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Southern African Network for Biosciences
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SANBio

**REPORT OF THE FIRST MEETING OF THE SANBio TASK FORCE ON
THE ENHANCEMENT OF CAPABILITIES OF CONSERVATION AND
UTILIZATION OF PLANT GENETIC RESOURCES IN SOUTHERN
AFRICA, HELD AT UKZ DURBAN 2-3 JUNE 2008**



Background

Short for Southern African Network for Biosciences, SANBio is an intergovernmental organisation and flagship programme which falls under the NEPAD/African Biosciences Initiative. SANBio's main objective is to build and strengthen capacity in biosciences through networking, promotion of scientific excellence and harnessing of indigenous knowledge for sustainable utilization of natural resources and wealth creation of the people of Southern Africa.

SANBio has been established with the regional hub being hosted by the Council for Scientific and Industrial Research (CSIR) in the Republic of South Africa. The network covers 12 countries in the sub-region which includes: Angola, Botswana, Malawi, Mauritius, Mozambique, Namibia, Lesotho, Swaziland, Seychelles, South Africa, Zambia and Zimbabwe.

SANBio's main goals are to:

- enable Southern Africa to harness and apply science, technology and related innovations to eradicate poverty and achieve sustainable development,
- build capacity in the region to ensure that Southern Africa contributes to the global pool of scientific knowledge and technological innovations, and
- bring new innovative bioscience related products in the market by capitalizing on the expertise in the region.

Task Force

The objective of the task force is to advise the NEPAD Southern African Network for Biosciences (SANBio) in the development of a five year regional project to “enhance the capabilities of conservation and utilization of plant genetic resources in southern Africa”. This is one of the priority projects identified by the region aimed at ensuring sustainable food security and socioeconomic development of the people of the region.

Based on the NEPAD principle of African ownership and leadership, NEPAD OST has constituted a task force which will guide the design of this project. The task force draws its membership from African scientists with solid experience in the conservation and utilization of plant genetic resources. The composition of the TF is as follows:

- | | |
|--------------------------|--------------------|
| 1. Ms. Thandie Lupupa | SPGRC |
| 2. Mr. Barnabas Kapange | SPGRC |
| 3. Prof. Pat Berjak | UKZN |
| 4. Mr. Sershen Naidoo | UKZN |
| 5. Mr. Lawrent Pugulani | Malawi NPGRC |
| 6. Prof. Jane Morris | CSIR-UP |
| 7. Dr. Erick Chakauya | CSIR-Biosciences |
| 8. Mr. Dickson Ng'uni | Zambia NPGRC |
| 9. Ms. Alter Murangi | Zimbabwe NPGRC |
| 10. Ms. Maleoa Mohloboli | Lesotho NPGRC |
| 11. Prof. Luke Mumba | SANBio Secretariat |

The first meeting of the task force was held on 2-3 June 2008 in the School of Biological & Conservation sciences (SBCS) at the University of KwaZulu-Natal (UKZN), Durban, South Africa.

Agenda:

DAY ONE (Monday 02 June 2008)

- | | |
|---------------|--|
| 08:00 – 08:30 | Registration of participants- Abongile |
| 08:30 – 08:45 | Welcome Remarks |

Dean, School of Biological & Conservation Sciences, University of KwaZulu-Natal, South Africa

- 08:45-09:00 Opening Address, *Professor Aggrey Ambali, Acting Director, NEPAD OST*
- 09:00 – 09:15 *Concept Note on Enhancement and Conservation and Utilization facilities for Plant Genetic Resources in SANBio region: Prof Luke Mumba SANBio Network Director*
- 09:15 – 09:30 Tea Break
- 09:30 – 10:45 Ms T. Lupupa, Acting Director, SPGRC
- 10:45 - 11:00 Malawi, NPGRC- Mr. Pungulani, Curator
- 11:00 – 11:15 Zambia, NPGRC -Mr. D. Ngu'ni, Senior ARO–
Characterisation/Multiplication
- 11:15 – 11:30 Zimbabwe, NPGRC- Ms Alter Murangi, Curator
- 11:30 - 11:45 Lesotho, NPGRC – Ms. Maleoa Mohloboli, Curator
- 11:45 – 12:30 Discussions
- 12:30 – 13:30 Lunch
- 13:30 – 14:00 Role of CSIR/UP: Prof. Jane Morris
- 14:00 – 14:30 Role of UKZN : Prof. Pat Berjak
- 14:30 – 15:00 Discussions
- 15:00 – 15:30 Tea Break
- 15:30 – 16:00 General Discussions

