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Item 18.2 of the provisional agenda*

**MECHANISMS FOR IMPLEMENTATION: SCIENTIFIC AND TECHNICAL COOPERATION
AND THE CLEARING-HOUSE MECHANISM**

*Report of the Southern Africa Regional Training Workshop on the Commonwealth Knowledge
Network/Clearing-House Mechanism*

Note by the Executive Secretary

1. The Executive Secretary is circulating herewith, for the information of participants in the sixth meeting of the Conference of the Parties to the Convention on Biological Diversity, the report of the the Southern Africa Regional Training Workshop on the Commonwealth Knowledge Network/Clearing-House Mechanism (CKN/CHM), which was coorganized by the Secretariat of the Convention on Biological Diversity and the Commonwealth Secretariat and held in Zomba, Malawi, from 26 to 30 November 2001.
2. The report is being circulated in the form and the language in which it was prepared.

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INTRODUCTION

The advances in information and communication technologies have the potential to build new and strengthen existing knowledge networks to promote and facilitate the conservation of natural resources for sustainable development. The Commonwealth Science Council (CSC) recognizes the role these networks can play in the sharing and exchanging of information, expertise and knowledge for socio-economic development in the Commonwealth SADC member states.

To support the idea, the CSC recommended the formation of the Commonwealth Knowledge Network (CKN) to the Commonwealth Heads of Government Meeting (CHOGM) in 1999. The CKN was then endorsed in November of the same year by CHOGM in Durban, South Africa to assist member countries in building capacity to use science and technology for solving development problems through increased exchange of knowledge and expertise. The CKN's main feature is its website and the Commonwealth Knowledge Bank which is the platform on which member countries can share and match problems to solutions. Member countries therefore, need to have and be able to use information and communication technologies (ICTs) especially the Internet, discussion groups and electronic mail for access and sharing of information, problems and solutions.

Pursuant to Article 18.3 of the Convention on Biological Diversity (CBD), the clearing-house mechanism (CHM) has as its primary objective the promotion and facilitation of technical and scientific cooperation among Parties to the Convention. In meeting this broad objective, the CHM developed a variety of information resources, and is working to establish interoperable information exchange networks among parties, stakeholders and similar initiatives. This focus on technical and scientific collaboration assisted by information exchange resources and systems offers the CHM the opportunity to assist Parties and regions to build capacities and to create collaborative networks with a view to promote conservation and sustainable use of biodiversity.

Collaboration between national CKN and CHM systems will, therefore, enable countries to more effectively collect, package and share relevant environmental and sustainable development data that is important for biodiversity conservation as well as decision-making at national and regional levels. The national CKN/CHM frameworks should encourage the development of local thematic networks and discussion groups that focus mainly on local and national environmental and development issues. Furthermore, the national CKN/CHM systems as an information gateway should facilitate easy Internet linkages and access to relevant website. By investing in these information exchange mechanisms, countries in the Southern Africa region will be able to better implement technical and scientific cooperative projects and activities.

The SADC CKN/CHM project was formulated following requests from the National Research Council of Malawi (NRCM), and SADC Biodiversity Coordinating Unit (SBCU). It is meant to benefit Commonwealth SADC member states from Southern Africa :Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, and Zimbabwe. The proposal for the CKN/CHM project was endorsed by the 20th Meeting of the CSC that was held in Trinidad & Tobago in 2000. This initiative will be replicated in other regions where functional CKN and CHM systems have not yet been established and operationalised as part of CSC-CKN and CBD-CHM processes.

PURPOSE OF THE WORKSHOP

The aim of the training workshop was to enable SADC member countries to develop electronic capabilities to achieve full participation in the CKN /CHM and enable the exchange and sharing of information necessary for the conservation and sustainable use of biodiversity and equitable sharing of its benefits. This would assist member countries in implementing CBD Articles 1 (Objectives), 17 (Exchange of Information), and 18.2 & 18.3 (Technical and Scientific Cooperation), and the objectives of the CKN. The specific objectives of the workshop were to assist member states to:

1. Develop, operationalise and maintain national CKN and CHM focal groups, nodes and websites.
2. Initiate national CKN and CHM activities, focusing on knowledge networking for solutions on biodiversity within and between countries.
3. Solve critical biodiversity problems within the Commonwealth through CKN and CHM expert groups.
4. Recommend regional CKN and CHM activities and promote technical and scientific cooperation amongst member countries.
5. Link to other relevant biodiversity information and websites.
6. Publicise widely national biodiversity activities at national and regional levels.

STRUCTURE OF THE WORKSHOP

The training workshop consisted of country presentations on the status of implementing the CKN/CHM at the national level; group discussions on the format/structure of the CKN/CHM for the sub-region (see appendix 1); and lessons learnt from established CKNs/CHMs from developing and developed countries, and the CBD Secretariat. A number of Internet Service Providers were also invited to make presentations on Internet services that are relevant to the functioning of the CKN/CHM, such as hosting of national websites; establishment of list servers and URL-databases; provision of search engines; linkages of national CKN/CHM websites to other relevant biodiversity sites, including the CBD-CHM at the CBD Secretariat.

OUTPUTS OF THE WORKSHOP

The main outputs of the workshop were model WebPages for national CKN and CHM focal points, and a hoax of recommendations (see appendix 2) that directed the following:

1. Establishment of functional CKN/CHM focal groups, nodes and websites in Commonwealth member countries in Southern Africa.
2. Formation of functional expert groups and networks for the CKN/CHM at national and sub-regional levels.

3. National and regional CKN activities in Southern Africa focusing on knowledge networking for solutions and sharing of development knowledge.
4. Provision of current information, knowledge and solutions on important biodiversity issues to member states.
5. Improved South-South and North-South technical and scientific cooperation through the CKN/CHM networks.
6. Active participation of member countries in the biodiversity programme of the CSC and CBD through CKN and CHM frameworks at national, regional and global levels.

PARTICIPANTS.

Participants to this workshop included CSC-CKN national focal points, CBD-CHM national focal points, Internet Service Providers (ISPs) and managers of biodiversity databases/biological collections in the SADC member states of the Commonwealth (see appendix 3).

VENUE AND DATE

The training workshop was held at the University of Malawi– Chancellor College in Zomba from 26 – 30 November 2001.

ORGANISERS

The workshop was organized by the Commonwealth Science Council/Science & Technology, Commonwealth Fund for Technical Cooperation and the Secretariat of the Convention on Biological Diversity, in collaboration with the government of Malawi through the National Research Council of Malawi (CSC member in Malawi) and National Herbarium & Botanic Gardens of Malawi.

OFFICIAL OPENING

The workshop was officially opened by the Minister of Education, Science and Technology, Honourable George Nga Mtafu, MP. In his opening remarks, he re-emphasized that issues of biological diversity and knowledge management are turning the world around due to globalization and the information super highway. He, thus, called upon SADC–CSC member countries to have and use information and communication technologies especially the internet, discussion groups and electronic mail for access and sharing of information on problems, solutions and best practices. He informed the workshop that Malawi signed and ratified the Convention on Biological Diversity in 1992 having recognized the importance of biodiversity to our daily lives and the pressure that human activities have placed on our living World. He further reiterated that scientific and indigenous knowledge and technological know-how have a vital role to play in the implementation of the Convention, thereby indicating a crucial link between the Clearing House Mechanism and Commonwealth Knowledge Network. He, therefore, called upon Commonwealth member states in the SADC to commit themselves to the sustainable use of biodiversity, equitable sharing of benefits and information and resource sharing. For the CKN and CHM to be established and operationalised, he called upon the workshop to consider strategic planning, networking platforms and communications linkages at national and regional

levels and the establishment of standing committees to oversee the activities of the CKN/CHM for proper national and regional co-operation. He also noted that the participation had a cross-section of expertise in managing information and communication technologies, hence, he requested SADC member countries of the Commonwealth to work as a team in order to enjoy a multiplier effect of such expertise. He, finally, expressed his profound gratitude and appreciation to the CSC for its technical and financial support to the workshop and requested CSC to support similar meetings in future.

