

SWAZILAND
Third national report

A. REPORTING PARTY

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Information on the preparation of the report

Box I.

Please provide information on the preparation of this report, including information on stakeholders involved and material used as a basis for the report.

Most of the information contained in this report is taken from the NBSAP together with several other studies including the protection-worthy areas survey in 2003/2004, reports produced for the preparation of the Biodiversity Conservation and Participatory Development Project and the Transfrontier Conservation Areas Programme.

Stakeholders from government departments; non governmental organizations; community based organizations and private individuals attended a consultative workshop to contribute to this report.

The final report was presented at a national verification workshop and approved by the stakeholders present.

Email consultation also provided useful inputs.

The Director of the Swaziland Environment Authority is grateful for the inputs and contributions provided by local experts and environmental practitioners including Mr Rex Brown (consultant), Dr. Ara Monadjem (UNISWA), Dr Arie Rimmelzwaal (consultant), Ms Linda Dobson (consultant), Dr Irma Allen (consultant), Mr Kim Roques (consultant), Mr Titus Dlamini (Silivculture Manager for Peak Timbers Limited), Mr Freddy Magagula (Ministry of Agriculture Fisheries Section), Mr Themba Mahlaba (UNISWA), the Director and staff of the Swaziland Environment Authority Mr Jameson Vilakati, the Director of Parks at the Swaziland National Trust Commission Mr Sikhumbuzo Dlamini and members of the Biodiversity Programme Implementation Committee (BPIC).

B. PRIORITY SETTING, TARGETS AND OBSTACLES

Box II.

Please provide an overview of the status and trends of various components of biological diversity in your country based on the information and data available.

Status

Swaziland has been endowed with a great wealth of natural resources – particularly its biological resources, despite its small size, supports a diverse assemblage of habitats which are home to a wide range of organisms. Although the information base on Swaziland's biodiversity is still incomplete, survey work has shown that a significant portion of southern Africa's plant and animal species occur here. The eastern region of Swaziland, for example, forms part of the Maputaland Centre of Plant Diversity (one of the World's "hotspots" of floral, as well as faunal, species richness and endemism), while the western region falls within another area of global significance, the Drakensberg Escarpment Endemic Bird Area. The value of Swaziland's biodiversity has long been recognised by Swazis who make use of it on a daily basis for various reasons including: traditional medicine, food, building material, traditional attire. Traditional systems of conserving biodiversity also exist but have not been documented and are currently being eroded.

Approximately only 4% of Swaziland's total land area is protected. This is well below the internationally recommended 10%.

Swaziland has great variation in landscape, geology and climate. The high topographical diversity of Swaziland has created a diverse assemblage of differing environmental conditions, which form the basis of the country's biodiversity. Three biomes occur in Swaziland, namely: the grassland, savanna, and the forest biomes. The forest biome is the most restricted of the three biomes, covering less than 1% of Swaziland's total area. There are a total of twelve protected conservation areas in Swaziland (covering 4% of the country's area).

The ex-situ conservation of plants in Swaziland is currently being implemented by the Plant Genetic Resources Centre, the National Herbarium and some plant nurseries.

Trends

Natural processes, e.g. erosion, and human activities, i.e. agriculture, forest plantations, and human settlements, are causing a decrease in the diversity and distribution of Swaziland's natural flora. Large-scale irrigated agriculture, particularly monoculture agriculture such as sugar cane, pineapple and citrus production has resulted in clearing of large tracts of land and destruction of the natural vegetation. This in turn, results in loss of the animals and insects which depend on it.

Ever increasing poverty and population growth is resulting in the rapid degradation of these resources in a vicious cycle of declining availability of these hitherto free resources.

Land degradation, fragmentation of habitats, alien plant invasions and rapid degradation of the biological resources are the key challenges to be addressed by the country. The various policy and legislative initiatives launched by government since Rio have so far remained mostly on paper, are not cross-sectoral and most importantly are not matched by adequate funding and expertise to implement the measures recommended by stakeholders.

Achievements

Since becoming a Contracting Party to the Convention on Biological Diversity (CBD), Swaziland has:

- Signed and ratified the Convention of Biological Diversity (CBD).
- Prepared a National Biodiversity Strategy and action Plan (NBSAP).
- Signed and ratified the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) on 3 March 1973 and 24 Jan 1997 respectively.
- Signed and ratified the Cartagena Protocol on Biosafety on January 13, 2006.
- Formulated a National Environment Action Plan (SEAP) in 1997
- Formulated a Forest Policy (2000), a National Forestry Programme (2002) and Forestry Bill (draft).
- Gazetted a new Flora Protection Act of 2000. This is an Act to protect indigenous flora and to provide for matters incidental thereto. The Act replaces the 1952 Act. The Act prohibits any person from plucking, gathering, cutting, uprooting, injuring, breaking or destroying a plant of any species that is listed in the Schedule to the Act. The Minister responsible for agriculture is empowered to establish and extend flora reserves and botanical gardens. What is significantly different about the new Act as compared to the 1952 Act is a requirement that an Environmental Impact Assessment (EIA) be carried

out in respect of any activity that would impact on indigenous flora.

- Amendment of the Game Act of 1953 in 1991 and 1993. In terms of this Act, no plant may be removed or tampered with, no animal may be removed or hunted. By Legal Notice in 1998 the responsibility for the administration of the Act was transferred to the King's Office issued by His Majesty King Mswati III. This Act is clear, strict and is reasonably well enforced
- Established a Biodiversity Implementation Programme Committee (BPIC) to oversee the implementation of the CBD and its related activities.
- Gazetted the Environmental Management Act of 2002 to strengthen the country's environmental governance capacity and to provide and promote the enhancement, protection and conservation of the environment and the sustainable management of natural resources. It also turned the SEA into a body corporate and established the Swaziland Environment Fund.
- Gazetted the Environmental Audit, Assessment and Review Regulations in 2000 that requires a systematic examination of the environmental impact of the proposed project to determine whether or not the activity will have any adverse impacts on the environment and prepare a mitigation plan to manage the resulting impacts.
- Acquired Block B World Bank/GEF funds to prepare a project on biodiversity conservation and eco-tourism development.
- Strengthened the National Plant Genetic Resources Centre and National Herbarium.
- Carried out a study in 2001 to identify protection worthy areas with the view to declare them protected. This process is on-going and to date an additional 44 areas have been identified that would cover 14% of the country. Swaziland's seven existing reserves, which cover 64,100 ha, cover only 3.7 % of the country.
- Established a Transfrontier Conservation Area (TFCA) focusing on an eco-system wide management approach in areas of highly significant biodiversity shared by Swaziland, Mozambique and South Africa.
- Established the country's first Community Based Conservation Management area in Shewula.
- Initiated the formulation of a national biosafety framework. A national biosafety framework is a system of legal, technical and administrative instruments set in place to address safety for the environment, including the safety of humans, in the field of modern biotechnology.
- Carried out a Farm Animals Genetic Resources Survey.
- Carried out a Fisheries Survey in 2002 to prepare an inventory of fish species in the major rivers.
- Prepared two National Biodiversity Country Reports in 1998 and 2002.
- Prepared a Tree Atlas of Swaziland.
- Prepared a Bird Atlas.

Priorities and future options

Alien invasive species

Invasive species are spreading at an alarming rate throughout Swaziland. Grazing for both wildlife and livestock are threatened by these weeds as is our biodiversity. Management of these invasives is going to be a costly and timely exercise and will need whole hearted support and cooperation by government, the private sector and neighbouring countries.

Fragmentation of ecosystems

A specific trend that needs urgent attention with regards the conversion of land to sugar cane and is the fragmentation of the Lowveld ecosystem. This is a phenomenon associated with the proliferation of irrigation schemes and requires attention at national and subcontinental levels. The destruction of the vegetation through these schemes has contributed to the gradual diminution of Lowveld Woodland areas. More and more areas of bushveld are being destroyed, with the risk that fragmentation will spread to the point where any remaining woodland is isolated in small pockets, eventually resulting in non-viable habitats.

Biodiversity conservation options for communal management

The lack of awareness of the importance and role of indigenous forests and woodlands in people's daily lives stipulates the need for intensive research and education programmes in the country. Management of any resource requires appropriate research, education and training in order to develop the necessary experience and expertise to make wise decisions. The generation of income from the sustainable use of the country's biodiversity will have to become the major economic engine for supporting conservation action in communal areas. This will have to be implemented through a proposed Natural Resource Accounting system.

Natural Resource Accounting

The economic, environmental and social gains and losses resulting from the conversion of land are not corrected for in the current system of National Income Accounting (NIA). A careful investigation needs to be made into the way contributions of agricultural production to GDP are currently calculated, so as to provide an improved estimate. The NIA system for Swaziland should include Natural Resource Accounting (NRA). It is not easy to place monetary values to the value of biodiversity, but Natural Resource Accounting provides a means of doing so. According to the Natural Resource Accounting in Southern Africa, sustainable development (to which Swaziland is committed, as reflected in the NDS and other policy documents) is concerned with the question of whether current actions augment or reduce the opportunities (i.e. economical, ecological and social) that future generations face as a result of decisions made in the present. Given the close linkages that there are in economic activity and environmental change, development indicators should integrate the economy and the environment more closely. There is therefore a strong argument for Swaziland to introduce Natural Resource Accounting in the NIA system.

Legislative development

Legislation dealing with land and livestock in Swaziland need to be urgently updated and enforced as they influence biodiversity immeasurably. The Swaziland Flora Protection Act (2000) which provides legal protection for over 200 plant species in the country, needs its Schedules to be regularly revised. In addition, the Plant Control Act (1981) which provides for the control, movement and growing of plants incorporating the protection of land from noxious weeds needs to be urgently updated. A new list of noxious weeds needs to be drafted and the Act amended accordingly.

To better protect existing wetlands and their unique ecosystem, the country needs to ratify the Ramsar Convention on Wetlands and the Conservation of Migratory Species of Wild Animals both of which are viewed by local conservationists as critical to the protection and management of Swaziland's threatened biodiversity.

Lack of control of the medicinal plant trade

The quantity and type of indigenous tree and shrub products that are sold to markets inside and outside of Swaziland for medicine is largely undocumented in the country. Where the species are harvested from and how they are harvested needs to be quantified and justified. This illegal trade is not monitored in Swaziland and the species that are sold are in many cases not harvested sustainably. Extinctions of species could occur in the immediate future if this trade is not formalised and regulated.

In-situ conservation of genetic resources

Indigenous species that are threatened for various reasons are not being propagated and very few are monitored effectively. Large tracts of land have been cleared and are presently earmarked for agricultural expansion and have had large numbers of indigenous species removed or destroyed. Unfortunately, there is still no formal institution that acts as a refugia for the important species or that offers the education facility that is needed for children to help them appreciate what biodiversity Swaziland has to offer and its management there-of. The Swaziland National Trust Commission reserves which are managed with a view to protecting the flora (unlike the game reserves) fulfil an important role with regard to in situ conservation of genetic resources. The Ministry of Agriculture and Cooperatives (MOAC) runs a Nguni cattle farm that is trying to preserve the gene pool of the indigenous cattle of Swaziland. There is a need to establish other refugia for the other domestic species that are indigenous

Capacity building

To effectively implement the Convention, the country has identified priority needs through the National Capacity Self Assessment process which was completed in 2005. The NCSA culminated in the preparation of a Capacity Development Action Plan that proposes an integrated capacity development process in order to fulfil the country's capacity requirements to implement the Multinational Environmental Agreements the country has signed.

Priority Setting

1. Please indicate, by marking an "X" in the appropriate column below, the level of priority your country accords to the implementation of various articles, provisions and relevant programmes of the work of the Convention.

Article/Provision/Programme of Work	Level of Priority		
	High	Medium	Low
a) Article 5 – Cooperation	X		
b) Article 6 - General measures for conservation and sustainable use	X		
c) Article 7 - Identification and monitoring			X
d) Article 8 – <i>In-situ</i> conservation		X	
e) Article 8(h) - Alien species		X	
f) Article 8(j) - Traditional knowledge and related provisions			X
g) Article 9 – <i>Ex-situ</i> conservation		X	
h) Article 10 – Sustainable use of components of biological diversity		X	
i) Article 11 - Incentive measures			X
j) Article 12 - Research and training			X
k) Article 13 - Public education and awareness		X	
l) Article 14 - Impact assessment and minimizing adverse impacts	X		
m) Article 15 - Access to genetic resources			X
n) Article 16 - Access to and transfer of technology			X
o) Article 17 - Exchange of information		X	
p) Article 18 – Scientific and technical cooperation			X
q) Article 19 - Handling of biotechnology and distribution of its benefits			X
r) Article 20 - Financial resources		X	
s) Article 21 - Financial mechanism		X	
t) Agricultural biodiversity		X	

u) Forest biodiversity	X		
v) Inland water biodiversity			X
w) Marine and coastal biodiversity			X
x) Dryland and subhumid land biodiversity		X	
y) Mountain biodiversity			X

Challenges and Obstacles to Implementation

2. Please use the scale indicated below to reflect the level of challenges faced by your country in implementing the provisions of the Articles of the Convention (5, 6,7, 8, 8h, 8j, 9, 10, 11,12, 13, 14, 15,16, 17, 18, 19 and 20)	
3 = High Challenge	1 = Low Challenge
2 = Medium Challenge	0 = Challenge has been successfully overcome
N/A = Not applicable	

Challenges	Articles																	
	5	6	7	8	8h	8j	9	10	11	12	13	14	15	16	17	18	19	20
a) Lack of political will and support	1	2	2	1	0	2	1	1	2	2	2	0	1	1	2	1	2	2
b) Limited public participation and stakeholder involvement	2	2	2	2	3	1	3	2	3	3	2	3	2	3	2	2	2	3
c) Lack of mainstreaming and integration of biodiversity issues into other sectors	1	2	1	1	1	2	1	2	2	3	1	0	2	2	1	1	2	3
d) Lack of precautionary and proactive measures	2	2	2	1	1	2	2	2	2	2	2	1	2	2	2	2	2	3
e) Inadequate capacity to act, caused by institutional weakness	2	2	3	2	3	2	2	2	3	3	2	1	2	2	2	3	3	2
f) Lack of transfer of technology and expertise	2	2	3	2	2	2	2	2	3	3	2	1	2	3	2	3	2	3
g) Loss of	2	2	1	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2

Challenges	Articles																	
	5	6	7	8	8h	8j	9	10	11	12	13	14	15	16	17	18	19	20
traditional knowledge																		
h) Lack of adequate scientific research capacities to support all the objectives	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
i) Lack of accessible knowledge and information	1	2	1	1	1	1	1	2	2	1	2	1	2	2	2	2	2	3
j) Lack of public education and awareness at all levels	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
k) Existing scientific and traditional knowledge not fully utilized	2	2	3	2	1	2	3	2	2	3	2	2	3	2	3	3	2	3
l) Loss of biodiversity and the corresponding goods and services it provides not properly understood and documented	2	2	1	1	1	1	2	2	3	2	2	3	2	2	3	2	2	2
m) Lack of financial, human, technical resources	2	2	3	3	3	2	3	2	3	3	2	1	3	3	3	2	3	3
n) Lack of economic incentive measures	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3
o) Lack of benefit-sharing	2	2	2	2	2	2	2	2	2	3	2	2	3	3	2	2	2	3
p) Lack of synergies at national and international levels	1	1	2	2	2	2	2	2	3	2	2	1	2	3	2	3	3	3
q) Lack of horizontal cooperation among stakeholders	1	1	1	1	1	1	1	2	2	2	1	1	2	2	2	2	2	2
r) Lack of effective partnerships	2	2	2	2	3	2	2	2	3	2	2	1	2	3	2	2	3	3

Challenges	Articles																	
	5	6	7	8	8h	8j	9	10	11	12	13	14	15	16	17	18	19	20
s) Lack of engagement of scientific community	1	1	1	1	1	1	1	2	3	1	2	2	2	2	2	2	2	2
t) Lack of appropriate policies and laws	1	1	2	1	2	1	2	2	2	1	2	1	3	2	2	2	3	3
u) Poverty	2	2	1	2	1	2	3	2	2	2	2	1	2	3	2	3	3	3
v) Population pressure	1	2	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	3
w) Unsustainable consumption and production patterns	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
x) Lack of capacities for local communities	2	2	3	3	2	2	3	2	3	3	2	2	2	3	2	2	2	2
y) Lack of knowledge and practice of ecosystem-based approaches to management	1	1	1	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2
z) Weak law enforcement capacity	1	1	1	3	2	1	3	3	1	1	1	2	1	1	1	1	1	1
aa) Natural disasters and environmental change	1	1	1	2	2	1	2	3	1	1	1	1	1	1	1	1	1	1
bb) Others (please specify)																		

2010 Target

The Conference of the Parties, in decision VII/30, annex II, decided to establish a provisional framework for goals and targets in order to clarify the 2010 global target adopted by decision VI/26, help assess the progress towards the target, and promote coherence among the programmes of work of the Convention. Parties and Governments are invited to develop their own targets with this flexible framework. Please provide relevant information by responding to the questions and requests contained in the following tables.

Box III.

Goal 1	Promote the conservation of the biological diversity of ecosystems, habitats and biomes.		
Target 1.1	At least ten percent of each of the world's ecological regions effectively conserved		
I) National target: Has a national target been established corresponding to the global target above?			
a) No			
b) Yes, the same as the global target			X
c) Yes, one or more specific national targets have been established			
Please provide details below.			
The NBSAP defines the following strategy as a measurable target "Modify existing protected areas network to protect 10% of the full range of ecosystems" however it does not define a time bound target although the NBSAP does have a broad timetable described as short to medium term.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural	X		Agrobiodiversity components have been incorporated into the NBSAP (4.3 Strategies for the Conservation of Agrobiodiversity) with the goal to conserve the genetic base of Swaziland's crops and livestock breeds. Strategies include to conserve, and sustainably use, plant and farm animal genetic resources.
b) Inland water		X	The extent of aquatic ecosystems is limited and is about 1% of the total land area of Swaziland. Such ecosystems are mostly manmade in the form of water reservoirs for agriculture and water supply. The country has taken limited action to increase the representation of inland water ecosystems through formal and informal protection measures. Initially one small inland reservoir has secured formal protection status (Hawane Nature Reserve) and is used as a reserve to protect this water source whilst protecting biological diversity that surrounds the reservoir. In addition the catchment of the Hawane reservoir has been included in the proclaimed area. This catchment contains numerous wetland areas with a relatively high biological diversity. Future dam and reservoir developments in the country will also receive either formal or informal protection of the perimeter areas. Such new areas will be subject to additional investigations at that time.
c) Marine and coastal		n/a	

d) Dry and subhumid land		X	
e) Forest		X	
f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No			
b) Yes, into national biodiversity strategy and action plan		X	
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
<p>The NBSAP defines the following strategy as a measurable target “Modify existing protected areas network to protect 10% of the full range of ecosystems” however it does not define a time bound target although the NBSAP does have a broad timetable described as short to medium term.</p>			
IV) Please provide information on current status and trends in relation to this target.			
<p>The NBSAP's recommendation to protect 10% of the full range of ecosystems is being hampered by the bureaucratic processes involved in declaring protected areas together with outdated legislation that does not differentiate between the different levels of protection as presented by the IUCN. In 2006 a new biodiversity centred law will be drafted that will take into account recent global changes in categorising protected areas.</p>			
V) Please provide information on indicators used in relation to this target.			
<p>With little movement to extend the protected areas, no indicators have been developed.</p>			
VI) Please provide information on challenges in implementation of this target.			
<p>The primary challenge is the Swaziland National Trust Commission Act of 1973 used for establishing protected areas but has yet to be informed by recent initiatives in protected area management and IUCN categories. The Government is in the process of reviewing legislation with the view to update it into a comprehensive biodiversity act or similar. Such a process will start in 2006.</p> <p>The absence of a comprehensive land policy to guide development and land use severely limits the declaration of protected areas. The absence of a policy relating to biodiversity management also hampers extending the protected areas network.</p>			
VII) Please provide any other relevant information.			
<p>With an expanding population and agri-business, the area of land that can be protected is facing increasing threats from conversion. If action is not taken soon to formally protect protection-worthy areas, these areas will rapidly degrade and the biodiversity resources and services will be lost.</p>			

Box IV.

Target 1.2	Areas of particular importance to biodiversity protected		
I) National target: Has a national target been established corresponding to the global target above?			
a) No			
b) Yes, the same as the global target			X
c) Yes, one or more specific national targets have been established			
Please provide details below.			
The NBSAP defines the following strategy as a measurable target "Modify existing protected areas network to protect 10% of the full range of ecosystems" however it does not define a time bound target although the NBSAP does have a broad timetable described as short to medium term.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	
f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No			
b) Yes, into national biodiversity strategy and action plan			X
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
The NBSAP recommends the protection of hot-spots of biodiversity for conservation of areas of particular importance to biodiversity.			
IV) Please provide information on current status and trends in relation to this target.			
Increasing pressure on biological resources by primarily the rural population, is rapidly degrading the biodiversity in certain parts of the country. Agri-business, notably sugarcane, is converting large areas of land into agriculturally productive land.			
V) Please provide information on indicators used in relation to this target.			
National indicators for this target have not yet been developed.			
VI) Please provide information on challenges in implementation of this target.			
The major challenge is to formally protect hot-spots identified in various surveys before they are destroyed. Funding to monitor and manage these areas will need to be sourced.			
VII) Please provide any other relevant information.			

Box V.

Goal 2	Promote the conservation of species diversity		
Target 2.1	Restore, maintain, or reduce the decline of populations of species of selected taxonomic groups		
I) National target: Has a national target been established corresponding to the global target above?			
a) No			X
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
The NBSAP does not specifically provide for the conservation of species diversity rather it broadly calls for the extension of the protected areas network covering all ecosystems.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	
f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No			X
b) Yes, into national biodiversity strategy and action plan			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
With the assistance of SABONET taxonomic priorities were identified for the restoration, maintenance and reduction in the decline of populations of species of selected taxonomic groups.			
IV) Please provide information on current status and trends in relation to this target.			
Due to funding shortfalls, the priorities identified have not been implemented. Red Data Lists (plants [Dlamini and Dlamini, 2002] and vertebrates [Monadjem et al 2005]) have been developed.			
V) Please provide information on indicators used in relation to this target.			
National indicators for this target have not yet been developed.			
VI) Please provide information on challenges in implementation of this target.			
The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.			
VII) Please provide any other relevant information.			

Box VI .

Target 2.2		Status of threatened species improved	
I) National target: Has a national target been established corresponding to the global target above?			
a) No		X	
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
No official national target has been set.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	
f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No		X	
b) Yes, into national biodiversity strategy and action plan			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
No national target has been incorporated into national plans, programmes or strategies.			
IV) Please provide information on current status and trends in relation to this target.			
The country has set aside funding to review and update legislation that relates to the management of biological diversity. A new Biodiversity Bill and Policy will be developed in 2006. This new piece of legislation will replace all current legislation relating to biological diversity including the Flora Protection Act of 2000 and others. The Swaziland National Trust Commission Act of 1972 (as amended in 1973) is still maintained and the Environmental Management Act of 2003 does recognize the need for protection of biologically sensitive areas.			
V) Please provide information on indicators used in relation to this target.			
National indicators for this target have not yet been developed.			
VI) Please provide information on challenges in implementation of this target.			
The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.			
VII) Please provide any other relevant information.			

Box VII.

Goal 3	Promote the conservation of genetic diversity		
Target 3.1	Genetic diversity of crops, livestock, and of harvested species of trees, fish and wildlife and other valuable species conserved, and associated indigenous and local knowledge maintained		
I) National target: Has a national target been established corresponding to the global target above?			
a) No			X
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
No official national target has been set.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	
f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No			X
b) Yes, into national biodiversity strategy and action plan			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
No national target has been incorporated into national plans, programmes or strategies.			
IV) Please provide information on current status and trends in relation to this target.			
The Plant Genetic Resources Centre has been established but it is under resourced. A Botanic Garden is in the process of being established, however resources are delaying its construction. A National Tree Seed Centre was established in 1994 but it is also under resourced.			
V) Please provide information on indicators used in relation to this target.			
National indicators for this target have not yet been developed.			
VI) Please provide information on challenges in implementation of this target.			
The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.			
VII) Please provide any other relevant information.			

Box VIII .

Goal 4	Promote sustainable use and consumption.		
Target 4.1	Biodiversity-based products derived from sources that are sustainably managed, and production areas managed consistent with the conservation of biodiversity		
I) National target: Has a national target been established corresponding to the global target above?			
a) No			X
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
No official national target has been set.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	
f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No			X
b) Yes, into national biodiversity strategy and action plan			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
No national target has been incorporated into national plans, programmes or strategies.			
IV) Please provide information on current status and trends in relation to this target.			
Biodiversity-based products derived from sources that are sustainably managed, and production areas managed consistent with the conservation of biodiversity have received recent attention. In cooperation with the Kellogg Foundation, a small marula oil processing factory was established in 2005 to manufacture a small range of marula oil based products like soap, cream and the oil itself. The harvesting of the raw material is carried out by local communities and the seed sold to the factory. Other natural sources of useable oils are being investigated.			
V) Please provide information on indicators used in relation to this target.			
National indicators for this target have not yet been developed.			

VI) Please provide information on challenges in implementation of this target.
The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.
VII) Please provide any other relevant information.

Box IX.