16:00 – 16:15 Ratification of SPGRC and UKZN as Project Coordinator (PC) and Deputy for the Project

END OF DAY ONE

DAY TWO (Tuesday 3rd June 2008)

08:30 – 09:00 Summary of Day One: Prof. Mumba

09:00 – 10:30 Breakout Group Work: Ms Lupupa

10:30 – 11:00 Tea Break

11:00 – 12:00 Report Back

12:00 – 12:30 Wrap-up and Conclusion: Ms Lupupa/Prof. Mumba

12:30 – 14:00 Lunch Break

14:00 – 16:00 Conducted tour of Lab facilities: Pat / Sershen

END OF MEETING

1. Welcome Remarks

Prof. Johan Jacobs, Acting DVC (Research, Knowledge Production and Partnerships) welcomed the Task Force members.

- UKZN motto is to become a Premier University
- Challenged the TF to come up with concrete projects to conserve biodiversity and to preserve indigenous knowledge.
- This was summed up by one key statement: “sympathetic

- Imagination of humans enables us to relate with nature in a horizontal as opposed to a vertical fashion”.
- He lamented at the low levels of human capital development in South Africa; a scenario which is shared across the region.
- He emphasized the need for collaboration and pointed out that such collaboration should invariably include a component on training.

2. Opening Remarks

Prof Mumba gave his opening remarks on behalf of Prof. Aggrey Ambali, Acting Director at NEPAD OST who sent an apology. He thanked the Management of the UKNZ and the Dean of the School of Biological & Conservation Sciences for playing host to the inaugural meeting of the SANBio Task Force. He thanked Prof. Berjak and her team for accepting to take this responsibility. He also registered NEPAD's appreciation to all members of the Task Force for accepting to serve on the team and for having travelled to attend this first meeting at a short notice. To us this is a demonstration of your commitment to the course of plant genetic resources in our region.

He reminded the TF that they derived their mandate from a continent wide document called the Africa's Science & Technology Consolidated Plan of Action (CPA). This is a document which was endorsed by Africa's Ministerial Council on S & T (AMCOST) in 2005 and later by AU Heads of State and Government Conference in Khartoum in 2006. Within the CPA there are 13 flagship programmes. One of these programmes is on the Conservation and Sustainable Use of our Biodiversity and this is the program that had brought TF to this meeting, he said.

The objective of the Task Force is to develop a regional project on enhancement of gene banking facilities including DNA banking in Southern Africa. This is one of the nine priority projects which had been identified by the region aimed at

ensuring sustainable food security and socio-economic development of the people of the region. He urged all TF members to exert their minds and expertise to developing this project proposal.

We at NEPAD OST are committed to support the TF in this noble cause today and beyond and he looked forward to the final product of their work, he said. One of the objectives NEPAD is to build and strengthen capacity in biosciences through networking, promotion of scientific excellence and harnessing of indigenous knowledge for sustainable utilization of natural resources and wealth creation. However, as we aspire for scientific excellence we must not forget our socio responsibility. If we have to produce the desired impact we must be responsive to markets - We must be market and needs driven. We have to take into account the whole value chain. We must forge partnerships that will address all players in the value chain. We must define specific means or intervention required for scaling up what we are doing. Are the activities that we are planning to implement going to achieve the goal – socio-economic transformation and wealth creation of our region? We must also consider for instance, how our R & D agenda as scientists is going to influence policy change? The catch phrase nowadays is “Evidence based policy formulation”

One good thing about talking to a group of scientists is that one does not have to spend too much time – as they want to get on with the business. Furthermore, by and large they already know what you want to talk about.