In her welcome remarks, the CSC member for Malawi, also Principal Secretary for the National Research Council of Malawi, Dr. Chrissie N. Mwiyeriwa, introduced all foreign delegates to the meeting. She then gave a brief background to this Regional Training Workshop citing the 1999 Commonwealth Heads of Government Meeting (CHOGM) in Durban (South Africa) where member countries recommended the establishment of the CKN for the exchange of knowledge and expertise for solving development problems through the use of science and technology. She further reiterated that the CHM, on the other hand, is an information network of the Convention on Biological Diversity that enhances participation and facilitates the promotion of scientific and technical cooperation to achieve the objectives of the Convention. She applauded the SADC member states of the Commonwealth for linking the CKN and CHM to create a synergy that is complementary and aims at enabling countries to collect, package and share relevant sustainable data for informed decision-making. She also urged member states to develop local thematic areas and discussion groups on environment, biodiversity and science and technology. She observed that the CKN-CHM system would facilitate and enhance timely exchange and sharing of information from expert networks under different programmes, conventions, treaties and organisation through Internet and relevant websites. She also noted that the workshop included Internet Service Providers (ISPs) who are crucial in developing reliable electronic capabilities for the exchange of information relating to biodiversity in the SADC Commonwealth member states. She finally, advised the SADC member states to develop and host national websites, establish list servers and URL-databases, provide search engines, linkages of websites and regional capacity building for the establishment and operationalisation of the CKN and CHM.

In his introductory remarks, the Chief CSC Programme Officer for Biological Diversity and Genetic Resources, Prof. Seyani, commended the Malawi Government for initiating and requesting to host this workshop. He particularly commended the Malawi CSC member for her particular interest in the CKN and CHM activities. He finally called upon all SADC Governments to support these two programmes.

CSC PRESENTATIONS

Title: An Overview of the Commonwealth Science Council & Commonwealth Knowledge Network

Presenter: Dr. T.J. Ruredzo

The presentation highlighted what CSC is and the historical background starting from the 1936 Commonwealth Science Conference of the British Colonies.

It was learnt that the CSC was endorsed in 1975 and now has a total membership of 35 countries. Membership to CSC is by application and all members pay annual subscription fees.

The CSC Executive structure was outlined and it was learnt that the Republic of South Africa is the current Chairperson with Australia as Vice Chair. The composition of the CSC Secretariat in London was also highlighted and comprises: the Secretary and Deputy Secretary, 4 Programme Officers responsible for various areas.

A fundamental review of the Council was conducted in 1998 by a Steering Group (SG) instituted by the CSC with the following Terms of Reference:

- To analyse whether CSC has fulfilled its mandate.
- To conduct a survey on the use of S & T to achieve sustainable development.

The SG came up with a Vision Statement and decided to form the CKN whose aim was to address problems associated with S & T and provide solutions. Benefits of CKN and its programme areas were outlined. The programme areas include implementation of Environmental Convention, Innovation (innovation, Foresighting and CommQuest) and CKN. Finally, guidelines to member states who need technical and financial assistance from CSC were given.

Title: An Overview of the Biological Diversity and Genetic Resources Programme and CHM Activities of the CSC.

Presenter: Prof. J. H . Seyani

The presentation highlighted the main objectives of the Biological Diversity and Genetic Resources Programme of the CSC which include:

- To assist member states to implement the CBD Agenda 21 and related treaties.
- To build capacity of members to apply S & T for socioeconomic development.
- To establish expert networks to share and exchange biodiversity information.
- To help members to negotiate effectively at CBD meetings and to build consensus on critical issues.
- Advise members on scientific and technical issues of the CBD and related treaties.

The focal areas of BDGR programmes were outlined and include:

- Forest biodiversity;
- Agricultural biodiversity;
- Marine and coastal biodiversity;
- Inland waters and wetlands biodiversity;
- Invasive alien species;
- Access to genetic resources;
- Benefit Sharing Mechanism;
- Handling of Biotechnology;
- CHM;
- Networks and Collaboration;
- Global Taxonomy Initiative (GTI); and
- The Ecosystem Approach.

The activities of the Biodiversity included the development of the CHM framework, linkages with CBD-CHM national focal points, formation of biodiversity expert networks, exchange and sharing of information on critical biodiversity issues through Discussion Groups, and *Modus Operandi* for Discussion Groups. The presentation also highlighted the relationship between the CHM and CKN. It went further to describe the CHM as a mechanism of sharing and exchanging biodiversity information, experiences, lessons learnt and as a means of providing solutions to critical biodiversity/environmental problems.

Discussion

1. The ensuing discussion further clarified how an application for CSC travel grants and fellowships can be made and channelled to London. The Malawi CSC member pointed out the various areas they consider before recommending the application for funding from CSC. These areas include benefits to the country, priority area and the need for such a project.
2. The workshop agreed to come up with a practical way forward, “road map”, for the network so that member countries are able to know where information resources and experts are located within SADC region.
3. It was also agreed that CKN/CHM would play a complementary role to other networks and provide information in our area of expertise and allow member states in the region to learn from experiences of other countries for example South America.
4. The workshop felt the need for countries to drive their own activities with CSC as the facilitator.
5. The workshop observed that there was need for member countries to seriously consider the sustainability of the project in future.
6. The workshop agreed that member states should take advantage of the CSC website which provides links to sources of information and use the information.
7. The workshop recommended the usage of E-mail discussion groups for members to debate on issues of concern as a mechanism for sustaining regular meetings of CKN-CHM in the respective countries so that they can interact at a minimal cost as compared to meetings. However, members noted that the vetting and processing of data would only work when all CKN-CHM members have the e-mail facility.
8. The workshop expressed the need for capacity building in terms of training (for Human Resources Development) to sustainably and successfully run the CKN-CHM project in member countries.
9. The workshop also agreed that there is need for national committees of CKN-CHM to come up with CKN-CHM awareness programmes in the respective member countries.

COUNTRY PRESENTATIONS

BOTSWANA CKN

Title: Status of Tools and Infrastructures for Implementing CKN in Botswana.
Presenter: Mogi Moanokeng Selohilwe. Botswana Technology Centre, P/Bag 0082, Gaborone, Botswana, Mogi@botec.bw

The Botswana telecommunications policy was adopted in 1995 and the Telecommunications Act was enacted in 1996. This saw the establishment of Botswana Telecommunication Authorities (BTA) a regulatory body established to supervise and promote the provision of efficient telecommunication services in Botswana.

The state owned Botswana Telecommunications Corporation (BTC) is a major provider of telecommunication services in Botswana. BTC has achieved a teledensity close to 8.7, one of the highest in the SADC region. Telecommunication in Botswana is nearly 100% digital switching and transmission systems with fibre optic cables becoming an integral part of the telecom network. Extensive microwave networks link most of the exchanges while earth satellite station links Botswana to the outside world. VSAT, Botstream, ISDN, IPOX and toll fee phones increase rural and urban connectivity. Fast connection wireless access system has also been introduced recently. Currently BTA has licensed two mobile operators.

Internet services commenced in 1995/96 and the provision of Internet is now liberalized although ISPs are required to have a license. There are seven ISPs available in Botswana. Government has taken the lead in computerising its services and this has improved greatly the processing of information. Government has so far computerised motor vehicle registration, taxation, personnel management systems, and police crime recording.

MALAWI CHM/CKN

Title: The Status of the CKN/CHM in Malawi
Presenter: James B.M. Chuma, National Research Council of Malawi, Box 30745, Lilongwe
3. E-mail nrcm@sdp.org.mw.

