SADC PLANT GENETIC RESOURCES CENTRE • CENTRO DOS RECOURSOS FITOGENETICOS DA SADC •

SPGRC Network News

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On-farm Conservation and Utilization of Finger Millet in Malawi

John Kanthungo
(*In Situ* Conservation & Germplasm Collection Scientist)

Introduction

Farmer's management of varieties and their role in seed selection activities are crucial to agricultural production, conservation and enhancement of the genetic resources. This study aimed at enhancing on-farm conservation of finger millet through increased production and utilisation, ultimately contributing to nutrition and food security in Malawi.

Finger millet (*Eleusine coracana*), an important cereal in the semi-arid regions of Africa and India is valued for its versatility as a staple food, its excellent storage qualities, resistance to diseases, tolerance to soil-moisture stress, adaptability to adverse agroecological conditions, minimal input requirement and good nutritional properties. In addition to porridge or bread that represents nutritious and wholesome foods for diabetics and the elderly, the grains are fermented into highly nutritious malt recommended for infants and the elderly *(Continues on page 2*

Head of Finger Millet - *Eleusine coracana*

Contents

24th Ordinary Board Meeting Held in Gaborone, Botswana

The 24th SPGRC Ordinary Board meeting was held in Gaborone, Botswana between 14th and 15 th November 2007 to discuss and deliberate on the progress reports and other pecific issues affecting the functions and operations of the SPGRC.

Attended by all SADC Member States who constitute the SPGRC network, the meeting was also attended by the representatives of the SADC Secretariat, NGB, Sida, Bioversity International and the hosts, SPGRC.

The Board discussed and approved annual workplans and budgets for SPGRC and NPGRCs, and also took note of proposals submitted by SPGRC to the Trust and NEPAD/SANBio for possible funding.

The Board also discussed on the Long-Term Sustainability Strategy for SPGRC, the job evaluation done by SADC Secretariat, and the recruitment process of SPGRC Director.

A draft report for the ITPGRFA Second Session was presented to the Board and a call was made for each country to address the issue of implementing the ITPGRFA, particularly awareness raising and Farmers' Rights to the policy makers.

Board members had an opportunity to visit Sebele Research Station and NPGRC after the meeting. The Board unanimously agreed to have its next meeting in October 2008, in Lusaka, Zambia.

ITPGRFA Governing Body Re-Elects SADC Member to Chair

At its Second Session of the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) held in Rome Italy on 29 October - 2 November 2007, the meeting/parties re-elected its Chair and Vice-Chairs for its Third Session.

Mr Godfrey Mwila (Zambia) was elected Chair while six Vice-Chairs were elected: Mr Sugiono Moeljopawiro (Indonesia), Ms Anna Somerville (Australia), Mr Campbell Davidson (Canada), Mr Modesto Fernandez Diaz-Silveria (Cuba), Mr Francois Pythoud (Switzerland), and Ms Hanaiya El-Itriby (Egypt).

The network congratulates Mr Mwila for being re-elected

A Point to Note

The Board was encouraged to see a 20-year regional conservation project still going on and gaining strength as it grows. It might be necessary for the project to take on-board, the conservation of Animal Genetic Resources since its Plan of Action is similar to that of PGR.

Fingermillet in Malawi (From Page 1)

It has a protein content ranging from about 7 to 14% where brown and red seeded cultivars generally have lower protein levels than the white seeded cultivars. Finger millet protein has a very favourable amino acid composition and is particularly rich in the essential amino acids tryptophan and methionine. Finger millet grains also have a relatively higher content of minerals such as Ca (16 times that of maize), P, Fe, and Mn when compared with other cereals

Although finger millet production requires minimal inputs, it relies on extensive cultural dynamics, including indigenous knowledge, customary genetic resource management systems, and local food habits. Maintenance of its diversity therefore depends on agricultural, food and livelihood dynamics at the farmer level.

In Malawi, finger millet is an important food crop to smallholder farmers in many areas including marginal ones. It is also produced for income generation and has a great potential to further contribute to the improvement of local rural economies.

Justification

In Malawi, finger millet, is among underutilized crops that get the least attention, and its production is going down as evidenced by an almost total abandonment in many districts. The decline may be attributed to changing farming systems and competition with maize and other cereals. This brings in a concern of its present and future, calling for on-farm conservation of remaining genetic diversity by influencing its production through provision of demand and supply interventions.