In conclusion Prof. Mumba said, “Anyone who puts his hands on the plough and looks back is not fit for the Kingdom” You have started this task, have no doubts, have self confidence and move on.

3. Introducing the Project Concept specifically highlighting:

Prof. Mumba started by giving a background to this meeting. Between 2006 and 20007 he held discussions with Prof. Jane Morris and Prof Berjak to develop a

regional project within the context of the SANBio Business Plan on Conservation of Plant Genetic Resources including DNA Banking. He later had an opportunity to present the project concept to the SPGR Network at its Planning Meeting in Lusaka. The concept was well received.

One of the things the SANBio Secretariat did was to submit a concept note to the Department of Science & Technology in South Africa (DST) for a grant 'Project Development Fund for a Regional Project on the Conservation of Plant Genetic Resources including DNA Banking. An amount of about R200 000 was approved in March 2008. The project is for a 1 year period.

With this modest grant, the task at hand was to come up with modalities for developing a 5 year project proposal with a regional focus. He was hopeful that this workshop would come up with some concrete steps or modalities and timeframe for achieving this purpose.

He informed the TF that to jump start this process Prof. Berjak developed a questionnaire which could be used in a survey of gene banking facilities and capabilities in the region. This work needed to be taken forward so that the outputs of the survey could make an input to the bigger picture of developing a Regional Project Proposal as part of a SWOT Analysis.

In his substantive presentation Prof Mumba highlighted the challenges in the conservation of plant genetic resources in the region, Project Goal, Strategic Objective, Indicative activities & budget, Expected outputs, Assumptions, Participants and the Road map.

4. Presentations from the region

In tandem members of the TF made presentations from their respective institutions in the following order: SPGR, Malawi NPGRC, Zambia NPGRC,

Zimbabwe MNPGR, CSIR-Biosciences, CSIR-UP, and UKZN. The representative from Lesotho sent an apology.

The various papers gave outlines of base line information on existing capacities (HR, infrastructure, funding), routine operations, challenges, successes, gaps, training needs, etc. Detailed presentations can be provided from the Secretariat on request.

5. Discussions

- Noted that Conservation of plant genetic resources was one of the scientific fields expanding so fast and at the same time challenging, more especially with the advent of climate change, biotechnology and HIV/AIDS.
- In order to fully safeguard our plant genetic resources there is a strong need to adopt new and robust technologies.
- The following were identified as some of the new technologies that could be considered for adoption in SADC region:
- Biotechnology, micropropagation, GIS, Non Destructive Ways of Determining Moisture, Cryostorage, Molecular Diagnostics, DNA Banking, Bioinformatics, etc

6. Further issues for discussion

The following were identified as additional issues requiring further consideration in the process of developing the project proposal.

6.1 Policy framework

- Contextualizing the framework

6.2 Data sharing and management

- Connectivity

- Access to internet
- Public awareness
- Bioinformatics

6.3 Capacity Building

6.4 Contractual agreements, incentives and retention

6.5 How do we make PGR attractive to the commercial sector?

6.6 What equipment do we require and for what purpose?

6.7 Type of research to be undertaken in gene banks

7. Ratification of PC and Deputy PC

The final task for day 1 was ratification of the SPGRC (Ms. T Lupupa) and UKZN (Prof. Pat Berjak) as Project Coordinator and Deputy Coordinator, respectively.

DAY 2:

8. Break Out Group Work

On Day 2 the TF was divided into two groups each to address the set of question and to report back in plenary.

Group A

Barnabas

Pat.

Lawrent

Alter

Erick

Group B

Thandie

Jane

Dickson

Sershen

Questions for Break-Out Group Discussions

- a. Please list key functions or roles that the SPGRC should play in

coordinating the drafting of the regional project proposal and time frame.

Propose the budget support required for each function.