The presentation gave a background of the Malawi chapter which began in 1996. The Malawi chapter received US\$11,000 from GEF for the purchase of Personal Computers, capacity building and training, compilation of a directory and a survey to identify problems affecting biodiversity information management. The PCs were purchased and a directory was compiled but did not have wide circulation due to limited copies. The survey identified non-qualified personnel, lack of linkages and lack of information sharing among institutions as some of the problems affecting biodiversity information management.

The presentation pointed out that the CKN concept is relatively new in Malawi and as such Malawi needs more support. It was learnt that the activities of CKN and CHM are both under the National Research Council of Malawi since they are complimentary. However, the activities of the two systems are hampered by lack of institutional support and operational guidelines.

NAMIBIA

Title: *Status on IT Infrastructure, Internet Accessibility in Namibia with View of Establishing CKNs*

Presenter: John M. Sifani, Ministry of Higher Education, Training & Employment Creation, Directorate Research, Science & Technology, P/Bag 13391, Windhoek, e-mail: Jsifani@mhevtst.gov.na

The presentation gave highlights of Internet services in Namibia which began in 1995 with one Internet Service Provider from South Africa. In 1998 the Government introduced its own Internet services. Presently, about 40% of government institutions use Internet with Schoolnet providing Internet services to schools free of charge and maintained by government through contracts. In Namibia, telecommunication services are a monopoly of the Namibia Telecommunication Limited with support from other organisations.

ZIMBABWE

Title: *The Internet Service Provision as it Relates to Information and Communication Technology in Zimbabwe,*

Presenter: Sam Kundishora, National Research Council.

The presentation gave a background of Zimbabwe Posts and Telecommunications Company which is mandated to provide all communications infrastructure and use 5MB-band width. E-mail communication started way back in the 1980s with about eight Internet Service Providers. However, costs of the Internet Service Providers are hindering information and communication Technology. Internet cafes are playing a vital role in information sharing. Furthermore, the meeting learnt that provincial nodes are being used to ease off the load of Internet services among the communities. Currently Zimbabwe is engaged in a project that will link it with South Africa and Botswana using optical fibre cable to facilitate faster information exchange.

LESOTHO

Title : *ICT Facilities Status in Lesotho*

Presenter: Dr. Ntsibane Ntlatlapa

The presentation gave some background information to the Lesotho telecommunication system. The first telecommunications operator, Lesotho Telecommunications Limited operated in the 1980s as a sole provider of the service. It was privatised in 1999 to provide fixed line services in the country with government providing the bandwidth for its own network. In June 2000 Lesotho Telecommunications Limited partnered with Vodacom Communications Limited (VCL), which was connected by optical fibre cable directly to South Africa for communication. Lesotho being mountainous country the use of microwave link is part of the network. In 1995 satellite communication was initiated to facilitate communication between Lesotho and the rest of the world while it was connected by fibre cable to Southern Free State for Internet communication with a maximum of 0.5 MB bandwidth.

Full Internet services became operational in 1997 with three Internet Service Providers with a capacity of 64 K each. This was upgraded to 128K in 1999. Information Technology and Education policy is at an advanced level with a draft (Vision2010) already prepared and later to become the policy bill which will allow the people of Lesotho to have access to e-mail and internet services by the year 2010. Meantime there are no CKN/CHM initiatives in Lesotho. However, effort will be made to contact the CSC member in Lesotho.

The presentation also highlighted the problem of information sharing in Lesotho as most of the custodians do not want to share it for various reasons.

MOZAMBIQUE

Title : *Status of tools and infrastructure for implementing CKN in Mozambique.*

Presenter: Dr. Orlando Quilambo quilqambo@zebra.uem.mz

The presentation gave some background information on Mozambique's telecommunications infrastructure. 5% of the country's GDP was allocated to the telecommunications sector. First initiative on provision of a network was through a telemedicine project which affords doctors an opportunity to share relevant information. Two telecentres were established with an objective of providing access to telefax, telephone, e-mail, computer use, printing and copying facilities; training clients in computer usage, mainly teachers and women and men from marginalised groups and students from upper secondary schools. The University of Eduardo Mondlane in Mozambique is the focal point of information that provides e-mail services in Maputo and Internet access on campus. Computer access is one computer per 100 inhabitants: 0.08 (in 1996). Internet Services Providers with the number of lines being increased from 8 to 16. An ICT Policy is being formulated despite the civil strife that lasted almost three decades. The civil strife reduced the economy to a low level and limited the penetration of information and communications technologies in the country. There is potential in Mozambique for initiating CKN activities, while training and improvement of the infrastructure are a recommended, there is need to establish a focal point to coordinate all CHM activities.

ZIMBABWE

Title : *Status of tools and infrastructure of implementing CKN in Zimbabwe*
Presenter: Dominick Kwesha

The presentation pointed out that nothing had been done as regards the CKN and CHM in Zimbabwe. The paper however, highlighted the need for biodiversity activities and outlined issues to be considered when setting up a CHM in Zimbabwe. It was also learnt that there are three ISPs in Zimbabwe.

SOUTH AFRICA

Title : *Status of the Tools and Infrastructure for Implementation of CKN in South Africa*
Presenter: David Sebatana Modise

The presentation firstly introduced the need for collective solidarity that will facilitate a clear understanding of the nature of projects the stakeholders are undertaking. It gave an explanation to genetic resources, biodiversity as a variety of life and biodiversity prospecting and its links. The management and use of genetic diversity, convention on Biological Diversity and Intellectual Property Rights were presented. A demonstration of available information resources in the gene bank was made and the presentation concluded by posing a Challenge to stakeholders to put in more efforts to operationalize the CKN.

DISCUSSION

1. The meeting singled out the issue of CHM Committees and capacity building to be considered if the CKNs/CHMs are to deliver.
2. The meeting recommended on the relevance/quality of data to the community needs be taken up by Discussion groups.
3. The meeting felt that target groups should be considered and the validity of the information to the end users.
4. The meeting observed that the problem of data sharing is rampant in many developing and Commonwealth countries. For instance, traditional healers do not want to share their indigenous knowledge because they do not feel protected, or because of selfishness and sometimes because of traditional beliefs. The meeting agreed that awareness creation was needed to assist in solving the problem.
5. The need for formation of discussion groups for CHM was raised and the meeting agreed that Discussion Groups specifically for CHM are a must and ways of their implementation should be explored with Internet Service Providers in individual countries.
6. The meeting agreed to look into policy issues which are some of the major factors hindering the smooth operations of e-mail/internet services in most institutions since

payment of bills for telephone lines used for e-mail/internet services are given the least priority.

7. The meeting recommended to member states to find ways of establishing alternative Internet services in rural communities such as, telecentres, digital villages mobile Internet services, etc.
8. The meeting felt that there is need for public participation in the CKN/CHM implementation through awareness.

MANAGEMENT AND USE OF BIODIVERSITY DATA AND INFORMATION OF LOCAL INSTITUTIONS IN MALAWI

Presenters on this session were mostly members of the Malawi CHM Committee. These were the National Research Council of Malawi, National Herbarium and Botanical Gardens, Forestry Research Institute of Malawi, Faculty of Science from the University of Malawi, SADC FSTU, and the Museums of Malawi.

National Research Council of Malawi

National Research Council of Malawi (NRCM) is the National Focal Point of CKN and CHM of the Convention on Biological Diversity. It is based in the Office of the President and Cabinet and its mandate is to promote and coordinate the development and application of science and technology in Malawi. NRCM is the focal point of the CBD which is also part of the issues of science and technology. NRCM is also responsible for policy issues and review with respect to science and technology and development of information systems.

The NRCM operates with nine thematic subgroups on a variety of issues such as genetic resources and others.

