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Date of submission:	01 June 2004

Please provide summary information on the process by which this report has been prepared, including information on the types of stakeholders who have been actively involved in its preparation and on material which was used as a basis for the report.

The compiler of the report (GTI National Focal Point, Namibia) is actively involved in a wide range of activities related to this report, which formed the basis of an initial draft. The draft was widely distributed by e-mail to Namibian taxonomists and primary users of taxonomy, chairs of various working groups in Namibia's National Biodiversity Programme, executive managers in various implementing and regulatory agencies, and other interested parties. Responses from 7 (seven) agency executives and programme coordinators, as well as 5 (five) individuals, have been incorporated in this report.

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REPORT ON IMPLEMENTATION OF PROGRAMME OF WORK FOR THE GLOBAL TAXONOMY INITIATIVE

Programme of Work for the Global Taxonomy Initiative

Annex to Decision VI/8

Operational Objective 1. Assess taxonomic needs and capacities at national, regional and global levels for the implementation of the Convention

1. Has your country undertaken any taxonomic needs assessments and identified priorities in this regard?	
a) no (please specify the reasons)	
b) no, but assessment is under way	
c) yes, some needs assessments made (please provide details)	**X**
b) yes, comprehensive assessments made (please provide details)	
Further comments on country-based taxonomic needs assessments and identification of priorities	
A series of workshops was carried out during 2002 & 2003, reported in Irish (2003). Namibia's Biosystematic Needs. Biosystematics Working Group, Namibian National Biodiversity Programme, Windhoek. 57 pp.	
2. Has your country worked with other countries in the region to undertake regional taxonomic needs assessments and identify priorities in this regard?	
a) no (please specify the reasons)	
b) no, but some collaborative projects are being considered or planned	
c) yes, some activities undertaken (please provide details)	**X**
d) yes, many activities undertaken (please provide details)	
Further comments on regional taxonomic needs assessment and identification of priorities	
Some activities were undertaken in context of various programmes, e.g. botanical needs assessments for southern African countries through SABONET (with several publications on herbaria, botanic gardens, and users' needs) and a GTI Regional Needs Assessment for Africa (Klopper et al. 2001)	
3. Is your country involved in any activities as part of a global taxonomic needs assessment?	
a) no	
b) yes (please provide details)	**X**
Further commments on the involvement in the activities for the global taxonomic needs assessment	
The Namibian focal point (Marais) was a member of the CHM and has contributed to global planning of the GTI programme of work.	

4. Is your country undertaking any activities of public education and awareness to promote the implementation of the programme of work for the GTI?	
a) no	
b) yes, some programmes developed and some activities undertaken (please provide details)	**X**
c) yes, comprehensive programmes developed and many activities undertaken (please provide details)	
Further comments on public education and awareness programmes and activities	
Practising taxonomists are involved in a Biosystematics Working Group and contributed to Namibia's NBSAP (GRN, 2001). A series of workshops leading to a Biosystematic Needs Assessment report (Irish, 2003) included stakeholders and users of taxonomic information. A GTI-related work programme is being implemented through a Biosystematics Co-ordinator appointed by the National Biodiversity Programme (http://www.dea.met.gov.na/met/programmes/biodiversity/biodiversity.htm), who developed an internet portal on Namibian species (http://www.biodiversity.org.na/dbase/search-taxon.php). The National Botanical Research Institute (http://www.biodiversity.org.na/institute/nbri/NBRI.php) produced a checklist of Namibian Plant Species (Craven, 1999), a checklist of Namibian grasses (Klaassen & Craven, 2003) and a National Red Data Book of Threatened Plant Species (Loots, in prep.). The Namibian postal authorities (NamPost) produced a stamp series during 2003 on exciting taxonomic discoveries (http://www.nampost.com.na/dicoveries-fdc-layout.jpg), while a poster on Namibian endemic organisms is in preparation by the National Biodiversity Programme. Both the National Botanical Research Institute and National Museum (http://natmus.cul.na) regularly interact with the public, produce posters on taxon groups of special interest for distribution to schools and the general public, and are actively pursuing the development of field guides.	