Chocho method of clearing land for finger millet cultivation

It is clear that finger millet has a very important contribution to make to satisfy current and future nutritional needs in human food. Most important prerequisites to improve finger millet are a change in attitude, in particular by urban consumers, and all institutions of influence toward finger millet as crop for the poor and famine.

This study therefore aimed at strengthening the interface between finger millet biodiversity and food security with ultimate output of socio-economic empowerment of smallholder farmers as privileged custodians and primary beneficiaries of such agricultural genetic diversity.

The study investigated maintenance factors of production for farmers varieties, seed and production systems and recommended improvements as well as current market systems and suggested new possibilities.

Description of the Study Site

Mzimba district, the biggest in Malawi, is located in the northern region. The area is occupied by two ethnic groups - Tumbukas and Ngonis, which are now not very distinct due to intermarriages. Their cultural ceremonies and festivities are strongly associated with beer and sweet brew (thobwa) drinking. It is a traditional and cultural requirement that only finger millet be used for producing these beverages for these functions.

Specifically, the project was piloted in three agricultural Extension Planning Areas (EPAs), namely: Mbawa, Emazwini, and Bulala. In each EPA, two sections, impact areas covering several villages were selected as impact areas. These EPAs and sections were purposively chosen based on their high finger millet production.

Besides growing different crops such as maize, cassava, groundnuts, tobacco, and finger millet are grown in the area, people also keep various animals including cattle, goats and chickens.

Data Collection

Phase I of this work was aimed at generating baseline data. A survey was done using a questionnaire to collect data through personal interviews with twenty (20) farmers purposively selected from the six impact areas. A total of 126 farmers were interviewed. In some areas, the number was slightly more. Preceding this exercise, focus group discussions were conducted with more finger millet farmers from each impact areas.

Results and Discussion

Decision Making

Nearly 8% of participating households are female-headed. While there are very strong overtones of cultural male dominance across the study area, some decisions on finger millet production are made jointly between husband and wife. A key decision of what crops to grow in a particular season is often made by a man and this is quite apparent in finger millet where it is 62% men deciding. However, in some cases, the initial idea to grow finger millet may come from a woman. About 28% of the households make joint decisions.

With regard to deciding which varieties to grow, 57% of the households acknowledge that men make the final decisions; whereas, joint decision for what varieties to grow are taken in 29% of the households. More women (42%) are involved in seed sourcing compared to men (37%) whereas in the remaining households, joint decisions are taken, partly explained by the fact that it is mostly women (77%) who handle storage. Linked to it, the analysis revealed that, when produce is still available during the time of planting, 69% of the households conduct seed selection straight from storage facility which is primarily the domain of women. In almost 90% of the households it is a basic cultural requirement that a woman inform her husband when she wants to get finger millet from a storage facility. Intriguingly, this requirement does apply to other crops.

Almost 99% of the households plant finger millet on virgin land and there is an indication that shortage of virgin forest is not yet an acute problem. Since land preparation involves cutting down trees, it is mostly men (81%) who decide how big the field should be.

Land Preparation and Seed Sowing
There are three different methods of land preparation in the project impact areas, namely: Chocho (Magadi or Misinda), Visoso and Ridging.

Chocho method requires a site with a lot of trees and bushes, cut and laid in strips with alternate strips of bare ground. The bare ground is ploughed while soil is still moist. The tree and grass piles are burnt with seeds sown on both burnt and ploughed patches. This method promotes deforestation.

Visoso method requires more trees which are cut, piled and burnt over the cleared virgin land. Some trees may have to be cut from nearby sites to increase the piles. The land is tilled before making tree piles. Ashes are mixed with top soil followed by seed sowing by broadcasting. This method too is very destructive environmentally.

Lastly, some few farmers sow their seed on nurseries and later transplant onto ridges. Although practiced by few farmers, this method is environmentally friendly. It is less common because it requires organic input while the other methods get soil nutritive enrichment from the ashes.

Broadcasting finger millet needs special skills. In some cases, people with this specialized skill are asked to do the sowing for an in-kind payment. Otherwise, poor broadcasting and seed covering lead to poor germination and birds significantly prey on the seed.

Opportunity for Finger Millet Conservation
Finger millet is grown for various reasons including: source of money through direct sales of the produce and beer, consumption in different forms like nsima, nthiphwa, chilungo and mthibi. Almost all farmers said that eating finger millet nsima is out of distress and this is particularly true when they do not have enough maize.