Target 4.2	Unsustainable consumption, of biological resources, or that impacts upon biodiversity, reduced		
I) National target: Has a national target been established corresponding to the global target above?			
a) No			X
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
No official national target has been set.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	
f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No			X
b) Yes, into national biodiversity strategy and action plan			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
No national target has been incorporated into national plans, programmes or strategies.			
IV) Please provide information on current status and trends in relation to this target.			
The unsustainable consumption of biological resources, or activities that impact upon biodiversity are a serious concern to the country. Swaziland relies extensively upon its natural resources and efforts to raise awareness of the importance of these resources are on-going. The introduction of mandatory EIAs in 2000 has gone some way to reduce the impact but such EIAs only focus on specific projects and activities. Greater emphasis is needed to identify the key components currently threatened and			

mitigation developed to reduce the unsustainable consumption.

V) Please provide information on indicators used in relation to this target.

National indicators for this target have not yet been developed.

VI) Please provide information on challenges in implementation of this target.

The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.

VII) Please provide any other relevant information.

Box X.

Target 4.3		No species of wild flora or fauna endangered by international trade	
I) National target: Has a national target been established corresponding to the global target above?			
a) No		X	
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
No official national target has been set.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	
f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No		X	
b) Yes, into national biodiversity strategy and action plan			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
No national target has been incorporated into national plans, programmes or strategies.			
IV) Please provide information on current status and trends in relation to this target.			
As a signatory to CITES, trade in species of wild flora or fauna is regulated.			

The Flora Protection Act of 2000 provides for penalties for the unlawful picking of protected flora, the unlawful sale of protected flora, and the prohibition of export any protected flora, except upon or subject to the conditions of a permit issued by the Minister. Any person who contravenes these provisions or unlawfully cuts, picks, plucks, gathers, uproots, injures, breaks and process any flora in schedule A of the Act is guilty of an offence and on conviction liable to a fine of not less than six hundred Emalangeni and not more than two thousand five hundred Emalangeni or a term of imprisonment of not less than three months and not more than two years.

The Game (Amendment) Act of 1991 allows the Minister responsible for Agriculture to declare any specified area of Swaziland to be a sanctuary for the protection of any animals or birds. Any person who in any sanctuary hunts or attempts to hunt any animal or bird protected within the sanctuary, or takes any trophy of any such animal or bird, or who is found within a sanctuary under circumstances which show he is there for the purpose of hunting or taking trophy of any such animal or bird therein shall be guilty of an offence. Any person who contravenes the provisions of sections 6(2) or (5), 7(1), 12(1), 13, 14 or 20(1), (2) or (3) of the Act shall on conviction be liable to a fine of not less than six hundred Emalangeni but not exceeding two thousand Emalangeni or to imprisonment for a period of not less than six months but not exceeding two years.

V) Please provide information on indicators used in relation to this target.

National indicators for this target have not yet been developed.

VI) Please provide information on challenges in implementation of this target.

The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.

VII) Please provide any other relevant information.

Box XI .

Goal 5	Pressures from habitat loss, land use change and degradation, and unsustainable water use, reduced.		
Target 5.1	Rate of loss and degradation of natural habitats decreased		
I) National target: Has a national target been established corresponding to the global target above?			
a) No			X
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
No official national target has been set.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	

f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No			X
b) Yes, into national biodiversity strategy and action plan			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
No national target has been incorporated into national plans, programmes or strategies.			
IV) Please provide information on current status and trends in relation to this target.			
Pressures from habitat loss, land use change and degradation, and unsustainable water use are having a significant impact on biodiversity in the country. Land use change, primarily to agriculture, is, despite EIA enforcement, reducing natural habitats. Degradation of habitat through climatic change, drought and settlement expansions has markedly affected the integrity of many habitats.			
V) Please provide information on indicators used in relation to this target.			
National indicators for this target have not yet been developed.			
VI) Please provide information on challenges in implementation of this target.			
The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.			
VII) Please provide any other relevant information.			

Box XII.

Goal 6	Control threats from invasive alien species.		
Target 6.1	Pathways for major potential alien invasive species controlled		
I) National target: Has a national target been established corresponding to the global target above?			
a) No			X
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
The NBSAP under strategy 4.1 for biodiversity conservation through the improvement of the protected areas network sub-strategy 3 (minimize the impact of alien invasive species) identifies the following priority actions: incorporate control measures of alien invasives into the management of plan of each protected area and conduct a national assessment of, and develop cost effective control techniques for, alien invasives.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	

c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	
f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No			X
b) Yes, into national biodiversity strategy and action plan			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
No national target has been incorporated into national plans, programmes or strategies.			
IV) Please provide information on current status and trends in relation to this target.			
<p>A project was carried out in 2003/2004 under the auspices of the Swaziland Environment Authority, to compile existing data on alien invasive plants of Swaziland. One product of this project was the creation of an online database of Swaziland's alien/non-indigenous plants, with distribution maps and photographs or illustrations [http://www.sntc.org.sz/alienplants/index.asp].</p> <p>A booklet of the invasive alien plant species was prepared, and will be published when funding is available.</p> <p>Within private industrial timber plantations some effort is made to prevent their commercial tree species from invading lands outside their jurisdiction.</p> <p>The Ministry of Agriculture has undertaken some training of extension officers in plant identification, eradication and control in rural areas. This pilot project is expected to roll out gradually throughout the country.</p> <p>Within and around protected areas ad hoc efforts in control of invasive aliens occurs. Some commercial farmers and private land owners undertake their own localized eradication programmes.</p> <p>Mitigation plans prepared as part of the EIA processes in the country, always call for mitigation and monitoring of invasive aliens in the area of the project.</p>			
V) Please provide information on indicators used in relation to this target.			
National indicators for this target have not yet been developed.			
VI) Please provide information on challenges in implementation of this target.			
The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.			
VII) Please provide any other relevant information.			

Box XIII.

Target 6.2		Management plans in place for major alien species that threaten ecosystems, habitats or species	
I) National target: Has a national target been established corresponding to the global target above?			
a) No		X	
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
No official national target has been set.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	
f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No		X	
b) Yes, into national biodiversity strategy and action plan			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
No national target has been incorporated into national plans, programmes or strategies.			
IV) Please provide information on current status and trends in relation to this target.			
<p>The development of management plans for the major alien species that threaten ecosystems, habitats or species is limited by funding. The Government of Swaziland has called the alien plant infestations a national disaster but so far have failed to allocate sufficient resources to tackle the problem.</p> <p>There is a schedule of noxious weeds in the existing legislation, part of the Plant Control Act 1981, which replaced the (very) old Noxious Weeds Act of 1929.</p>			
V) Please provide information on indicators used in relation to this target.			
National indicators for this target have not yet been developed.			
VI) Please provide information on challenges in implementation of this target.			
The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.			

VII) Please provide any other relevant information.

Box XIV.

Goal 7	Address challenges to biodiversity from climate change, and pollution.		
Target 7.1	Maintain and enhance resilience of the components of biodiversity to adapt to climate change		
I) National target: Has a national target been established corresponding to the global target above?			
a) No			X
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
No official national target has been set.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	
f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No			X
b) Yes, into national biodiversity strategy and action plan			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
No national target has been incorporated into national plans, programmes or strategies.			
IV) Please provide information on current status and trends in relation to this target.			
<p>In the country's first national communication to the UNFCCC the impact of climate change on biodiversity was reviewed. It identified that "Natural resources and biodiversity, on future types of ecosystems, tree growth, distribution and mortality of species" are climate sensitive and hence highly at risk. The communication identified that drought conditions will impact negatively on biodiversity.</p> <p>Stakeholders with primary interest in conserving and managing the country's biodiversity are broadly unaware of the impending crisis and impact and greater efforts are needed to specifically identify the</p>			

biodiversity threats and develop appropriate mitigation.

V) Please provide information on indicators used in relation to this target.

National indicators for this target have not yet been developed.

VI) Please provide information on challenges in implementation of this target.

The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.

VII) Please provide any other relevant information.

Box XV.

Target 7.2		Reduce pollution and its impacts on biodiversity	
I) National target: Has a national target been established corresponding to the global target above?			
a) No		X	
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
No official national target has been set.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	
f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No		X	
b) Yes, into national biodiversity strategy and action plan			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
No national target has been incorporated into national plans, programmes or strategies.			
IV) Please provide information on current status and trends in relation to this target.			
The impact of pollution of biodiversity has not been adequately researched and existing data is			

limited. The impact of pollution of aquatic biodiversity is the only component that has had any significant research. Industrial emissions and industrial accidents pose a grave risk to aquatic biodiversity. The Water Act of 2003 contains several enforcement measures to manage water-borne pollution and contamination though due to capacity constraints, is seldom enforced.

V) Please provide information on indicators used in relation to this target.

National indicators for this target have not yet been developed.

VI) Please provide information on challenges in implementation of this target.

The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.

VII) Please provide any other relevant information.

Box XVI .

Goal 8	Maintain capacity of ecosystems to deliver goods and services and support livelihoods.		
Target 8.1	Capacity of ecosystems to deliver goods and services maintained		
I) National target: Has a national target been established corresponding to the global target above?			
a) No			X
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
No official national target has been set.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	
f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No			X
b) Yes, into national biodiversity strategy and action plan			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			

No national target has been incorporated into national plans, programmes or strategies.

IV) Please provide information on current status and trends in relation to this target.

The management of ecosystems to deliver goods and services has not received the priority it deserves. Irrigation of sugarcane consumes close to 95% of the country's surface water resources which in turn are derived from highland areas. Degradation of these vitally important catchment areas is on-going through agricultural expansion, industrial timber plantations and alien plants infestations.

The 2003 Water Act does require a Water Resources Master Plan to be developed that would include an inventory of the total water resources of Swaziland and a comprehensive programme of action in which the maximum value can be obtained from this resource for the benefit of the people of Swaziland. The Plan will include the generally accepted principles of integrated water resource management.

V) Please provide information on indicators used in relation to this target.

National indicators for this target have not yet been developed.

VI) Please provide information on challenges in implementation of this target.

The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.

VII) Please provide any other relevant information.

Box XVII.

Target 8.2		Biological resources that support sustainable livelihoods, local food security and health care, especially of poor people maintained		
I) National target: Has a national target been established corresponding to the global target above?				
a) No			X	
b) Yes, the same as the global target				
c) Yes, one or more specific national targets have been established				
Please provide details below.				
No official national target has been set.				
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).				
Programme of work	Yes	No	Details	
a) Agricultural		X		
b) Inland water		X		
c) Marine and coastal		n/a		
d) Dry and subhumid land		X		
e) Forest		X		
f) Mountain		X		

III) Has the global or national target been incorporated into relevant plans, programmes and strategies?	
a) No	X
b) Yes, into national biodiversity strategy and action plan	
c) Yes, into sectoral strategies, plans and programmes	
Please provide details below.	
No national target has been incorporated into national plans, programmes or strategies.	
IV) Please provide information on current status and trends in relation to this target.	
Biological resources that support sustainable livelihoods, local food security and health care, especially of poor people still need to be identified and quantified.	
V) Please provide information on indicators used in relation to this target.	
National indicators for this target have not yet been developed.	
VI) Please provide information on challenges in implementation of this target.	
The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.	
VII) Please provide any other relevant information.	

Box XVIII.

Goal 9	Maintain socio-cultural diversity of indigenous and local communities.		
Target 9.1	Protect traditional knowledge, innovations and practices		
I) National target: Has a national target been established corresponding to the global target above?			
a) No			X
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
No official national target has been set.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	

f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No			X
b) Yes, into national biodiversity strategy and action plan			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
No national target has been incorporated into national plans, programmes or strategies.			
IV) Please provide information on current status and trends in relation to this target.			
Attempts to capture and disseminate traditional knowledge innovations and practices that exist in Swaziland are on-going.			
V) Please provide information on indicators used in relation to this target.			
National indicators for this target have not yet been developed.			
VI) Please provide information on challenges in implementation of this target.			
The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.			
VII) Please provide any other relevant information.			

Box XIX.

Target 9.2	Protect the rights of indigenous and local communities over their traditional knowledge, innovations and practices, including their rights to benefit sharing		
I) National target: Has a national target been established corresponding to the global target above?			
a) No			X
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
No official national target has been set.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	

e) Forest	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
f) Mountain	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No			<input checked="" type="checkbox"/>
b) Yes, into national biodiversity strategy and action plan			<input type="checkbox"/>
c) Yes, into sectoral strategies, plans and programmes			<input type="checkbox"/>
Please provide details below.			
No national target has been incorporated into national plans, programmes or strategies.			
IV) Please provide information on current status and trends in relation to this target.			
Legislation to protect the rights of indigenous and local communities over their traditional knowledge, innovations and practices, including their rights to benefit sharing is still in the early stages of development. The country acknowledges the importance of this Goal and will address it in the proposed biodiversity policy and act.			
V) Please provide information on indicators used in relation to this target.			
National indicators for this target have not yet been developed.			
VI) Please provide information on challenges in implementation of this target.			
The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.			
VII) Please provide any other relevant information.			

Box XX.

Goal 10	Ensure the fair and equitable sharing of benefits arising out of the use of genetic resources.		
Target 10.1	All transfers of genetic resources are in line with the Convention on Biological Diversity, the International Treaty on Plant Genetic Resources for Food and Agriculture and other applicable agreements		
I) National target: Has a national target been established corresponding to the global target above?			
a) No			<input checked="" type="checkbox"/>
b) Yes, the same as the global target			<input type="checkbox"/>
c) Yes, one or more specific national targets have been established			<input type="checkbox"/>
Please provide details below.			
No official national target has been set.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	
f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No			X
b) Yes, into national biodiversity strategy and action plan			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
No national target has been incorporated into national plans, programmes or strategies.			
IV) Please provide information on current status and trends in relation to this target.			
Modalities to ensure the fair and equitable sharing of benefits arising out of the use of genetic resources are still being developed.			
Swaziland signed the International Treaty on Plant Genetic Resources for Food and Agriculture on 10 June 2002 but has still to ratify it and incorporate it into national legislation.			
V) Please provide information on indicators used in relation to this target.			
National indicators for this target have not yet been developed.			
VI) Please provide information on challenges in implementation of this target.			
The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.			
VII) Please provide any other relevant information.			

Box XXI .

Target 10.2	Benefits arising from the commercial and other utilization of genetic resources shared with the countries providing such resources		
I) National target: Has a national target been established corresponding to the global target above?			
a) No			X
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
This target is articulated in the NBSAP Strategy 4.2 for Sustainable Use, and Equitable Sharing, of Biological Resources.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			

Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	
f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No			X
b) Yes, into national biodiversity strategy and action plan			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
No national target has been incorporated into national plans, programmes or strategies.			
IV) Please provide information on current status and trends in relation to this target.			
<p>The potential benefits arising from the commercial and other utilization of genetic resources shared with the countries providing such resources are still to be identified and national legislation developed to address this.</p> <p>Currently local communities do not receive adequate benefits for the genetic resources they harvest. In fact for most veld products the cost for harvesting the resources is higher than the income it generates. There is currently no equity in the sharing of benefits as traders and middlemen sell on the resources for much higher prices.</p>			
V) Please provide information on indicators used in relation to this target.			
National indicators for this target have not yet been developed.			
VI) Please provide information on challenges in implementation of this target.			
The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation and the lack of a comprehensive ABS law or policy.			
VII) Please provide any other relevant information.			

Box XXII.

Goal 11	Parties have improved financial, human, scientific, technical and technological capacity to implement the Convention.
Target 11.1	New and additional financial resources are transferred to developing country Parties, to allow for the effective implementation of their commitments under the Convention, in accordance with Article 20
I) National target: Has a national target been established corresponding to the global target above?	
a) No	X

b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
No official national target has been set.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	
f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No			X
b) Yes, into national biodiversity strategy and action plan			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
No national target has been incorporated into national plans, programmes or strategies.			
IV) Please provide information on current status and trends in relation to this target.			
The country has received financial assistance from several sources such as the GEF and IUCN to improve its capacity to effectively manage the country's biological resources. The level of funding received has not made a significant impact but has facilitated specific activities to address biodiversity loss and management. New and additional financial resources are transferred to developing country Parties, to allow for the effective implementation of their commitments under the Convention, in accordance with Article 20			
V) Please provide information on indicators used in relation to this target.			
National indicators for this target have not yet been developed.			
VI) Please provide information on challenges in implementation of this target.			
The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.			
VII) Please provide any other relevant information.			

Box XXIII.

Target 11.2	Technology is transferred to developing country Parties, to allow for the effective implementation of their commitments under the Convention, in accordance with its Article 20, paragraph 4		
I) National target: Has a national target been established corresponding to the global target above?			
a) No			X
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
No official national target has been set.			
II) National targets for specific programmes of work: If such national target(s) ha(s)(ve) been established, please indicate here, and give further details in the box(es).			
Programme of work	Yes	No	Details
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		n/a	
d) Dry and subhumid land		X	
e) Forest		X	
f) Mountain		X	
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
a) No			X
b) Yes, into national biodiversity strategy and action plan			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
No national target has been incorporated into national plans, programmes or strategies.			
IV) Please provide information on current status and trends in relation to this target.			
V) Please provide information on indicators used in relation to this target.			
National indicators for this target have not yet been developed.			
VI) Please provide information on challenges in implementation of this target.			
The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.			
VII) Please provide any other relevant information.			

Global Strategy for Plant Conservation (GSPC)

The Conference of the Parties, in decision VI/9, annex, adopted the Global Strategy for Plant Conservation. Parties and Governments are invited to develop their own targets with this flexible framework. The Conference of the Parties considered the Strategy as a pilot approach for the use of outcome oriented targets under the Convention. In decision VII/10, the Conference of the Parties decided to integrate the targets into the reporting framework for the Third National Reports. Please provide relevant information by responding to the questions and requests contained in the following tables.

Box XXIV.

Target 1. A widely accessible working list of known plant species, as a step towards a complete world flora.	
I) Has your country established national target corresponding to the above global target?	
a) Yes	
b) No	X
Please specify	
No official national target has been set, however, the country has undertaken several plant surveys and produced corresponding inventories. Species of conservation importance are documented in the Red Data Book.	
II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?	
a) Yes	X
b) No	
Please specify	
The NBSAP strategy 4.6 for Enhancing Public Awareness of the Value of, and the Need for, Biodiversity Conservation identifies the need to broaden awareness through inventories and check lists.	
The main objective of SABONET was to develop a strong core of professional botanists, taxonomists, horticulturists and plant diversity specialists with SADC countries which will be competent to inventory, monitor, evaluate and conserve the botanical diversity of the region.	
The main objectives of the National Biodiversity Data Unit (NBDU) is to collate and store all biodiversity information related to Swaziland.	
III) Current status (please indicate current status related to this target)	
Flora Checklist for Swaziland (Braun <i>et al.</i> 2004) published in hardcopy and also available at www.sntc.org.sz .	
Swaziland tree atlas (Loffler & Loffler 2005), grass checklist (2004), fern book (2004)	
IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)	
A SABONET funded project was carried out to compile a plant national checklist of flowering plants and bryophytes for Swaziland (see III above) based on existing herbarium specimens.	
The national herbarium is mandated to continue carrying out national flora surveys, making herbarium specimens and updating the national database.	
V) Progress made towards target (please specify indicators used to monitor progress towards the target)	

The country has undertaken several plant surveys and produced corresponding inventories that have been published and accessible on the www.sntc.org.sz.

The soon to be revised SNTC website will include an online database for the flora of Swaziland. This not be a complete or finalised product, but will be an ongoing project (currently not funded). Summarised data from the Tree Atlas will also be available on this website and incorporated into this database.

VI) Constraints to achieving progress towards the target

Constraints include:

1. The end of the external funding of SABONET will limit future activities.

VII) Any other relevant information

Box XXV.

Target 2. A preliminary assessment of the conservation status of all known plant species, at national, regional and international levels.

I) Has your country established national target corresponding to the above global target?

a) Yes

b) No

X

Please specify

No official national target has been set, however, preliminary assessments of the conservation status of known plant species have been carried out.

II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?

a) Yes

b) No

X

Please specify

The NBSAP strategy 4.1 for Biodiversity Conservation Through the Improvement of Protected Areas Network calls for the modification of existing protected areas network to protect 10% of the full range of ecosystems.

The SABONET project was implemented in the country to develop a strong core of professional botanists, taxonomists, horticulturists and plant diversity specialists with SADC countries which will be competent to inventory, monitor, evaluate and conserve the botanical diversity of the region.

The Biodiversity Conservation and Participatory Development Project has as one of its goals to carry out botanical surveys which will contribute towards updating the Plant Red Data checklist.

All-Out Projects, a local NGO, has several field projects that are designed to monitor threatened plant species to help determine their conservation status and contribute towards updating the current Plant Red Data checklist.

III) Current status (please indicate current status related to this target)

A Plant Red Data checklist has been produced for Swaziland (Dlamini & Dlamini, 2002), based on a national level assessment. Assessments of the conservation status of the threatened plants still need to be carried out at regional and international levels.

IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)

Field surveys were conducted largely by private individuals and staff of SNTC Ecology Unit. Several workshops were held with relevant stakeholders to discuss individual threatened plant conservation status at a national level using the IUCN criteria to contribute towards the Finalisation of the plant Red Data List.

V) Progress made towards target (please specify indicators used to monitor progress towards the target)

Target achieved at national level.

VI) Constraints to achieving progress towards the target

Constraints include:

1. Funding for conducting the necessary fieldwork is inadequate.
2. Lack of political will for the National Herbarium to continue with the assessment.
3. Lack of field specialists and necessary expertise to assess individual species.
4. The National Herbarium now no longer has any taxonomists employed.

5. Any other relevant information

Box XXVI.

Target 3. Development of models with protocols for plant conservation and sustainable use, based on research and practical experience.

I) Has your country established national target corresponding to the above global target?

a) Yes

b) No

X

Please specify

No official national target has been set, however, the long-term national objective is to put in place an institutional, legal and policy framework and support mechanisms to enable local communities to sustainably manage their biological resources. For example through community-based natural resources management (CBNRM) to generate benefits for community members and for the community as a whole to create economic incentives for conserving the resource.

II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?

a) Yes

b) No

X

Please specify

The NBSAP through strategy 4.2 for sustainable use, and equitable sharing, of biological resources, calls for "biological resources of natural ecosystems outside of the protected areas network are used sustainably". The long-term objective is to put in place an institutional, legal and policy framework and support mechanisms to enable local communities to sustainably manage their biological resources.

The Biodiversity Conservation and Participatory Development Project has as one of its goals to put in place support mechanisms to enable local communities to sustainably manage their biological resources.

The Lubombo Conservancy, established in 1999, has as its mission to promote the "long-term conservation of the ecosystems of north-eastern Swaziland, and more generally the Lubombo region, through a process of cooperative nature conservation management, and the development of conservation-based opportunities which create benefits, and contribute to improvement of the quality of life of all the people in the region".

III) Current status (please indicate current status related to this target)

A community nature reserve at Shewula on the Lubombo mountain range has been established and is currently operating.

IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)

Support and advice provided to members of the Shewula community through the Lubombo Conservancy with help from the outreach programme operated from Mlawula Nature Reserve and managed under Swaziland National Trust Commission.

Financial support and training provided through an Italian NGO.

V) Progress made towards target (please specify indicators used to monitor progress towards the target)

Establishment of one community managed nature reserve with its own management model to enhance sustainable use and management of biodiversity.

VI) Constraints to achieving progress towards the target

Constraints include:

1. Limited institutional structures exist in local communities (on communal land) for the explicit purpose of managing biological resources.
2. Limited institutions currently in place to develop human resources of local communities to enable them to establish their own management structures for community-based natural resources management (CBNRM).
3. Resource users within local communities do not have exclusive rights to manage their biological resources.
4. Limited natural resource management systems are in place to ensure sustainable utilisation of biological resources.
5. Lack of law enforcement (pertaining to biodiversity issues) on communal land.
6. No laws and/or mechanisms in place to protect the intellectual property rights of Swaziland, local communities and individuals with respect to biodiversity resources.
7. Limited institutional and human capacity available to manage natural resource systems.

VII) Any other relevant information

Box XXVII.

Target 4. At least ten percent of each of the world's ecological regions effectively conserved.

I) Has your country established national target corresponding to the above global target?

a) Yes	X
b) No	

Please specify

The target is to conserve a viable set of representative samples (at least 10%) of Swaziland's full range of natural ecosystems through a network of protected areas.

II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?

a) Yes	X
b) No	

Please specify

The NBSAP, as part of strategy 4.1 for Biodiversity Conservation Through the Improvement of Protected Areas Network, highlights the urgent need for increased protection of representative examples of biodiversity.

The National Forest Policy and National Forestry Programme specify the need to conserve the biodiversity of natural forest resources. Some of the main goals include:

- a) Identification and selection of flora protection areas
- b) Protection of wetlands
- c) Protection and conservation of hill and mountain forests and woodlands
- d) Management of future protection areas

A study on assessment of protection worthy areas has been commissioned under the Southern Africa Biodiversity Support Programme (SABSP)

III) Current status (please indicate current status related to this target)

None of the four recognized ecosystems of Swaziland reach the IUCN's recommended 10% protection, while three of them (grassland, forest and aquatic) have only 2% within protected areas. Only 3.7% of the country is formally protected with a small percentage of land being informally conserved and managed by private land owners and communal land users.

IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)

As part of the establishment of SNTC, an initial assessment of protection worthy areas in Swaziland was done in 1972 (Grimwood 1973).

As part of the Ministry of Agriculture and Co-operatives' National Forest Policy and Legislation Project, another avenue for setting aside areas for the conservation of flora was created through the Flora Protection Act of 2000. This Forest Policy and Legislation Project commissioned a desk-top assessment of protection worthy areas in 2000 (Deale et al. 2000).