- b. What role do you envisage the Task Force members to play in this process?
- c. Suggest priority areas/sections to be included in the project
Document and specify the kind of interventions required.
- d. How can we make programmes of the PGR network more attractive to the private sector? What role models can we consider?
- e. Suggest the interventions that will be required for political buy-in of governments in the region.
- f. Suggest relevant outcomes/outputs from the regional project
- g. Any other suggestions you would like to make to strengthen the outcomes

9. Reports from groups

See in Annex 1 and 2

10. Plenary Discussions

Role of SPGRC

In terms of timeframes and responsibilities the SPGRC will do the following:

Set up a list server for the group, revise questionnaire, communicate minutes by 10th June

Send questionnaire to NPGRCs (on 9th of June) to be returned by 16th of June

SPGRC beef up report from current meeting and finalize a “level 0” draft to send to Pat by 23rd June

Prof Pat Berjak to respond by 27th June

Circulate “level 0” draft to rest of task force by 30th June

Responses from the rest of the team by 11th July.

Incorporate responses and finalize Draft “level 1” document by 10th August – circulate by 12th August

Responses from the rest of the team by 20th August.

Convene SANBio Task force meeting to ratify final document by the end of August (possibly 26-27th) in Lusaka.

SANBio Secretariat to convene a stakeholder's meeting to consider and adopt the proposal in October, 2008

Role of Task Force Members

Task Force Members will do the following:

- Contribute to design of regional activities
- Provide inputs and feedback on documentation
- UKZN get info from Kew as a role model
- CSIR-UP get info from Australia as a role model
- NPGRCs contact others: France, CGIAR-Nigeria etc
- Submit summarized best practices and suggestions in the context of SPGRC proposal. Deadline end June.
- Stakeholder engagement meeting early October

Specific issues that emerged from the presentations and discussions included the following:

- Agreed that Tanzania and DRC who are not members of the SANBio but are members of the PGR Network should participate in this initiative under the BecANet–SANBio inter-network collaboration.
- AU/NEPAD to spear head development of a regional policy framework to guide conservation and utilization of plant genetic resources – “SADC Agrobiodiversity Policy”.
- Draw lessons from best practices from other countries such as India and Brazil who have such policies in place
- Need to integrate issues of HIV/AIDs in our conservation programs
- Conservation of medicinal plants

- Impact of climate change on sustainability of PGR need to be investigated
- Invest in upgrading of existing facilities to state-of-the-art level
- Invest in new technologies for conservation of plant genetic resources
- Invest in creation of relevant facilities at regional centre
- Human capacity: Heavy investment in human capacity building at all levels necessary for the best practices in plant genetic resources conservation *and* research
- Need to interrogate what exists in our gene banks through research in order to answer questions that will attract funding otherwise we will become irrelevant.
- Explore ways and means of engaging the private sector to mobilize additional funding
- Need to add value to our PGR by determining nutritional values, nutrient uptake and active principles as well as analyzing the genetic basis
- Need to embark on program for advocacy and public awareness on PGR
- Staff retention at gene banks was identified as a challenge which needs to be addressed

11. Wrap-up and Conclusions

Prof. Mumba thanked all the TF members for their time and efforts spent in interrogating the task at hand. He urged everyone to play their roles so that the objective of the TF can be realized. In conclusion he wished everyone a safe trip to their respective places.

12. Conducted Tour Laboratory facilities and Research Projects

After lunch Sershen took TF members on a tour of laboratory facilities and postgraduate student research projects. The research group has 26 post-graduate students (at Honours, M.Sc. and Ph.D. levels) looking at various aspects of seed biology including: cryo-preservation, biochemistry, physiology, biotechnology, and Micropropagation.



SANBIO TASKFORCE GROUP A

Functions of SPGRC

- ▶ Set up a list server for the group, revise questionnaire, communicate minutes
- ▶ Send questionnaire to NPGRCs (on 9th of June) to be returned by 16th of June
- ▶ SPGRC beef up report from current meeting and finalize a "level 0" draft to send to Pat by 23rd June
- ▶ Pat to respond by 27th June
- ▶ Circulated to rest of task force by 30th June
- ▶ Responses from the rest of the team by 11th July.
- ▶ Incorporate responses and finalise Draft "level 1" document by 10th August – circulate by 12th August
- ▶ Responses from the rest of the team by 20th August.
- ▶ SanBio Task force meeting to ratify final document by the end of August (possibly 26-27th) in Lusaka.