In addition to the above, finger millet plays a key role as beverage during cultural and traditional festivities and ceremonies, among others, weddings, chiefs' accession, and funerals. The farmers emphatically indicated that culturally and traditionally, beverages from finger millet cannot be substituted with others made from different cereals. It is not even acceptable to use industrially produced beverages as substitutes. Major opportunity for on farm conservation in this area strongly rests on the crops´ cultural linkages and income generation.

Farmers are growing different finger millet varieties and locally they are known as Dopalopa, Chinjowe (open-hand like), Kafumbata (closed-hand like), Katuwatuwa (white), Nthanga, Fumbata (most likely same as Kafumbata) and Hewe. Most farmers mix these varieties on the same field. A few farmers grow different varieties on different fields for various reasons. The choice of varieties can be seen as a process by which farmers assemble various bundles of traits to suit specific production conditions, consumption preferences, or marketing requirements.

Seed Sourcing
Most respondents (71%) expressed lack of money as a challenge to seed sourcing. Seed is sourced from friends, relatives and it is also bought from local markets. Studies have found that mechanisms for farmer-to-farmer seed flow are based mostly on traditional social networks and family relationships.

Apart from seed flows among farmers resulting from seed exchanges among them, farmers, in many instances, obtain seed from other farmers as gifts, through purchase, or as exchanges for labour or grain. Even if seed is bought and sold among farmers, these transactions may occur among people with close social ties and within the same village. The local marketplace is also an important source of seed, and might be included as part of the network.

Other Findings
Demand for dopalopa variety seed was expressed in Mzoma section where the grown varieties are not sweet. Additionally, almost all the farmers expressed dissatisfaction with finger millet produce marketing. Prices that are offered by vendors (major buyers in this area) are exploitative. There were apparent disagreements on the traits of different varieties from within the sections and across the whole study area. Breaking current yield ceiling of 800 Kg/ha came out quite clearly across the study area.

Follow-Up Phase II (2007-2008)
Starting point for this phase shall be to hold a workshop with a good representation of the farmers to discuss the survey findings from Phase I. This will be followed by interventions to enhance on-farm conservation.

This phase will be sub-divided into various activities to include: Phase I results workshop, diversity fairs, on farm demonstration plots (displaying environment friendly production methods, on-farm varieties' attributes verification, and on-farm seed multiplication), community seed banks, crop importance awareness and demand creation.

Pungulani Quits Senior Bachelors' Club

The Curator of the Malawian NPGRC Mr Lawrent Pungulani wedded Ms Ms Stella Mbengo on Saturday, 13th October 2007 in Lilongwe, Malawi.

The network wishes the couple a very happy and success in their future life.

Morphological Characterization of Okra (*Abelmoschus esculentus* L. Moench) Accessions from the South African NPGRC Collection

Andre Lezar
NPGRC, Private Bag X973, Genetic Resources, Pretoria, 0001, South Africa

Introduction

In Africa, Asia and the southern states of the US, the unripe capsules of okra are considered a delicacy and okra has become a traditional crop in many countries world-wide. Okra has centres of diversity in West Africa, India and Southeast Asia and is therefore considered to have originated from one of these regions [2, 6]. As a result of the increasing popularity of stir-fry cookery in other parts of the world, this annual plant is grown elsewhere more and more frequently. Okra is a very versatile crop with edible, medicinal and industrial uses. Immature fruits are cooked individually or added to soups [7]. Okra can be used fresh or dried and are commonly used as a thickening for soups, stews and sauces. Seeds can also be cooked or ground into a meal and used in making bread [5]. The roasted seed make a very good coffee substitute [10]. The fruits are rich in pectin and are also a fair source of Fe and Ca [3]. A fibre obtained from the stems is used as a substitute for *Corchorus* sp. [11]. It is also used in making paper and textiles [9].

Established in 1995, the South African NPGRC has in its collection, 41 landrace okra accessions mostly from Limpopo Province (Thohoyandou, Vuwani, Mopani, Giyani, Malamulele and Mhala districts) and Mpumalanga Province (Bushbuckride, Mbombela and Nkomazi districts). All accessions are characterised to improve the usefulness to researchers and plant breeders.