A pilot Rapid Assessment of Protection Worthy Areas (PWA) of Swaziland was then conducted (Roques 2001). This rapid assessment involved brief visits to 44 areas and later, an additional 12 areas, to prioritize them for further more detailed evaluation. The assessment highlighted 16 areas of high priority to be surveyed.

V) Progress made towards target (please specify indicators used to monitor progress towards the target)

Six reserves have been legally proclaimed in the country (Mlilwane in 1964, Hlane in 1967, Malolotja in 1977, Mlawula in 1980, Mkhaya in 1985, Hawane in 1992 and Mantenga in 1994) which cover 64100 ha, only 3.7 % of the country. No reserves have been formally proclaimed since 1994.

VI) Constraints to achieving progress towards the target

Constraints include:

1. Lack of political will for SNTC to proclaim more reserves.
2. Current legislation only permits the proclamation of a few categories of conservation areas. Thus, the number of possible categories of proclaimed areas is highly restricted under the current legislation. Legislation needs to be revised to incorporate the different conservation categories.
3. Inadequate capacity to effectively act, caused by institutional weakness of SNTC.
4. Lack of economic measures and effective partnerships with communities living within or adjacent to protection-worthy areas.
5. There are insufficient links (i.e. corridors) between ecosystems in different protected areas.
6. The protected area network is managed by two separate (non-communicating) authorities.
 1. Funding for the management of protected areas is inadequate.
 7. Lack of field specialists and necessary expertise to assess areas for conservation worthiness.

VII) Any other relevant information

Box XXVIII.

Target 5. Protection of fifty percent of the most important areas for plant diversity assured.	
I) Has your country established national target corresponding to the above global target?	
a) Yes	
b) No	X
Please specify	
No specific target and no quantification.	
II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?	
a) Yes	X
b) No	
Please specify	
<p>The Biodiversity Conservation and Participatory Development Project has as one of its goals to identify areas of important plant diversity and encourage sustainable conservation management.</p> <p>The Maputaland conservation planning system aims to contribute towards the transnational conservation plan for the Maputaland centre of endemism, which is funded by the British Government as part of their Darwin Initiative for the Survival of Species. The project aims to produce a conservation planning system for Maputaland that can be used by stakeholders to make informed land-use decisions that help conserve biodiversity whilst maintaining local livelihoods.</p>	
III) Current status (please indicate current status related to this target)	
<p>All at planning stage of the process, currently no implementation. The Maputaland conservation planning system targets only one area of the country (the Lubombo mountains). The Biodiversity Conservation and Participatory Development Project also targets a portion of the country (30%) in the form of two corridors. The PWA activities identified in Target 4 above also apply to this Target.</p>	
IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)	
<p>The Biodiversity Conservation and Participatory Development Project proposal is awaiting approval. Workshop conducted at UNISWA in 2005 to set representative targets and incorporate threats into the Maputaland conservation planning system. Second phase of project to begin in February 2006.</p>	
V) Progress made towards target (please specify indicators used to monitor progress towards the target)	
<p>A workshop was conducted at UNISWA in 2005 to set representative targets and incorporate threats into the Maputaland conservation planning system. The workshop engaged experts from Mozambique, South Africa and Swaziland to undertake the following:</p> <ul style="list-style-type: none"> • Check and update the species, land cover and ecological process distribution maps. • Determine how the different measures of threat should be incorporated into the conservation planning system. • Set representation targets for each species, land cover type and ecological process to be used to identify important areas for conservation in Maputaland. • Produce a preliminary conservation plan for Maputaland, based on the targets and threat data that are identified in the workshop. 	
VI) Constraints to achieving progress towards the target	

Constraints include:

1. Lack of political will to manage and expand protection.
2. Lack of financial resources to undertake detailed identification programmes.
3. Lack of field specialists and necessary expertise to contribute effectively towards conservation planning and management.

VII) Any other relevant information

Box XXIX.

Target 6. At least thirty percent of production lands managed consistent with the conservation of plant diversity.

I) Has your country established national target corresponding to the above global target?

a) Yes

b) No

X

Please specify

No specific target and no quantification.

II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?

a) Yes

b) No

X

Please specify

The NBSAP in strategy 4.2 for Sustainable Use, and Equitable Sharing, of Biological Resources, acknowledges that resource users within local communities do not have exclusive rights to manage their biological resources and that limited natural resource management systems are in place to ensure sustainable utilisation of biological resources. It also identifies the lack of law enforcement (pertaining to biodiversity issues) on communal land.

The National Forest Policy and National Forestry Programme recognize the need for lands under production to be managed consistent with the conservation of plant diversity. The individual companies producing timber have implemented various programmes and international standards to ensure their production activities are sustainable.

The Biodiversity Conservation and Participatory Development Project has as one of its goals to put in place support mechanisms to enable local communities to sustainably manage their biological resources.

III) Current status (please indicate current status related to this target)

A total of 35 high conservation value (HCV) areas that are considered worthy of protection have been identified in the Usutu Forest timber plantation (Western Swaziland). The sites have been classified into five categories; namely grassland, riverine, forest or woodland, sites of cultural, scenic or recreational significance and sites harbouring important plant species. Each of the HCV areas has a management plan, including weeding and burning recommendations.

Peak Timbers Limited (Northern Swaziland) is in the process of assessing its HCV forests to meet with the requirements of the Forest Certification under the Forest Stewardship Council (FSC). It is envisaged that this will contribute towards improving the future management of their natural forests, and will play a significant role in biodiversity conservation of the area.

IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)

Commercially managed (private plantations of timber and sugar) are currently managed under a certified environmental management system, either FSC (Forest Stewardship Council) or ISO 14001 both of which promote sustainable management of plantations.

There is however very limited sustainable management of plant-based products on SNL.

Regulations have been issued under the Natural Resources Act 71/1951 prohibiting anyone from building, planting crops, or destroying natural vegetation within 100 feet (30 metres approx.) of a bank or verge of a public stream.

Cattle farmers are encouraged nationally to prevent overgrazing by rotating their livestock and arable farmers are legally required to plant contour strips in between their agricultural fields to reduce erosion limiting further land degradation.

V) Progress made towards target (please specify indicators used to monitor progress towards the target)

VI) Constraints to achieving progress towards the target

Constraints include:

1. Limited institutional structures exist in local communities (on communal land) for the explicit purpose of managing biological resources.
2. Resource users within local communities do not have exclusive rights to manage their biological resources.
3. Limited natural resource management systems are in place to ensure sustainable utilisation of biological resources.
4. Limited institutional and human capacity available to manage natural resource systems.
5. Lack of law enforcement (pertaining to biodiversity issues) on SNL. The main shortcomings of the legal framework for environmental management are that:
 - a. The relevant laws are inaccessible
 - b. The fragmented legal and institutional framework reflects strong divisions between, e.g. government structures and traditional structures, and SNL and other land
 - c. There are many gaps in the legal framework and much legislation is outdated
 - d. There is inadequate enforcement of many environmental laws.

VII) Any other relevant information

Box XXX.

Target 7. Sixty percent of the world's threatened species conserved *In-situ*.

I) Has your country established national target corresponding to the above global target?

a) Yes

b) No

X

Please specify

No specific target and no quantification but could be seen as been incorporated into Targets 2 & 4 above.

II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?

a) Yes

b) No

X

Please specify

The NBSAP, as part of strategy 4.1 for Biodiversity Conservation Through the Improvement of Protected Areas Network, highlights the need to “adequately protect threatened and endemic species”.

III) Current status (please indicate current status related to this target)

In situ conservation of a number of threatened species is offered by national parks, nature and game reserves (including one community managed nature reserve), private land owners, commercial ranchers, and royal burial grounds. However, only 2% of the grassland ecosystem, 5% of the savanna ecosystem, 2% of the forest ecosystem and 2% of the aquatic ecosystem are formally protected in Swaziland which is below the national target of 10%.

IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)

As in Targets 2 & 4 above.

The Swaziland Flora Protection Act (2000) provides legal protection for over 200 plant species in the country. It prohibits unauthorised plucking, cutting or uprooting of protected indigenous flora.

V) Progress made towards target (please specify indicators used to monitor progress towards the target)

As in Targets 2 & 4 above.

VI) Constraints to achieving progress towards the target

As in Targets 2 & 4 above.

VII) Any other relevant information

Box XXXI.

Target 8. Sixty percent of threatened plant species in accessible *Ex-situ* collections, preferably in the country of origin, and 10 percent of them included in recovery and restoration programmes.

I) Has your country established national target corresponding to the above global target?

a) Yes

b) No

X

Please specify

No specific target has been set.

II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?

a) Yes

b) No

X

Please specify

The NBSAP, as part of Strategy 4.5 for improving the institutional and legal frameworks and the human resources for conservation and sustainable use, recognizes that importance of having accessible *ex-situ* collections.

III) Current status (please indicate current status related to this target)

The National Herbarium (Ministry of Agriculture and Cooperatives) has collections of a large number of herbarium specimens taken from around the country but there is no national botanical garden where live species are housed. Swaziland has identified a site for a botanic garden and the national herbarium and has set aside the necessary funding to initiate project implementation in early 2006. The architectural designs have been finalized and an EIA has been completed. The government of the Republic of China on Taiwan has assisted Swaziland with the bulk of the funding required.

Several independent private nurseries around the country also propagate indigenous plants, including threatened species for various uses including reintroduction, restoration and rehabilitation projects. Examples include the nurseries located at the Maguga Dam, the Mlawula Nature Reserve and the Shewula Nature Reserve.

Ex-situ conservation of plant genetic resources in Swaziland is the formal responsibility of the Gene Bank, situated at the Malkerns Research Station. It is responsible for the collection, conservation, documentation and characterization of plant genetic resources in Swaziland, but with an emphasis on indigenous crops and crop relatives. This unit has collected and conserved (using modern facilities) almost all indigenous crops from around the country.

The National Tree Seed Centre based at the Malkerns Research Station also collects and stores seeds of indigenous tree species. The Centre falls under the Forestry Section of Ministry of Agriculture.

IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)

The Swaziland Flora Protection Act (2001) provides for the establishment of flora reserves, botanic gardens and protection of special habitats.

V) Progress made towards target (please specify indicators used to monitor progress towards the target)

As in III above.

VI) Constraints to achieving progress towards the target

Constraints include:

1. Lack of political will and funding of the National Herbarium (Ministry of Agriculture and Cooperatives) to improve their existing *ex-situ* collections, or to initiate further recovery and restoration programmes.
2. Inadequate capacity to effectively act, caused by institutional weakness of the National Herbarium (Ministry of Agriculture and Cooperatives).

VII) Any other relevant information

Box XXXII.

Target 9. Seventy percent of the genetic diversity of crops and other major socio-economically valuable plant species conserved, and associated indigenous and local knowledge maintained.

I) Has your country established national target corresponding to the above global target?

a) Yes

b) No

X

Please specify

No specific national target exists, but one of the NBSAP targets is to "efficiently conserve the genetic base of Swaziland's crops". The National Plant Genetic Resources Centre has set its own goals (in line with SADC Gene Bank's Network).

II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?

a) Yes	X
b) No	
Please specify	
The NBSAP strategy 4.3 on the Conservation of Agro -biodiversity includes the strategy to “Conserve, and sustainably use, plant genetic resources” requires the country to conserve and manage its genetic diversity particularly of its food crops.	
III) Current status (please indicate current status related to this target)	
<p>The conservation of agro -biodiversity is currently the responsibility of the National Plant Genetic Resources Centre (NPGRC) which is an integral part of the Agricultural Research Division based at the Malkerns Research Station. It is responsible for the collection, conservation, documentation and characterization of plant genetic resources in Swaziland, with an emphasis on indigenous crops and crop relatives. Its mandate is to “conserve crop and wild plant genetic resources and ensure their sustainable utilization”.</p> <p>Several collection missions have however been commissioned since the establishment of the centre in 1992 with the first mission in 1993. Major indigenous crops have been collected, characterized, documented and stored in deep freezers at the NPGRC since then and special and routine collection missions are still on going.</p> <p>Of necessity also for the section is to indulge in awareness programmes on the paramount importance of sustainable conservation and utilization of these crop genetic resources countrywide. Thus there is great need for promotion of the establishment of community seed genebanks</p>	
IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)	
No specific legal instrument exists to achieve the target.	
V) Progress made towards target (please specify indicators used to monitor progress towards the target)	
The National Plant Genetic Resources Centre (Ministry of Agriculture and Cooperatives) is currently collecting and conserving, using modern technology, genetic resources of crop plants and crop relatives. See also III above.	
VI) Constraints to achieving progress towards the target	
<p>Constraints include:</p> <ol style="list-style-type: none"> 1. Indigenous crop varieties are threatened by the use of hybrids and high yielding varieties. 2. Populations of wild crop relatives are being eradicated through habitat loss. 3. Inadequate national research and information available on indigenous crops. 4. Inadequate human resources or expertise to deal with certain biodiversity issues, especially in the fields of systematics, resource economists and biotechnology. 	
VII) Any other relevant information	

Box XXXIII.

Target 10. Management plans in place for at least 100 major alien species that threaten plants, plant communities and associated habitats and ecosystems.	
I) Has your country established national target corresponding to the above global target?	
a) Yes	
b) No	X
Please specify	
No specific national target exists, but one of the NBSAP targets is to "minimize the impact of alien invasive species".	
II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?	
a) Yes	X
b) No	
Please specify	
<p>The NBSAP strategy 4.1 for Biodiversity Conservation Through the Improvement of Protected Areas Network identifies the need to minimize the impact of alien invasive species through incorporating control measures of alien invasives into the management of plan of each protected area and conducting a national assessment of, and develop cost effective control techniques for, alien invasives.</p> <p>The Biodiversity Conservation and Participatory Development Project proposal singles out alien invasive species management as a key component of the whole project managed and implemented primarily by local participating communities.</p> <p>The National Forest Policy and National Forestry Programme all specify alien invasive species as being a direct threat to the country's biodiversity. The National Forestry Programme calls upon the MOAC to conduct surveys and make inventories of the occurrence and distribution of invasive alien plant species, develop priority programmes for the control and eradication of invasive alien plant species, and implement priority programmes to control invasive alien plant species.</p>	
III) Current status (please indicate current status related to this target)	
<p>Invasive alien species are considered to be the most important threat to biological diversity loss after habitat destruction. All ecosystems, including forests and grasslands, are vulnerable to invasive alien species.</p> <p>Harmful alien plant species frequently recorded in Swaziland include <i>Lantana camara</i>, <i>Sesbania punicea</i>, <i>Solanum mauritianum</i> (bugweed), <i>Caesalpinea decapetala</i> (Mauritian thorn), <i>Parthenium hystorophorus</i> (<i>Parthenium</i> only moves into overgrazed/mismanaged areas, and can be controlled by restoring the vegetation to a healthy condition, and is considered a lower priority than the others listed here), <i>Chromoleana odorata</i> (triffid weed), <i>Rubus</i> spp, <i>Cassia</i> spp, <i>Opuntia imbricata</i> (prickly pear), <i>Psidium guajava</i> (guava). Other imported tree genus, such as <i>Acacia</i>, <i>Eucalyptus</i>, <i>Pinus</i> and others may also be invasive, unless properly managed in plantations.</p> <p>An integrated programme to control invasive alien plant species is under development by the Forestry Section of the MOAC with the cooperation of the National Biodiversity Steering Committee (under the Swaziland Environment Authority), the Swaziland National Trust Commission (SNTC) and liaison with Plant Protection and Research Institutes in South Africa.</p> <p>The country has compiled an AIS information booklet and developed a website (http://www.sntc.org.sz/alienplants/index.asp) that illustrates distribution of problematic species.</p>	
IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)	
<p>The Plant Control Act 8/1981 is concerned with controlling the spread of noxious weeds around the country. The Act is in urgent need for updating. It currently targets preventing the importation of alien plant species cited in the Act. A broader and more comprehensive piece of legislation is needed to adequately address the increasing threats posed by alien plants.</p>	

V) Progress made towards target (please specify indicators used to monitor progress towards the target)
No specific progress has been made in combating the problem on the ground, however, considerable efforts are underway to develop priority programmes for the control and eradication and awareness of the problems is well known. A national management plan or strategy is urgently needed together with the associated funds to implement it.
VI) Constraints to achieving progress towards the target
Constraints include: <ol style="list-style-type: none"> 1. Grossly inadequate legislation - needs to be reviewed and improved. 2. Lack of funds to prepare an AIS strategy and action plan that updates existing inventories and distribution maps. 3. Inadequate funding to control and manage AIS. 4. Poor uptake of cooperative regional offers to assist the country from neighbours.
VII) Any other relevant information

Box XXXIV.

Target 11. No species of wild flora endangered by international trade.	
I) Has your country established national target corresponding to the above global target?	
a) Yes	
b) No	X
Please specify	
The Swaziland Flora Protection Act (2001) provides for some regulation on exporting of protected wild flora through a system of permits.	
II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?	
a) Yes	X
b) No	
Please specify	
The NBSAP strategy 4.1 for Biodiversity Conservation Through the Improvement of Protected Areas Network identifies the need to control trade in endangered species but does not set any targets.	
III) Current status (please indicate current status related to this target)	
Various ad hoc surveys carried out for the southern African region indicates that there is a large amount of illegal trading of plant species across Swazi borders. No specific survey has been carried out in the country to identify and quantify the trade of plant species across the border.	
IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)	

The Flora Protection Act (2001) under section 20 prohibits cross border trade in any plant listed in the Red Data List of Southern African Plants (1997) or any other plant listed under the auspices of the International Union for the Conservation of Nature (IUCN).

The Plant Control Act (1981) (Ministry of Agriculture and Cooperatives) prohibits the exportation of indigenous plants without a written permission from the Swaziland National Trust Commission.

The country has signed and ratified the Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973).

The country has signed but not ratified the Lusaka Agreement on Cooperative Enforcement Operations Directed at Illegal Trade in Wild Fauna and Flora (1994).

The Swaziland National Trust Commission Act (1973) protects plant species within proclaimed reserves but does specifically address trade issues.

V) Progress made towards target (please specify indicators used to monitor progress towards the target)

A private company which manage several game reserves within the country, Big Game Parks, has made some arrests, in its attempts to stop illegal medicinal plant harvesting and export.

The Komati Basin Water Authority (KOBWA) and the Swaziland Water and Agriculture Development Enterprise (SWADE), as part of the EIA monitoring plan, have set up programmes to monitor plant species, some of them which are threatened by international trade.

VI) Constraints to achieving progress towards the target

Constraints include:

1. There is insufficient monitoring on the trade of commercially important plant species. Border officials are unable to identify plant species adequately that are being traded across borders and there is a general lack of awareness about plant trade and the impacts of it.
2. Inadequate information of the status, distribution and commercial value of important plant species.
3. Not all threatened or commercially important plant species are adequately protected by existing legislation. The list of protected species must be broadened and be based on current red data lists and updated regularly.
4. Poor uptake of cooperative regional offers to assist the country from neighbours.

VII) Any other relevant information

Box XXXV.

Target 12. Thirty percent of plant-based products derived from sources that are sustainably managed.	
I) Has your country established national target corresponding to the above global target?	
a) Yes	
b) No	X
Please specify	
No specific national target exists.	
II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?	
a) Yes	
b) No	X
Please specify	
<p>The NBSAP strategy 4.2 for Sustainable Use, and Equitable Sharing, of Biological Resources identifies that “biological resources of natural ecosystems outside of the protected areas network are used sustainably” but does not set any target.</p> <p>The Forest Policy and the National Forestry Programme provides policy direction on sustainable industrial forestry. The country has developed national criteria and indicators for sustainable forest management based on standard international criteria and indicators and will compel industrial forestry to adopt environmentally sustainable practices in their forest management. Both companies and individuals will have to comply with the national criteria and indicators in order to obtain certification that the products are manufactured in an environmentally sustainable manner.</p>	
III) Current status (please indicate current status related to this target)	
<p>A forest inventory carried out in 1999 indicated that a total area of about 130 000 ha in the country is covered by forest plantations. Of this total area, about 25 000 ha (20%) is unplanted and used for infrastructure and for the protection of biodiversity and ecosystems.</p> <p>Private plantations (timber and sugar) are currently managed under a certified environmental management system, either FSC (Forest Stewardship Council) or ISO 14001 both of which promote sustainable management of plantations. 90 percent of all commercial forest plantations area already certified.</p> <p>There is limited formal sustainable management of plant-based products on communal land apart from a recently established (2005) project that utilizes the fruit of the indigenous Marula tree (<i>Sclerocarya birrea</i>) to produce a variety of cosmetic products. The Marula tree is a protected tree in terms of the Flora Protection Act (2001) and is widely distributed on communal land and has a variety of cultural uses. No target has been set on the percentage of plant-based products derived from this tree but to date all trees are considered to be growing in the wild with no formal owner or management.</p> <p>The Swaziland Institute for Research in Traditional Medicine, Medicinal and Indigenous Food Plants - SIREMIFOP (University of Swaziland) strives to combine the expertise of scientists and Traditional Medicinal Practitioners (TMPs) with a view to producing derived pharmaceuticals and promoting the use of traditional medicine in national health care, and to create general awareness regarding indigenous food plants.</p>	
IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)	
The Swaziland Flora Protection Act (2001) provides legal protection for over 200 plant species in the country. It prohibits unauthorised plucking, cutting or uprooting of protected indigenous flora without a permit.	
V) Progress made towards target (please specify indicators used to monitor progress towards the target)	

The present situation with over 90 percent of all commercial forest plantation area being certified indicates that sustainable plantation forest management is to a large extent in place. All commercial forestry companies grow timber from planted seedlings that are propagated locally and planted on their estates. Thus all plant-based products from this sector can be considered to be derived from sources that are sustainably managed.

VI) Constraints to achieving progress towards the target

Constraints include:

1. Not enough incentives to manage plant-based products sustainably on communal land. Increased demand for medicinal and culturally important plants is leading to a widespread reduction in species numbers in the wild. The sale, therefore, of these collected plants, is currently unsustainable at present levels of extraction.
2. The inadequate enforcement of the Flora Protection Act (2001) due to a variety of capacity constraints is allowing uncontrolled harvesting and trade. The Act does not adequately protect plant species from harvesting on communal land and needs to be reviewed and the Act updated.
3. Although all large commercial plantation forestry companies in Swaziland are currently managed under a certified environmental management system, smaller companies, including wattle growers, are generally not certified.

VII) Any other relevant information

Box XXXVI.

Target 13. The decline of plant resources, and associated indigenous and local knowledge, innovations and practices that support sustainable livelihoods, local food security and health care, halted.

I) Has your country established national target corresponding to the above global target?

a) Yes

b) No

X

Please specify

No specific national target exists.

II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?

a) Yes

b) No

Please specify

The NBSAP strategy 4.2 for Sustainable Use, and Equitable Sharing, of Biological Resources identifies that “biological resources of natural ecosystems outside of the protected areas network are used sustainably”. One of the long-term objectives is to put in place a n institutional, legal and policy framework and support mechanisms to enable local communities to sustainably manage their biological resources.

The NBSAP strategy 4.1 for Biodiversity Conservation Through the Improvement of Protected Areas Network, highlights the need to “adequately protect threatened and endemic species”.

The National Forest Policy and National Forestry Programme specifies the need to conserve the biodiversity of natural forest resources through Natural Resource Management Committees at local level that have received specific training and education on sustainable resource management.

III) Current status (please indicate current status related to this target)

Many of the forest and woodland resources have been degraded as the growing population is putting more pressure on the scarce resources. The use of forests by communities is apparently no longer sustainable, and plant resources are further diminished by uncontrolled commercial activities from outside.

IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)

No specific national target exists.

V) Progress made towards target (please specify indicators used to monitor progress towards the target)

No specific national target exists.

VI) Constraints to achieving progress towards the target

Constraints include:

1. Resource users within local communities do not have exclusive rights to manage their biological resources.
2. Limited natural resource management systems are in place to ensure sustainable utilisation of biological resources.
3. Lack of law enforcement (pertaining to biodiversity issues) on SNL.
4. No laws and/or mechanisms in place to protect the intellectual property rights of Swaziland, local communities and individuals with respect to biodiversity resources.
5. Due to the above problems, biodiversity on SNL has already been greatly eroded.
6. Limited institutional and human capacity available to manage natural resource systems.
7. It is not known what knowledge is available on management of the natural woodlands and the indigenous species, and what the interests of the communities are.

VII) Any other relevant information

Box XXXVII .

Target 14. The importance of plant diversity and the need for its conservation incorporated into communication, educational and public-awareness programmes.

I) Has your country established national target corresponding to the above global target?

a) Yes

b) No

X

Please specify

No specific target for plant diversity but it is incorporated into the BSAP target which is to enhance public awareness of, and support for, biodiversity conservation in Swaziland.

II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?

a) Yes

b) No

X

Please specify

The NBSAP strategy 4.5 for Improving the Institutional and Legal Frameworks and the Human Resources for Conservation and Sustainable Use and 4.6 for Enhancing public awareness of the value of, and need for, biodiversity conservation acknowledges the importance of communication and awareness raising as critical tools to ensure a broader commitment to biological diversity management.

The Biodiversity Conservation and Participatory Development Project proposes to have a comprehensive participatory outreach programme as part of its overall implementation strategy.

III) Current status (please indicate current status related to this target)

The National Herbarium (Ministry of Agriculture and Cooperatives) has collections of a large number of plants from around the country to highlight the plant diversity within the country. These collections are open to the public and scientific community in general to promote access and greater understanding and recognition of the country's broad biodiversity.

The National Environmental Education Programme (NEEP) is the Government's agency for creating environmental public awareness. It currently operates three Environmental Education (EE) resources centres (Malotjja, Mlawula and Lobamba) in the country. Environmental Education in Swaziland began largely through the efforts of the Swaziland National Trust Commission, non-governmental organisations and individual initiatives. This programme is presently being coordinated from the SNTC Headquarters.