National Herbarium and Botanical Gardens

The presentation started by defining a herbarium and explained how it differs from a botanical garden. A herbarium is a basically a library of dried preserved plants and a botanical garden is a collection of living plants. The two act as plant data banks. Data and information available at the National Herbarium in Zomba include: Herbarium Specimen data showing the names of species, number of specimen in the Herbarium, locality, habitats and date of specimen collection; a checklist of plants species use; Information on plant species; Red data list showing information on the plants that can be endangered and therefore requiring conservation and monitoring; Specimen data showing specimens on loan; Herbarium gifts showing a list of plants donated across the world eg. USA, Tanzania and Zambia; all plants species showing plants species grown in the botanic gardens of Malawi; and Indigenous seed propagation showing how indigenous seeds can be propagated.

The National Herbarium and Botanical Gardens of Malawi, therefore manages its data and information as Databases, Data banks and Literature in form of books, journals and reports.

The presentation also highlighted the need for training in database management since there is lack of expertise in this area within the institution.

Forestry Research Institute Of Malawi (FRIM)

The mandate of Forestry Research Institute of Malawi includes providing information and technologies to develop the forestry sector in Malawi. The Institute manages its information through the following information network systems:

- Tree Seed database system which provides information on seeds detailing out species distribution, species collection areas, germination percentage, storage conditions and distribution to customers.

- Forestry Research Database System which provides information on species distribution and abundance in Malawi. It also provides information on preservation management of different Forestry Management Units.
- Tree Management Database which contains information on the management of individual tree species.

FRIM has also developed a website which is hosted by the Malawi Sustainable Development Network Programme (SDNP). The Institute has a library where hard copies are kept. The information available in the library includes: seed and tree improvement; tree growth and management in plantations, farms and natural forests. The institute, however, experiences a number of problems relating to inadequate human resource, computer hardware and information access

Chancellor College, Faculty of Science

The presentation outlined the potential contributions the departments in the faculty of science would provide towards the establishment and operationalisation of the CKN and the CHM. The areas the faculty would contribute to include: biotechnology, wetland management, genetic research, and medicinal plants, environmental chemistry, waste management, essential oils, industrial consultancies, land use and conservation, population and health, Environmental Education, Human Ecology, gender studies, Information Technology, data management, and database, renewable energy, Internet services including website design and posting.

SADC-FSTCU

The presentation highlighted the restructuring of the Southern Africa Development Community (SADC) and the integration of the sector into the food sector. It was also learnt that the Forestry Sector Technical Coordinating Unit (FSTCU) has developed a website and a database which outlines the professional human resources in the SADC; Statistics of forestry resources, studies and surveys; Basic data on economic indicators; Donor agencies operating in various fields in the SADC; Research institutions, research work and publications; and Data on forestry industries and economies.

The Museum of Malawi

The presentation first looked at the definition and the origins of museums. It was learnt that the Museum of Malawi was established to collect, preserve and study the natural and cultural heritage of Malawi and interpret them to all Malawians. The Museum collects biological data and conducts relevant research in the field of biodiversity. The collection of specimen provides knowledge and information on objects, localities, people, places, events and bibliographic references relating to its collection and environment. The museum therefore, renders valuable services to zoologists, wildlife managers and the entire scientific community. However, the museum is still using the manual system to manage information.

FUNCTIONS AND EXPERIENCE OF INTERNATIONAL CHM/DATABASE

Under this session, four papers were presented all touching on the establishment, functions and management of the Clearing-House Mechanism (CHM) of the Convention on Biological Diversity. The first paper by Mr. Marcos Silva from the Secretariat in Canada, the second paper by Mr. Han de Koeijer of Belgium, third paper by Mr. R. Way of the UK and the Fourth by

Messrs B. Chirwa and C. Nkhoma from SADC Plant Genetic Resources Centre in Zambia and was presented by the later.

Title: The establishment, functions and management of CHM of the CBD

Presenter: Mr. Marcos Silva, Programme Officer, Clearing-house Mechanism

The first presentation by Mr. Marcos Silva discussed the completion of the information exchange phase of the Convention on Biological Diversity Clearing-house Mechanism (Article 18.3) and its new focus on technical and scientific cooperation. It emphasized the use of information exchange resources and systems developed during the first phase of the CHM and how they assist Parties and regions to build capacities, foster information and knowledge exchange and promote technical and scientific cooperation. To illustrate CHM activities under its new phase, Mr. Silva discussed the establishment of international thematic focal points under the CBD and joint activities with international initiatives, joint collaborative work with the Global Invasive Species Program in the development and establishment of a global invasive species information network being a case in point. Mr. Silva also discussed other projects under the CHM umbrella, including the technical implementation of the Biosafety Clearing-House (BCH) under Article 20.1 of the Cartagena Biosafety Protocol and the creation of a Toolkit to assist in developing national capacities to use the BCH. Finally, issues pertaining to formats, protocols and standards were discussed with a focus on interoperability of information systems and intellectual property rights.

Title: The establishment, functions and management of national CHM of Belgium.

Presenter: Mr. Han de Koeijer

The paper gave a history background of the establishment of the Belgium CHM in 1996. The CHM is a gateway of Belgium biodiversity on the Internet. Only existing published data is hosted on the web.

The Belgium CHM has partnerships with most Francophone countries in Africa such as Burkina Faso, D R Congo, etc. The partnerships are driven by demand from national focal points of the Francophone countries. Activities of the Belgium CHM include hosting of CHM partner websites, mirror sites, training of Webmaster and Meta data information monitoring system.

However, the Belgium CHM has experienced some constraints including: Lack of political support to CBD and CHM NFPs; Lack of public awareness; high turnover of personnel; Lack of exchange of information tradition; Lack of technical capacity; Lack of hardware and software upgrade possibilities; and Lack of exchange of experiences.

Future activities of the CHM will be demand driven and project development will be done in collaboration with partner countries.

Title: The establishment, functions and management of national CHM of the UK

Presenter:- Mr. R. Way

The presentation dwelt on the exchange of information and its uses. The CHM activities in the UK started in 1994 and aims at promoting the scientific and technical co-operation and information exchange through provision of access to relevant information. The UK CHM hold various biodiversity information, including the Biodiversity Action Plans, lead partners, UK Biodiversity groups, ecosystem themes and cross-cutting issues, National Biodiversity Network search engine, linkages to other biodiversity websites, etc. In the UK the users of Internet was put at 40%. The government's vision is that by 2004, all the information in UK should be electronic

Title: The Establishment, Functions And Management of National CHM of the SPGRC.

Presenter: C. Nkhoma

The last paper in this session was on the SADC Plant Genetic Resources Centre (SPGRC) Documentation and Information system based in Lusaka, Zambia. The SPGRC was set up to coordinate the network of Plant Genetic Resources in the sub-region. The paper highlighted the type of networking that is already in place and the plant genetic resources databases that have been developed at national and regional levels. It also elaborated on how the system works

DISCUSSION

1. The issue of information exchange was emphasised that it is only possible by use of websites. This related to the seriousness of data sharing. In some cases it was pointed out that there are problems in accessing other data networks. It was further pointed out that some people after spending millions of dollars are not open to release their data.
2. The meeting felt that it was important to take a prospective public awareness to CHM. Many peoples' views had been that if CHM did not exist, what difference would it make? It was felt that countries should have access to data and should have the capacity to do this. It should also be clear at the international level.
3. The CKN/CHM should explore means of sharing information besides the Internet to cater for communities which do not have Internet facilities.

**THE ROLE OF THE SERVICES OF INTERNET SERVICE PROVIDERS TO THE
FUNCTIONING NATIONAL CKNs/CHMs**

Presentation: Knowledge And Information Sharing Using ICT, The Malawi SDNP Case.