Figure 1: Characters and character states used in analysis

Vegetative	State
General Aspect	3 = Erect, 5 = Medium, 7 = Procumbent
Branching	3 = Orthotropic, 5 = Medium, 7 = Strong
Stem pubescence	3 = Glabrous, 5 = Slight, 7 = Conspicuous
Stem colour	1 = Green, 2 = Green & Red, 3 = Purple
Leaf shape	Descriptor states 1-11 (IPGRI)
Leaf colour	1 = Green, 2 = Green with Red, 3 = Red
Inflores c. & Fruit	State
Epicalyx segments	1 = From 5-7, 2 = From 8-10, 3 = > 10
Epicalyx shape	1 = Linear, 2 = Lanceolate, 3 = Triangular
Fruit colour	1 = Yellowish green, 2 = Green, 3 = Green with Red patches, 4 = Red
Fruit length	1 = < 7cm, 2 = 8-15cm, 3 = > 15cm
Peduncle length	1 = From 1-3cm, 2 = > 3cm
Fruit surface	1 = Smooth, 2 = Semi-wrinkled, 3 = Wrinkled
Fruit Neck	1 = Present, 0 = Absent
Fruit shape	Descriptor states 1-15 (IPGRI)
Fruit pubescence	3 = Downy, 5 = Slightly rough, 7 = Prickly
Seed	State
Seed shape	1 = Round, 2 = Reniform
100 seed weight	Quantitative (g)

Research Objective

The objective of this study is to: identify any possible co-ordinate mistakes in the dataset; conduct univariate and multivariate analysis of the NPGRC landrace okra; identify clusters and characteristics within clusters; and identify existing gaps in the collection.

Materials and Methods

During the 2004-2005 planting season, 41 accessions of the South African NPGRC okra collections were planted at the Agricultural Research Council (ARC) at Roodeplaat. Accessions were raised in the glasshouse and then transplanted . Morphological characterization using the IPGRI descriptors for Abelmoschus esculentus was done in the field for plant, flower and fruit characters and at the NPGRC for seed characters (Table 2). All accessions for characterization purposes were hand harvested and cleaned. Data was captured and analysed in Microsoft Excel (2003). In order to view accessions spatially, DIVA-GIS version 4 software were used. A dissimilarity matrix using the method as described in Cole-Rodgers [4] was compiled in Excel for use in cluster analysis using NTSYS-pc software.

Results and Discussion

Geographical Analysis

According to Hijmans [8], co-ordinate mistakes can best be spotted by plotting collection sites on a map with administrative boundaries. The dot distribution map (Figure 1) created in DIVA-GIS revealed two co-ordinate errors. The first error (Red triangle, acc 2224) was due to a data entering error into the SPGRC Documentation and Information System (SDIS) – the accession was collected from Arthurstone village but fell closer to Buffelshoek village. The second error (Orange square, acc 4112) was due to a recording error on the collection form or an incorrect reading from the Global Positioning System – the accession fell into Mozambique. The arrows are indicating the correct locations for the two accessions.

Univariate Analysis

General plant aspect was mostly erect – 1 (83%), followed by medium – 2 (12%) and procumbent – 3 (5%) (acc 1912). Branching was dominated by the medium character state – 2 (52%), followed by strongly branching – 7 (29%) and only 19% orthotropic.

Stem pubescence was almost equally divided between the three character states: Glabrous – 3 (35%), slightly rough – 5 (43%) and conspicuous – 7 (22%). Stem colour was dominated by Green with red patches – 2 (62%), followed by Purple – 3 (34%). Only accessions 1169, 4112 and 4235 had green stems.

Most accessions had either leaf shape 7 (56%) or leaf shape 10 (28%). Almost all accessions had either green leaves with red veins – 2 (59%) or green leaves – 1 (38%). Only accession 510 had red leaves – 3 (3%). Most accessions had 8-10 epicalyx segments (83%). Only accessions 2330, 1233 and 1900 had 5-7 segments. No accession had a triangular epicalyx shape. 81% displayed a lanceolate epicalyx shape and 19% had a linear epicalyx.