In the 1970s and 1980s Swaziland, assisted by USAID, began developing its own primary school curricula, with environmental concerns being incorporated into some of the subjects.

At the tertiary level, the Department of Geography and Environmental Planning (UNISWA) offers a course on Environmental Studies, while the Department of Biological Sciences has been offering a short course on Conservation Biology and recently introduced an MSc programme on Biodiversity Resource Management.

Yonge Nawe is an NGO working on EE and its functions and that of several other NGOs have been expanded to include the promotion of adult conservation clubs and EE workshops for a wide range of the community. It is assisting communities in some of their environmental projects and produces and distributes some EE materials.

The Swaziland Environmental Justice Agenda (SEJA) is another NGO which is hosting EE workshops for schools and communities and is running an EE course for teachers and development workers.

IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)

The gradual implementation of the NEEP has contributed towards a broader and wider understanding of the environment in general. Targeted programmes in the NEEP have sought to raise awareness and understanding amongst decision-makers including at Parliament.

V) Progress made towards target (please specify indicators used to monitor progress towards the target)

School curricula incorporate elements of EE which has assisted the country in getting support from its young learners in participating in environmental management activities.

VI) Constraints to achieving progress towards the target

Constraints include:

1. A major obstacle preventing the realization of this goal is that the general public still does not fully realise the value of biodiversity to humanity, and is not aware of the impacts of the impending loss of the country's biodiversity.
2. There is no national botanical garden in Swaziland which would positively contribute towards awareness and educational programs highlighting the importance of plant diversity in the country.
3. Biodiversity issues are not adequately covered in the country's school curricula rather the emphasis has been on the wider environment.
4. EE activities are being frustrated by inadequate skills and trained personnel. There is a serious shortage of expertise professionally trained in EE.

VII) Any other relevant information

Box XXXVIII.

Target 15. The number of trained people working with appropriate facilities in plant conservation increased, according to national needs, to achieve the targets of this Strategy.	
I) Has your country established national target corresponding to the above global target?	
a) Yes	
b) No	X
Please specify	
No specific national target exists.	
II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?	
a) Yes	X
b) No	
Please specify	
<p>The NBSAP strategy 4.5 for Improving the Institutional and Legal Frameworks and the Human Resources for Conservation and Sustainable Use calls for the institutional, policy and legal frameworks, as well as the human resources needed to implement the Biodiversity Strategy and Action Plan, be developed. Strategy 4.5 (4) calls for the country to develop her human resources to deal with all aspects of biodiversity, by the promotion of higher levels of training in relevant fields.</p> <p>SABONET aimed to enhance human resource capacity and infrastructure by offering training courses, workshops and collaborative expeditions in under-collected areas.</p>	
III) Current status (please indicate current status related to this target)	
<p>Some SNTC staff have been trained through relevant MSc programs or Diplomas in wildlife management (Tanzania).</p> <p>Some Forestry department staff have been trained through relevant MSc programs.</p>	
IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)	
<p>The Swaziland Water and Agriculture Development Enterprise (SWADE), through the Komati Downstream Development and the Lower Usuthu Basin Project, has assisted Farmers Associations, in raising environmental awareness, by training environmental officers to conduct biological/habitat studies.</p> <p>At the tertiary level, the Department of Geography and Environmental Planning (UNISWA) offers a course on Environmental Studies, while the Department of Biological Sciences has been offering a short course on Conservation Biology and recently introduced an MSc programme on Biodiversity Resource Management</p> <p>The Komati Basin Water Authority (KOBWA) has helped to establish a community plant nursery at Maguga Dam which propagates indigenous, including some threatened plant species, which have been rescued from around the dam inundation area.</p>	
V) Progress made towards target (please specify indicators used to monitor progress towards the target)	
<p>Training needs to increase the number of trained people in the country were identified in a Biodiversity Needs Assessment study (2003) and included Ecology/wildlife management (BSc to MSc level) ; Administration/management– short courses to certificate level; Environmental Education (BSc to MSc level); Participatory planning – short courses to certificate level; Computer use (MS Office User Specialist level) – short courses and GIS/Remote Sensing– Cert to MSc level)</p>	

VI) Constraints to achieving progress towards the target	
Constraints include:	
1. Institutions with primary mandates for biodiversity conservation in Swaziland (SEA, SNTC, Forestry Section, Fisheries Section, NPGRC and Swaziland National Herbarium) are generally inadequately funded and/or staffed, and do not have strong legislative support.	
2. The university does not offer any botany degrees.	
3. There are shortages of trained staff within many relevant institutions also including lack of office facilities and technical equipment.	
4. The National Herbarium now no longer has any taxonomists employed.	
VII) Any other relevant information	

Box XXXIX.

Target 16. Networks for plant conservation activities established or strengthened at national, regional and international levels.	
I) Has your country established national target corresponding to the above global target?	
a) Yes	
b) No	X
Please specify	
No specific national target exists.	
II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?	
a) Yes	X
b) No	
Please specify	
<p>SABONET, for which funding has ended, was a program aimed at strengthening the level of botanical expertise, expanding and improving herbarium and botanic garden collections, and fostering closer collaborative links among botanists in the southern African subcontinent. The main objective is to develop a strong core of professional botanists, taxonomists, horticulturists and plant diversity specialists with SADC countries which will be competent to inventory, monitor, evaluate and conserve the botanical diversity of the region. It aims to enhance human resource capacity and infrastructure by offering training courses, workshops and collaborative expeditions in under-collected areas.</p> <p>The NBSAP strategy 4.5 for Improving the Institutional and Legal Frameworks and the Human Resources for Conservation and Sustainable Use calls for improved linkages between key institutions directly responsible for managing biodiversity in the country. Regional linkages are also strongly encouraged.</p> <p>The Biodiversity Conservation and Participatory Development Project proposal proposes to establish networks on national and regional levels to facilitate the implementation of the project.</p>	
III) Current status (please indicate current status related to this target)	

The country has been an active member of SABONET, and participates in international (SADC and worldwide) activities. The National Herbarium coordinated and managed the SABONET programme in the country.

The country is a participant in the Southern African Biodiversity Support Programme and through this programme an implementation committee was established to oversee implementation of its programmes. This BPIC committee of biodiversity experts meets periodically to discuss biodiversity issues in the country and implement biodiversity related projects has strong links with several regional and international organisations that are used to implement the NBSAP.

The still to be recognized National Biodiversity Data Unit (NBDU) houses unofficial collation of biodiversity data in the country. The NBDU is an important network forum for biodiversity data management.

The country is an active stakeholder in the Maputaland conservation planning system along with South Africa and Mozambique. The three countries work closely together to contribute towards the transnational conservation plan for the Maputaland centre of endemism. Funding has been received from the British Government as part of their Darwin Initiative for the Survival of Species. The project aims to produce a conservation planning system for Maputaland that can be used by stakeholders to make informed land-use decisions that help conserve biodiversity whilst maintaining local livelihoods.

The Lubombo Conservancy, has been established to manage and conserve the biodiversity of north-eastern Swaziland and the Lubombo region through a process of co-operative management and to provide conservation-derived benefits to the people of the region. The membership of the Conservancy includes both private sector and community representatives, the SNTC and Big Game Parks and representatives from MOAC.

Formal regional cooperation with Mozambique and South Africa has been established through the Lubombo Spatial Development Initiative (LSDI) in the overall context of the Transfrontier Conservation Areas (TFCA) Programme.

IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)

No specific legislative measures exist to achieve this target. Support can be found within international and regional agreements on conservation to which the country is party.

V) Progress made towards target (please specify indicators used to monitor progress towards the target)

The country has been an active member in the international conservation of biodiversity. The country has developed close ties with her immediate neighbours (South Africa and Mozambique) to manage transboundary resources, e.g. the TFCA.

VI) Constraints to achieving progress towards the target

Constraints include:

1. Developing and maintaining effective networks can be a financial burden to national institutions as money for travel to meetings is often limited. Thus the country's sustained participation in regional and international fora is often compromised.
2. The valuable support the country had from SABONET has ended with the closure of the SABONET programme. The SABONET programme provided the country with valuable exposure to regional and international networks.

VII) Any other relevant information

Box XL.

Please elaborate below on the implementation of this strategy specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) Outcomes & impacts

The implementation of the Global Strategy for Plant Conservation (GSPC) has had some impact on the country's obligations to the Convention. The country has not formally adopted any national targets that mirror the international targets.

b) Strategic Plan of the Convention

Contributes to all goals of the SP but in particular Goal 1.

c) 2010 Target

Probably but progress difficult to measure.

d) NBSAP

The NBSAP does not consider the implementation of the Global Strategy for Plant Conservation (GSPC).

e) MDGs

Likely to contribute to MDG Goal 7 "Ensure environmental sustainability" and linked to MDG Goal 8, "Global Partnership for Development".

f) Constraints

Inadequate national financial resources to effectively participate in regional forums on biodiversity and some institutional, technical and capacity related obstacles.

Ecosystem Approach

The ecosystem approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. Application of the ecosystem approach will help to reach a balance of the three objectives of the Convention. At its second meeting, the Conference of the Parties has affirmed that the ecosystem approach is the primary framework for action under the Convention (decision II/8). The Conference of the Parties, at its fifth meeting, endorsed the description of the ecosystem approach and operational guidance and recommended the application of the principles and other guidance on the ecosystem approach. The seventh meeting of the Conference of the Parties agreed that the priority at this time should be facilitating implementation of the ecosystem approach. Please provide relevant information by responding to the following questions.

3. ?¹ Is your country applying the ecosystem approach, taking into account the principles and guidance contained in the annex to decision V/6? (decision V/6)	
a) No	
b) No, but application is under consideration	X
c) Yes, some aspects are being applied	
d) Yes, substantially implemented	

4. ? Is your country developing practical expressions of the ecosystem approach for national policies and legislation and for implementation activities, with adaptation to local, national, and regional conditions? (decision V/6)	
a) No	
b) No, but development is under consideration	
c) Yes, practical expressions have been developed for applying some principles of the ecosystem approach	X
d) Yes, practical expressions have been developed for applying most principles of the ecosystem approach	

5. Is your country strengthening capacities for the application of the ecosystem approach, and providing technical and financial support for capacity-building to apply the ecosystem approach? (decision V/6)	
a) No	X
b) Yes, within the country	
c) Yes, including providing support to other Parties	

¹ Please note that all the questions marked with ? have been previously covered in the second national reports and some thematic reports.

6. ? Has your country promoted regional cooperation in applying the ecosystem approach across national borders? (decision V/6)	
a) No	
b) Yes, informal cooperation (please provide details below)	
c) Yes, formal cooperation (please provide details below)	X
Further comments on regional cooperation in applying the ecosystem approach across national borders.	
<p>Informal regional cooperation with Mozambique and South Africa has been established with support from the DICE University in UK under the Darwin Initiative for the formulation of the Maputaland Conservation Plan. The locally established Lubombo Conservancy has established informal regional cooperation with the Goba community in adjacent Mozambique.</p> <p>Formal regional cooperation with Mozambique and South Africa has been established through the Lubombo Spatial Development Initiative (LSDI) in the overall context of the Transfrontier Conservation Areas (TFCA) Programme.</p>	

7. Is your country facilitating the exchange of experiences, capacity building, technology transfer and awareness raising to assist with the implementation of the ecosystem approach? (decisions VI/12 and VII/11)	
a) No	
b) No, some programmes are under development	
c) Yes, some programmes are being implemented (please provide details below)	X
d) Yes, comprehensive programmes are being implemented (please provide details below)	
Further comments on facilitating the exchange of experiences, capacity building, technology transfer and awareness raising to assist with the implementation of the ecosystem approach.	
<p>Although some training programmes have been carried out to assist the National Biodiversity Data Unit (NBDU) with capacity building in ecosystem approach, no formal field programmes have been implemented.</p>	

8. Is your country creating an enabling environment for the implementation of the ecosystem approach, including through development of appropriate institutional frameworks? (decision VII/11)	
a) No	
b) No, but relevant policies and programmes are under development	X
c) Yes, some policies and programmes are in place (please provide details below)	
d) Yes, comprehensive policies and programmes are in place (please provide details below)	
Further comments on the creation of an enabling environment for the implementation of the ecosystem approach.	
<p>The Biodiversity Conservation and Participatory Development Project is proposing to develop an institutional framework to establish integrated land use planning based on the ecosystem approach.</p>	

C. ARTICLES OF THE CONVENTION

Article 5 - Cooperation

9. ? Is your country actively cooperating with other Parties in respect of areas beyond national jurisdiction for the conservation and sustainable use of biological diversity?	
a) No	
b) Yes, bilateral cooperation (please give details below)	X
c) Yes, multilateral cooperation (please give details below)	X
d) Yes, regional and/or subregional cooperation (please give details below)	X
e) Yes, other forms of cooperation (please give details below)	
Further comments on cooperation with other Parties in respect of areas beyond national jurisdiction for the conservation and sustainable use of biodiversity.	
<p>Bilateral: The General Transfrontier Conservation and Resource Area Protocol was signed between the Governments of the Republic of South Africa, Republic of Mozambique, and Kingdom of Swaziland on 22 June 2000 establishing the Lubombo TFCRA. The Lubombo Conservancy-Goba Transfrontier Conservation Area Protocol between the Governments of the Republic of Mozambique and the Kingdom of Swaziland was also signed in June 2000. A Bilateral Lubombo Conservancy-Goba TFCA Task Group was established.</p> <p>Regional: Swaziland is involved in several initiatives aimed at promoting regional and international cooperation. Cooperation arrangements exist with the Republic of South Africa and Republic of Mozambique. These include the SADC Protocol on Shared Water Courses, the SADC Wildlife Protocol and the SADC Biodiversity Support Programme. On the management of trans-boundary watersheds, catchments, river basins, etc., Swaziland and the Republic of South Africa and Republic of Mozambique signed an agreement at the ministerial level to jointly manage the watershed area of the Usutu River basin.</p>	

10. Is your country working with other Parties to develop regional, subregional or bioregional mechanisms and networks to support implementation of the Convention? (decision VI/27 A)	
a) No	
b) No, but consultations are under way	
c) Yes, some mechanisms and networks have been established (please provide details below)	X
d) Yes, existing mechanisms have been strengthened (please provide details below)	
Further comments on development of regional, subregional or bioregional mechanisms and networks to support implementation of the Convention.	
<p>Swaziland participates in the Southern African Biodiversity Support Programme of the SADC which seeks to co-ordinate the work of the national biodiversity programmes of SADC member states.</p> <p>Swaziland participates on the Southern African Botanical Network (SABONET) (ceased to exist due to lack of funding), and the SAFRINET technical support network of BioNET International.</p>	

11. Is your country taking steps to harmonize national policies and programmes, with a view to optimizing policy coherence, synergies and efficiency in the implementation of various multilateral environment agreements (MEAs) and relevant regional initiatives at the national level? (decision VI/20)

a) No	
b) No, but steps are under consideration	
c) Yes, some steps are being taken (please specify below)	X
d) Yes, comprehensive steps are being taken (please specify below)	

Further comments on the harmonization of policies and programmes at the national level.

Enacted the Environmental Management Act of 2002 that requires the Swaziland Environment Authority "to liaise with bodies concerned with matters relating to the protection, conservation and enhancement of the environment and the sustainable management of natural resources", "to promote, in collaboration with other appropriate bodies and organisations, training, education and public awareness programmes relating to the protection, conservation and enhancement of the environment and the sustainable management of natural resources", and "to assist the Minister in formulating policies relating to the environment and the sustainable management of natural resources".

In 2005, the Swaziland Environment Authority conducted a National Capacity Self Assessment (NCSA) for Global Environmental Management, which looked at synergies amongst UNCBD, UNCCD and UNFCCC in particular. The NCSA identified an inadequate level of harmonisation of sectoral policies and legislation and made recommendations to improve the overall framework and integration.

Box XLI.

Please elaborate below on the implementation of this strategy specifically focusing on:

- outcomes and impacts of actions taken;
- contribution to the achievement of the goals of the Strategic Plan of the Convention;
- contribution to progress towards the 2010 target;
- progress in implementing national biodiversity strategies and action plans;
- contribution to the achievement of the Millennium Development Goals;
- constraints encountered in implementation.

a) Outcomes & impacts

In general Swaziland enjoys bilateral and regional cooperation from her neighbours on issues shared by these states. The cooperation to date has been very helpful and rewarding to the country.

b) Strategic Plan of the Convention

Contributes to all goals of the SP but in particular Goal 1.

c) 2010 Target

Probably but progress difficult to measure.

d) NBSAP

Regional and multilateral cooperation has contributed towards achieving progress in implementing the national biodiversity strategy and action plan.

e) MDGs

Likely to contribute to MDG Goal 7 "Ensure environmental sustainability" and linked to MDG Goal 8, "Global Partnership for Development".

f) Constraints

Inadequate national financial resources to effectively participate in regional forums on biodiversity and some institutional, technical and capacity related obstacles.

Article 6 - General measures for conservation and sustainable use

12. Has your country put in place effective national strategies, plans and programmes to provide a national framework for implementing the three objectives of the Convention? (Goal 3.1 of the Strategic Plan)

a) No	
b) No, but relevant strategies, plans and programmes are under development	
c) Yes, some strategies, plans and programmes are in place (please provide details below)	X
d) Yes, comprehensive strategies, plans and programmes are in place (please provide details below)	

Further comments on the strategies, plans and programmes for implementing the three objectives of the Convention.

Swaziland's NBSAP was drafted in 2001 and has still to be officially approved by the Government of Swaziland, however, it is used as a practical working document.

In addition the country prepared the Swaziland Environment Action Plan (1998), a National Environment Policy (2000), a National Action Program of the Convention to Combat Desertification (2001), a National Forest Policy (2002), a National Forestry Programme (2002) and the Comprehensive Agriculture Sector Policy (2005). All these plans and policies broadly share the common objectives of the CBD.

13. ? Has your country set measurable targets within its national strategies and action plans? (decisions II/7 and III/9)

a) No	
b) No, measurable targets are still in early stages of development	X
c) No, but measurable targets are in advanced stages of development	
d) Yes, relevant targets are in place (please provide details below)	
e) Yes, reports on implementation of relevant targets available (please provide details below)	

Further comments on targets set within national biodiversity strategies and action plans.

The NBSAP defines strategy 1 as follows: Modify existing protected areas network to protect 10% of the full range of ecosystems.

14. Has your country identified priority actions in its national biodiversity strategy and action plan? (decision VI/27 A)	
a) No	
b) No, but priority actions are being identified	
c) Yes, priority actions identified (please provide details below)	x
Further comments on priority actions identified in the national biodiversity strategy and action plan.	
Swaziland's NBSAP distinguishes a number of strategies linked to priority actions. The strategies have been grouped into the following groups:	
4.1 Strategies for Biodiversity Conservation Through the Improvement of Protected Areas Network	
4.2 Strategies for Sustainable Use, and Equitable Sharing, of Biological Resources	
4.3 Strategies for the Conservation of Agro-biodiversity	
4.4 Strategies for Biosafety	
4.5 Strategies for Improving the Institutional and Legal Frameworks and the Human Resources for Conservation and Sustainable Use	
4.6 Strategies for Enhancing Public Awareness of the Value of, and the Need for, Biodiversity Conservation	

15. Has your country integrated the conservation and sustainable use of biodiversity as well as benefit sharing into relevant sectoral or cross-sectoral plans, programmes and policies? (decision VI/27 A)	
a) No	
b) Yes, in some sectors (please provide details below)	X
c) Yes, in major sectors (please provide details below)	
d) Yes, in all sectors (please provide details below)	
Further information on integration of the conservation and sustainable use of biodiversity and benefit-sharing into relevant sectoral or cross-sectoral plans, programmes and policies.	
Focus has been on conservation and sustainable use rather than benefit sharing. Relevant sectoral plans and policies include the Swaziland Environment Action Plan (1998), the National Forest Policy (2002), the National Forestry Programme (2002), the Energy Policy and Action Plan (2002) and the Comprehensive Agriculture Sector Policy (2005).	

16. Are migratory species and their habitats addressed by your country's national biodiversity strategy or action plan (NBSAP)? (decision VI/20)	
a) Yes	
b) No	X
I) If YES , please briefly describe the extent to which it addresses	
(a) Conservation, sustainable use and/or restoration of migratory species	
(b) Conservation, sustainable use and/or restoration of migratory species' habitats, including protected areas	
(c) Minimizing or eliminating barriers or obstacles to migration	

(d) Research and monitoring for migratory species	
(e) Transboundary movement	
II) If NO, please briefly indicate below	
(a) The extent to which your country addresses migratory species at national level	Swaziland has no formal strategy or mechanism to address migratory species.
(b) Cooperation with other Range States since 2000	Cooperation with neighbouring states exists but mostly for the sharing and management of water resources. No formal cooperation exists with neighbouring states with respect to migratory species.

Biodiversity and Climate Change

17. Has your country implemented projects aimed at mitigating and adapting to climate change that incorporate biodiversity conservation and sustainable use? (decision VII/15)	
a) No	
b) No, but some projects or programs are under development	X
c) Yes, some projects have been implemented (please provide details below)	
Further comments on the projects aimed at mitigating and adapting to climate change that incorporate biodiversity conservation and sustainable use.	
The Biodiversity Conservation and Participatory Development project, although not specifically aimed at mitigating and adapting to climate change that incorporate biodiversity conservation and sustainable use, contain programme elements that relate to this.	

18. Has your country facilitated coordination to ensure that climate change mitigation and adaptation projects are in line with commitments made under the United Nations Framework Convention on Climate Change and the United Nations Convention to Combat Desertification? (decision VII/15)	
a) No	
b) No, but relevant mechanisms are under development	X
c) Yes, relevant mechanisms are in place (please provide details below)	
Further comments on the coordination to ensure that climate change mitigation and adaptation projects are in line with commitments made under the UNFCCC and the UNCCD.	
Following the National Capacity Self Assessment (NCSA) process, an Environmental Conventions Coordinating Unit (ECCU) has been strongly recommended to be formed under the Swaziland Environment Authority. This coordination unit is expected to facilitate greater coordination and information sharing between the focal points of CBD, FCCC and CCD amongst others. This should ensure that climate change mitigation and adaptation projects are fully compatible with projects and activities related to the other conventions.	

Box XLII .

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) Outcomes & impacts

The implementation of this article has a positive impact upon outcomes and impacts of actions taken.

b) Strategic Plan of the Convention

Contributes to all goals of the SP but in particular Goals 3 and 4.

c) 2010 Target

Probably but progress difficult to measure.

d) NBSAP

General measures for conservation and sustainable use are important aspects of the NBSAP and have been mainstreamed into other relevant policies and strategies since 2002 and contribute towards achieving progress in implementing the national biodiversity strategy and action plan.

e) MDGs

General measures for conservation and sustainable use of biodiversity remain critical to achieving MDG Goal 7 "Ensure environmental sustainability".

f) Constraints

Some institutional, technical and capacity related obstacles exist.

Article 7 - Identification and monitoring

19. ? On Article 7(a), does your country have an ongoing programme to identify components of biological diversity at the genetic, species, ecosystem level?

a) No	
b) Yes, selected/partial programmes at the genetic, species and/or ecosystem level only (please specify and provide details below)	X
c) Yes, complete programmes at ecosystem level and selected/partial inventories at the genetic and/or species level (please specify and provide details below)	

Further comments on ongoing programmes to identify components of biodiversity at the genetic, species and ecosystem level.

Programmes to identify components of biological diversity at species level include the fish survey (2004), the bat and raptor surveys (2000-2005), the invertebrate survey (2003), the farm genetic resources survey (2003), the medicinal plants survey (ongoing), the alien plant survey (MOAC MSc student, SABONET), reptile and amphibian survey (2000-2004) and the plant identification survey (Swaziland tree atlas, 2005, grass checklist, fern

book, 2004).

Programmes to identify components of biological diversity at the genetic level include cultivated crops at the Plant Genetic Resources Centre at the Malkerns Research Station (mainly seed bank for food crops like maize, sorghum) and cattle at the Nguni Breeding Station.

Programmes to identify components of biological diversity at the ecosystem level include programmes on identifying components of biological diversity of rangelands (?) and protected areas (2004 PWA survey). There are four biodiversity ecosystems recognized in Swaziland which are Montane grassland, Savanna-woodland mosaic, forests and aquatic ecosystems.

Documented studies show that Swaziland has over 820 species of vertebrates. Although the country's higher plants have been collected and studied since the 1950's the distribution of most species are poorly known and new records are constantly being added. To date 2414 species of plants have been recorded within Swaziland. In addition to having a high species richness, Swaziland also supports 18 endemic species of plants and one endemic vertebrate.

Swaziland's Tree Atlas project is nearing completion and the national tree atlas is scheduled to be published in 2. The atlas will provide biodiversity information relevant to forest biodiversity.

Periodic national game counts are undertaken by the Swaziland National Trust Commission (the organization responsible for the management of protected areas). The SNTC is often supported by interested parties and the Swaziland Natural History Society.

As part of national environmental law, an EIA is required for a wide variety of projects. These EIAs influence project design and implementation and include the identification of species and communities and ecosystems and habitats takes place. For example the Maguga Dam EIA required the proponent to undertake a comprehensive bio-physical survey of components of biodiversity to inform project design and mitigation needs. The EIA is a public document and is readily available from both the Swaziland Environment Authority and the Komati Basin Water.

