Southern Africa Network for Biosciences

CONTACT FOR ADDITIONAL INFORMATION

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BACKGROUND

SANBio is an intergovernmental network which falls under the NEPAD/African Biosciences Initiative. The main objective of the network is to build and strengthen capacity in biosciences through exchanging ideas, promoting scientific excellence and harnessing indigenous knowledge in order to utilize natural resources sustainably and create wealth for the people of Southern Africa. SANBio is one of the four continent–wide regional networks supported by the NEPAD Office of Science and Technology. The other networks are: Biosciences Eastern and Central Africa Network (BecA Net), West Africa Biosciences Network (WAB Net); and North Africa Biosciences Network. Launched in 2005, and with nodes in various institutions in member countries, SANBio is hosted by the South African Council for Scientific and Industrial Research (CSIR). At the same time, the council is the network's regional hub. Two nodes have been established so far, one on fisheries research at Bunda College, University of Malawi, the other on mushroom technology at Sam Nujoma Marine and Coastal Resources Research Centre, University of Namibia. The network covers 12 countries in the sub-region which includes: Angola, Botswana, Malawi, Mauritius, Mozambique, Namibia, Lesotho, Swaziland, Seychelles, Republic of South Africa, Zambia and Zimbabwe.

FUNDING

Support has been provided in cash and in kind by participating SANBio member states. Additional support has been received from the government of CANADA through the Canadian International Development Agency (CIDA). The government of Finland has pledged support through the Finnish-Southern African Partnership Programme to strengthen SANBio Network (Biofisa).

SANBio STEERING COMMITTEE MEMBERS

Prof. O. Mwandemele	University of Namibia, Namibia (Chair)
Dr. A. Suddhoo	Mauritius Research Council, Mauritius
Mr. W. Mumbi	Ministry of S T & Vocational Training Zambia
Dr. F. Mausse	Ministry of S & T , Mozambique
Mr. A. Manda	National Research Council, Malawi
Mr. A. Mafa	Department of S & T , Zimbabwe
Prof. D. N`landu	Department of S & T , Angola
Mr. S Monna	Ministry of Communications S & T, Botswana
Mrs. M. Williams	Department of S & T, Lesotho
Prof. A. Ambali	NEPAD Secretariat, RSA
Dr. G. Mazithulela	CSIR-Biosciences, RSA
Mr. B. Durham	Dept of S & T , RSA

Enhancement of Capabilities for Conservation and Utilisation of Plant Genetic resources in SADC Region for food security.

In order for the SADC region to effectively conserve its genetic resources, it must build capacity and strengthen the regional gene banking facilities at the SADC Plant Genetic Resources Centre (SPGRC). Strengthening capabilities of the individual National Plant Genetic Resources Centers (NPGRC) in all SADC member states will be vital.
To that end, a task force has been constituted to guide the design of a regional project and also to roll out a bankable regional project proposal by September 2008.

VISION AND STATEGIES

Vision

SANBio`s vision is to utilize biosciences for socio-economic development, particularly in terms of contributing towards improved health, food security and sustainable livelihoods of the people of Southern Africa.

Strategies

1. Address Southern African problems in agriculture, health, and environment through the application of bioscience technologies
2. Use new developments in biosciences to protect the environment and conserve biodiversity in Southern Africa.
3. Build and strengthen human capacity in biosciences in Southern Africa.
4. Promote access to affordable, world-class research facilities in Southern Africa.
5. Harness indigenous knowledge and technology of the Southern African people for sustainable utilization of natural resources and wealth generation.

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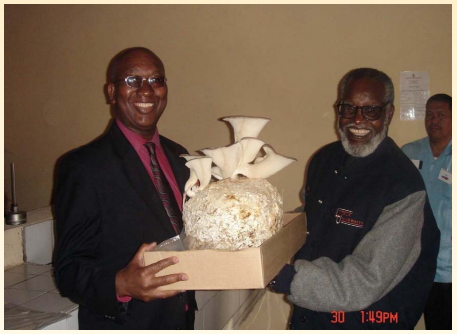
PRIORITY PROJECTS

In order to achieve SANBio's objectives, the region has identified nine priority projects, five of which have got off the ground.

1. Scientifically validated, affordable herbal remedies for the treatment of people living with HIV and HIV opportunistic infections
2. Integrating existing regional programmes on conventional and traditional herbal medicines to prevent and treat HIV infections
3. Reducing the negative impact of tick -borne diseases (TBDs), trypanosomosis and their ectors on Livestock
4. Development of nutritionally-enhanced sorghum and millet for arid and semi-arid areas of Southern Africa for food security.
5. Securing the fish biodiversity of inland water-bodies of Southern Africa.
6. Promoting Indigenous Knowledge Systems (IKS) in Biosciences for sustainable development in Southern Africa.
7. Enhancing capabilities for conservation and Utilisation of Plant genetic Resources in SADC Region for food security.
8. Promoting mushroom farming for poverty reduction and health benefits.
9. Integrating Bioinformatics into SANBio R & D programmes.