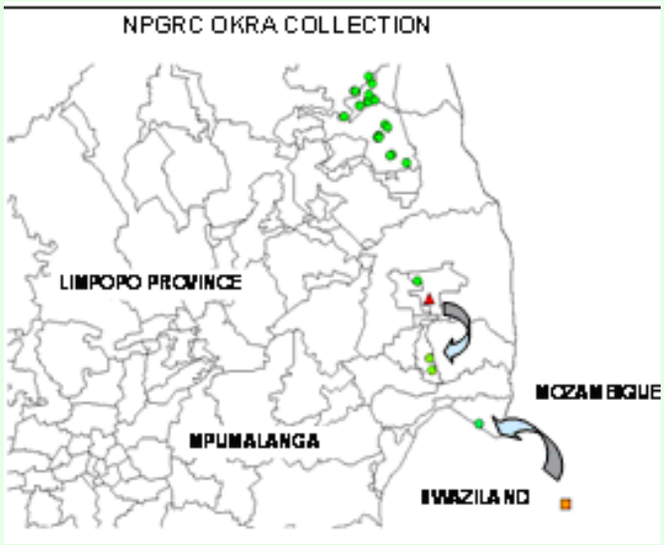

Fig 1: Dot distribution map for NPGRC okra collection

1-3cm long. Fruit pubescence was dominated by prickly fruits – 7 (51%), followed by slightly rough – 5 (28%) and downy – 3 (21%). Fruits with necks were present in 63% of individuals, 37% having no necks. The collection has no wrinkled fruits. Most accessions had semi-wrinkled fruits (76%) and the remainder had smooth fruits (24%).

Just over half of the accessions had round seeds – 1 (51%), reniform (kidney shaped) – 2 being represented by 49%. Most plants had either fruit shape 1 (43%) or fruit shape 15 (26%) according to the IPGRI descriptor. Accessions 1197, 1859 and 1900 had fruit shape 4. Fruit shape 6 was represented by accessions 2341, 2348 and 2382. Accessions 1214, 2276 and 2324 displayed fruit shape 3. Fruit shape 5, 7, 11 and 12 were represented by a single accession each, namely 1161, 1856, 1827 and 1233.

Multivariate Analysis – Clustering

The accessions grouped into 18 distinct clusters at a distance coefficient of approximately 1 – dotted line (Figure 2 below). This is a very high number of distinct groups for the amount (41) of okra accessions. Cluster membership is shown in Table 3. The first split was due to a combination of fruit characters – Fruit length, fruit shape and fruit pubescence and leaf shape.