20. ? On Article 7(b), which components of biological diversity identified in accordance with Annex I of the Convention, have ongoing, systematic monitoring programmes?

a) at ecosystem level (please provide percentage based on area covered)	
b) at species level (please provide number of species per taxonomic group and percentage of total known number of species in each group)	
c) at genetic level (please indicate number and focus of monitoring programmes)	

Further comments on ongoing monitoring programmes at the genetic, species and ecosystem level.

Systematic monitoring programmes at the ecosystem level include several projects conducted by All Out Projects. The organization conducts regular habitat monitoring generally within Malolotja, Mlawula and Hlane protected areas. Methodology is based on fixed point photography recording changes of habitat which is indicative of ecosystem change over time. Specific species e.g. raptors are used as indicators of ecosystem health.

Systematic monitoring programmes at the species level include monitoring of the blue swallow, bald ibis, raptors, hyena, aardwolf, bats, reptiles, *Encephalatos lavaefolius*, *Polystachys zuluensis* and *Kniphofia umbrina*. These programmes are under the management of the Swaziland National Trust Commission. Monitoring within protected areas is systematic and comprises the following:

Fire: Measuring the frequency, timing, extent and causes of all fires.

Climate: Daily rainfall, screen temperature and humidity recordings.

Hydrology: Stream flow and sediments loads of streams and rivers.

Soil erosion: Gully erosion, trail bed lowering, fixed point photographs of sheet eroded areas.

Flora: Updating and revising the plant checklist, herbarium maintenance and distribution of rare or endangered species.

Vegetation monitoring: Fixed point photographs to measure changes in woody species density.

Kniphofia umbrina: Survey of natural and translocated populations.

Fauna: Updating and revising checklists of invertebrates, fish, amphibians, reptiles, birds, and

mammals.

Large mammal populations: Six monthly census in late April/early May and late October/early November (precise date weather dependent), distribution monitoring from ranger patrol data.

Priority species: Nesting record survey for blue swallow and bald ibis .

Human impact: Collation and analysis of visitor questionnaires, fixed point photographs are taken to monitor backpacking camps and other infrastructure.

Swaziland is still in the process of establishing a National Biodiversity Data Unit (NBDU) to coordinate information collection, monitoring and management of relevant biodiversity components.

As part of EIA project monitoring obligations, monitoring of species and at times ecosystem components takes place at a project level. For example the Maguga Dam mitigation plan requires the proponent to undertake a five year monitoring programme on components of biodiversity directly and indirectly impacted upon by the dam and its related infrastructure. The monitoring results are not widely disseminated but the Swaziland Environment Authority and the Komati Basin Water Authority receive and action these reports.

21. ? On Article 7(c), does your country have ongoing, systematic monitoring programmes on any of the following key threats to biodiversity?

a) No	
b) Yes, invasive alien species (please provide details below)	
c) Yes, climate change (please provide details below)	
d) Yes, pollution/eutrophication (please provide details below)	X
e) Yes, land use change/land degradation (please provide details below)	
f) Yes, overexploitation or unsustainable use (please provide details below)	

Further comments on monitoring programmes on key threats to biodiversity.

Although there are incidental and ad hoc monitoring programmes often related to project EIA activities, there are no ongoing systematic programmes. Within the context of the ecosystem monitoring by the All Out Projects organization, fixed point photography is also used to monitor invasive alien plants.

The University of Swaziland does periodic monitoring of river water quality of a nearby river adjacent to a major industrial area to assess the level and type of contamination of the river and its impact on the aquatic diversity. SAPPI Usutu monitor water quality of the Usutu River on stretch of river below mill using invertebrates as indicators. The Forest section of Sappi Usutu initiated a monitoring programme from six sites to determine the baseline status of the smaller tributaries within the plantation, using the SASS 5 monitoring technique. The general trend has been encouraging with most sites having an ASPT score of 6 or more, indicating a high diversity of species. SAPPI intend to monitor another 6 sites in 2006, and then to alternate between the two sites for a further 3 years, in order to determine a trend.

Swaziland Environment Authority and the Water Resources Branch of the Ministry of Natural Resources and Energy monitor water quality in several river systems. The Water Resources Branch Laboratory does not do biomonitoring but is envisaging a launch of such a programme in April 2006 after the release of Govt budget for the year 2006/2007.

The Geological Survey and Mines Department has the responsibility of monitoring ground water quality and quantity in all the parks of the country.

22. ? On Article 7 (d), does your country have a mechanism to maintain and organize data derived from inventories and monitoring programmes and coordinate information collection and management at the national level?	
a) No	
b) No, but some mechanisms or systems are being considered	
c) Yes, some mechanisms or systems are being established	X
d) Yes, some mechanisms or systems are in place (please provide details below)	
e) Yes, a relatively complete system is in place (please provide details below)	
Further information on the coordination of data and information collection and management.	
Swaziland is still in the process of establishing a National Biodiversity Data Unit (NBDU) to coordinate information collection, monitoring and management of relevant biodiversity components. A SNTC website is being developed which also synthesizes biodiversity data collected in Swaziland.	

23. ? Does your country use indicators for national-level monitoring of biodiversity? (decision III/10)	
a) No	
b) No, but identification of potential indicators is under way (please describe)	
c) Yes, some indicators identified and in use (please describe and, if available, provide website address, where data are summarized and presented)	X
d) Yes, a relatively complete set of indicators identified and in use (please describe and, if available, provide website address, where data are summarized and presented)	
Further comments on the indicators identified and in use.	
Swaziland is still in the process of establishing a National Biodiversity Data Unit (NBDU) which will identify national indicators for use in national level monitoring. Raptors and raptor nests are being monitored as they are good indicators of changes in land use and ecosystems.	

Box XLIII.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:	
<ul style="list-style-type: none"> a) outcomes and impacts of actions taken; b) contribution to the achievement of the goals of the Strategic Plan of the Convention; c) contribution to progress towards the 2010 target; d) progress in implementing national biodiversity strategies and action plans; e) contribution to the achievement of the Millennium Development Goals; f) constraints encountered in implementation. 	
a) Outcomes & impacts	The implementation of this article has been moderately successful with the publication of several key studies that have had a positive impact on the identification and monitoring of some key components

of biodiversity. The ongoing delay in establishing the National Biodiversity Data Unit (NBDU) and a non-systematic methodology of capturing EIA and project specific components of biodiversity has in general a negative impact on actions taken to date.

b) Strategic Plan of the Convention

Contributes to Goals 2 and 4.

c) 2010 Target

(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)

The implementation of this Article has made a *moderate* contribution towards the achievement of the 2010 target, but is *largely* restricted to the national and regional level.

d) NBSAP

The identification and monitoring of biodiversity components contributes towards the implementation of the strategies for biodiversity information through the improvement of the protected areas network and the strategies for sustainable use and equitable sharing of biological resources.

e) MDGs

The continuous identification and monitoring of biodiversity components contributes to achieving MDG Goal 7 "Ensure environmental sustainability".

f) Constraints

Some institutional, technical and capacity related obstacles exist. Identification and monitoring is a relatively costly activity and existing national resources is insufficient. In addition, there is insufficient collaboration amongst stakeholders and a lack of effective partnerships.

Decisions on Taxonomy

24. ? Has your country developed a plan to implement the suggested actions as annexed to decision IV/1? (decision IV/1)	
a) No	
b) No, but a plan is under development	X
c) Yes, a plan is in place (please provide details below)	
d) Yes, reports on implementation available (please provide details below)	
Further information on a plan to implement the suggested actions as annexed to decision IV/1.	
With the assistance of SABONET the country undertook various activities and discussions relating to the formulation of a plan to implement aspects of Decision IV/1 notable training, site visits and a workshop for identifying taxonomic priorities.	

25. ? Is your country investing on a long-term basis in the development of appropriate infrastructure for your national taxonomic collections? (decision IV/1)	
a) No	
b) Yes (please provide details below)	X
Further information on investment on a long-term basis in the development of appropriate infrastructure for your national taxonomic collections.	

Swaziland has identified a site for a botanic garden and the national herbarium and has set aside the necessary funding to initiate project implementation in early 2006. The architectural designs have been finalized and an EIA has been completed. The government of the Republic of China on Taiwan has assisted Swaziland with the bulk of the funding required.

The existing Herbarium, based at the Malkerns Research Station, has collected and stored a wide representation of Swaziland's flora however, due to recent staff losses, there is now no taxonomists employed.

26.? Does your country provide training programmes in taxonomy and work to increase its capacity of taxonomic research? (decision IV/1)

a) No	
b) Yes (please provide details below)	X

Further information on training programmes in taxonomy and efforts to increase the capacity of taxonomic research.

Swaziland encourages training and employment opportunities for taxonomists. Some training has been done through SABONET and recently a government officer has rejoined the Ministry of Agriculture Fisheries Section after receiving training in Fish Taxonomy. The University of Swaziland also provides courses in Taxonomy to under graduates and has several full time staff members who conduct ad hoc taxonomic research. SABONET training has focused on database management and identification of Pteridophytes (ferns) and Poaceae (grasses) plant groups.

27.? Has your country taken steps to ensure that institutions responsible for biological diversity inventories and taxonomic activities are financially and administratively stable? (decision IV/1)

a) No	
b) No, but steps are being considered	
c) Yes, for some institutions	X
d) Yes, for all major institutions	

28.*² Is your country collaborating with the existing regional, subregional and global initiatives, partnerships and institutions in carrying out the programme of work, including assessing regional taxonomic needs and identifying regional-level priorities? (decision VI/8)

a) No	
b) No, but collaborative programmes are under development	
c) Yes, some collaborative programmes are being implemented (please provide details about collaborative programmes, including results of regional needs assessments)	X
d) Yes, comprehensive collaborative programmes are being implemented (please provide details about collaborative programmes, including results of regional needs assessment and priority identification)	

² The questions marked with * in this section on Taxonomy are similar to some questions contained in the format for a report on the implementation of the programme of work on the Global Taxonomy Initiative. Those countries that have submitted such a report do not need to answer these questions unless they have updated information to provide.

Further information on the collaboration your country is carrying out to implement the programme of work for the GTI, including regional needs assessment and priority identification.

Swaziland is a member of SABONET, SAFRINET, SECOSUD and GTI, which are all regional networks to facilitate information sharing. The GTI focal point is the National Herbarium.

29. * Has your country made an assessment of taxonomic needs and capacities at the national level for the implementation of the Convention? (annex to decision VI/8)

a) No	
b) Yes, basic assessment made (please provide below a list of needs and capacities identified)	X
c) Yes, thorough assessment made (please provide below a list of needs and capacities identified)	

Further comments on national assessment of taxonomic needs and capacities.

Swaziland has completed a taxonomic needs assessment on vascular plants and on certain groups of fauna. In this context activities have focused on institutions that were selected to participate in regional projects eg SABONET and SAFRINET.

30. * Is your country working on regional or global capacity building to support access to, and generation of, taxonomic information in collaboration with other Parties? (annex to decision VI/8)

a) No	
b) Yes, relevant programmes are under development	
c) Yes, some activities are being undertaken for this purpose (please provide details below)	X
d) Yes, many activities are being undertaken for this purpose (please provide details below)	

Further comments on regional or global capacity-building to support access to, and generation of, taxonomic information in collaboration with other Parties.

Networking through SABONET has been the major forum for sharing taxonomic information with other parties. Publications have been produced of research activities and a SABONET website to share information was developed.

31. * Has your country developed taxonomic support for the implementation of the programmes of work under the Convention as called upon in decision VI/8? (annex to decision VI/8)

a) No	
b) Yes, for forest biodiversity (please provide details below)	X (PWA surveys)
c) Yes, for marine and coastal biodiversity (please provide details below)	N/A
d) Yes, for dry and sub-humid lands (please provide details below)	X (PWA surveys)
e) Yes, for inland waters biodiversity (please provide details below)	X (fish survey)
f) Yes, for mountain biodiversity (please provide details below)	N/A
g) Yes, for protected areas (please provide details below)	X

h) Yes, for agricultural biodiversity (please provide details below)	
i) Yes, for island biodiversity (please provide details below)	N/A
Further comments on the development of taxonomic support for the implementation of the programmes of work under the Convention.	
<p>Swaziland has provided taxonomic support in the above areas primarily through the publication of checklists and research reports.</p> <p>Taxonomic support for forest biodiversity has been developed for selected forests as part of a protection-worthy area survey.</p> <p>Taxonomic support for dry and sub-humid lands has been developed for selected areas as part of a protection-worthy area survey</p> <p>Taxonomic support for inland waters biodiversity has been developed for all major river systems as part of the fish survey (2003). A report on the findings has been published and is available at the Ministry of Agriculture Fisheries Section.</p> <p>Taxonomic support for protected areas has been developed for most protected areas utilizing private or institutional resources.</p>	

32. * Has your country developed taxonomic support for the implementation of the cross-cutting issues under the Convention as called upon in decision VI/8?	
a) No	
b) Yes, for access and benefit-sharing (please provide details below)	
c) Yes, for Article 8(j) (please provide details below)	
d) Yes, for the ecosystem approach (please provide details below)	X
e) Yes, for impact assessment, monitoring and indicators (please provide details below)	X
f) Yes, for invasive alien species (please provide details below)	X
g) Yes, for others (please provide details below)	X
Further comments on the development of taxonomic support for the implementation of the cross-cutting issues under the Convention.	
<p>Swaziland has developed taxonomic support for the implementation of the cross-cutting issues under the Convention.</p> <p>For the ecosystem approach the country has a wetland protection programme coordinated by the University (Luyengo campus).</p> <p>For the impact assessment, monitoring and indicators the country has produced Red Data Lists (plants [Dlamini and Dlamini, 2002] and vertebrates [Monadjem <i>et al</i> 2005]) that are used for developing mitigation and monitoring activities related to EIA processes.</p> <p>For invasive alien species, the country has compiled a booklet and information is available on a website (http://www.sntc.org.sz/alienplants/index.asp).</p> <p>For other areas, the country has provided training to staff members of the National Herbarium and the Plant Genetic Resource Centre on the characterization of germplasm.</p>	

Article 8 - *In-situ* conservation [excluding paragraphs (a) to (e), (h) and (j)]

33. ? On Article 8(i), has your country endeavored to provide the conditions needed for compatibility between present uses and the conservation of biological diversity and sustainable use of its components?	
a) No	
b) No, but potential measures are being identified	
c) Yes, some measures undertaken (please provide details below)	X
d) Yes, comprehensive measures undertaken (please provide details below)	
Further comments on the measures taken to provide the conditions needed for compatibility between present uses and the conservation of biological diversity and sustainable use of its components.	
<p>Swaziland has established a system of protected areas for the conservation of biological diversity. The guidelines for the selection, establishment and management of these areas are contained in the SNTC Act of 1973. Measures that promote environmentally sound and sustainable development in areas adjacent to protected areas are undertaken in some CBNRM areas (permaculture initiatives undertaken under the auspices SNTC Community Outreach Programme.</p> <p>Environmental education initiatives coordinated by the SNTC's National Environmental Education Programme have broadened the wider understanding of the importance of biodiversity conservation amongst both industry and the general public.</p> <p>Additional measures are being undertaken through initiatives related to a GEF funded Biodiversity Conservation and Participatory Development Project which seeks to provide the conditions necessary to facilitate both conservation of biological diversity and the sustainable use of components within the identified corridors. This project also links with the Transfrontier Conservation areas programme which links conservation areas and other protection-worthy areas with neighbouring countries.</p>	

34. ? On Article 8(k), has your country developed or maintained the necessary legislation and/or other regulatory provisions for the protection of threatened species and populations?	
a) No	
b) No, but legislation is being developed	
c) Yes, legislation or other measures are in place (please provide details below)	X
Further information on the legislation and/or regulations for the protection of threatened species and populations.	
<p>The country has set aside funding to review and update legislation that relates to the management of biological diversity. A new Biodiversity Bill and Policy will be developed in 2006. This new piece of legislation will replace all current legislation relating to biological diversity including the Flora Protection Act of 2000 and others. The SNTC Act of 1972 (amended in 1973) is still maintained and the Environmental Management Act of 2003 does recognize the need for protection of biologically sensitive areas.</p>	

35. ? On Article 8(l), does your country regulate or manage processes and categories of activities identified under Article 7 as having significant adverse effects on biological diversity?

a) No	
b) No, but relevant processes and categories of activities being identified	
c) Yes, to a limited extent (please provide details below)	X
d) Yes, to a significant extent (please provide details below)	

Further comments on the regulation or management of the processes and categories of activities identified by Article 7 as having significant adverse effects on biodiversity.

Regulation and management of processes and activities identified under Article 7 that can have significant adverse effects on biological diversity is broadly managed through national environmental laws, namely the Environmental Management Act of 2003 and the Flora Protection Act. The Environmental Management Act requires EIA type investigations to be carried out on projects and always includes a review and analysis of the threat to biological diversity.

Although the use of the Environmental Management Act is often related to projects, the act does allow for ad hoc monitoring and can be used to compel a person(s) or activity that is having a detrimental effect on the environment to report on that threat and propose measures to reduce or manage the threat.

Box XLIV.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- outcomes and impacts of actions taken;
- contribution to the achievement of the goals of the Strategic Plan of the Convention;
- contribution to progress towards the 2010 target;
- progress in implementing national biodiversity strategies and action plans;
- contribution to the achievement of the Millennium Development Goals;
- constraints encountered in implementation.

a) Outcomes & impacts

The promotion of in-situ conservation in the country has been facilitated through several key interventions namely a project to manage a large portion of the country in a sustainable manner whilst promoting rural socio-economic upliftment through tourism.

The Environmental Management Act is a comprehensive piece of legislation that can have a positive impact on the management of key components of biodiversity.

b) Strategic Plan of the Convention

Contributes to Goals 3 and 4.

c) 2010 Target

(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)

The implementation of this Article has made a moderate contribution towards the achievement of the 2010 target.

d) NBSAP

The NBSAP articulates the need for an improved and more focused legislation to identify and manage areas with important biodiversity. Such legislation is currently missing but Government intends to develop such comprehensive legislation in 2006. Within the NBSAP, strategies 4.5 (for improving the institutional and legal frameworks and the human resources for conservation and sustainable use) and

4.6 (enhancing public awareness of the value of, and need for, biodiversity conservation) when implemented will contribute towards the implementation of this Article.

e) MDGs

A sound and comprehensive legal arrangement contributes to achieving MDG Goal 7 "Ensure environmental sustainability".

f) Constraints

Some institutional, technical and capacity related obstacles exist. The development of the necessary legislation to protect and manage biodiversity whilst at the same time allow its sustainable use is a time consuming process to ensure that all sectors of society are adequately informed of the process and able to contribute. With the existence of some good environmental management laws in the country, a new law on biodiversity protection and management will contribute towards overall sustainable management of all biological components and manage the threats.

Programme of Work on Protected Areas (Article 8 (a) to (e))

36. Has your country established suitable time bound and measurable national-level protected areas targets and indicators? (decision VII/28)	
a) No (please specify reasons)	
b) No, but relevant work is under way	
c) Yes, some targets and indicators established (please provide details below)	X
d) Yes, comprehensive targets and indicators established (please provide details below)	
Further comments on targets and indicators for protected areas.	
The NBSAP defines the following strategy as a measurable target "Modify existing protected areas network to protect 10% of the full range of ecosystems" however it does not define a time bound target although the NBSAP does have a broad timetable described as short to medium term.	

37. Has your country taken action to establish or expand protected areas in any large or relatively unfragmented natural area or areas under high threat, including securing threatened species? (decision VII/28)	
a) No	
b) No, but relevant programmes are under development	
c) Yes, limited actions taken (please provide details below)	X
d) Yes, significant actions taken (please provide details below)	
Further comments on actions taken to establish or expand protected areas.	
The country is in the process of finalizing a project that would bring a large portion of the country under some form of management. The Biodiversity Conservation and Participatory Development Project, together with the Transfrontier Conservation Areas Programme will seek to establish additional protected and community managed areas that are presently fragmented. Biodiversity corridors will link such fragmented and protection-worthy areas and management plans developed to sustainably manage the components within these corridors.	
Protection-worthy areas have been identified through a Protection-worthy Areas Survey in 2003/2004. This survey identified 16 priority areas for proclamation under the existing SNTC Act.	

38. Has your country taken any action to address the under representation of marine and inland water ecosystems in the existing national or regional systems of protected areas? (decision VII/28)

a) No	
b) Not applicable	
c) No, but relevant actions are being considered	
d) Yes, limited actions taken (please provide details below)	X
e) Yes, significant actions taken (please provide details below)	

Further comments on actions taken to address the under representation of marine and inland water ecosystems in the existing national or regional systems of protected areas.

The extent of aquatic ecosystems is limited and is about 1% of the total land area of Swaziland. Such ecosystems are mostly manmade in the form of water reservoirs for agriculture and water supply.

The country has taken limited action to increase the representation of inland water ecosystems through formal and informal protection measures. Initially one small inland reservoir has secured formal protection status (Hawane Nature Reserve) and is used as a reserve to protect this water source whilst protecting biological diversity that surrounds the reservoir. In addition the catchment of the Hawane reservoir has been included in the proclaimed area. This catchment contains numerous wetland areas with a relatively high biological diversity.

Future dam and reservoir developments in the country will also receive either formal or informal protection of the perimeter areas. Such new areas will be subject to additional investigations at that time.

39. Has your country identified and implemented practical steps for improving the integration of protected areas into broader land and seascapes, including policy, planning and other measures? (decision VII/28)

a) No	
b) No, but some programmes are under development	
c) Yes, some steps identified and implemented (please provide details below)	X
d) Yes, many steps identified and implemented (please provide details below)	

Further comments on practical steps for improving integration of protected areas into broader land and seascapes, including policy, planning and other measures.

The proposed Biodiversity Conservation and Participatory Development Project will integrate a number of protected areas and protection-worthy areas into a broad system of managed areas.

Transboundary protected area (TBPAs) initiatives through the Transfrontier Conservation Areas Programme funded through the Peace Parks Foundation has identified practical steps to integrate transboundary landscapes into formally protected and managed areas.

40. Is your country applying environmental impact assessment guidelines to projects or plans for evaluating effects on protected areas? (decision VII/28)

a) No	
b) No, but relevant EIA guidelines are under development	
c) Yes, EIA guidelines are applied to some projects or plans (please provide details below)	
d) Yes, EIA guidelines are applied to all relevant projects or plans (please	X

provide details below)	
Further comments on application of environmental impact assessment guidelines to projects or plans for evaluating effects on protected areas.	
The Environmental Management Act requires all projects to undergo a process of screening to determine the level of environmental investigation needed. Although specific guidelines are being developed for some sectors, eg sugarcane and dam development, the environmental authority is likely to adapt the CBD guidelines of biodiversity related impacts on projects to local conditions.	

41. Has your country identified legislative and institutional gaps and barriers that impede effective establishment and management of protected areas? (decision VII/28)

a) No	
b) No, but relevant work is under way	
c) Yes, some gaps and barriers identified (please provide details below))	X
d) Yes, many gaps and barriers identified (please provide details below)	

Further comments on identification of legislative and institutional gaps and barriers that impede effective establishment and management of protected areas.

The country acknowledges that the process for the identification and establishment of protected areas is hindered by outdated legislation that has yet to be improved. The Swaziland National Trust Commission Act of 1973 is the current piece of legislation used for establishing protected areas but is yet to be informed by recent initiatives in protected area management and IUCN categories. The Act does not provide the mandate to create a protected area network covering all ecosystems. The Government is in the process of reviewing legislation with the view to update it into a comprehensive biodiversity act or similar. Such a process will start in 2006.

42. Has your country undertaken national protected-area capacity needs assessments and established capacity building programmes? (decision VII/28)

a) No	
b) No, but assessments are under way	
c) Yes, a basic assessment undertaken and some programmes established (please provide details below)	X
d) Yes, a thorough assessment undertaken and comprehensive programmes established (please provide details below)	

Further comments on protected-area capacity needs assessment and establishment of capacity building programmes.

The country undertook a protected-area capacity needs assessment in June 2003 and found that its capacity was inadequate. The SNTC undertook a restructuring exercise in 2002 which identified capacity needs within the SNTC. The inadequacy covers all three areas of capacity (technical, financial and human). Human capacity building programmes have been embarked upon with several key staff from the SNTC receiving training. The financial capacity of the institution remains difficult as it receives the bulk of its finances from central Government disbursements. The technical capacity has improved through various studies identifying protection-worthy areas, outreach initiatives and environmental education, however the legislation is outdated and will be updated.

Only two institutions (Swaziland National Herbarium and National Plant Genetic Resources Centre) have direct mandates for *ex-situ* conservation. Both institutions deal exclusively with botanical material and are inadequately resourced. In addition, there is no institution that provides *ex-situ* conservation for wild animals. Thus *ex-situ* conservation has limited institutional support in the country and requires urgent attention. However, the Swaziland National Herbarium does have a project, with funding, in the pipe-line to establish a national botanical garden that will house the

proposed new Herbarium buildings. This provides a significant contribution towards *ex-situ* conservation in Swaziland.

43. Is your country implementing country-level sustainable financing plans that support national systems of protected areas? (decision VII/28)

a) No	
b) No, but relevant plan is under development	
c) Yes, relevant plan is in place (please provide details below)	X
d) Yes, relevant plan is being implemented (please provide details below)	

Further comments on implementation of country-level sustainable financing plans that support national systems of protected areas.

The Swaziland National Trust Commission developed a financing plan to reduce its dependence on central Government funding.

The Commercialisation Programme seeks to increase the financial sustainability of all protected areas through user fees, concessioning out components of the ecotourism infrastructure and improve the effectiveness of finances received or generated.