Presenter: Dr. Paulos Nyirenda

The presentation looked at the role of ICT in development; the SDNP programme highlighting the main and broad objectives; a description of the Malawi SDNP focusing on its execution arrangements, strategies and Internet services including training; the Malawi SDNP network and its VSAT connection; Information sharing through discussion groups on various topical issues including Environment and Education; and the Malawi SDNP prospects and challenges.

The presentation also indicated that Malawi is in the process of developing an ICT Policy and a working document which will be taken for Legal review by April 2002.

APPENDIX 1: WORKING GROUPS

WORKING GROUP – CHM

Tuelo Nkwane, Botswana – rapporteur
 Martia Nhlane, Malawi – Chairing
 Steve Makungwa, Malawi
 Charles Nkhoma, SPGRC – Zambia
 Marcos Silva, SCBD – Canada
 Douw Nel, South Africa
 Brighton Kumchedwa, Malawi
 Dominick Kwesha, Zimbabwe
 Jamestone Kamwendo, Malawi
 Lawrence Way, United Kingdom
 Edwin Mzunzu, Malawi
 Prof. J Seyani, CSC-
 Rethabile Maluke, Lesotho
 Benon Yassin, Malawi

CHM structure and information categories

Category	National	Sub Regional
<p>Convention</p> <ul style="list-style-type: none"> • Links to wider Government plans ➤ Poverty reduction ➤ Whole environment • Plan of national Implementation ➤ Vision ➤ Actions ➤ Policies ➤ Legislation • Implementation ➤ Article by articles • Reports 	<u>Yes</u>	No Not yet

Who is going to benefit – Convention

- Benefits to those involved in the plan
- Benefits to other nations funding approach
- Meets obligations to CBD

CHM structure and information categories

Category	National	Sub region
<ul style="list-style-type: none"> • Biodiversity Information Resources ➤ Country Profile ➤ Sources by thematic area (qualified by who the custodian is) e.g. Land use, plants ➤ Access policy/terms (current Rather than desired) ➤ Providing a gateway/service to use the sources 		<p>Possible to integrate the countries</p> <p>Searching across whole region</p> <p>Harmonise</p> <p>Provide subregional views</p>

Who will benefit – Biodiversity Information Resources

- Benefits to institutions involved in action
- Public awareness benefits – knowing about biodiversity
- Support to sub regional projects

CHM structure and information categories

Category	National	Sub regional
<ul style="list-style-type: none"> • Institutions ❖ Expertise-thematic/technical ❖ Institutions/Groups involved in national implementation ➤ Responsibilities for:- ❖ Actions ❖ Articles ❖ Focal points for national plan • CBD Focal points ➤ CHM e.t.c • Public Participation ➤ Civil society ➤ Discussion groups <ul style="list-style-type: none"> • Matrix-organisations vs roles 		<p>Regional searching</p> <p>Regional Views</p> <p>Regional searching</p> <p>Regional views</p>

Who will benefit – Institutions

- Benefits to institutions involved in action;

- Public accountability
- CHM structure and information categories

Category	National	Sub regional
<ul style="list-style-type: none"> • Technical & Scientific Co-operation ➤ Capacity building ➤ Exchange programs ➤ Training ➤ Links to other knowledge networks or Synergies eg. Biosafety, CKN and Internationally including the CBD Secretariat ➤ Partnerships with other CHMs ➤ Partnerships with other thematic initiatives eg. Global invasive species ➤ CHM Plan ❖ Objectives ❖ Vision 		<p>Possible role</p> <p>Links to other regional systems</p> <p>Supporting facilitation</p> <p>If developed</p>

Who will benefit – Technical & Scientific

- Benefits for national implementers and policy makers
- The result of S & T cooperation will bring benefits to the public;
- Builds future synergy

Recommendations

1. Establish a NFP for CHM to comply with the Convention;
2. CHM NFP will need a Committee to assist in CHM implementation;
3. The CHM Committee should report to the main national CBD implementing committee;
4. National CHM, as a first step in implementation, should undertake an assessment of the financial, institutional, human, technical and infrastructure capacities needed to run the CHM function.
5. National CHM focal points, as a second step in implementation, should use their capacity assessment as a foundation to gain the national and international funding and scientific/technical co-operation needed to establish and manage their national CHM.

6. The CHM NFP should plan to disseminate information by web, non web (e.g. Email) and paper means to ensure participants can receive the information. Planning should take into account the state of the development of the infrastructure.
7. Given the benefits of web dissemination over other means, the CHM NFP should consider establishing a CHM web site early in the establishment of national Internet infrastructure.
8. In nations/regions where there is no equitable access to Internet technology, the CHM NFP should consider taking a leadership role in promoting web use to the sectors involved in CBD implementation. This will help demonstrate the added value of CHM within national/regional CBD implementation.
9. The CHM NFP will need the capacity to gather, filter and authenticate information for dissemination, and to set protocols to make this efficient in future.
10. The CHM NFP should consider wherever possible disseminating information in all major national languages. Regional CHMs must use all official regional languages for dissemination, recognising that translation must retain the original meaning of the information.
11. As SADC recognises the benefits of coordinating a particular type of information at the regional level, it should start a process to involve the nations in developing standards for exchange of that information type.
12. This meeting requests the CBD Secretariat to develop further the CHM toolkit and make it available as soon as possible to NFPs. The toolkit should take into account the recommendations of the Southern Africa CHM workshop, Malawi 2001.
13. Where possible CHM NFPs should consider the development of standards for exchange of information between national institutions and the CHM. NFPs should consider the additional benefits of developing these standards at a regional level. (Terms, formats, access terms are all standards for data exchange).
14. The content of the CHM will need to be managed with adequate date, origin, summary and version information to allow its interpretation and use (metadata).
15. National CHMs should strive to make biodiversity information openly accessible to assist all sectors with CBD implementation. Access policy development should take into account. Intellectual Property Rights, indigenous knowledge/property rights, and the risk of damage to biodiversity resulting from access to information.
16. CHM NFPs should consider developing their CHM to disseminate implementation information on other biodiversity related conventions and intergovernmental processes.
17. The meeting recommends that national and regional CHM use the categories of the information and structure produced by the Malawi, 2001 workshop as set out in appendix 1.

18. The meeting recognises it has developed a fairly comprehensive structure for CHM content, but that provision of content by a national CHM is optional based on need.
19. The national CHM focal point should endeavour to make its activities and responsibilities known:
 - To ensure more effective implementation of the CBD;
 - To give support for its on going management and;
 - To establish use of its information and services.
- 20 The meeting recognises that the CKN has a broad remit across science, whilst the CHM is focussed on delivering CBD objectives. The meeting believes that whilst there is need for separate focal points, the two need to be coordinated to share functions and resources where this brings economy of effort.

WORKING GROUP-CKN

CKN Node for the region

<i>Needs:</i>	<i>Contents:</i>
<p>Infrastructure (speed) and communication structure Accessibility Ways of communication (information exchange tradition) Awareness List server Human capacity Human capacity building (training) Email National policies in place for ITC? Policy framework Funding (political support? Elsewhere?) Guidelines for data-validation Hosting should not be a problem/ use existing infrastructure Indexing-search engine for the CKN</p>	<p>Type of data - Exchange of data – validation of the data Problem solving for actual terrain. Innovations Knowledge database List/d-base with experts/centers of excellence/research institutions/content providers/accredited training facilities Linkage to existing data/information on the Internet Intellectual property right Indigenous knowledge Best practices Cross bordering problems/regional issues(e.g. Kyoto related, d-base with committed persons on certain subject</p>
General	External inputs
<p>Follow up and commitment of network members (persons and institutions) National and regional CKNs Regional and national CKN Committee Technical Taskforce/coordinating committee Language problem for dissemination at national level Other not internet-based dissemination products (CD-ROM, newsletters, publications, diskettes, email) Linkage with national tel.com. for advisory role Consultation between partners/role players e.g. ISPs, trainers, decision makers to advance the CKN Representation (continuity by same person) with political commitment Networking Members/ (technical and administrative)</p>	

Elaboration of certain points

Awareness

Target groups (Policies makers, Institutions, Scientists, communities based structures)
By (national and community) Radio, pamphlets, tv, workshops, email, printed media
(targeted on CKN)

Training

To content providers to ease the transfer of information (format of data, technical persons
on e.g. databases, email, data entry)
Awareness of the administration/decision makers and the end users

Equipment (hard and software)

Hosting for information on existing ISP server for regional node (potential hosts in Zimbabwe,
South Africa Lesotho and Botswana; first interim period in Zimbabwe). As the network
grows proper server could be bought. Software: SQL server,
National nodes should have a server with modem. One PC, printer, scanner, digital
camera, Ethernet modem, CD-WR, 17" screen

Software Microsoft compatible, Anti-virus software, firewall, Microsoft Office 2000
professional, SQL server, Oracle, Adobe Exchange, for national node

Staffing

National level: 2 persons, one IT officer, one information officer (Plus others on project
base when needed)
Regional node: one person on part-time basis.