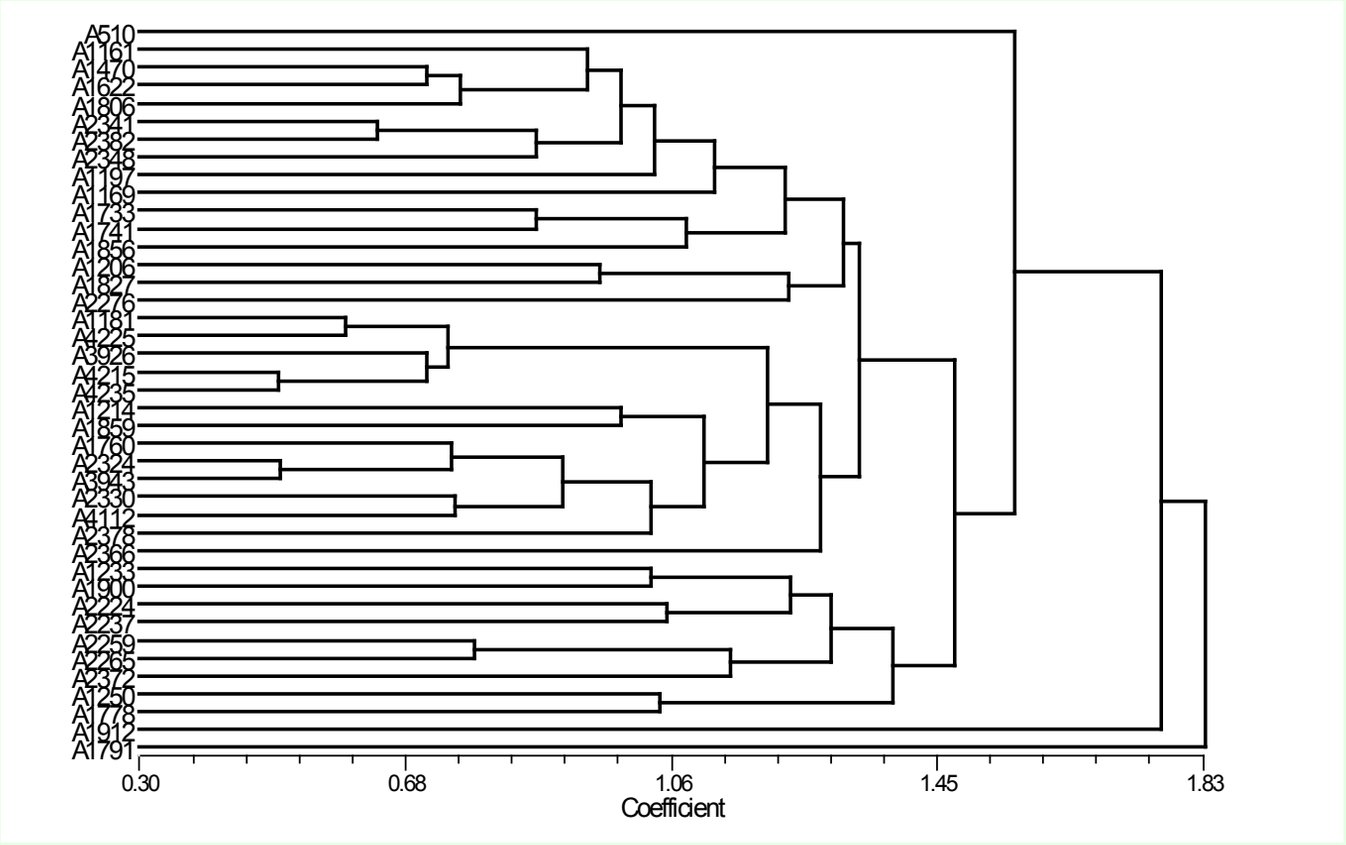

Fig 2: Hierchical clustering using distance coefficients

Fruit colour was almost evenly distributed between green with red patches – 3 (36%), yellowish green -1 (33%) and red (25%). Only 6% of the scored individual plants had green fruits (acc 1760, 2276 and 2324). Approximately half of the plants scored had fruits between 7-15 cm long(56%) and 43% had fruits longer than 15cm. Only accession 1806 had fruits shorter than 7cm. One quarter of accessions had peduncles longer than 3cm (27%) whilst the remainder (73%) had peduncles of

Multivariate Analysis - PCA

Principle Component Analysis (PCA) was performed to establish which traits are contributing mostly to the variation (Figure 3). The first PC axis accounts for 22.23% of the total multivariate variation, while the second accounts for 13.19% and the third for 11.12%. The cumulative variation reached 70.38% in the first six PC axes. The total number of variables (17 character states scored) determines the number of variables and thus number of PC axes (17). The high degree of variation in the first six PC axes is indicative of a high degree of variation in the characters

Table 2: Cluster Membership

Cluster	Cluster ID	list of Accessions	Acc <50%
1.	Long, prickly fruits with a neck, Green leaves	1791	0
2.	Short, prickly fruits with a neck, Procumbent	1912	0
3.	Short, prickly fruits without a neck, Green fruits with red patches	1250, 1778	0
4.	Short, slightly rough fruits with a neck, Medium aspect, Round seeds	2372	0
5.	Short, prickly fruits without a neck, Green leaves with red veins, Erect, Round seeds	2265, 2259	0
6.	Short, prickly fruits without a neck, Green leaves with red veins, Erect, Reniform seeds	2224, 2237	0
7.	Short, prickly fruits with a neck, Erect, Green leaves with red veins	1233, 1900	0
8.	Long, downy fruits with a neck, Green leaves with red veins	2366	0
9.	Long, prickly fruits with a neck, Green leaves with red veins, Erect aspect	1760, 2324, 2330, 2378, 3943, 4112	2
10.	Long, prickly fruits with a neck, Green leaves with red veins, Medium aspect	1214, 1859	0
11.	Long, downy fruits with a neck, Green leaves	1181, 3926, 4215, 4225, 4235	2
12.	Long, slightly rough fruits without a neck	2276	0
13.	Short, prickly fruits with a neck, Erect, Green leaves	1827, 1206	0
14.	Short, slightly rough fruits with a neck, Green leaves with red veins, Erect, Reniform seeds	1856	0
15.	Short, slightly rough fruits with a neck, Green leaves with red veins, Erect, Round seeds	1733, 1741	0
16.	Long, slightly rough fruits with a neck, Green leaves, Erect, Reniform seeds	1169	0
17.	Short, prickly fruits without a neck, Green leaves	1161, 1197, 1470, 1622, 1806, 2341, 2348, 2382	0
18.	Long, downy fruits with a neck, Red leaves	510	0

contributing to these axes. Higher coefficients or Eigenvector value for a certain character indicate the relatedness of that character to the specific PC axes. According to figure 3, the first PC axis separated the fruit characters fruit length (-0.7814), fruit shape (0.6925), fruit pubescence (0.6107) and also leaf shape (-0.6245), while the second PC axis separated stem pubescence (0.6306) and epicalyx shape (-0.5580). Aspect (0.6602), neck (0.6472) and leaf colour (0.5401) had higher coefficients in the third PC axis than in the first and second PC axes. Fruit pubescence, leaf shape and fruit colour had high coefficients in more than one PC axes. Bas [1] similarly found fruit characteristics and leaf shape and colour to be important characters in okra variation. Characters with high Eigenvectors in the first three PC axes should be considered as more important because the first three axes explain nearly half of the total variation in the collection.

