matters arising from the previous meetings (2015, 2017): T. Lupupa
10:00 – 10:30	**GROUP PHOTO & MORNING TEA BREAK**
Session 2	**Chair: Mr. Graybill Munkombwe**
	Rapporteur: **Mrs. Modester Milinyu**
10:30 – 11:40	Presentation on highlights of the FAO-TCP Project: T. Lupupa
11:40 – 13:00	Presentations of National Progress Reports, Project Work Plans & Budgets for Quarter1 of the Project (Sept – December 2018): 1. Angola 2. Namibia 3. Swaziland 4. Zimbabwe
	Discussions: **FAO (FAO-SFS)/Consultant/T. Lupupa**
13:00 – 14:00	**LUNCH BREAK**
Session 3:	**Chair:** Mr. William Hamisy
	Rapporteur: Ms Carla do Vale
14:00 – 15:30	**Presentations:** Country Progress Reports and Work Plans
15:30 – 16:00	**AFTERNOON TEA BREAK**
16:00 – 17.00	Country Presentations & Discussions
Tuesday, 28th August 2018	
Session 3 (continued):	**Presentations: Country Progress Reports and Work Plans**
	Chair: Ms Maleoa Mohloboli
	Rapporteur: Mr. M. Mbingo
09:00 – 10:30	Country Presentations
10:30 – 11:00	**MORNING TEA BREAK**

11.00 – 13.00	Country Presentations
13:00 – 14:00	LUNCH BREAK
14:00 – 16:30	Country Presentations
	Chair: Dr. Pedro Moçambique
	Rapporteur: Mr Thomas Neema
16:30 – 17:00	Discussions
Wednesday, 29th August 2018	
Session 4:	Summary Reports and General Discussions
	Chair: Mr. Justify
	Rapporteur: Mr. Chipfunde
09:00 – 10:30	Summary Reports: SPOs a) FAO TCP Quarter 1 Activities: FAO Consultant b) In situ Conservation: T. Lupupa c) Ex situ Conservation: Mr. L. Qhobela **d)** Documentation & Information: Mr. B. Kapange
10:30 – 11:00	AFTERNOON TEA BREAK
11:00 – 13:00	General Discussions Closing: The Head of SPGRC
13:00 – 14:00	LUNCH BREAK
14:00 – 17:00	Visit to SPGRC
Thursday, 30th August 2018: Departure of Delegates	

Annex II: List of Participants

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