Funding

Staffing

- National node
- Regional node

Equipment for national and regional

Communications and general operations (electricity, office operations costs) bill?

Services (office space)

Participation at national and regional meetings and consultation

Training

Awareness campaign including publicity and publications

Projects/activities

- Projects with consultancy to get information from the different sectors

Comment : Member governments should provide funding for both national and regional CKN.

CSC should assist member countries to source funding from external support agencies.

Comment 2: National CKN nodes should strive to self sustainability (to be finalized later)

Website

Homepage:

- Page Banner
- Description of SADC/national CKN?
- Awareness campaigns
- Regional/Country profile

- Description of the national nodes?
 - National CKN
 - Pending user needs evaluation (requirements and analysis)
 - Governmental
 - NGO
 - Projects
 - Technologies
 - Innovations
 - Agriculture
 - Environment
 - Forestry
 - Energy
 - Health
 - Education
 - Fisheries
 - Science and technology
 - Gender
 - Youth and development
 - Water
 - Culture
 - Related regional/national institutions
 - Thematic programs
- Activities (at national and regional levels)
 - Seminars, Meetings, publications
- Links
 - SADC website and relevant
 - Regional organisations
 - Commonwealth
 - CSC
 - UN and other intergovernmental agencies
 - NGOs
 - International Conventions
 - National institutions
- ESAs
- News
- Chatrooms
- Search engines, listings

Comments:

Text only version also available (No heavy graphics for the time being)

Malawi, Botswana, Mozambique and Lesotho will prepare a draft regional homepage in collaboration with the Malawi national CKN

Relation to the CHM

- CHM is content provider to the CKN
- Links can be made from the CKN to relevant information on the CHM
- Collaboration in information gathering

Comment: CKN should assist in sourcing seed funding were necessary for content providers in information/content gathering.

Content providers

CHM

Ministries and institutions as mentioned under Website/ Description of the national nodes/

Database

Knowledge bank:

- Simple database with Meta data
- Relational database with experts and institutions
- Standards on the keywords and hierarchies used for the metadata
- SPGRC
- SACCAR
- SARDC
- SADC Mining etc..

Activities

- Development of a work plan at national and regional level
- User requirements analysis
- Information identification and gathering

Starting points can be:

- Appropriate technologies
- Innovations
- Information management and administration (Analysis, review and evaluation)
- Information dissemination
- Information documentation of metadata
- Problem identification and solving at different levels
- Development of the National CKN sites and mirroring at the regional node
- Awareness raising and advocacy
- Identification of existing resources at national level
- Organization/creation/establishment of national and regional committees
- Set-up of regional and national discussions groups
- Training and exchange of experience
- Registration of domain names

Communication

Discussions group on the internet between technical committee members

Potential Recommendation

The meeting has recommended the establishment of a regional and national CKN nodes

CKN focal points should form a SADC regional committee for CKN

CKN focal points should form national committees, while members present at the Malawi training Workshop will form part of a regional technical committee.

A discussion group of the technical committee (SADC Technical Committee for the CKN – STCC) should be set-up with immediate effect (email address: STCC@magnet.mt)

APPENDIX 2: THE ZOMBA STATEMENT ON THE ESTABLISHMENT AND OPERATIONALISATION OF THE COMMONWEALTH KNOWLEDGE NETWORK (CKN) AND CBD CLEARING-HOUSE MECHANISM (CHM), ZOMBA, MALAWI, 26-30 NOVEMBER 2001

Within the Southern African region there is vast wealth of knowledge, both in the public and private domains (within research institutes and universities, and also held by individuals, communities and private companies). The full potential of this knowledge, however, remains unrealised.

Acting as a knowledge broker, the CKN/CHM can make full use of these knowledge resources, and develop new programmes to assist the region in matching solutions to problems. It can also act as a repository of knowledge to facilitate the development of joint initiatives and programmes by bridging existing knowledge and information gaps which impede development and wealth creation in this region. This initiative is a fundamental requirement for the elimination of poverty, conservation of biological diversity and environmental protection.

The Southern Africa Regional Training Workshop on the CKN/CHM,

Acknowledging the vital contribution of indigenous knowledge systems, modern science and technology in the conservation of resources and the enhancement of society's developmental processes,

Realising that CKN/CHM can provide solutions to development problems in the Southern Africa region in various science, technology and related fields that influence development of nations,

Recognising the need to conserve and sustainably use biological biodiversity,

Noting that building and managing the CKN/CHM can act as an effective conduit for flow of knowledge information and communication,

Recognising the tremendous potential that CKN/CHM have to solve development problems among the Southern Africa countries in the best spirit of networking,

Recommends as follows:

1. Commonwealth member countries in the Southern Africa region should nominate national focal points (NFPs) for the CKN and CHM and establish national and regional CKN and CHM nodes and committees to report to their respective main national implementing bodies;
2. Commonwealth member countries in the Southern Africa region should set up a joint Southern Africa Technical Committee for the CKN and CHM (hereinafter referred to as – STCCC) and should establish an electronic discussion group to support its work;
3. Commonwealth member countries in the Southern Africa region should encourage the establishment of electronic discussion groups for each respective committee to share and exchange information;
4. Commonwealth member countries in the Southern Africa region should establish national and regional websites for CKN and CHM;
5. Member countries should provide resources for both national and regional CKN and CHM activities;
6. CSC should assist member countries to seek funding from other international donors such as Global Environment Facility (GEF), World Bank etc, for the establishment of CKN and CHM NFPs and capacity building activities and projects;
7. CKN and CHM NFPs should consider developing their respective information dissemination mechanisms to make publicly available information on biodiversity and from other related conventions and on science and technology issues;
8. National and regional CKN/CHM NFP websites should use categories of information and structure agreed upon during the CKN/CHM Malawi Workshop;
9. CKN/CHM NFPs should develop information exchange standards and metadata between national institutions and the CKN/CHM. NFPs should consider the additional benefits of developing these standards and metadata at a regional level;
10. National CKN/CHMs should endeavour to make biodiversity information openly accessible. Access policy development should take into account intellectual property rights, indigenous knowledge and the risk of damage to biodiversity resulting from unrestricted access to information;
11. CKN/CHM NFPs will need the capacity to gather, filter and authenticate information for dissemination, and to set information exchange protocols to promote more effective exchange of information within, between and among countries;
12. CKN/CHM NFPs should consider wherever possible disseminating information in all national languages. Regional CHMs should endeavour to use all official regional

languages for disseminating, recognizing that translation must retain the original meaning of the information;

13. CKN/CHM NFPs should plan to disseminate information by web, non-web (i.e., email, file transfer protocol, etc.) and traditional (i.e., paper, fax, etc.) means to ensure equitable access to information by all countries and stakeholders;
14. Given the benefits of information disseminated by web-based systems, the CKN/CHM should consider, where necessary, establishing web sites early in the establishment of national Internet Infrastructure;
15. CKN and CHM should share functions and resources where this brings complementarity and economies of scale;
16. CKN/CHM NFPs, as a first step in implementation, should undertake an assessment of the financial, institutional, human, technical and infrastructure capacities needed to administer CKN/CHM functions;
17. CKN/CHM NFPs as a second step in implementation should use their assessments to develop a needs driven plan for establishing or enhancing their respective functions;
18. CKN and CHM NFPs should monitor and review the implementation of the Zomba CKN/CHM recommendations and should report on progress made to date through the regional CKN/CHM focal point, and to the regional member of the CSC executive committee through the national CSC member.