Operational objective 2. Provide focus to help build and maintain the systems and infrastructure needed to obtain, collate and curate the biological specimens that are the basis for taxonomic knowledge

5. Is your country working to strengthen global and regional capacity building to support access to and generation of taxonomic information[1]?	
a) no (please specify the reasons)	
b) no, but some programmes under development	
c) yes, limited capacity building (please provide details)	**X**
d) yes, significant capacity building (please provide details)	
Further comments on global and regional capacity building to support access to and generation of taxonomic information	
Namibia actively promotes taxonomic research and training as an essential component of capacity building, with a specific focus to obtain, collate and curate biological specimens (GRN, 2001). Significant training and infrastructure was provided to the National Botanical Research Institute through the SABONET programme (http://www.sabonet.org). Capacity building through in-country support is, however, severely restricted since it is dependent on own resources, as well as problems related to the governance of the country's primary taxonomic institutions (Irish, 2003). A National Biosystematics Co-ordinator at the National Biodiversity Programme allows potential liaison for a broader programme of work.	
6. Is your country working with other countries to create and/or strengthen the networks for regional cooperation in taxonomy?	

[1] Responses to question 5 are expected to focus on, but not limited to (a) human capacity building; (b) infrastructure capacity building.

a) no	
b) no, but consultation is under way	
c) no, but some plans and programmes are under development	
d) yes, some activities undertaken for this purpose (please provide details)	X
e) yes, comprehensive activities undertaken for this purpose (please provide details)	

Further comments on strengthening of existing networks for regional cooperation in taxonomy
Namibia was part of the GEF funded SABONET programme. Namibia is also a founding member of the SAFRINET technical support network (http://safrinet.ecoport.org) of BioNET-International (http://www.bionet-intl.org) and will contribute to the OBIS (http://www.iobis.org) network. It is exploring ways to actively participate with GBIF (http://www.gbif.org) and other regional and international networks.

Operational objective 3. Facilitate an improved and effective infrastructure/system for access to taxonomic information, with priority on ensuring that countries of origin gain access to information concerning elements of their biodiversity

7. Is your country involved in the development of a coordinated global taxonomy information system, in particular the infrastructure to access digitized data/information?	
a) no	
b) no, but some plans are being considered	X
c) yes, to a limited extent (please provide details)	
d) yes, to a significant extent (please provide details)	

Further comments on involvement in the development of a coordinated global taxonomy information system
A checklist of species known from Namibia has been established on the internet (http://www.biodiversity.org.na/scripts/getkingdoms.php ; http://www.biodiversity.org.na/dbase/search-taxon.php)
Information on Namibia's plants, extracted from plant specimen labels, was incorporated into a regional database through SABONET. The entire collection (some 82 000 specimens) has been digitized. Information on economically important plants in Namibia will be digitized in collaboration with Kew (http://www.kew.org) as part of the SEPASAL (Survey of Economic plants of Arid and Semi Arid Lands) Project.
A specialist taxon-based plant database is being developed for Namibia's National Botanical Research Institute that will interface to all other institutional databases, providing a botanical "one-stop shop". Taxonomic information on Namibia's plants was incorporated into a SADC database system under SABONET.
Namibia has contributed, and continues to contribute, to FishBase (http://www.fishbase.org), subsequently incorporated into OBIS.
Digital databases on Namibia's mammalian, avian and reptilian diversity has been established and can be integrated with global databases.
Digital databases on Namibia's invertebrate diversity is in the process of being established, with most of the lower invertebrates already completed.