44. Is your country implementing appropriate methods, standards, criteria and indicators for evaluating the effectiveness of protected areas management and governance? (decision VII/28)

a) No	
b) No, but relevant methods, standards, criteria and indicators are under development	X
c) Yes, some national methods, standards, criteria and indicators developed and in use (please provide details below)	
d) Yes, some national methods, standards, criteria and indicators developed and in use and some international methods, standards, criteria and indicators in use (please provide details below)	

Further comments on methods, standards, criteria and indicators for evaluating the effectiveness of protected areas management and governance.

Box XLV.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) Outcomes & impacts

The country faces several constraints in managing a protected areas network. Institutional and financial gaps have reduced the effectiveness of the institutions responsible for this. However moderate progress can be reported. The EIA requirements do allow for biodiversity assessments. The most significant outcome has been in the planning with limited implementation. The proposed

biodiversity and tourism corridor project will do much to improve the national situation and greatly improve management of biological components at many levels and in many ecosystems.

b) Strategic Plan of the Convention

Contributes principally to Goals 3.

c) 2010 Target

(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)

The implementation of this Article has made a *very limited* contribution towards the achievement of the 2010 target as activities to date have emphasized more on the planning rather than establishing protected areas.

d) NBSAP

The NBSAP articulates the need for an improved and more focused legislation to identify and manage areas with important biodiversity. Such legislation is currently missing but Government intends to formulate such comprehensive legislation during 2006/2007.

Within the NBSAP, strategies 4.1 (biodiversity conservation through the improvement of the protected areas network); 4.5 (for improving the institutional and legal frameworks and the human resources for conservation and sustainable use) and 4.6 (enhancing public awareness of the value of, and need for, biodiversity conservation) when implemented will contribute towards the implementation of this Article.

Weak progress in implementing the strategy for biodiversity conservation through the improvement of the protected areas network (4.1 and subsequent sub-strategies).

e) MDGs

A sound and comprehensive legal arrangement contributes to achieving MDG Goal 7 "Ensure environmental sustainability".

f) Constraints

Some institutional, technical and capacity related obstacles exist. The existing legal environment for protecting and managing areas of biological diversity is in urgent need of updating to bring it in line with the Convention and other initiatives proposed in for a such as the World Parks Congress and IUCN guidelines.

Key constraints include issues surrounding the resource users within local communities who do not have exclusive rights to manage their biological resources; limited natural resource management systems in place to ensure sustainable utilization of biological resources and a lack of law enforcement (pertaining to biodiversity issues) on communal land.

Article 8(h) - Alien species

45. Has your country identified alien species introduced into its territory and established a system for tracking the introduction of alien species?	
a) No	
b) Yes, some alien species identified but a tracking system not yet established	
c) Yes, some alien species identified and tracking system in place	X
d) Yes, alien species of major concern identified and tracking system in place	

46. ? Has your country assessed the risks posed to ecosystems, habitats or species by the introduction of these alien species?

a) No	
b) Yes, but only for some alien species of concern (please provide details below)	X
c) Yes, for most alien species (please provide details below)	

Further information on the assessment of the risks posed to ecosystems, habitats or species by the introduction of these alien species.

Information on the assessment of the risks posed to ecosystems, habitats or species by the introduction of these alien species has been carried out by the Ministry of Agriculture in close collaboration with the private industrial timber growers in the country. These industrial plantations closely monitor and track invasives within their plantations mainly to comply with Forest Stewardship Council requirements.

Specific invasive floral species have been identified in several ecosystems that are having detrimental impacts on the environment. In November 2005 the Prime Minister declared *Chromolaena odorata* a national disaster as it is having a major impact on degrading agricultural land and protected areas – no control or management measures were announced.

47. ? Has your country undertaken measures to prevent the introduction or control or eradicate, those alien species which threaten ecosystems, habitats or species?

a) No	
b) No, but potential measures are under consideration	
c) Yes, some measures are in place (please provide details below)	X
d) Yes, comprehensive measures are in place (please provide details below)	

Further information on the measures to prevent the introduction of, control or eradicate those alien species that threaten ecosystems, habitats or species.

A project was carried out in 2003/2004 under the auspices of the Swaziland Environment Authority, to compile existing data on alien invasive plants of Swaziland. One product of this project was the creation of an online database of Swaziland's alien/non-indigenous plants, with distribution maps and photographs or illustrations [<http://www.sntc.org.sz/alienplants/index.asp>].

A booklet of the invasive alien plant species was prepared, and will be published when funding is available.

Within private industrial timber plantations some effort is made to prevent their commercial tree species from invading lands outside their jurisdiction.

The Ministry of Agriculture has undertaken some training of extension officers in plant identification, eradication and control in rural areas. This pilot project is expected to roll out gradually throughout the country.

Within and around protected areas ad hoc efforts in control of invasive aliens occurs. Some commercial farmers and private land owners undertake their own localized eradication programmes.

Mitigation plans prepared as part of the EIA processes in the country, always call for mitigation and monitoring of invasive aliens in the area of the project.

48. ? In dealing with the issue of invasive species, has your country developed, or involved itself in, mechanisms for international cooperation, including the exchange of best practices? (decision V/8)

a) No	
b) Yes, bilateral cooperation	
c) Yes, regional and/or subregional cooperation	X
d) Yes, multilateral cooperation	

49. ? Is your country using the ecosystem approach and precautionary and bio-geographical approaches as appropriate in its work on alien invasive species? (decision V/8)

a) No	
b) Yes (please provide details below)	X

Further comments on the use of the ecosystem approach and precautionary and bio-geographical approaches in work on alien invasive species.

Swaziland uses the ecosystem approach in its work on alien invasive species. The bio geographical approach is not used however.

50. Has your country identified national needs and priorities for the implementation of the Guiding Principles? (decision VI/23)

a) No	
b) No, but needs and priorities are being identified	X
c) Yes, national needs and priorities have been identified (please provide below a list of needs and priorities identified)	

Further comments on the identification of national needs and priorities for the implementation of the Guiding Principles.

51. Has your country created mechanisms to coordinate national programmes for applying the Guiding Principles? (decision VI/23)

a) No	
b) No, but mechanisms are under development	X
c) Yes, mechanisms are in place (please provide details below)	

Further comments on the mechanisms created to coordinate national programmes for implementing the Guiding Principles.

52. Has your country reviewed relevant policies, legislation and institutions in the light of the Guiding Principles, and adjusted or developed policies, legislation and institutions? (decision VI/23)

a) No	
b) No, but review under way	X
c) Yes, review completed and adjustment proposed (please provide details below)	
d) Yes, adjustment and development ongoing	
e) Yes, some adjustments and development completed (please provide details below)	

Further information on the review, adjustment or development of policies, legislation and institutions in light of the Guiding Principles.

53. Is your country enhancing cooperation between various sectors in order to improve prevention, early detection, eradication and/or control of invasive alien species? (decision VI/23)

a) No	
b) No, but potential coordination mechanisms are under consideration	
c) Yes, mechanisms are in place (please provide details below)	X

Further comments on cooperation between various sectors.

A multi stakeholder National Committee has been setup and is coordinated by a secretariat with Environment and Agriculture sectors' personnel. This coordinates all the efforts being initiated in the country in response to the invasive alien species.

In the north east of the country an organization was formed to improve cooperation in land and nature management between protected areas and industrial agriculture areas and alien species control and eradication forms an important element of that cooperation.

Initiatives are being developed by the Swaziland National Trust Commission to raise awareness of the impacts of alien plants amongst rural communities. The Malolotja and Mlawula Community Outreach Programmes (established under the National Environmental Education Programme) are used to raise this awareness. Two Environmental Education Centres (EEC) serve as a forum for educational talks, workshops, and activities.

54. Is your country collaborating with trading partners and neighboring countries to address threats of invasive alien species to biodiversity in ecosystems that cross international boundaries? (decision VI/23)

a) No	
b) Yes, relevant collaborative programmes are under development	X
c) Yes, relevant programmes are in place (please specify below the measures taken for this purpose)	

Further comments on collaboration with trading partners and neighboring countries.

Legislation exists to control and regulate the importation of plants and animals into the country. Border controls and quarantine measures for plant and animal species takes place. Appropriate measures to control the introduction of invasive alien species are still to be developed.

55. Is your country developing capacity to use risk assessment to address threats of invasive alien species to biodiversity and incorporate such methodologies in environmental impact assessment (EIA) and strategic environmental assessment (SEA)? (decision VI/23)

a) No	
b) No, but programmes for this purpose are under development	X
c) Yes, some activities for developing capacity in this field are being undertaken (please provide details below)	
d) Yes, comprehensive activities are being undertaken (please provide details below)	
Further information on capacity development to address threats of invasive alien species.	

56. Has your country developed financial measures and other policies and tools to promote activities to reduce the threats of invasive species? (decision VI/23)

a) No	
b) No, but relevant measures and policies are under development	
c) Yes, some measures, policies and tools are in place (please provide details below)	X
d) Yes, comprehensive measures and tools are in place (please provide details below)	
Further comments on the development of financial measures and other policies and tools for the promotion of activities to reduce the threats of invasive species.	
<p>Government received E1.975m from donor funds for the control of alien invasive species (2005/06) which will be used to conduct workshops, purchase of chemicals and machinery. Its has further budgeted for E8m for the continuation of the exercise in 2006/07) The Forestry Section of the Ministry of Agriculture will manage this programme.</p> <p>The National Forest Policy (2002) addresses the issue of alien invasive and proposes control measures.</p> <p>The Noxious Weeds Regulations Act of 1929 is to be updated and incorporated into the new Forest Act that is being prepared.</p>	

Box XLVI.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) Outcomes & impacts

Alien invasive species is having a devastating impact on Swaziland environment. Without the cooperation of neighboring states Swaziland is unable to do much on the control. Collaboration with Mozambique and South Africa is ongoing and measures in management and eradication are expected to facilitate future projects.

b) Strategic Plan of the Convention

Contributes principally to Goals 3 and 4.

c) 2010 Target

(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)

The implementation of this Article has made a *very limited* contribution towards the achievement of the 2010 target as activities to date have emphasized more on the planning rather than eradication and control.

d) NBSAP

The NBSAP under strategy 4.1 for biodiversity conservation through the improvement of the protected areas network sub-strategy 3 (minimize the impact of alien invasive species) identifies the following priority actions: incorporate control measures of alien invasives into the management of plan of each protected area and conduct a national assessment of, and develop cost effective control techniques for, alien invasives.

e) MDGs

A sound and comprehensive legal arrangement contributes to achieving MDG Goal 7 "Ensure environmental sustainability" and MDG 1 "Eradicate extreme poverty and hunger". Opportunities exist for poverty alleviation projects to utilize alien plants for furniture making, briquette making and other handicraft related uses.

f) Constraints

Constraints faced in the control and eradication of alien invasive species are related to insufficient institutional capacity and financial resources to plan and implement eradication programmes. There are inadequate economic incentive measures that would facilitate wider eradication. Poor cooperation both within the country and between States has hindered progress.

Existing legislation to control the importation of potentially invasive plants needs to be updated and will be covered under the draft Forest Act.

Article 8(j) - Traditional knowledge and related provisions

GURTS (genetic use restriction technologies)

57. Has your country created and developed capacity-building programmes to involve and enable smallholder farmers, indigenous and local communities, and other relevant stakeholders to effectively participate in decision-making processes related to genetic use restriction technologies?

a) No	X
b) No, but some programmes are under development	
c) Yes, some programmes are in place (please provide details below)	
d) Yes, comprehensive programmes are in place (please provide details below)	

Further comments on capacity-building programmes to involve and enable smallholder farmers, indigenous and local communities and other relevant stakeholders to effectively participate in decision-making processes related to GURTs.

Status and Trends

58. Has your country supported indigenous and local communities in undertaking field studies to determine the status, trends and threats related to the knowledge, innovations and practices of indigenous and local communities? (decision VII/16)	
a) No	X
b) No, but support to relevant studies is being considered	
c) Yes (please provide information on the studies undertaken)	
Further information on the studies undertaken to determine the status, trends and threats related to the knowledge, innovations and practices of indigenous and local communities, and priority actions identified.	

Akwé:Kon Guidelines

59. Has your country initiated a legal and institutional review of matters related to cultural, environmental and social impact assessment, with a view to incorporating the Akwé:Kon Guidelines into national legislation, policies, and procedures?	
a) No	
b) No, but review is under way	X
c) Yes, a review undertaken (please provide details on the review)	
Further information on the review.	

60. Has your country used the Akwé:Kon Guidelines in any project proposed to take place on sacred sites and/or land and waters traditionally occupied by indigenous and local communities? (decision VII/16)	
a) No	
b) No, but a review of the Akwé: Kon guidelines is under way	X
c) Yes, to some extent (please provide details below)	
d) Yes, to a significant extent (please provide details below)	
Further information on the projects where the Akwé:Kon Guidelines are applied.	

Capacity Building and Participation of Indigenous and Local Communities

61. Has your country undertaken any measures to enhance and strengthen the capacity of indigenous and local communities to be effectively involved in decision-making related to the use of their traditional knowledge, innovations and practices relevant to the conservation and sustainable use of biodiversity? (decision V/16)	
a) No	
b) No, but some programmes being developed	
c) Yes, some measures taken (please provide details below)	X
d) Yes, comprehensive measures taken (please provide details below)	
Further information on the measures to enhance and strengthen the capacity of indigenous and local	

communities.

Some measures to enhance and strengthen the capacity of indigenous and local communities to be effectively involved in decision-making has been undertaken for a few areas in the country. Some members of the community managed Shewula Nature Reserve, received training and support from an Italian NGO for capacity building. Community members surrounding the Malolotja and Mlawula Nature Reserves have received similar training on permaculture activities.

62. Has your country developed appropriate mechanisms, guidelines, legislation or other initiatives to foster and promote the effective participation of indigenous and local communities in decision making, policy planning and development and implementation of the conservation and sustainable use of biodiversity at international, regional, subregional, national and local levels? (decision V/16)

a) No	
b) No, but relevant mechanisms, guidelines and legislation are under development	
c) Yes, some mechanisms, guidelines and legislation are in place (please provide details below)	X

Further information on the mechanisms, guidelines and legislation developed.

The EIA legislation calls for the consultation and participation of local communities during the EIA investigations. Where capacity of local communities is limited, the project is required to build that capacity to encourage participation.

The Forest Policy and Bill identify the need to establish community resource management committees to better understand and manage their local natural environment.

The 2005 Decentralisation Policy promotes regional and sub-regional development through the Tinkhundla system of local government through active community participation.

63. Has your country developed mechanisms for promoting the full and effective participation of indigenous and local communities with specific provisions for the full, active and effective participation of women in all elements of the programme of work? (decision V/16, annex)

a) No	X
b) No, but relevant mechanisms are being developed	
c) Yes, mechanisms are in place (please provide details below)	

Further comments on the mechanisms for promoting the full and effective participation of women of indigenous and local communities in all elements of the programme of work.

Support to implementation

64. Has your country established national, subregional and/or regional indigenous and local community biodiversity advisory committees?

a) No	
b) No, but relevant work is under way	X
c) Yes	

65. Has your country assisted indigenous and local community organizations to hold regional meetings to discuss the outcomes of the decisions of the Conference of the Parties and to prepare for meetings under the Convention?

a) No

X

b) Yes (please provide details about the outcome of meetings)

Further information on the outcome of regional meetings.

66. Has your country supported, financially and otherwise, indigenous and local communities in formulating their own community development and biodiversity conservation plans that will enable such communities to adopt a culturally appropriate strategic, integrated and phased approach to their development needs in line with community goals and objectives?

a) No

b) Yes, to some extent (please provide details below)

X

c) Yes, to a significant extent (please provide details below)

Further information on the support provided.

Some members of the community managed Shewula Nature Reserve have received training and support for formulating their own community development and biodiversity conservation plans from an Italian NGO. Mlawula Nature Reserve community outreach programme has provided similar support.

Box XLVII.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) Outcomes & impacts

Implementation of GURTS and Akwé:Kon Guidelines has been very limited. Capacity Building and Participation of Indigenous and Local Communities and Support to Implementation has taken place in selected areas of the country, in particular the community managed Shewula Nature Reserve.

b) Strategic Plan of the Convention

Contributes principally to Goals 2,3 & 4.

c) 2010 Target

(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)

The implementation of this Article has made a positive contribution towards the achievement of the 2010 target including poverty alleviation but current activities are localized and results are difficult to measure.

d) NBSAP

The NBSAP articulates the need for to improve biodiversity conservation by encouraging community based natural resource management.

Within the NBSAP, strategies 4.1 (biodiversity conservation through the improvement of the protected areas network): substrategy 6 (Create socio-economic incentives that lead to local community support for protected areas conservation) 4.2 (strategies for sustainable use, and equitable sharing, of biological resources) : substrategy 1 (Test viable CBNRM and develop across all ecosystems), substrategy 2 (Enact CBNRM-enabling legislation based on results of pilot projects) and substrategy 3 (Develop institutional capacity and human resources to support CBNRM). 4.5 (for improving the institutional and legal frameworks and the human resources for conservation and sustainable use): substrategy 2 (Identify institutions responsible for developing CBNRM) when implemented will contribute towards the implementation of this Article.

e) MDGs

A sound and comprehensive legal arrangement contributes to achieving MDG Goal 7 “Ensure environmental sustainability” and MDG 1 “Eradicate extreme poverty and hunger”. Opportunities exist for indigenous and local communities involved in biodiversity conservation to alleviate poverty through collection of reserve entrance fees, providing accommodation and other tourist related services e.g selling of handicrafts and indigenous plants.

f) Constraints

Some institutional, technical and capacity related obstacles exist. Specific constraints include loss of traditional knowledge, lack of financial and human resources, lack of effective partnerships and unsustainable consumption and production patterns. In addition there are issues surrounding the resource users within local communities who do not have exclusive rights to manage their biological resources; limited natural resource management systems in place to ensure sustainable utilization of biological resources and a lack of law enforcement (pertaining to biodiversity issues) on communal land.

Article 9 - Ex-situ conservation

67. ? On Article 9(a) and (b), has your country adopted measures for the *ex-situ* conservation of components of biological diversity native to your country and originating outside your country?

a) No	
b) No, but potential measures are under review	
c) Yes, some measures are in place (please provide details below)	X
d) Yes, comprehensive measures are in place (please provide details below)	

Further information on the measures adopted for the *ex-situ* conservation of components of biodiversity native to your country and originating outside your country.

The Plant Genetic Resources Centre has been established but it is under resourced. A Botanic Garden is in the process of being established, however financial resources are delaying its construction. The National Tree Seed Centre was established in 1994 but it is under resourced.

68. ? On Article 9(c), has your country adopted measures for the reintroduction of threatened species into their natural habitats under appropriate conditions?

a) No	
b) No, but potential measures are under review	
c) Yes, some measures are in place (please provide details below)	X
d) Yes, comprehensive measures are in place (please provide details below)	

Further comments on the measures for the reintroduction of threatened species into their natural habitats under appropriate conditions.

Big game species have been re-introduced into several national reserves including eland, rhinoceros and lion.

Future re-introductions are being considered in other reserves including elephant and hyena.

69. ? On Article 9(d), has your country taken measures to regulate and manage the collection of biological resources from natural habitats for *ex-situ* conservation purposes so as not to threaten ecosystems and *in-situ* populations of species?

a) No	
b) No, but potential measures are under review	
c) Yes, some measures are in place (please provide details below)	X
d) Yes, comprehensive measures are in place (please provide details below)	

Further information on the measures to regulate and manage the collection of biological resources from natural habitats for *ex-situ* conservation purposes so as not to threaten ecosystems and *in-situ* populations of species.

Swaziland has taken measures to regulate and manage the collection of biological resources from natural habitats for *ex-situ* conservation purposes so as not to threaten eco-systems and *in-situ* populations of species.

Examples of measures are the Plant Genetic Resources Centre and the Tree Seed Centre. Some funding has been obtained from the SADC Plant Genetic Resources Centre.

Only two institutions (Swaziland National Herbarium and National Plant Genetic Resources Centre) have direct mandates for *ex-situ* conservation. Both institutions deal exclusively with botanical material and are inadequately resourced. In addition, there is no institution that provides *ex-situ* conservation for wild animals. Thus *ex-situ* conservation has limited institutional support in the country and requires urgent attention. However, the Swaziland National Herbarium does have a project, with funding, in the pipe-line to establish a national botanical garden that will house the proposed new Herbarium buildings. This provides a significant contribution towards *ex-situ* conservation in Swaziland.

Box XLVIII .

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- outcomes and impacts of actions taken;
- contribution to the achievement of the goals of the Strategic Plan of the Convention;
- contribution to progress towards the 2010 target;
- progress in implementing national biodiversity strategies and action plans;
- contribution to the achievement of the Millennium Development Goals;
- constraints encountered in implementation.

a) Outcomes & impacts

Some measures have been undertaken to reintroduce some threatened animal species that had completely disappeared from their natural habitat in Swaziland. The *ex-situ* conservation of components of biological diversity is expected to be facilitated when the botanic garden is constructed once the required funds are received.

b) Strategic Plan of the Convention

Contributes principally to Goal 4 and 3 and to a lesser extent Goal 2.

c) 2010 Target

(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)

The implementation of this Article has made a moderate contribution towards the achievement of the 2010 target as activities to date have strengthened the viability of several species that had disappeared from Swaziland.

d) NBSAP

The NBSAP articulates the need for ex-situ conservation for endemic, threatened and high utility plant species through the establishment of a botanic garden (priority action under sub-strategy 2 under main strategy 4.1 (biodiversity conservation through the improvement of the protected areas network.

e) MDGs

Ex-situ conservation measures contributes to achieving MDG Goal 7 "Ensure environmental sustainability".

f) Constraints

Major obstacles related to the lack of financial resources to undertake ex-situ conservation with institutional, technical and capacity related obstacles also contributing to the limited success of ex-situ.

Article 10 - Sustainable use of components of biological diversity

70. ? On Article 10(a), has your country integrated consideration of the conservation and sustainable use of biological resources into national decision-making?

a) No	
b) No, but steps are being taken	
c) Yes, in some relevant sectors (please provide details below)	X
d) Yes, in most relevant sectors (please provide details below)	

Further information on integrating consideration of conservation and sustainable use of biological resources into national decision-making.

Swaziland has adopted legal measures that require the consideration of the sustainable use of biological resources into national decision-making through the enforcement of environmental impact assessments for any new developments, projects and programmes and the enforcement of existing conservation legislation.

71. ? On Article 10(b), has your country adopted measures relating to the use of biological resources that avoid or minimize adverse impacts on biological diversity?

a) No	
b) No, but potential measures are under review	
c) Yes, some measures are in place (please provide details below)	X
d) Yes, comprehensive measures are in place (please provide details below)	

Further information on the measures adopted relating to the use of biological resources that avoid or minimize adverse impacts on biological diversity.

Swaziland has adopted legal measures for the minimization of adverse impacts on biological resources through the enforcement of environmental impact assessments for any new developments, projects and programmes and the Flora Protection Act of 2000.

72. ? On Article 10(c), has your country put in place measures that protect and encourage customary use of biological resources that is compatible with conservation or sustainable use requirements?

a) No	
b) No, but potential measures are under review	
c) Yes, some measures are in place (please provide details below)	X
d) Yes, comprehensive measures are in place (please provide details below)	

Further information on the measures that protect and encourage customary use of biological resources that is compatible with conservation or sustainable use requirements.

Swaziland uses the Community Based Natural Resource Management (CBNRM) system as a mechanism to involve the private sector and indigenous/local communities in biodiversity conservation. In some areas local communities are involved in the development of a protected area adjoining an already existing protected area.

The national Forest Policy (2002) and Action Programme encourages community based resource management of natural resources through the formation of Natural Resource Management Committees at community level. Proactive awareness raising with local traditional leaders and community members is an on going initiative led by the Forestry Section of the Ministry of Agriculture.

73. ? On Article 10(d), has your country put in place measures that help local populations develop and implement remedial action in degraded areas where biological diversity has been reduced?

a) No	
b) No, but potential measures are under review	X
c) Yes, some measures are in place (please provide details below)	
d) Yes, comprehensive measures are in place (please provide details below)	

Further information on the measures that help local populations develop and implement remedial action in degraded areas where biodiversity has been reduced.

74. ? Has your country identified indicators and incentive measures for sectors relevant to the conservation and sustainable use of biodiversity? (decision V/24)

a) No	
b) No, but assessment of potential indicators and incentive measures is under way	X
c) Yes, indicators and incentive measures identified (please describe below)	

Further comments on the identification of indicators and incentive measures for sectors relevant to the conservation and sustainable use of biodiversity.

The non-availability of financial resources to identify indicators and incentive measures have limited the development of such instruments.

75. ? Has your country implemented sustainable use practices, programmes and policies for the sustainable use of biological diversity, especially in pursuit of poverty alleviation? (decision V/24)

a) No	
b) No, but potential practices, programmes and policies are under review	
c) Yes, some policies and programmes are in place (please provide details below)	X
d) Yes, comprehensive policies and programmes are in place (please provide details below)	

Further information on sustainable use programmes and policies.

Communities adjacent to protected areas are afforded access to a variety of timber and non-timber resources with the permission of officials responsible for those areas. The modalities for developing and implementing sustainable practices are in urgent need of action, however, the non-availability of the necessary funds to do is limiting such practices.

76. ? Has your country developed or explored mechanisms to involve the private sector in initiatives on the sustainable use of biodiversity? (decision V/24)

a) No	
b) No, but mechanisms are under development	X
c) Yes, mechanisms are in place (please describe below)	

Further comments on the development of mechanisms to involve the private sector in initiatives on the sustainable use of biodiversity.