Zomba, Malawi
30 November 2001

APPENDIX 3: LIST OF PARTICIPANTS

NAME AND ADDRESS	
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APPENDIX 4: SPEECH BY THE MINISTER OF EDUCATION, SCIENCE & TECHNOLOGY, HONOURABLE DR. GEORGE NGA MTAFU, MP.,

- ◆ The Chairman of the National Research Council of Malawi, Mr. Alfred Upindi;
- ◆ The vice Chancellor of the University of Malawi, Prof. David Rubadiri;
- ◆ The Commonwealth Science Council Representative, Prof. Seyani, Dr. Ruredzo
- ◆ The Vice Principal of Chancellor College, Dr. Uledi Kamanga;
- ◆ Representative from the Secretariat of the Convention Biological Diversity and Program Officer (Clearing House Mechanism) Mr. Marcos Silua;
- ◆ His Worship the Mayor of the Municipality of Zomba;
- ◆ Member of Parliament for Zomba Central Hon. Andrew Chioza;
- ◆ Distinguished delegates;
- ◆ Ladies and Gentlemen.

It is gratifying to me to be here today, to rub shoulders with professionals and technicians responsible for information and communication technologies.

Today is in fact a special day in that the Warm Heart of Africa is hosting a SADC Regional Training Workshop on the *“Establishment and Operationalisation of the Commonwealth Knowledge Network and the Clearing House Mechanism”*.

Allow me therefore, to welcome our foreign delegates with the warmth of Malawian hospitality. Please feel at home. The organizing team will do all it can to facilitate your stay in Zomba, the country’s intellectual hub and old colonial capital.

Mr. Chairman, issues of biological diversity and knowledge management are turning the world round and round, due to globalization and the information superhighway. It is therefore a must that SADC member countries have, and are able to use, information on problems, solutions and best practices. Recognizing the importance of biodiversity to our daily lives and the pressure that human activities are placing on the living world, governments adopted the *“Convention on Biological Diversity”* in 1992 in Rio as a framework for action. At the onset of the convention it was understood that scientific and indigenous knowledge, and technological know-how have a vital role to play for the implementation of the convention. This is where the link between the Clearing House Mechanism and the Commonwealth Knowledge Network is crucial.

Ladies and Gentlemen, reliable sources have leaked to me the original meaning of a “Clearing House”. They say that in the good old days the term “Clearing House” referred to a financial establishment, where cheques and bills were exchanged among member banks, so that only the net balances could be settled in cash. Today, however, the meaning has been extended to include any agency that brings together seekers and providers of goods, services and information, thus matching demand with supply.

In this respect it is important to note that the immediate stimulus for the knowledge management was the desire to re-design the roles of the Information Resource Centre within the Commonwealth of Learning, set up to comply with national, regional and international clearing houses. Therefore the Commonwealth Knowledge Network (CKN) is in the forefront, aiming at promoting co-operative and collaborative networking in this area.

It is my belief, Mr. Chairman, ladies and gentlemen, that these issues and the interconnections between the Clearing House Mechanism and the Commonwealth Knowledge Network make this regional training workshop unique. I therefore urge you all to consider your participation as a national contribution as well as an international input into sustainable use of biodiversity, equitable sharing of benefits and information and resource sharing. I wish to add that since the two programmes are to be linked, there is need for proper planning, networking platforms and communication linkages among different interest groups and stakeholders.

Indeed, ladies and gentlemen, looking at the participation in this workshop it is clear that there is varied expertise in managing information, science and technology from country to country. It is therefore ecologically sound and beneficial that SADC member countries work together as a team. Needless to say that such cooperation will enhance and catalyse the SADC Biodiversity Support Programme which has just been launched by most of us gathered here, this morning.

Furthermore, Mr. Chairman, it is imperative that when undergoing the planning process, the following key issues are borne in mind:-

- a) Promoting and facilitating technical, scientific and indigenous knowledge cooperation within and between countries.
- b) Developing a global mechanism for exchanging and integrating information resource centres.
- c) Developing the necessary human and technological networks.

If we fail to take these three key issues into account in our planning we will fail to iron out the cracking, brain teasing issues confronting us at this gathering, thus making Jonathan Swift's statement, and I quote "*Many people do not plan to fail but they fail to plan*", unquote, come to pass. I am sure that none of us wants these words to come to pass. Therefore, this five day meeting must plan to succeed, rather than fail, to produce a strategic plan. In this era of the global village, with its information communication technologies and the Internet Service Providers expertise of the region, the SADC CKN/CHM will have to be tackled head-on. I am convinced that our plan will acknowledge the following:

- The importance of standards, as well as the use of other or new technologies.
- Direct communication linkages to facilitate access, sharing and requirements for hot spots.
- Instituting value-added information management techniques to support lifelong and life-wide information resource sharing.

Ladies and Gentlemen, the blending of the CKN and CHM at regional level is a unique phenomenon that requires team work, programme planning and inter-party linkages. It is for this reason that I strongly urge the meeting to come up with a standing committee to oversee activities of the CKN/CHM for proper regional cooperation. This will remain a challenge to us all as highlighted by the Canadian-born scientist, Jonathan Swift whom I quoted earlier when he said, I quote, "*whoever could make two ears of corn or two blades of grass to grow upon a spot of ground where only one grew before, would deserve better of mankind and do more essential service of his country than the whole race of politicians put together*", end of quote.

In case you may begin to have funny ideas that we politicians are not that useful to our countries, I hasten to add that we are very useful because we set the agenda and challenge you professionals to think and work harder.

Mr. Chairman, issues of biodiversity coupled with piracy and biotechnology are on the centre stage the world over. I therefore put my hopes and trust on this meeting to ensure that the abundant biodiversity of the region is well sustained and that the benefits accruing from its use are equally shared. I also hope that this meeting will ascertain that conventions, treaties, protocols and policies affecting issues of biodiversity and sustainable development are well shared within the region to achieve our various governments' goal of poverty reduction.

The fruits of this gathering will be determined only when the region is able to control biodiversity degradation and allow natural regeneration of extinct species. Thereafter, we will be able to clap hands for having undertaken an essential service to our nations. Before then, none of us can pat ourselves on the back and congratulate ourselves for a job well done. In the mean time, Information managers, database developers and communication experts need to work as one to promote chain linkages and networking, if indeed the region is to conserve its biodiversity, benefit from its use, redeem itself from an information vacuum, and ensure informed policy and decision making.

My sincere appreciation goes to the Commonwealth Science Council for the technical and financial support that has seen the workshop plans materialise. Since this is the first of its kind, I am confident that similar training sessions will be conducted with SCS support, in order to move the process forward.

Mr. Chairman, ladies and gentlemen, we politicians enjoy speaking. Given the opportunity, I could speak for the whole day, since in addition to being a politician, I am also a teacher. However, since you have a long day ahead of you, allow me to pause and wish the workshop successful deliberation.

With these but very few words, I declare the Commonwealth Knowledge Network and Clearing House Mechanism training workshop, officially open.