Operational objective 4. Within the major thematic work programmes of the Convention include key taxonomic objectives to generate information needed for decision-making in conservation and sustainable use of biological diversity and its components

8. Has your country made any taxonomic studies and inventories at the national level, which provide a basic assessment of forest biological diversity, in particular in areas under current threat for habitat conversion, or of high conservation value?	
a) no (please provide the reasons)	
b) no, but some programmes are under development	
c) yes, some studies and inventories made (please provide details)	**X**
d) yes, comprehensive studies and inventories made (please provide details)	
Further comments on taxonomic studies and inventories made for a basic assessment of forest biological diversity	
The National Forest Inventory (http://www.dea.met.gov.na/dof/invent/index.htm), co-ordinated by the Directorate of Forestry in the Namibian Ministry of Environment & Tourism, is establishing a National Forest Database through Remote Sensing and ground truthing (http://www.dea.met.gov.na/dof/veget/index.htm). The botanical databases of the National Botanical Research Institute are also available for assessing forest biodiversity. The National Tree Atlas Project, funded through Namibia's National Biodiversity Programme, is carrying out a national census of tree species diversity, distribution and abundance, verified through the National Herbarium. The Namibian Ministry of Environment & Tourism, in collaboration with national institutions and the broad public, have established atlases on avian, mammalian, and reptile diversity, which can be used in forest inventories. Pilot projects on invertebrate diversity in forest ecosystems are being carried out by Namibia's National Museum.	
9. Has your country undertaken any taxonomy-related activities relating to marine and coastal biodiversity, in particular taxonomic work related to identification of ballast water organisms and monitoring health of mangrove systems through their invertebrate fauna?	
a) no	
b) not applicable	
c) no, but some programmes are under development	**X**
d) yes, some activities undertaken (please provide details)	
e) yes, many measures undertaken (please provide details)	
Further comments on taxonomy-related activities identified in the programme of work on marine and coastal biodiversity	
Mangrove systems – not applicable. Ballast water organisms - no Limited taxonomy-related activities on marine and coastal biodiversity are co-ordinated through Namibia's Ministry of Fisheries and Marine Resources (http://www.mfmr.gov.na).	

10. Has your country developed taxonomic support for implementing relevant actions identified in the programme of work on dry and sub-humid lands biodiversity, in particular identification of key indicator taxa like lichens?	
a) no (please provide reasons and plans for improvement)	
b) not applicable	
c) no, but some programmes are under development	
d) yes, some activities undertaken(please provide details)	**X**
e) yes, many activities undertaken (please provide details)	
Further comments on taxonomic support for implementing the programme of work on dry and sub-humid lands biodiversity	
As an arid country, Namibia has an on-going interest in the diversity of arid ecosystems, with most of its biosystematic institutions actively carrying out inventories and associated taxonomic research, but severely constrained by institutional and manpower limitations. The National Biodiversity Programme has provided limited support for a lichen survey (not yet completed). The Namibian National Programme to Combat Desertification (NAPCOD - http://www.namibia-desertification.org) includes the need for identifying and using indicator taxa in their programme of work. The National Botanical Research Institute, in collaboration with Kew, will digitize information on economically important plants in Namibia as part of the SEPASAL (Survey of Economic plants of Arid and Semi Arid Lands) Project.	
11. Has your country developed taxonomic support for implementing relevant actions identified in the programme of work on inland waters biodiversity, in particular regional guides to freshwater fish and invertebrates as an input to ecosystem monitoring for river and lake health?	
a) no	
b) no, but some programmes are under development	
c) yes, some activities undertaken(please provide details)	**X**
d) yes, many activities undertaken (please provide details)	
Further comments on taxonomic support for the implementation of the programme of work on inland waters biodiversity	
Ongoing research into freshwater fish, including taxonomic research and information development, is co-ordinated through the Namibian Ministry of Fisheries and Marine Resources. Regional taxonomic guides on freshwater fish (Skelton, 1993) and amphibians (Carruthers, 2001) included Namibian datasets. The Namibian National Botanical Research Institute developed a local identification manual on freshwater plants (Clarke & Klaasen 2001). Ongoing research and information development on other aspects of freshwater biodiversity are co-ordinated through the Wetlands Working Group of the Namibian National Biodiversity Programme, which includes development of local identification manuals on freshwater invertebrates (e.g. Martens & Suhling in prep on Namibian Odonata). The Namibian Department of Water Affairs (Ministry of Agriculture, Water & Rural Development) are testing the use of invertebrate indicators to monitor the health of freshwater ecosystems, based on basin-specific taxonomic surveys.	

