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## Please provide the following details on the origin of this report

#### **Review of information**

The following material was reviewed:

- Brown, C.J., Macdonald, I.A.W. & Brown, S.E. (1985). Invasive alien organisms in South West Africa/Namibia. South African National Scientific Programmes Report No. 119.
- Simmons, R.E., Brown, C.J. & Griffin, M. (1991). The status and conservation of wetlands in Namibia. Madoqua Special Wetlands Edition, Vol. 17 (2).
- Bethune, S. & Schlettwein (1991). Aquatic weeds and their management in southern Africa: Biological control of *Salvinia molesta*. Report to SADCC Wetland Conservation Conference, Gabarone, Research section, Water quality division, Department of Water Affairs Namibia.
- Ministry of Environment and Tourism (1995). Proceedings of a workshop on forestry and plant legislation in Namibia.
- Day, J.A. (1997). The status of freshwater resources in Namibia. Research Discussion paper number 22, Directorate of Environmental Affairs, Ministry of Environment and Tourism.
- Barnard, P. (ed.) (1998). Biological Diversity in Namibia: A country study. Windhoek, Namibian National Biodiversity Task Force.
- Ministry of Environment and Tourism (1999). Proposed Amendment to Nature Conservation Ordinance. Final draft of 22 July 1999.
- Namibia's Biodiversity Strategy and Action Plan (2001). Final draft January 2001.

### Stakeholder participation

The questionnaire provided by the secretariat of the Convention was amended to answer questions relevant to particular groups of organisms in Namibia. These amended questionnaires were distributed to members of the National Biodiversity Task Force and other stakeholders via e-mail. Follow-up on particular questions via e-mail or telephonically rounded up the information gathering process.

The following members of the Biodiversity Task Force and stakeholders contributed to this review:

- Mr Dave Joubert, Chairperson of Invasive Alien Working Group, Namibian National Biodiversity Programme.
- Mr Kevin Roberts, Water Ecology Section, Department of Water Affairs.
- Dr Stephan de Wet, Research Section, Department of Water Affairs.
- Mr Clinton Hay, Hardap Freshwater Fish Institute, Ministry of Fisheries and Marine Resources.
- Dr Pauline Lindeque, Chief Conservation Scientist, Ministry of Environment and Tourism.
- Ms Herta Kolberg, National Plant Genetic Resources Centre, Ministry of Agriculture, Water and Rural Development.
- Ms Patricia Craven, National Botanical Research Institute.
- Mr Mike Griffin, Division of Specialist Support Services, Ministry of Environment and Tourism.
- Mr Dave Boyer, Research Division, Ministry of Fisheries and Marine Resources.

## Article 8h Alien species

1.	1. What is the relative priority afforded to implementation of this Article and the associated decisions by your country?								
a)	High			b) Medi	ium		c) Low	Х	
2.	2. To what extent are the resources available adequate for meeting the obligations and recommendations made?								
a)	Good		b) Adequate		c) L	imiting	d) Severely limit	ting	x

3.	Has your country identified alien species introduced?		
	a) no		
	b) only major species of concern	Х	
	c) a comprehensive system tracks introductions		
4.	Has your country developed national policies for addressing issues related to alier	n invasive species?	
	a) no		
	b) yes – as part of a national biodiversity strategy (please give details below)	Х	
	c) yes – as a separate strategy (please give details below)		
5.	Has your country assessed the risks posed to ecosystems, habitats or species by the introduction of these alien species?		
	a) no	Х	
	b) only some alien species of concern have been assessed		
	c) most alien species have been assessed		
6.	Has your country undertaken measures to prevent the introduction of, control or eradicate those alier species which threaten ecosystems, habitats or species?		
	a) no measures		
	b) some measures in place	X	
	c) potential measures under review		
	d) comprehensive measures in place		

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7. Is your country collaborating in the development of projects at national, regional, sub-regional and international levels to address the issue of alien species?			
a) little or no action			
b) discussion on potential projects under way	x		
c) active development of new projects			

8.	. Does your national strategy and action plan address the issue of alien species?		
	a) no		
	b) yes – limited extent		
	c) yes – significant extent	х	

### Case-studies

9.	Has your country submitted case-studies on the prevention of introduction, control, and eradication of alien species that threaten ecosystems, habitats or species, in response to the call by the fourth meeting of SBSTTA?		
	a) no – please indicate below whether this is due to a lack of available case- studies or for other reasons	Х	
	b) yes – please give below any views you may have on the usefulness of the preparation of case-studies for developing a better biological understanding of the problem and/or better management responses.		
10. How many case-studies are available that could be used to gain a better understanding of the is surrounding alien species in your country?			
	a) none	х	
	b) 1-2 – limited understanding		
	c) >2 – significant information available		