I thank you.

APPENDIX 5: WORKSHOP PROGRAMME

SUNDAY: 25 NOVEMBER 2001

Arrival of participants at Hotel Masongola, Zomba, Malawi

MONDAY : 26 NOVEMBER 2001

0830 – 0900 : REGISTRATION & DOCUMENTATION

0900 – 1055 : INAUGURAL CEREMONY

0900 – 0915 : - Arrival of Guest of Honour
- Introduction of CSC and other officials
- Briefing on the Programme

0915 – 0920 : Welcome address by the Director of Ceremonies

0920 – 0930 : Introductory Remarks by Secretary for National Research Council of Malawi, and CSC Member of Malawi, Dr. Chrissie Mwiyeriwa

0930 – 0940 : Statement by the Official Representative of the Secretariat of the Convention on Biological Diversity, and Programme Officer (Biodiversity & Genetic Resources), Prof. J.H. Seyani.

0940 – 0950 : Remarks by the Official Representative of the Secretariat of the Convention on Biological Diversity, and Programme Officer (CHM), Mr Marcos Silva.

0950 – 1005 : Welcome statement by the National Research Council of Malawi Chairperson, and Secretary to the President and Cabinet, Mr Alfred Upindi.

1005 – 1025 : Official opening address by the Minister of Education, Science & Technology, Hon. Dr George Nga Mtafu, MP.

1025 – 1035 : Group photograph

1035 – 1055 : Light refreshments

1055 – 1100 : ELECTION OF CHIEF RAPPORTEUR, SESSION CHAIRS AND RAPPORTEURS.

SESSION 1 INTRODUCTION OF THE CSC, CKN AND CHM

CHAIRPERSON Mr M. Kachedwa
RAPPORTEUR Kundishora

1100 – 1125: The Commonwealth Science Council & Commonwealth Knowledge Network – Dr T.J. Ruredzo
1125 – 1150 The Biodiversity Programme and CHM Activities of the CSC – Prof. J.H. Seyani.

SESSION II COUNTRY PAPERS ON THE STATUS ON THE ESTABLISHMENT AND OPERATIONALISATION OF NATIONAL CKNs

CHAIRPERSON Mzuzu
RAPPORTEUR Kachala

1150 – 1210 BOTSWANA – CKN
1210 – 1440 BOTSWANA – CHM
1230 – 1250 MALAWI – CKN/CHM

1300 – 1400 LAUNCH

1400 – 1420 LESOTHO-CKN
1420 – 1440 LESOTHO-CHM
1440 – 1500 MOZAMBIQUE-CKN

1500 – 1515 TEA/COFFEE

1515 – 1535 NAMIBIA-CKN
1535 – 1555 NAMIBIA-CHM
1555 – 1615 SWAZILAND-CKN
1615 – 1635 SWAZILAND-CHM
1635 – 1655 SOUTH AFRICA-CKN
1655 – 1750 ZIMBABWE-CKN
1715 – 1735 ZIMBABWE-CHN

1735 – 1830 GENERAL DISCUSSIONS

TUESDAY: 27 NOVEMBER 2001

SESSION III: MANAGEMENT AND USE OF BIODIVERSITY AND INFORMATION OF LOCAL INSTITUTIONS IN MALAWI

CHAIRPERSON:
RAPPORTEUR:

0800 – 0910 NHBG, FRIM, Biology Dept-CC, SADC-FSTCU, Fisheries Dept, Museums of Malawi, and Malawi GeneBank.

0910 – 0930 GENERAL DISCUSSIONS

0930 – 0945 TEA/COFFEE

SESSION IV FUNCTIONS AND EXPERIENCE OF INTERNATIONAL CHMs/DATABASES

CHAIRPERSON: NTSIBENI
RAPPORTEUR: DR. MUSHANI

0945 – 1010 The Establishment, Functions and Management of the Clearing-House Mechanism (CHM) of the Convention on Biological Diversity.

1010 – 1035 The Establishment, Functions and Management of the National Clearing-House Mechanism (CHM) of Belgium.

1035 – 1100 The Establishment, Functions and Management of the National Clearing-House Mechanism (CHM) of the UK.

1100 – 1125 The Establishment, Functions and Management of the Clearing-House Mechanism (CHM) Plant Database of the SPGRC.

1125 – 1200 GENERAL DISCUSSIONS

SESSION V: The Role of the Service of Internet Service Providers to the functioning National CKNs/CHMs

CHAIRPERSON:
RAPPORTEUR:

1200 – 1225 Malawi-SDNP

1225 – 1250 Malawinet

1250 – 1315 Lesotho

1315 – 1415 Lunch

SESSION V: The Role of the Services of Internet Providers to the functioning National CKNs/CHMs (cont'd)

1415 – 1440 South Africa
1440 – 1505 Zimbabwe

1505 – 1520 Tea/Coffee

SESSION VI: DISCUSSIONS ON THE FRAMEWORK AND ELEMENTS AND FOR
THE NATIONAL CKN & CHM

CHAIRPERSON:
RAPPORTEUR:

1510 – 1730 WG I – CKN

CHAIRPERSON:
RAPPORTEUR:

1510 – 1730 WG II – CHM

WEDNESDAY 28 NOVEMBER 2001

SESSION VI: DISCUSSIONS ON THE FRAMEWORK AND ELEMENTS AND FOR
THE NATIONAL CKN & CHM (cont'd)

CHAIRPERSON:
RAPPORTEUR:

0830 – 1015 WG I-CKN

CHAIRPERSON:
RAPPORTEUR:

0830 – 1015 WG II-CHM

1015 – 1030 Tea/Coffee

1030 – 1130 PRESENTATION AND DISCUSSIONS OF WG-I REPORT ON THE
FRAMEWORK AND ELEMENTS AND FOR THE NATIONAL CKN

1130 – 1230 PRESENTATION AND DISCUSSIONS OF WG-II REPORT ON THE
FRAMEWORK AND ELEMENTS AND FOR THE NATIONAL CHM

1230 – 1320 Lunch

SESSION VII: DEVELOPMENT AND OPERATIONALISATION OF PILOT
NATIONAL CKN & CHM WEBSITES

CHAIRPERSON:
RAPPORTEUR:

1320 – 1730 WG I-CKN

CHAIRPERSON:

RAPPORTEUR:

1320 – 1730 WG II-CHM

THURSDAY 29 NOVEMBER 2001

SESSION VII: DEVELOPMENT AND OPERATIONALISATION OF PILOT
NATIONAL CKN & CHM WEBSITES (cont'd)

CHAIRPERSON:

RAPPORTEUR:

0830 – 1015 WG I-CKN

CHAIRPERSON:

RAPPORTEUR:

0830 – 1015 WG II-CHM

1015 – 1030 Tea/Coffee

1030 – 1130 PRESENTATION AND DISCUSSIONS OF WG-I REPORT ON
DEVELOPMENT AND OPERATIONALISATION OF PILOT
NATIONAL CKN WEBSITES

1130 – 1230 PRESENTATION AND DISCUSSIONS OF WG-II REPORT ON
DEVELOPMENT AND OPERATIONALISATION OF PILOT
NATIONAL CHM WEBSITES

1230 – 1320 Lunch

SESSION VIII: DISCUSSION OF THE SADC CHM PROJECT DOCUMENT AND
THE FUNDING OF NATIONAL CKNs/CHMs

1330 – 1700 Plenary Discussion on SADC CHM Project Document

FRIDAY 30 NOVEMBER 2001

SESSION IX: THE WAY FORWARD-PLANNING FOR THE FUTURE

0830 – 1000 DISCUSSION ON PLANNING FOR THE FUTURE

1000 – 1015 Tea/Coffee

SESSION X: CLOSING CEREMONY

1100 – 1200

SATURDAY 1.11. 2001
Departure of delegates,