12. Has your country undertaken any taxonomy-related activities identified in the programme of work on agricultural biodiversity as well as relevant activities identified in the International Pollinator Initiative and the International Soil Biodiversity Initiative?	
a) no	
b) no, but some activities are being planned	**X**
c) yes, some activities undertaken (please provide details)	
d) yes, comprehensive activities undertaken (please provide details)	
Further comments on taxonomy-related activities for the implementation of the programme of work on agricultural biodiversity	
Relevant activities are co-ordinated through the Agricultural Biodiversity Working Group of the National Biodiversity Programme. Namibia's National Museum is actively pursuing pollinator and some soil invertebrate biodiversity surveys. These activities are, however, severely constrained by manpower and infrastructure limitations as well as poor integration with the African Pollinator Initiative (component of IPI) and ISBI.	
13. Is your country developing any taxonomic support for the implementation of the programme of work on mountain biodiversity, in particular identification of biodiversity components unique to mountain ecosystems?	
a) no	
b) no, but some programmes are under development	
c) yes, limited support (please provide details)	**X**
d) yes, significant support (please provide details)	
Further comments on taxonomic support for the implementation of the programme of work on mountain biodiversity	
Relevant activities are coordinated through Namibia's Mountain Biodiversity Working Group of the National Biodiversity Programme. A comprehensive biodiversity baseline survey has been carried out on Namibia's highest mountain (Kirk-Spriggs & Marais, 2000 - http://www.natmus.cul.na/daures) and a prioritizing exercise on mountain habitats have been completed (Irish, 2002). Several taxon-specific surveys of various mountain systems in Namibia is currently in progress.	
14. Has your country developed taxonomic support for the implementation of the programme of work on protected areas?	
a) no	
b) no, but some programmes are under development	**X**
c) yes, some programmes in place and are being implemented (please provide details)	
d) yes, comprehensive programmes are being implemented (please provide details)	
Further comments on taxonomic support provided to the implementation of the programme of work on protected areas	
All work in Namibia's protected areas is subject to approval from the country's Ministry of Environment & Tourism. Ad hoc surveys of various groups, and in various protected areas, are on-going. No comprehensive programme has yet been initiated, though some projects have been developed but cannot be implemented before appropriate resources become available.	

Operational objective 5. Within the work on cross-cutting issues of the Convention include key taxonomic objectives to generate information needed for decision-making in conservation and sustainable use of biological diversity and its components

15. Has your country taken any measures to strengthen capacity for the inventory and classification of biodiversity and its components in the development of a national strategy on access and benefit-sharing?	
a) no	
b) no, but some programmes are under development	**X**
c) yes, some measures taken (please provide details)	
d) yes, comprehensive measures taken (please provide details)	
Further comments on the measures to strengthen capacity for the inventory and classification of biodiversity and its components in the development of a national strategy on access and benefit-sharing	
Namibia's limitations in this regard have been acknowledged, but current institutional capacity does not allow the development of specific taxonomic programmes. It has been identified as an integral part of taxonomic capacity building within the country in order to support empowerment. A draft bill to provide the legal framework for benefit-sharing and access to biodiversity resources, which includes provisions for access to information, is in the final review process.	
16. Has your country developed taxonomic support to address the issues of invasive alien species?	
a) no	
b) no, but relevant policy and programme under development	X
c) yes, some policies and programmes in place (please provide details)	
d) yes, comprehensive policies and programmes in place (please provide details)	
Further comments on taxonomic support to address the issues of invasive alien species	
Baseline information on Namibia's invasive alien species was compiled some time ago (Brown et al., 1985), while a recent report from the Agricultural Biodiversity Working Group (Venter, 2002) indicated the need for a comprehensive approach. A programme of work is being co-ordinated by the Invasive Species Working Group of the National Biodiversity Programme. An information poster on the most significant invasive alien plants was distributed during 2002, while a more general poster on the economic and ecological threats posed by invasive aliens are to be produced in 2004.	