# Transboundary issues

11. Are known alien invasive species in your country also a problem in neighbouring or biogeographically-similar countries?		
a) not known		
b) none		
c) a few – but in general alien invasive species problems are specific		
d) more than a few – in general we share common problems with other countries	Х	
12. Is your country collaborating in the development of policies and programmes at regional or international levels to harmonise measures for prevention and control species?		
a) little or no action		
b) discussion on potential collaboration underway	х	
c) development of collaborative approaches for a limited number of species		
d) consistent approach and strategy used for all common problems		

#### Further comments

### **Overall assessment**

On ecosystem level in Namibia alien introductions in freshwater ecosystems receive most attention. However, although some measures have been developed to combat problems, such as the successful biological control of the aquatic weed *Salvinia molesta*, the spread of alien fish, bilharzia parasites and other aquatic weeds remains a serious threat to Namibia's freshwater ecosystems.

All other introductions are handled on an ad-hoc basis, such as attempts to mechanically eradicate invasive plant species (e.g. *Lantana* and *Prosopis* species) in national parks.

Genetic pollution through hybridisation is a serious threat to populations of game (e.g. Black-faced impala), birds (ostrich) and other mammals (e.g. African wildcat) and new legislation has been drafted (but not yet ratified) to control import of alien species. However, even once this legislation is in place, enforcement will be severely hampered by lack of staff, training and facilities.

Agricultural pests, most of which are alien species, are eradicated in commercial farming areas when outbreaks occur. In communal farming areas there are few means to control agricultural pests.

To date there are no studies addressing the impacts of alien invasions on Namibian natural ecosystems.

### **Comments to questionnaire**

3b) Amendments to the Nature Conservation Ordinance make provision for controlling the import of organisms into the country. Enforcement, however, will be hampered by lack of staff, training and facilities.

4b) Namibia's National Biodiversity Strategy addresses alien invasives as a separate topic. A special working group exists and a logical framework to reduce the threat to biodiversity caused by alien invasives will form an important part of the national biodiversity strategy.

5a) The lack of studies addressing the risk of alien invasions to biodiversity prevents an overall assessment and prioritisation of relative importance of these threats to biodiversity in Namibia.

6b) The biological control of the aquatic weed *Salvinia molesta* has been successful in Namibia and mechanical eradication of invasive alien plant species in national parks and in municipal areas takes place on an ad-hoc basis at present.

7b) The problem of spread of aquatic weeds across borders has been recognised and a SADC (Southern African Development Community) sub-committee for aquatic weeds and water quality meets sporadically to develop a strategy for dealing with this problem. The Ministry of Fisheries and Marine Resources in Namibia has recently started an initiative to develop policies and research priorities regarding freshwater fisheries within the southern African Development Community (SADC). This will also include alien species.

9a) Lack of resources has to date limited putting forward case studies.

12b) (see also 7b) At present the only regional initiatives have been started in the freshwater and wetland sector (aquatic weeds and freshwater fish).

### Recommendations

- Except for freshwater ecosystems, it is evident that alien invasives are not considered a priority within relevant government institutions in Namibia. The threats to biodiversity may be less serious or difficult to detect in an arid country, and other more evident threats to biodiversity receive more attention. In a country like Namibia where resources will always be limited, it may be prudent to first establish the threats and relative risk alien introductions pose to biodiversity. This should be done through some case studies with focus on potential changes of ecosystem processes and function.
- Some examples for case studies are:
  - *Prosopis* spp. invasions in ephemeral rivers.
  - Potential invasions of grass species affecting fire regimes?
  - Replacement of range restricted species by alien invasions.

Should these studies provide evidence for significant threats to biodiversity, the outcomes could be used to raise awareness and prioritise actions.

- Activities put forward in the "Invasives" logical framework of the National Biodiversity Strategy and Action Plan cover:
  - review of legal, policy and control measures
  - inventory of alien species
  - tracking of aliens through atlassing programmes
  - prioritisation of most important alien species based on life history attributes
  - education and awareness.

These activities should be updated and prioritised according to recent developments for groups of organisms. For example, a list of plant species to be declared alien invasive has been compiled by the National Botanical Research Institute and will be included in the Amendments to the Nature Conservation Ordinance. Thus inventory and prioritisation of aliens may not be necessary for plant species, but still be relevant for animals. Once re-prioritised, the implementation of these activities should go hand-in hand with the establishment of above mentioned case studies.

- Genetic pollution through hybridisation could be better controlled if the law enforcement capacity at the Ministry of Environment and Tourism (permit section) is significantly strengthened and customs and border controls are adequately trained.
- Regional initiatives regarding aquatic weeds and inland fisheries could perhaps be strengthened through direct involvement and information exchange with other biodiversity task force members.