Multivariate Analysis – Matrix Plot

To see which characters cause the accessions to group together a comparison was done between the Projection matrix (containing accessions) and the Vector matrix (containing characters) that was computed using the NTSYS-pc software.

Results show that fruit length, peduncle length, leaf shape, neck and epicalyx segments are causing accessions within groups 8, 9, 10, 11, 12, 13 and 16 to group together. Aspect, branching, epicalyx shape and seed shape are responsible for groupings 14, 15, 17 and 18. Fruit pubescence and stem pubescence are associated with groups 1, 2 and 3. Groups 4, 5, 6 and 7 are linked to fruit shape, stem colour, fruit colour and leaf colour.

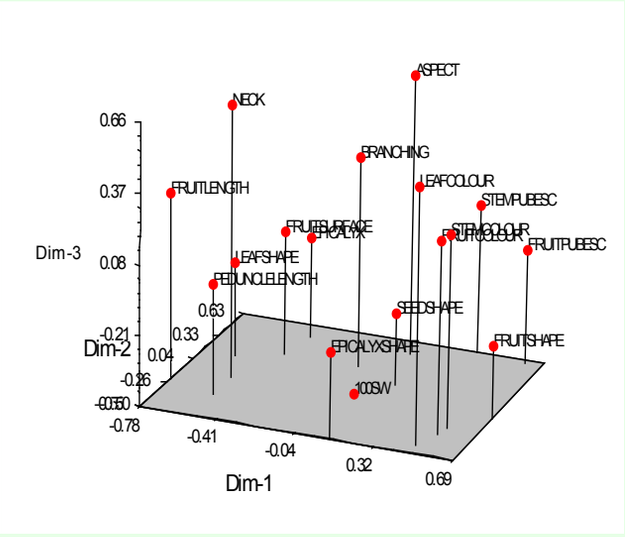

Figure 3: Three dimensional plot of traits showing their contribution to variation (Eigenvectors on x, y and z axes).

Conclusions

Geographical Analysis

From the distribution map of the NPGRC okra collection it is clear that there are no okra accessions from Kwazulu-Natal and Eastern Cape provinces, where okra should also do well because of the sub-tropical climate. Surveys or pre-collection missions will need to be done to establish whether there are okra present in these two provinces, otherwise landrace okra could be introduced into local communities here.

Univariate Analysis

From the univariate analysis unique accessions and scarce traits were identified. Subsequent collection missions of okra should therefore concentrate on capturing more of the scarce traits such as procumbent growth habit, green stems, red leaves, green fruits, short fruits and scarce fruit shapes. Attention should also be paid to character states that are absent in the collection such as triangular epicalyx and wrinkled fruits.

Multivariate Analysis

The groupings within the hierarchical clustering were confirmed within the matrix plot. Fruit characteristics play a very important role in the total variability and the formation of clusters. The large number of completely distinct clusters (18) confirms that there are a large number of unique accessions within the small NPGRC okra collection.

Acknowledgements

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Obituary

The Management of the SPGRC regrets to announce death of Mr Blackwell Ngoma who passed away on 25th December 2007 noon at the University Teaching Hospital in Lusaka after a short illness.

Mr Ngoma was born on 29th December 1952 in Chipata in the Eastern Province of Zambia. He went to Chongololo and Mt Makulu Primary Schools for his primary education from 1963 to 1970 and acquired his Junior Secondary Education through Luanshya Correspondence Course Unit from 1971 to 1972. Mr Ngoma joined SPGRC as a General Worker on 1st July 1990 and served in the same position up to the time of his untimely death.

He leaves behind a Widow and Eight (8) children and nineteen (19) grandchildren.

The Annual SPGRC/NPGRCs Technical Review and Planning Meeting

This meeting was held between 3rd and 7th September 2007 in Lusaka, Zambia with the objective of: reviewing implementation of the technical activities for 2006/2007 cropping season and evaluating technical plans for the 2007/2008 cropping season. It also facilitated information sharing on any other technical and networking issues. It was attended by 38 participants from NPGRCs, SPGRC, NGB, Bioversity International, SANBio/NEPAD, and National Museums Board of Zambia.