The GEF supported Biodiversity Conservation and Participatory Development Project will involve the private sector in formalizing and regulating the sustainable use of biodiversity.

Private reserves exist in the country used mainly for exploiting the tourism sector and these organizations are committed to the sustainable use of biodiversity to ensure their economic future.

The SNTC's Commercialisation Programme seeks to involve the private sector in running ecotourism facilities.

77. Has your country initiated a process to apply the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity? (decision VII/12)

a) No	
b) No, but the principles and guidelines are under review	X
c) Yes, a process is being planned	
d) Yes, a process has been initiated (please provide detailed information)	

Further information on the process to apply the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity.

78. Has your country taken any initiative or action to develop and transfer technologies and provide financial resources to assist in the application of the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity? (decision VII/12)

a) No	
b) No, but relevant programmes are under development	X
c) Yes, some technologies developed and transferred and limited financial resources provided (please provide details below)	
d) Yes, many technologies developed and transferred and significant financial resources provided (please provide details below)	
Further comments on the development and transfer of technologies and provision of financial resources to assist in the application of the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity.	

Biodiversity and Tourism

79. ? Has your country established mechanisms to assess, monitor and measure the impact of tourism on biodiversity?

a) No	
b) No, but mechanisms are under development	
c) Yes, mechanisms are in place (please specify below)	X
d) Yes, existing mechanisms are under review	
Further comments on the establishment of mechanisms to assess, monitor and measure the impact of tourism on biodiversity.	
Swaziland has adopted legal measures for the assessment of impacts on biological resources by tourism activities through the enforcement of environmental impact assessments for any new developments and projects related to tourism. However this is only applicable to new developments and does not cover existing tourism establishments.	
The SNTC implement a monitoring programme in its protected areas to assess the overall impact of tourism related activities on the parks natural resource base and facilities.	

80. ? Has your country provided educational and training programmes to the tourism operators so as to increase their awareness of the impacts of tourism on biodiversity and upgrade the technical capacity at the local level to minimize the impacts? (decision V/25)

a) No	
b) No, but programmes are under development	X
c) Yes, programmes are in place (please describe below)	
Further comments on educational and training programmes provided to tourism operators.	

81. Does your country provide indigenous and local communities with capacity-building and financial resources to support their participation in tourism policy-making, development planning, product development and management? (decision VII/14)

a) No	
b) No, but relevant programmes are being considered	
c) Yes, some programmes are in place (please provide details below)	X
d) Yes, comprehensive programmes are in place (please provide details below)	

Further comments in the capacity-building and financial resources provided to indigenous and local communities to support their participation in tourism policy-making, development planning, product development and management.

The GEF supported biodiversity and tourism corridor project will involve capacity-building activities to assist local communities in planning tourism developments. The Swaziland Tourism Authority with financial support of the EU has assisted a local community in establishing two tourist lodges in the Ngwempisi Gorge in western Swaziland and is still preparing programmes with the support of the EU to capacitate local communities in developing tourism projects.

82. Has your country integrated the Guidelines on Biodiversity and Tourism Development in the development or review of national strategies and plans for tourism development, national biodiversity strategies and actions plans, and other related sectoral strategies? (decision VII/14)

a) No, but the guidelines are under review	
b) No, but a plan is under consideration to integrate some principles of the guidelines into relevant strategies	X
c) Yes, a few principles of the guidelines are integrated into some sectoral plans and NBSAPs (please specify which principle and sector)	
d) Yes, many principles of the guidelines are integrated into some sectoral plans and NBSAPs (please specify which principle and sector)	

Further information on the sectors where the principles of the Guidelines on Biodiversity and Tourism Development are integrated.

The Biodiversity Conservation and Participatory Development project proposes to incorporate the Guidelines on Biodiversity and Tourism Development into the overall implementation of the project. Once developed, these will become a national standard and used for all tourism related developments.

Box XLIX.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) Outcomes & impacts

The sustainable use of components of biological diversity is recognized as an important component of Government development policy. The development of measures that enhance the sustainable use of

biological diversity are in the early stages of both recognition as well as practical development. The Swaziland Tourism Authority in collaboration with the Swaziland Environment Authority are in the process of developing strategies to enhance the sustainable use of biodiversity particularly in tourism related projects that are being encouraged as part of the country's poverty alleviation strategy.

b) Strategic Plan of the Convention

Contributes principally to Goal 3 and 4.

c) 2010 Target

(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)

The implementation of this Article is recognized as essential to achieving the target but contribution to progress is difficult to estimate. Swaziland has made a *moderate* contribution towards the achievement of the 2010 target as activities to date have focused more on planning and mobilization of communities to participate more constructively in managing biodiversity in a sustainable manner. The implementation of this article will contribute to poverty alleviation.

d) NBSAP

The NBSAP articulates the need for sustainable use of components of biological diversity and equitable sharing of biological resources. It defines a number of sub-strategies and priority actions which focus on traditional rights in natural resource management, strengthening the legal rights and obligations of community management structures, developing institutional capacity and human resources and to develop law for intellectual property rights.

e) MDGs

The sustainable use of components of biological diversity contributes to achieving MDG Goal 7 "Ensure environmental sustainability" and MDG 1 "Eradicate extreme poverty and hunger".

f) Constraints

Major constraints are related to the implementation of this article relate mostly on improving the human capacity to manage the environment and its biological components and utilize, in a sustainable manner, those components to the benefit of all Swazis. The lack of financial resources to undertake tourism related activities together with the inadequate institutional and legal environment means many potential opportunities for poverty alleviation are being lost. The country has yet to introduce economic incentive measures and measures to improve overall benefit sharing which would contribute to a greater realization of sustainable use of the rapidly degrading natural environment.

Article 11 - Incentive measures

83. ? Has your country established programmes to identify and adopt economically and socially sound measures that act as incentives for the conservation and sustainable use of components of biological diversity?

a) No	
b) No, but relevant programmes are under development	X
c) Yes, some programmes are in place (please provide details below)	
d) Yes, comprehensive programmes are in place (please provide details below)	

Further comments on the programmes to identify and adopt incentives for the conservation and sustainable use of biodiversity.

84. ? Has your country developed the mechanisms or approaches to ensure adequate incorporation of both market and non-market values of biological diversity into relevant plans, policies and programmes and other relevant areas? (decisions III/18 and IV/10)

a) No	
b) No, but relevant mechanisms are under development	X
c) Yes, mechanisms are in place (please provide details below)	
d) Yes, review of impact of mechanisms available (please provide details below)	

Further comments on the mechanism or approaches to incorporate market and non-market values of biodiversity into relevant plans, policies and programmes.

Initial studies have been carried out on the valuation of non-timber forest products and other biological components. There is no official or formal mechanism.

85. ? Has your country developed training and capacity-building programmes to implement incentive measures and promote private-sector initiatives? (decision III/18)

a) No	
b) No, but relevant programmes are under development	
c) Yes, some programmes are in place	X
d) Yes, many programmes are in place	

86. Does your country take into consideration the proposals for the design and implementation of incentive measures as contained in Annex I to decision VI/15 when designing and implementing incentive measures for the conservation and sustainable use of biodiversity? (decision VI/15)

a) No	X
b) Yes (please provide details below)	

Further information on the proposals considered when designing and implementing the incentive measures for the conservation and sustainable use of biodiversity.

87. Has your country made any progress in removing or mitigating policies or practices that generate perverse incentives for the conservation and sustainable use of biological diversity? (decision VII/18)

a) No	
b) No, but identification of such policies and practices is under way	X
c) Yes, relevant policies and practices identified but not entirely removed or mitigated (please provide details below)	
d) Yes, relevant policies and practices identified and removed or mitigated (please provide details below)	

Further information on perverse incentives identified and/or removed or mitigated.

Box L.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

Article 12 - Research and training

88. ? On Article 12(a), has your country established programmes for scientific and technical education and training in measures for the identification, conservation and sustainable use of biological diversity and its components?

a) No	
b) No, but programmes are under development	
c) Yes, programmes are in place (please provide details below)	X

Further information on the programmes for scientific and technical education and training in the measures for identification, conservation and sustainable use of biodiversity.

The National Plant Genetic Resources Centre (NPGRC) is an integral of the Agricultural Research Division based at the Malkerns Research Station. It continues to shoulder the main responsibility for implementation of the activities relating to sustainable utilisation and conservation of mainly crop genetic diversity in the country. Major indigenous crops have been collected, characterised, documented and stored in deep freezers at the NPGRC since then and special and routine collection missions are still on going.

The University of Swaziland runs a Master's programme in Biodiversity Resource Management.

89. ? On Article 12(b), does your country promote and encourage research which contributes to the conservation and sustainable use of biological diversity?

a) No	
b) Yes (please provide details below)	X

Further information on the research which contributes to the conservation and sustainable use of biodiversity.

The University of Swaziland currently runs research projects on small mammal diversity and parasitology, avian ecology, insect ecology and management, alien invasive plant species and microbiology. These are usually supported by the university's research foundation.

90. ? On Article 12(c), does your country promote and cooperate in the use of scientific advances in biological diversity research in developing methods for conservation and sustainable use of biological resources?

a) No

X

b) Yes (please provide details below)

Further information on the use of scientific advances in biodiversity research in developing methods for conservation and sustainable use of biodiversity.

Box LI.

Please elaborate below on the implementation of this article specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) Outcomes & impacts

Research and training is recognized as an important component for the understanding of biological diversity and its sustainable use. The country has a small but dedicated research capacity that undertakes specialized research on floral and faunal resources. The Agricultural Research Division based at the Malkerns Research Station researches mainly into agro-biodiversity whilst the University of Swaziland looks at non-agro-biological diversity issues. The University started a master programme in Biodiversity Resource Management to train up local expertise. The wider impact of the implementation of this article has increased the understanding or components of biological diversity and papers have been published in reviewed international journals by University researchers.

b) Strategic Plan of the Convention

Contributes principally to Goal 2 and 4.

c) 2010 Target

(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)

The implementation of this Article is recognized as important in achieving the target but contribution to progress is difficult to measure.

d) NBSAP

The NBSAP under 4.2 Strategies for sustainable use, and equitable sharing, of biological resources and 4.5 Strategies for improving the institutional and legal frameworks and the human resources for conservation and sustainable use articulates the need for improved research and training capacity at all levels particularly in the critical area of sustainable use of components of biological diversity and equitable sharing of biological resources. The NBSAP defines a number of priority actions which focus on research and training to improve the institutional and legal frameworks and human resources.

e) MDGs

Research and training contributes to achieving MDG Goal 7 "Ensure environmental sustainability".

f) Constraints

Constraints in the area of research and training are centered around the institutional and technical

capacity to undertake broad and long-term research projects. Current research is often ad hoc and at species level. Funding of research programmes is an additional constraint that often limits the scope of the research area.

Article 13 - Public education and awareness

91. Is your country implementing a communication, education and public awareness strategy and promoting public participation in support of the Convention? (Goal 4.1 of the Strategic Plan)

a) No	X
b) No, but a CEPA strategy is under development	
c) Yes, a CEPA strategy developed and public participation promoted to a limited extent (please provide details below)	
d) Yes, a CEPA strategy developed and public participation promoted to a significant extent (please provide details below)	

Further comments on the implementation of a CEPA strategy and the promotion of public participation in support of the Convention.

Although there is no specific CEPA Strategy, the country developed (in 2000) and is implementing a National Environmental Education Strategy which includes the promotion of public awareness and participation in support of the various MEAs.

92. Is your country undertaking any activities to facilitate the implementation of the programme of work on Communication, Education and Public Awareness as contained in the annex to decision VI/19? (decision VI/19)

a) No	
b) No, but some programmes are under development	
c) Yes, some activities are being undertaken (please provide details below)	X
d) Yes, many activities are being undertaken (please provide details below)	

Further comments on the activities to facilitate the implementation of the programme of work on CEPA.

A Training Needs Assessment and Action Plan was developed in 2004 to promote Biodiversity Conservation. It specifically addresses CEPA and incorporates implementation of work on Communication, Education and Public Awareness as contained in the Annex to Decision VI/19.

93. Is your country strongly and effectively promoting biodiversity-related issues through the press, the various media and public relations and communications networks at national level? (decision VI/19)

a) No	
b) No, but some programmes are under development	
c) Yes, to a limited extent (please provide details below)	X
d) Yes, to a significant extent (please provide details below)	

Further comments on the promotion of biodiversity-related issues through the press, the various media and public relations and communications networks at national level.

Journalists and broadcasters are invited (often as participants and not just for publicity) to all biodiversity-related workshops and events (e.g. the World Environment Week commemoration). Consequently, they disseminate the relevant information to the public through the printed press, radio and television.

94. Does your country promote the communication, education and public awareness of biodiversity at the local level? (decision VI/19)

a) No	
b) Yes (please provide details below)	X

Further information on the efforts to promote the communication, education and public awareness of biodiversity at the local level.

Yes to a limited extent. For example, the main municipalities were assisted to mobilise their constituents and undertake special environmental (many with a focus on biodiversity) activities, e.g. tree planting, protection of water sources, removal of alien plants, to commemorate World Environment Day.

95. Is your country supporting national, regional and international activities prioritized by the Global Initiative on Education and Public Awareness? (decision VI/19)

a) No	
b) No, but some programmes are under development	
c) Yes, some activities supported (please provide details below)	X
d) Yes, many activities supported (please provide details below)	

Further comments on the support of national, regional and international activities prioritized by the Global Initiative on Education and Public Awareness.

Swaziland is a member of the Regional Environmental Education Programme (REEP) – a SADC EE programme, through which it shares and disseminates information. The REEP has helped build capacity for EE and biodiversity conservation.

96. Has your country developed adequate capacity to deliver initiatives on communication, education and public awareness?

a) No	
b) No, but some programmes are under development	X
c) Yes, some programmes are being implemented (please provide details below)	
d) Yes, comprehensive programmes are being implemented (please provide details below)	


Further comments on the development of adequate capacity to deliver initiatives on communication, education and public awareness.

At least two Training Needs Assessments have been undertaken (one under a biodiversity regional project and the other through GEF/UNDP for implementation of the three Conventions and capacity building activities identified and planned.

Currently, the Swaziland Environment Authority ensures that the main national stakeholders are always involved in the development and implementation of policy and in planning and executing projects in the programme areas of biodiversity. Specifically a National Biodiversity Programme Implementation Committee (BPIC), with representatives from different sectors, assists the SEA in implementing the NBSAP.

97. Does your country promote cooperation and exchange programmes for biodiversity education and awareness at the national, regional and international levels? (decisions IV /10 and VI/19)	
a) No	X
b) Yes (please provide details below)	
Further comments on the promotion of cooperation and exchange programmes for biodiversity education and awareness, at the national, regional and international levels.	

98. Is your country undertaking some CEPA activities for implementation of cross-cutting issues and thematic programmes of work adopted under the Convention?	
a) No (please specify reasons below)	X
b) Yes, some activities undertaken for some issues and thematic areas (please provide details below)	
c) Yes, many activities undertaken for most issues and thematic areas (please provide details below)	
d) Yes, comprehensive activities undertaken for all issues and thematic areas (please provide details below)	
Further comments on the CEPA activities for implementation of cross-cutting issues and thematic programmes of work adopted under the Convention.	
These cross-cutting issues and thematic programmes of work have been integrated into a national training action plan which is yet to be implemented.	

99.  Does your country support initiatives by major groups, key actors and stakeholders that integrate biological diversity conservation matters in their practice and education programmes as well as into their relevant sectoral and cross-sectoral plans, programmes and policies? (decision IV/10 and Goal 4.4 of the Strategic Plan)	
a) No	X
b) Yes (please provide details below)	
Further comments on the initiatives by major groups, key actors and stakeholders that integrate biodiversity conservation in their practice and education programmes as well as their relevant sectoral and cross-sectoral plans, programmes and policies.	

100. Is your country communicating the various elements of the 2010 biodiversity target and establishing appropriate linkages to the Decade on Education for Sustainable Development in the implementation of your national CEPA programmes and activities? (decision VII/24)	
a) No	
b) No, but some programmes are under development	
c) Yes, some programmes developed and activities undertaken for this purpose (please provide details below)	x
d) Yes, comprehensive programmes developed and many activities undertaken for this purpose (please provide details below)	

Further comments on the communication of the various elements of the 2010 biodiversity target and the establishment of linkages to the Decade on Education for Sustainable Development.

Communication of the various elements of the 2010 Biodiversity Target have been presented to national stakeholders at a workshop. A national consultation workshop on the Decade of Education for Sustainable Development has recently taken place (2005) to inform stakeholders, provide input into the development of Regional Guidelines for the Decade, and begun to identify national priorities with the assistance of the Regional Environmental Education Programme.

Box LII .

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) Outcomes & impacts

Public education and awareness are recognized as important components for the understanding of biological diversity and its sustainable use. The country has a dedicated stakeholder base that seeks to develop appropriate methods for raising education and awareness. Elements of environmental education are now included in primary school curricula and at the tertiary level the University of Swaziland offers courses in Environmental Studies and Conservation Biology.

b) Strategic Plan of the Convention

Contributes principally to Goal 2, 3 and 4.

c) 2010 Target

(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)

The implementation of this Article is recognized as important in achieving the target but contribution to progress is difficult to measure.

d) NBSAP

The NBSAP under 4.6 Strategies for Enhancing Public Awareness of the Value of, and the Need for, Biodiversity Conservation articulates the need for improved efforts to raise public awareness on biodiversity issues through:

- Introduce biodiversity topics across curricula
- Incorporate updated biodiversity topics into ongoing Environmental Education Programmes
- Enhance the value of existing environmental radio programmes by including biodiversity awareness topics
- Explore and exploit other systems of communication such as written material and documentaries
- Open and encourage two-way channels of communication for inputs from grassroots, communities and the general public
- Indigenous knowledge of biodiversity must be captured, document and stored in the National Biodiversity Data Unit
- Encourage extra-curricula activities related to biodiversity in schools
- Run seminars and workshops for educators, policy makers, media personnel, engineering concerns, the private sector and communities.

e) MDGs

Public education and awareness contributes to achieving MDG Goal 7 "Ensure environmental sustainability".

f) Constraints

Constraints in the area of public education and awareness are centered around the general lack of appreciation of the value of biodiversity to humanity, and are not fully aware of the impacts of the impending loss of biodiversity in Swaziland. The general lack of consistent financing and adequate human resources to spearhead decisive projects and activities is limiting a comprehensive awareness raising campaign.

Article 14 - Impact assessment and minimizing adverse impacts

101. ? On Article 14.1(a), has your country developed legislation requiring an environmental impact assessment of proposed projects likely to have adverse effects on biological diversity?

a) No	
b) No, legislation is still in early stages of development	
c) No, but legislation is in advanced stages of development	
d) Yes, legislation is in place (please provide details below)	X
e) Yes, review of implementation available (please provide details below)	

Further information on the legislation requiring EIA of proposed projects likely to have adverse effects on biodiversity.

Swaziland gazetted the Environmental Assessment, Audit and Review Regulations in 2000 which requires environmental impact assessments to be carried out on all new projects and developments. Consideration of the impact on biodiversity is always included in such assessments. In addition the country enacted the Environmental Management Act in 2002 which provides a comprehensive environmental management framework for the country. The Act establishes a framework for environmental protection and the integrated management of natural resources on a sustainable basis; transforms the Swaziland Environment Authority into a body corporate and establishes the Swaziland Environment Fund.

102. ? On Article 14.1(b), has your country developed mechanisms to ensure that due consideration is given to the environmental consequences of national programmes and policies that are likely to have significant adverse impacts on biological diversity?

a) No	
b) No, mechanisms are still in early stages of development	
c) No, but mechanisms are in advanced stages of development	
d) Yes, mechanisms are in place (please provide details below)	X

Further comments on the mechanisms developed to ensure that due consideration is given to the environmental consequences of national programmes and policies that are likely to have significant adverse impacts on biodiversity.

The Environmental Management Act of 2002 under section 31. (1) the proponent of a Bill, regulation, public policy, programme, or plan that could have an adverse effect on the protection, conservation or enhancement of the environment or on the sustainable management of natural resources is required to carry out a strategic environmental assessment. Consideration of the impact on biodiversity is always included.

103. ? On Article 14.1(c), is your country implementing bilateral, regional and/or multilateral agreements on activities likely to significantly affect biological diversity outside your country's jurisdiction?

a) No	
b) No, but assessment of options is in progress	
c) Yes, some completed, others in progress (please provide details below)	X
d) Yes (please provide details below)	

Further information on the bilateral, regional and/or multilateral agreements on activities likely to significantly affect biodiversity outside your country's jurisdiction.

Swaziland is currently partnering with South Africa and Mozambique in a Trans Frontier Conservation Areas' (TFCA) programme for conserving biodiversity which is common between the three countries' borders. This will improve the quality of conservation and biodiversity in the areas.

104. ? On Article 14.1(d), has your country put mechanisms in place to prevent or minimize danger or damage originating in your territory to biological diversity in the territory of other Parties or in areas beyond the limits of national jurisdiction?

a) No	
b) No, mechanisms are still in early stages of development	X
c) No, but mechanisms are in advanced stages of development	
d) Yes, mechanisms are in place based on current scientific knowledge	

105. ? On Article 14.1(e), has your country established national mechanisms for emergency response to activities or events which present a grave and imminent danger to biological diversity?

a) No	
b) No, mechanisms are still in early stages of development	X
c) No, but mechanisms are in advanced stages of development	
d) Yes, mechanisms are in place (please provide details below)	

Further information on national mechanisms for emergency response to the activities or events which present a grave and imminent danger to biodiversity.

106. Is your country applying the Guidelines for Incorporating Biodiversity-related Issues into Environment-Impact-Assessment Legislation or Processes and in Strategic Impact Assessment as contained in the annex to decision VI/7 in the context of the implementation of paragraph 1 of Article 14? (decision VI/7)

a) No	
b) No, but application of the guidelines under consideration	
c) Yes, some aspects being applied (please specify below)	X
d) Yes, major aspects being applied (please specify below)	

Further comments on application of the guidelines.

The Environment Management Act (EMA) is

107. On Article 14 (2), has your country put in place national legislative, administrative or policy measures regarding liability and redress for damage to biological diversity? (decision VI/11)

a) No

b) Yes (please specify the measures)

Further comments on national legislative, administrative or policy measures regarding liability and redress for damage to biological diversity.

Two pieces of legislation provide redress for damage to biological diversity.

The Flora Protection Act of 2001 provides for penalties for the unlawful picking of protected flora, the unlawful sale of protected flora, and the prohibition of export any protected flora, except upon or subject to the conditions of a permit issued by the Minister. Any person who contravenes these provisions or unlawfully cuts, picks, plucks, gathers, uproots, injures, breaks and process any flora in schedule A of the Act is guilty of an offence and on conviction liable to a fine of not less than six hundred Emalangeni and not more than two thousand five hundred Emalangeni or a term of imprisonment of not less than three months and not more than two years.

The Game (Amendment) Act of 1991 allows the Minister responsible for Agriculture to declare any specified area of Swaziland to be a sanctuary for the protection of any animals or birds. Any person who in any sanctuary hunts or attempts to hunt any animal or bird protected within the sanctuary, or takes any trophy of any such animal or bird, or who is found within a sanctuary under circumstances which show he is there for the purpose of hunting or taking trophy of any such animal or bird therein shall be guilty of an offence. Any person who contravenes the provisions of sections 6(2) or (5), 7(1), 12(1), 13, 14 or 20(1), (2) or (3) of the Act shall on conviction be liable to a fine of not less than six hundred Emalangeni but not exceeding two thousand Emalangeni or to imprisonment for a period of not less than six months but not exceeding two years.

The Environmental Management Act of 2002 gives the Director of the Swaziland Environment Authority power to issue prevention orders, protection orders, emergency protection orders, compliance orders and cost orders to prevent, protect, cause compliance and recover monies spent on protection. Although designed to manage general environmental contamination, the Act could be interpreted to also cover risks to biological diversity.

Other pieces of legislation that provide protection include the Protection of Fresh Water Fish Act, 1938 (provides some protection to indigenous species of fish by stipulating a "close season" during which time fishing is not permitted (Section 3), and also by prohibiting the capture of fish by certain destructive means (Sections 8 and 9). However, no formal protection is given to specially threatened species or species whose populations within Swaziland are currently on the decline), the Wild Birds Protection Act, 1914, the Natural Resources Act, 1951, Plant Control Act, 1981 (prohibits the exportation of indigenous plants without a written permission from the Swaziland National Trust Commission), the Forest Preservation Act, 1910 and the National Trust Commission Act, 1972.

The SEA has published (2005) a compendium of a ll environmental legislation effective in the country.

108. Has your country put in place any measures to prevent damage to biological diversity?

a) No

b) No, but some measures are being developed

c) Yes, some measures are in place (please provide details below)

d) Yes, comprehensive measures are in place (please provide details below)

X

Further information on the measures in place to prevent damage to biological diversity.

Measures in place to prevent damage to biological diversity are primarily in the form of legislation. The Flora Protection Act of 2001, the Game (Amendment) Act of 1991, the Protection of Fresh Water Fish Act, 1938, the Wild Birds Protection Act, 1914, the Natural Resources Act, 1951 and the National Trust Commission Act, 1972 are all designed to prevent damage to biological diversity.

109. Is your country cooperating with other Parties to strengthen capacities at the national level for the prevention of damage to biodiversity, establishment and implementation of national legislative regimes, policy and administrative measures on liability and redress? (decision VI/11)

a) No	
b) No, but cooperation is under consideration	
c) No, but cooperative programmes are under development	
d) Yes, some cooperative activities being undertaken (please provide details below)	
e) Yes, comprehensive cooperative activities being undertaken (please provide details below)	
Further comments on cooperation with other Parties to strengthen capacities for the prevention of damage to biodiversity.	