Functions of Task Force

- ▶ Contribute to design of regional activities
- ▶ Provide inputs and feedback on documentation
- ▶ UKZN get info from Kew as a role model
- ▶ CSIR-UP get info from Australia as a role model
- ▶ NPGRCs contact others: France, CGIAR-Nigeria etc
- ▶ Submit summarized best practices and suggestions in the context of SPGRC proposal. Deadline end June.
- ▶ Stakeholder engagement meeting early October

Priority areas/sections in proposal

- ▶ Background
- ▶ Summary of current situation and shortcomings (SWOT)
- ▶ Outline current role players in the region and opportunities for new role players
- ▶ Needs analysis for each role player/stakeholder
- ▶ Summary of global trends
- ▶ Vision for the future
- ▶ Suggested interventions to achieve the vision
- ▶ Priorities for action
- ▶ Envisaged outputs
- ▶ Logframe
- ▶ Policy and IP issues
- ▶ Budget
- ▶ Implementation plan
- ▶ Monitoring and Evaluation

How to make programmes more attractive to the private sector

- ▶ Engage in country-specific discussions with private sector to determine their needs. Present role models from other countries as one basis for discussion
- ▶ NPGRCs and relevant academic institutions to take responsibility for meeting with private sector
- ▶ Inputs to be provided to SPGRC before end August

Interventions required for political buy-in of governments

- ▶ SPGRC and NPGRCs to show current budgets and commitments from their governments
- ▶ NEPAD to discuss at AMCOST bureau, FANRPAN
- ▶ Invite other government department representatives and stakeholders to an information session in 2nd week October

Annex 2:

SANBIO TASKFORCE GROUP B

1. KEY ROLES OF SPGRC

- a) Solicit ideas from SPGRC network and other SANBIO taskforce members (circulate the questionnaire after modification)
 - i. Identify basic needs for both SPGRC and NPGRC
 - ii. Financial requirements
 - iii. Human resources requirement (training)
 - iv. Infrastructure (Building standards, air-conditions, status, specialistic research elements e.g. seed germination, GIS lab etc)
- b) Draft proposal based on the information gathered
- c) Review proposal by SANBio Taskforce (meeting before SPGRC Planning meeting).

2. ROLE OF TASKFORCE MEMBERS

- a) Members to be given special areas in the project document depending on area of specialisation
- b) Submitting timely responses to requests on project development process
- c) Seeking ideas from outside the network on the best way of developing and implementing project activities.
- d) spearheading research

3. Priority areas to be included in the project

- a) Upgrading existing and adding new infrastructure
- b) Widening the scope of target taxon for conservation (include indigenous vegetable, medicinal plants)
- c) HIV and indigenous foods
- d) Famine and food security
- e) Plan ahead for climate change
- f) Capacity building
 - a. Provide appropriate training (short and long training)
- g) Research on the conserved germplasm (storage behaviour, germination protocols)
- h) Public awareness

4. Ways of making PGR work attractive

- a) Strengthen research on the existing germplasm
- b) Attract other key players
- c) Properly document and disseminate indigenous knowledge & benefit sharing (contracting sociologists)

- d) Develop joint projects with different partners (companies, universities, NGOs)
- e) Provide service to the public (service charge) e.g micropropagation

5. Interventions for political buy-in of governments

- a) Genebanks to be involved in solving real life problems e.g HIV/AIDS intervention, malnutrition.
- b) Exhibit project proposal at the African Council of Ministers for Science and technology in October and SADC Council of Ministers for Agriculture

6. Outcomes/outputs

- a) Wide scope of high quality germplasm conserved in the genebanks in sufficient quantity
- b) Research results produced (publications)
- c) Excellent genebank facilities put up across the region
- d) SPGRC and NPGRC capacity improved (HR development)
- e) Standardised operating procedures developed
- f) More awareness activities conducted
- g) Utilisation of conserved germplasm improved
- h) Number of conserved species increased

ANNEX 3

SANBIO TASK FORCE MEMBERS

CONTACT DETAILS

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