Updating on the SPGRC long-term sustainability strategy, the meeting was informed that following the strategy's alignment to Regional Indicative Strategic Development Plan (RISDP) and provision of other funding options as directed by the ICM, the strategy that was initially approved by the Board in February 2007, was now approved by the SADC Council in August 2007. Following the end of the project in 2009, SPGRC will be required to raise at least 10% of the total funding through projects and donor support, rising up to 30% by third year without NGB support.

Following invitation by the NEPAD/SANBio, SPGRC has applied to the SANBio regional office through Zambian national SANBio representative to become a regional node for the network. While waiting for formal approval, SPGRC is writing a proposal for possible funding of activities through the SANBio network.

Initial Sustainability Initiatives

In the second half of 2007, advised by the Global Crop Development Trust, SPGRC revised and updated its proposed regional conservation strategy to GCDT in consultation with the Trust. The proposal was finally submitted to the Trust for funding considerations. At the same time, a consolidated regional regeneration/multiplication proposal was submitted to the Trust in early November 2007.

Capacity Building

Three members in the network have been accepted to start a PhD programme at the Swedish Agricultural University of Sciences. While there may be 3 more positions for PhD students there are also 5 positions for MSc. students, 4 of which have been filled and the fifth is pending at the same Swedish University.

Publicity and Awareness of SPGRC

In order to step up awareness of SPGRC network activities, SPGRC participated in the Zambia National Agricultural and Commercial Show and made interviews on Radio and Television. It also partly participated in Tanzanian Agricultural show and made TV and Radio interviews as well as preparing a manuscript for newspaper publication.

National Plant Genetic Resource Centres' Contacts

Centro Nacional De Recursos
Fitogeneticos, Avenida Revolução de Outubro, C P 10043, **LUANDA, Angola**
Tel: 244-2-325673
Email: cnrf@ebonet.net

Department of Agricultural Research,
Private Bag 0033, **GABORONE, Botswana**
Tel: 267 3668100, Fax: 267 928965
Email: tofentse@gov.bw or ounceofentse@yahoo.ca

Department of Agricultural Research
P O Box 829, **MASERU, Lesotho**
Tel: 266 22 312395/326042
Fax: 266 22 310362
Email: maleoacm@yahoo.co.uk

Chitedze Research Station
P O Box 158, **LILONGWE, Malawi**
Tel: 265 1 707222, Fax: 265 1 707041
Email: genebank@malawi.net

Ministry of Agriculture & Food Technology
Horticulture Division,**REDUIT, Mauritius**
Tel: 230 4644857,Fax: 230 4644857,46448749
Email: myboodoo@mail.gov.mu

Instituto Nacional de Investigacao Agronomica (INIA),
P O Box 3658, **MAPUTO, Mozambique**
Tel: 258 1 460255,Fax: 258 1 460074/460255
Email: iniagef@teledata.mz

Centre for Research in Natural Resources - Lwiro,
D.S. **BUKAVU, Kivu, Democratic Republic of Congo**
Tel: +243-97704878, +243-812005544
Email: tmunyuli@yahoo.com

National Botanical Research Institute
Private Bag 13184, **WINDHOEK, Namibia**
Tel: 264 61 2022010, Fax: 264 61 258153
Email: loots@nbri.org.na

RSA Plant Genetic Resources Centre
Private Bag X973, **PRETORIA 0001, South Africa**
Tel: 27 12 808 5387/9, Fax: 27 12 808 5383
Email: pgrc@nda.agric.za

Malkerns Research Station, P O Box 4
MALKERNS, Swaziland
Tel: 268-52-83178, Fax: 268-52-83360/490
Email: mrs@realnet.co.sz

TPRI
National Plant Genetic Resources Centre
P O Box 3024, **ARUSHA, Tanzania**
Tel: 255 27 250 9674, Fax: 255 027 250 9674
Email: genetics@habari.co.tz

Mt. Makulu Research Centre,
Private Bag 7, **CHILANGA, Zambia**
Tel: 260 1 278380 / 278095
Fax: 260-1-278130
Email: mtmakulu@zamnet.zm

NPGRC of Zimbabwe
P O Box CY 550, Causeway,
HARARE Zimbabwe
Tel: 263 4 702519, Fax: 263 4 731133
Email: ngbz@mweb.co.zw