In 2006, a SANBio node was launched to provide leadership in mushroom R & D in the region. This node is jointly hosted by the University of Namibia and the Sam Nujoma Marine and Coastal Resources Research Centre at Henties Bay. The focus of the node is to empower communities, mainly women and the youth, to grow mushrooms using modern technologies. Once farmers have been trained, they are provided with the spawn and encouraged to start their own mushroom farming activities. In addition to community groups trained country-wide, some commercial farmers have also been trained and started growing mushrooms on a large scale. The node plans to spread these activities to other cities in Namibia. It is hoped that this initiative will be replicated in at least eight other SANBio member states.



Research has shown that covering ponds with clear plastic paper increases temperature and therefore the production of fish by more than hundred per cent. This research will show whether this applies to on-farm ponds.

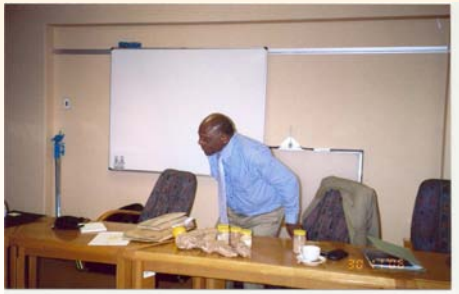
Promoting Mushroom Farming for Poverty Reduction and Health benefits.

Mushrooms offer great opportunities for employment creation, especially for women and the youth among communities in rural and peri-urban areas. Since mushroom farming requires relatively little space, mushrooms can be farmed by the landless, once they have been assisted to acquire the relevant technologies. Most mushrooms are highly nutritious while others have medicinal value with a great potential to address the HIV/AIDs pandemic and other diseases affecting the people on the continent.

PROGRESS TO DATE

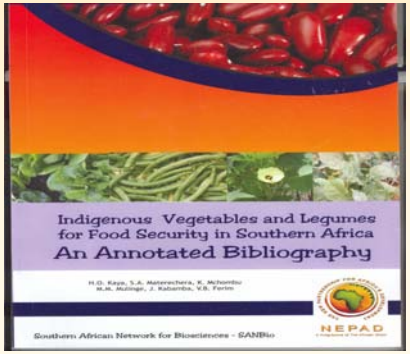
Scientifically Validated, affordable herbal remedies for treatment of people leaving with HIV and HIV Opportunistic Infections.

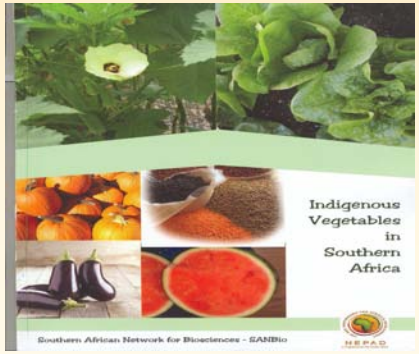
Africa`s plant biodiversity remains unexplored as a source of natural medicines. It is estimated that at least 5000 plants are used medicinally in Africa. It is also estimated that at least 80% of the population in Africa consult traditional healers. The rich heritage of indigenous knowledge on medicinal plants may provide useful leads for the treatment of HIV and opportunistic infections. As a case study, SANBio is currently investigating folk remedy from Zambia for the treatment of HIV/AIDS. The remedy has been tested in the laboratory at CSIR and has been found to be effective against HIV subtype C virus which is common in Africa. Laboratory results at CSIR together with the clinical evaluation conducted in Zambia clearly demonstrate the efficacy of this traditional medicine. This preliminary work has provided the motivation for further R & D of the product as a herbal remedy to complete proof of concept.



Promotion of Indigenous Knowledge Systems (IKS) in Biosciences for sustainable development in Southern Africa.

Increasingly, African indigenous vegetables and legumes (IVLs) are becoming recognised for their potential to contribute to food security, health, income and environmental services especially to people in rural and peri-urban areas. In Botswana, Namibia, Zambia and South Africa, a project on documentation and the promotion of the use of IVLs is well underway. This has resulted in two publications in 2007. The publications are an initial stride towards documenting and developing a comprehensive database of IVLs in the region. Such a database could be used as a quick reference for researchers, extension agents, scholars, NGOs, Libraries and governments. Further, in an effort to build capacity in IKS, seven postgraduate students are studying at University of North West, South Africa. Coming from South Africa, Botswana, Lesotho, Swaziland and Namibia, these students are getting support from SANBio under this project.





Securing the fish biodiversity of Inland Water-Bodies of Southern Africa.

The fresh water ecosystems of Southern Africa contain some renowned fish biodiversity hotspots. Lake Malawi, for example, has more that 500 fish species which are endemic to the lake. This lake has been subjected to so much over fishing that stocks have generally declined and diversity at both species and genetic levels have been affected. Worse still, inland water bodies of the region are poorly studied hence existing species diversity is not well documented. To that end, a regional project has been developed to gather information on fish biodiversity . The information will be used for decision making in at least five countries within the SANBio region by the year 2015. The project will commence in 2008.

Presently, the fish node at Bunda College is conducting on-farm applied research entitled "Improving fish production from small scale ponds in Malawi". This project has been implemented in Dowa District of Central Malawi in the villages of Matchayasimbi and Sada. So far six ponds have been completed.