17. Has your country developed taxonomic information system to support the maintenance, preservation and protection of traditional knowledge, innovations and practices of indigenous and local communities in accordance with Article 8(j) and related provisions?	
a) no	
b) not applicable	
c) no, but some programmes are under development	
d) yes, some activities undertaken but a system is not in place yet (please provide details)	**X**
e) yes, a taxonomic information system in place (please provide details)	

Further comments on the taxonomic information system to support the maintenance, preservation and protection of traditional knowledge, innovations and practices of indigenous and local communities
Relevant activities are co-ordinated through the Traditional Knowledge Working Group of Namibia's National Biodiversity Programme. A summary of known botanical information have been compiled by Namibia's National Herbarium (Craven & Sullivan, 2002), while private sector involvement allows for broader distribution of such information (e.g. Leffers, 2003). The botanical information set will be improved through collaboration between Namibia's Botanical Research Institute and Kew as part of the SEPASAL initiative. The National Museum has produced a poster and is preparing a summary of taxonomic information related to invertebrate traditional knowledge. The need for incorporating traditional taxonomic systems in national taxonomic datasets has been recognized (Irish, 2003). These information systems shall support a draft legal instrument to ensure the rights of indigenous and local communities to their traditional heritage systems.

18. Has your country undertaken any taxonomy-related activities that support the implementation of the ecosystem approach and the work in the field of assessments, monitoring and indicators?	
a) no	
b) no, but some programmes are under development	**X**
c) yes, some programmes in place (please provide details)	
d) yes, comprehensive programmes in place (please provide details)	

Further comments on programmes and activities to support the implementation of the ecosystem approach and the work in the field of assessments, monitoring and indicators
Rigorous taxonomic information to support the use of indicators has been recognized for implementing Namibia's State of the Environment Reporting (Noongo et al., 2003), with specific reference to wetlands (Barnard et al., 2002). The relevance of taxonomic information is, however, still poorly understood when considering woodland management, desertification processes, planning of conservation areas, human and animal health, climatic change, and other sectoral interests where ecosystem function is of primary importance.

If your country wishes to provide additional information on implementation of this programme of work, please do so in the following space

Namibia's Biosystematic Needs Assessment (Irish, 2003) highlighted five primary constraints in meeting the needs of biosystematic users (and by extension, enhancing a GTI programme of work in Namibia). These primary constraints are related to human resources, appropriate infrastructure, access to and application of information technology, taxonomic training, and access to relevant literature. The early implementation of GTI objectives indicates a high degree of commitment from Namibian taxonomists, taxonomic institutions, and their national and international partners. Commitment is not, however, without cost, whether in financial terms or in terms of raising the expectations of taxonomic clients (users of taxonomic information). Unfortunately, the ability of taxonomists and taxonomic institutions to rise to the occasion and meet the immediate challenges for information also creates the mistaken perception that taxonomic information providers may continue to do so without additional support. Thus, improved investment in taxonomic endeavors, whether proactive primary taxonomy or greater taxonomic detail in support of other programmes, are not forthcoming from national or international agencies. Other forms of support, e.g. in terms of planning, policy adjustments, or implementation frameworks to ensure maintenance of and improving on existing infrastructure, are also negligible. This situation is not unique to Namibia, but is experienced in other developing and developed countries alike. Thus implementation of GTI goals in Namibia has added an additional burden on material and human resources available to taxonomy, both locally and internationally, without any sign that a paradigm shift in biodiversity accounting procedures will materialize. The GTI has yet to gain recognition for mobilizing action and investment within the context of the CBD. Despite initial success, the sustainability of implementing a GTI-related framework of activities in Namibia therefore remains questionable.

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