Box LIII.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) Outcomes & impacts

The use of impact assessment and minimizing adverse impacts is regulated through comprehensive legislation. The Environmental Audit, Assessment and Review Regulations of 2000 require a range of project activities to initially undergo an EIA process to determine the significant impacts and propose mitigation. The Regulations have been systematically applied since their enactment and have done much to identify impacts on biological diversity. The overall impact of implementing the legislation has been positive, however, monitoring compliance is a weak area and has allowed for the unnecessary loss or damage to biological diversity.

b) Strategic Plan of the Convention

Contributes principally to Goal 3 and 4.

c) 2010 Target

(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)

The implementation of this Article has made a *significant* contribution towards the achievement of the 2010 target as activities to date have focused on assessing potential impact on biodiversity prior to an activity taking place and giving the proponent time to minimise or avoid the potential damage.

d) NBSAP

The NBSAP articulates the need for sustainable use of components of biological diversity and equitable sharing of biological resources. It defines a number of sub-strategies and priority actions which focus on protecting threatened and endemic species, strengthen legislation pertaining to biodiversity conservation, develop human resources to deal with all aspects of biodiversity, and control illegal harvesting of biological resources through enhanced law-enforcement.

e) MDGs

The sustainable use of components of biological diversity contributes to achieving MDG Goal 7 "Ensure environmental sustainability".

f) Constraints

Major constraints relate mostly to monitoring and enforcement. EIAs are routinely conducted but the mitigation plans and activities proposed are rarely monitored and tracked over the lifetime of the project. This has allowed, in some cases, significant impacts to occur that are detrimental to biological diversity. Capacity building within the is urgently required to enable compliance with the legislation. Enforcement of legislation, though routine for EIAs, is an area in need of improvement. The Environmental Management Act regulates a wide range of environmental aspects including waste management, air pollution, water quality, and obligates the Swaziland Environment Authority to monitor environmental trends in the country with a view to protecting the environment and improving the environment.

Article 15 - Access to genetic resources

110. ? Has your country endeavored to facilitate access to genetic resources for environmentally sound uses by other Parties, on the basis of prior informed consent and mutually agreed terms, in accordance with paragraphs 2, 4 and 5 of Article 15?

a) No

b) Yes (please provide details below)

Further information on the efforts taken by your country to facilitate access to genetic resources for environmentally sound uses by other Parties, on the basis of prior informed consent and mutually agreed terms.

111. ? Has your country taken measures to ensure that any scientific research based on genetic resources provided by other Parties is developed and carried out with the full participation of such Parties, in accordance with Article 15(6)?

a) No

b) No, but potential measures are under review

c) Yes, some measures are in place (please provide details below)

d) Yes, comprehensive measures are in place (please provide details below)

Further information on the measures to ensure that any scientific research based on genetic resources provided by other Contracting Parties is developed and carried out with the full participation of such Contracting Parties.

112. ? Has your country taken measures to ensure the fair and equitable sharing of the results of research and development and of the benefits arising from the commercial and other use of genetic resources with any Contracting Party providing such resources, in accordance with Article 15(7)?

a) No	
b) No, but potential measures are under review	
c) Yes, some measures are in place (please provide details below)	
d) Yes, comprehensive legislation is in place (please provide details below)	
e) Yes, comprehensive statutory policy or subsidiary legislation are in place (please provide details below)	
f) Yes, comprehensive policy and administrative measures are in place (please provide details below)	
Further information on the type of measures taken.	

113. ? In developing national measures to address access to genetic resources and benefit-sharing, has your country taken into account the multilateral system of access and benefit-sharing set out in the International Treaty on Plant Genetic Resources for Food and Agriculture?

a) No	X
b) Yes (please provide details below)	
Further information on national measures taken which consider the multilateral system of access and benefit-sharing as set out in the International Treaty on Plant Genetic Resources for Food and Agriculture.	
Swaziland has signed (10/6/2002) but not ratified the International Treaty on Plant Genetic Resources for Food and Agriculture. The Treaty entered into force on 29 June 2004.	

114. Is your country using the Bonn Guidelines when developing and drafting legislative, administrative or policy measures on access and benefit-sharing and/or when negotiating contracts and other arrangements under mutually agreed terms for access and benefit-sharing? (decision VII/19A)

a) No	
b) No, but steps being taken to do so (please provide details below)	
c) Yes (please provide details below)	
Please provide details and specify successes and constraints in the implementation of the Bonn Guidelines.	

115. Has your country adopted national policies or measures, including legislation, which address the role of intellectual property rights in access and benefit-sharing arrangements (i.e. the issue of disclosure of origin/source/legal provenance of genetic resources in applications for intellectual property rights where the subject matter of the application concerns, or makes use of, genetic resources in its development)?

a) No	
b) No, but potential policies or measures have been identified (please specify below)	
c) No, but relevant policies or measures are under development (please specify below)	
d) Yes, some policies or measures are in place (please specify below)	
e) Yes, comprehensive policies or measures adopted (please specify below)	

Further information on policies or measures that address the role of IPR in access and benefit-sharing arrangements.

116. Has your country been involved in capacity-building activities related to access and benefit-sharing?

a) Yes (please provide details below)	
b) No	

Please provide further information on capacity-building activities (your involvement as donor or recipient, key actors involved, target audience, time period, goals and objectives of the capacity-building activities, main capacity-building areas covered, nature of activities). Please also specify whether these activities took into account the Action Plan on capacity-building for access and benefit-sharing adopted at COP VII and available in annex to decision VII/19F.

Box LIV.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

Article 16 - Access to and transfer of technology

117. ? On Article 16(1), has your country taken measures to provide or facilitate access for and transfer to other Parties of technologies that are relevant to the conservation and sustainable use of biological diversity or make use of genetic resources and do not cause significant damage to the environment?

a) No	X
b) No, but potential measures are under review	
c) Yes, some measures are in place (please provide details below)	
d) Yes, comprehensive measures are in place (please provide details below)	
Further information on the measures to provide or facilitate access for and transfer to other Parties of technologies that are relevant to the conservation and sustainable use of biodiversity or make use of genetic resources and do not cause significant damage to the environment.	

118. ? On Article 16(3), has your country taken measures so that Parties which provide genetic resources are provided access to and transfer of technology which make use of those resources, on mutually agreed terms?

a) No	
b) No, but potential measures are under review	X
c) Yes, some measures are in place	
d) Yes, comprehensive legislation is in place	
e) Yes, comprehensive statutory policy or subsidiary legislation are in place	
f) Yes, comprehensive policy and administrative arrangements are in place	
g) Not applicable	

119. ? On Article 16(4), has your country taken measures so that the private sector facilitates access to joint development and transfer of relevant technology for the benefit of Government institutions and the private sector of developing countries?

a) No	
b) No, but potential measures are under review	X
c) Yes, some policies and measures are in place (please provide details below)	
d) Yes, comprehensive policies and measures are in place (please provide details below)	
e) Not applicable	
Further information on the measures taken.	

Box LV.

Please elaborate below on the implementation of this article specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

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Programme of Work on transfer of technology and technology cooperation

120. Has your country provided financial and technical support and training to assist in the implementation of the programme of work on transfer of technology and technology cooperation? (decision VII/29)

a) No	X
b) No, but relevant programmes are under development	
c) Yes, some programmes being implemented (please provide details below)	
d) Yes, comprehensive programmes being implemented (please provide details below)	

Further comments on the provision of financial and technical support and training to assist in the implementation of the programme of work on transfer of technology and technology cooperation.

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121. Is your country taking any measures to remove unnecessary impediments to funding of multi-country initiatives for technology transfer and for scientific and technical cooperation? (decision VII/29)

a) No	
b) No, but some measures being considered	X
c) Yes, some measures are in place (please provide details below)	
d) Yes, comprehensive measures are in place (please provide details below)	

Further comments on the measures to remove unnecessary impediments to funding of multi-country initiatives for technology transfer and for scientific and technical cooperation.

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122. Has your country made any technology assessments addressing technology needs, opportunities and barriers in relevant sectors as well as related needs in capacity building? (annex to decision VII/29)

a) No	
b) No, but assessments are under way	X
c) Yes, basic assessments undertaken (please provide details below)	
d) Yes, thorough assessments undertaken (please provide details below)	

Further comments on technology assessments addressing technology needs, opportunities and barriers in relevant sectors as well as related needs in capacity building.

123. Has your country made any assessments and risk analysis of the potential benefits, risks and associated costs with the introduction of new technologies? (annex to decision VII/29)

a) No	
b) No, but assessments are under way	X
c) Yes, some assessments undertaken (please provide details below)	
d) Yes, comprehensive assessments undertaken (please provide details below)	

Further comments on the assessments and risk analysis of the potential benefits, risks and associated costs with the introduction of new technologies.

124. Has your country identified and implemented any measures to develop or strengthen appropriate information systems for technology transfer and cooperation, including assessing capacity building needs? (annex to decision VII/29)

a) No	
b) No, but some programmes are under development	X
c) Yes, some programmes are in place and being implemented (please provide details below)	
d) Yes, comprehensive programmes are being implemented (please provide details below)	

Further comments on measures to develop or strengthen appropriate information systems for technology transfer and cooperation.

125. Has your country taken any of the measures specified under Target 3.2 of the programme of work as a preparatory phase to the development and implementation of national institutional, administrative, legislative and policy frameworks to facilitate cooperation as well as access to and adaptation of technologies of relevance to the Convention? (annex to decision VII/29)

a) No	
b) No, but a few measures being considered	X
c) Yes, some measures taken (please specify below)	
d) Yes, many measures taken (please specify below)	

Further comments on the measures taken as a preparatory phase to the development and implementation of national institutional, administrative, legislative and policy frameworks to facilitate cooperation as well as access to and adaptation of technologies of relevance to the Convention.

Box LVI.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

Article 17 - Exchange of information

126. ? On Article 17(1), has your country taken measures to facilitate the exchange of information from publicly available sources with a view to assist with the implementation of the Convention and promote technical and scientific cooperation?

a) No	
b) No, but potential measures are under review	
c) Yes, some measures are in place	X
d) Yes, comprehensive measures are in place	

The following question (127) is for DEVELOPED COUNTRIES

127. ? On Article 17(1), do these measures take into account the special needs of developing countries and include the categories of information listed in Article 17(2), such as technical, scientific and socio-economic research, training and surveying programmes, specialized knowledge, repatriation of information and so on?

a) No	
b) Yes, but they do not include the categories of information listed in Article 17(2), such as technical, scientific and socio-economic research, training and surveying programmes, specialized knowledge, repatriation of information and so on	

- | | |
|---|--|
| c) Yes, and they include categories of information listed in Article 17 (2), such as technical, scientific and socio-economic research, training and surveying programmes, specialized knowledge, repatriation of information and so on | |
|---|--|

Box LVII .

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) Outcomes & impacts

The Swaziland Environment Authority have developed a website on which various articles and links to information, including that on biodiversity, is available. No specific measures other than the website have been undertaken due to a lack of funding. The Authority are in the planning process of establishing a Clearing House Mechanism and some equipment to facilitate this has been acquired, however, personnel to manage this mechanism have yet to be appointed.

b) Strategic Plan of the Convention

Contributes significantly to all four goals of the Strategic Plan.

c) 2010 Target

(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)

The implementation of this Article has an important indirect impact on the achievement of the 2010 target as activities to date have focused more on planning and setting up the Clearing House.

d) NBSAP

The NBSAP does not specifically address information exchange however, the sharing of information is considered an important element of the implementation of the NBSAP. During the development of the NBSAP, various documents, reports and checklists were produced which are available in various resource centres around the country notably in reserves and university libraries.

e) MDGs

The sustainable use of components of biological diversity contributes to achieving MDG Goal 7 "Ensure environmental sustainability".

f) Constraints

The main constraints related to the implementation of this article are lack of adequate financial resources to make information on biodiversity more easily available and a lack of effective partnerships.

Article 18 - Technical and scientific cooperation

128. ? On Article 18(1), has your country taken measures to promote international technical and scientific cooperation in the field of conservation and sustainable use of biological diversity?

- | | |
|--|---|
| a) No | |
| b) No, but potential measures are under review | |
| c) Yes, some measures are in place (please provide details below) | X |
| d) Yes, comprehensive measures are in place (please provide details below) | |

Further information on the measures to promote international technical and scientific cooperation.

Under the auspices of the TFCA Programme and Peace Parks Foundation, there is scientific cooperation with regards to geospatial analysis and planning and this involves a lot of scientific analysis of species, landscapes and other socio-economic analysis using biodiversity information from the three countries involved, i.e. Swaziland, South Africa and Mozambique.

There is also cooperation with the University of Kent, Durrell Institute for Conservation Ecology (DICE)'s Maputaland Project, which involves a lot of remote sensing and GIS work using funding from the Darwin Initiative.

129. ? On Article 18(4), has your country encouraged and developed methods of cooperation for the development and use of technologies, including indigenous and traditional technologies, in pursuance of the objectives of this Convention?

- | | |
|---|---|
| a) No | X |
| b) No, but relevant methods are under development | |
| c) Yes, methods are in place | |

130. ? On Article 18(5), has your country promoted the establishment of joint research programmes and joint ventures for the development of technologies relevant to the objectives of the Convention?

- | | |
|---|---|
| a) No | |
| b) Yes (please provide some examples below) | X |

Examples for the establishment of joint research programmes and joint ventures for the development of technologies relevant to the objectives of the Convention.

The Maputaland Project mentioned in 30 is a form of joint research programme. Joint research programmes are planned for the Transfrontier Conservation Areas (TFCAs) in the near future through the development of joint management plans for TFCAs transcending international boundaries.

131. Has your country established links to non-governmental organizations, private sector and other institutions holding important databases or undertaking significant work on biological diversity through the CHM? (decision V/14)

- | | |
|---|---|
| a) No | |
| b) No, but coordination with relevant NGOs, private sector and other institutions under way | |
| c) Yes, links established with relevant NGOs, private sector and institutions | X |

The following question (132) is for DEVELOPED COUNTRIES

132. Has your country further developed the CHM to assist developing countries and countries with economies in transition to gain access to information in the field of scientific and technical cooperation? (decision V/14)

a) No	
b) Yes, by using funding opportunities	
c) Yes, by means of access to, and transfer of technology	
d) Yes, by using research cooperation facilities	
e) Yes, by using repatriation of information	
f) Yes, by using training opportunities	
g) Yes, by using promotion of contacts with relevant institutions, organizations and the private sector	
h) Yes, by using other means (please specify below)	

Further comments on CHM developments to assist developing countries and countries with economies in transition to gain access to information in the field of scientific and technical cooperation.

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133. Has your country used CHM to make information available more useful for researchers and decision-makers? (decision V/14)

a) No	
b) No, but relevant initiatives under consideration	X
c) Yes (please provide details below)	

Further comments on development of relevant initiatives.

National Biodiversity Database Unit (NBDU) under development at UNISWA through the Biodiversity Programme Implementation Committee (BPIC).

The SNTC website under revision with a lot of biodiversity information and data to be made available.

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134. Has your country developed, provided and shared services and tools to enhance and facilitate the implementation of the CHM and further improve synergies among biodiversity-related Conventions? (decision V/14)

a) No	X
b) Yes (please specify services and tools below)	

Further comments on services and tools to enhance and facilitate the implementation of CHM and further improve synergies among biodiversity-related Conventions.

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Box LVIII.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) Outcomes & impacts

b) Strategic Plan of the Convention

Contributes significantly to all four goals of the Strategic Plan.

c) 2010 Target

(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)

The implementation of this Article has an important indirect impact on the achievement of the 2010 target as activities to date have focused more on planning and setting up the Clearing House.

d) NBSAP

The NBSAP ...

e) MDGs

The sustainable use of components of biological diversity contributes to achieving MDG Goal 7 "Ensure environmental sustainability".

f) Constraints

The main constraints related to the implementation of this article are

Article 19 - Handling of biotechnology and distribution of its benefits

135. ? On Article 19(1), has your country taken measures to provide for the effective participation in biotechnological research activities by those Contracting Parties which provide the genetic resources for such research?

a) No	
b) No, but potential measures are under review	
c) Yes, some measures are in place	X
d) Yes, comprehensive legislation are in place	
e) Yes, comprehensive statutory policy and subsidiary legislation are in place	
f) Yes, comprehensive policy and administrative measures are in place	

136. ? On Article 19(2), has your country taken all practicable measures to promote and advance priority access by Parties, on a fair and equitable basis, to the results and benefits arising from biotechnologies based upon genetic resources provided by those Parties?

a) No	
b) No, but potential measures are under review	X
c) Yes, some measures are in place	
d) Yes, comprehensive measures are in place	

Box LIX.

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) Outcomes & impacts

b) Strategic Plan of the Convention

Contributes significantly to all four goals of the Strategic Plan.

c) 2010 Target

(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)

The implementation of this Article has an important indirect impact on the achievement of the 2010 target as activities to date have focused more on planning and setting up the Clearing House.

d) NBSAP

The NBSAP ...

e) MDGs

The sustainable use of components of biological diversity contributes to achieving MDG Goal 7 "Ensure environmental sustainability".

f) Constraints

The main constraints related to the implementation of this article are

Article 20 - Financial resources

Box LX.

Please describe for each of the following items the quantity of financial resources, both internal and external, that have been utilized, received or provided, as applicable, to implement the Convention on Biological Diversity, on an annual basis, since your country became a Party to the Convention.	
a) Budgetary allocations by national and local Governments as well as different sectoral ministries	SEA = (E0.5m establishment of National Environment Fund) SNTC National Parks Upgrading - (E4.5M Local Funds for Mlawula
b) Extra-budgetary resources (identified by donor agencies)	
c) Bilateral channels (identified by donor agencies)	SNTC(National Parks upgrading) E17.8m Republic of China
d) Regional channels (identified by donor agencies)	
e) Multilateral channels (identified by donor agencies)	IUCN (E150000 in 2004) GEF (BCPD E4.7m 2003-2006) GEF (NCSA E1.2m 2003-2006) GEF (SADC-BSP E1.95m 2001- 2006) Grants and subsidies include 2004/05 to 2005/06 E155000 from UNEP annually and E113000 from IUCN
f) Private sources (identified by donor agencies)	Big Game Parks
g) Resources generated through financial instruments, such as charges for use of biodiversity	

Box LXI.

Please describe in detail below any major financing programmes, such as biodiversity trust funds or specific programmes that have been established in your country.

137. ? On Article 20(1), has your country provided financial support and incentives to those national activities that are intended to achieve the objectives of the Convention?	
a) No	
b) Yes, incentives only (please provide a list of such incentives below)	X
c) Yes, financial support only	
d) Yes, financial support and incentives (please provide details below)	

Further comments on financial support and incentives provided.

Swaziland Government allocates national funds through the national budget to the Ministry of Tourism, Environment and Communication (SEA), the Ministry of Natural Resources and Energy (water) and the Ministry of Agriculture (forestry).

The next question (138) is for DEVELOPED COUNTRIES

138. ? On Article 20(2), has your country provided new and additional financial resources to enable developing country Parties to meet the agreed incremental costs to them of implementing measures which fulfill the obligations of the Convention?

a) No

b) Yes (please indicate the amount, on an annual basis, of new and additional financial resources your country has provided)

Further comments on new and additional financial resources provided.

The next question (139) is for DEVELOPING COUNTRIES OR COUNTRIES WITH ECONOMIES IN TRANSITION

139. ? On Article 20(2), has your country received new and additional financial resources to enable it to meet the agreed full incremental costs of implementing measures which fulfill the obligations of the Convention?

a) No

X

b) Yes

140. ? Has your country established a process to monitor financial support to biodiversity, including support provided by the private sector? (decision V/11)

a) No

X

b) No, but procedures being established

c) Yes (please provide details below)

Further comments on processes to monitor financial support to biodiversity, including support provided by the private sector.

141. ? Has your country considered any measures like tax exemptions in national taxation systems to encourage financial support to biodiversity? (decision V/11)

a) No

X

b) No, but exemptions are under development (please provide details below)

c) Yes, exemptions are in place (please provide details below)

Further comments on tax exemptions for biodiversity-related donations.

142. Has your country reviewed national budgets and monetary policies, including the effectiveness of official development assistance allocated to biodiversity, with particular attention paid to positive incentives and their performance as well as perverse incentives and ways and means for their removal or mitigation? (decision VI/16)

a) No	
b) No, but review is under way	X
c) Yes (please provide results of review below)	
Further comments on review of national budgets and monetary policies, including the effectiveness of official development assistance.	

143. Is your country taking concrete actions to review and further integrate biodiversity considerations in the development and implementation of major international development initiatives, as well as in national sustainable development plans and relevant sectoral policies and plans? (decisions VI/16 and VII/21)

a) No	
b) No, but review is under way	X
c) Yes, in some initiatives and plans (please provide details below)	
d) Yes, in major initiatives and plans (please provide details below)	
Further comments on review and integration of biodiversity considerations in relevant initiatives, policies and plans.	
NDPs	
NDS	
MDGs	
NPRAP	
GEF supported projects	

144. Is your country enhancing the integration of biological diversity into the sectoral development and assistance programmes? (decision VII/21)

a) No	
b) No, but relevant programmes are under development	
c) Yes, into some sectoral development and assistance programmes (please provide details below)	X
d) Yes, into major sectoral development and assistance programmes (please provide details below)	
Further comments on the integration of biodiversity into sectoral development and assistance programmes	

The next question (145) is for DEVELOPED COUNTRIES

145. Please indicate with an "X" in the table below in which area your country has provided financial support to developing countries and/or countries with economies in transition. Please elaborate in the space below if necessary.

Areas	Support provided
a) Undertaking national or regional assessments within the framework of MEA (decision VI/8)	
b) <i>In-situ</i> conservation (decision V/16)	
c) Enhance national capacity to establish and maintain the mechanisms to protect traditional knowledge (decision VI/10)	
d) <i>Ex-situ</i> conservation (decision V/26)	
e) Implementation of the Global Strategy for Plant Conservation (decision VI/9)	
f) Implementation of the Bonn Guidelines (decision VI/24)	
g) Implementation of programme of work on agricultural biodiversity (decision V/5)	
h) Preparation of first report on the State of World's Animal Genetic Resources (decision VI/17)	
i) Support to work of existing regional coordination mechanisms and development of regional and sub regional networks or processes (decision VI/27)	
j) Development of partnerships and other means to provide the necessary support for the implementation of the programme of work on dry and subhumid lands biological diversity (decision VII/2)	
k) Financial support for the operations of the Coordination Mechanism of the Global Taxonomy Initiative (decision VII/9)	
l) Support to the implementation of the Action Plan on Capacity Building as contained in the annex to decision VII/19 (decision VII/19)	
m) Support to the implementation of the programme of work on mountain biological diversity (decision VII/27)	
n) Support to the implementation of the programme of work on protected areas (decision VII/28)	
o) Support to the development of national indicators (decision VII/30)	
p) Others (please specify)	
Further information on financial support provided to developing countries and countries with economies in transition.	

The next question (146) is for DEVELOPING COUNTRIES OR COUNTRIES WITH ECONOMIES IN TRANSITION

146. Please indicate with an "X" in the table below in which areas your country has applied for funds from the Global Environment Facility (GEF), from developed countries and/or from other sources. The same area may have more than one source of financial support. Please elaborate in the space below if necessary.

Areas	Applied for funds from		
	GEF	Bilateral	Other
a) Preparation of national biodiversity strategies or action plans	X		
b) National capacity self-assessment for implementation of Convention (decision VI/27)	X		
c) Priority actions to implement the Global Taxonomy Initiative (decision V/9)			
d) <i>In-situ</i> conservation (decision V/16)		X	X
e) Development of national strategies or action plans to deal with alien species (decision VI/23)	X		
f) <i>Ex-situ</i> conservation, establishment and maintenance of <i>Ex-situ</i> conservation facilities (decision V/26)		X	
g) Projects that promote measures for implementing Article 13 (Education and Public Awareness) (decision VI/19)			
h) Preparation of national reports (decisions III/9, V/19 and VI/25)	X		
i) Projects for conservation and sustainable use of inland water biological diversity (decision IV/4)		X	
j) Activities for conservation and sustainable use of agricultural biological diversity (decision V/5)			
k) Implementation of the Cartagena Protocol on Biosafety (decision VI/26)	X		
l) Implementation of the Global Taxonomy Initiative			
m) Implementation of the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity			
n) Others (please specify)			
Further information on application for financial support.			

Box LXII .

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) Outcomes & impacts

b) Strategic Plan of the Convention

Contributes significantly to all four goals of the Strategic Plan.

c) 2010 Target

(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)

The implementation of this Article has an important indirect impact on the achievement of the 2010 target as activities to date have focused more on planning and setting up the Clearing House.

d) NBSAP

The NBSAP ...

e) MDGs

The sustainable use of components of biological diversity contributes to achieving MDG Goal 7 "Ensure environmental sustainability".

f) Constraints

The main constraints related to the implementation of this article are

D. THEMATIC AREAS

147. Please use the scale indicated below to reflect the level of challenges faced by your country in implementing the thematic programmes of work of the Convention (marine and coastal biodiversity, agricultural biodiversity, forest biodiversity, inland waters biodiversity, dry and sub-humid lands and mountain biodiversity).

3 = High Challenge	1 = Low Challenge
2 = Medium Challenge	0 = Challenge has been successfully overcome
N/A = Not applicable	

Challenges	Programme of Work					
	Agricultural	Forest	Marine and coastal	Inland water ecosystem	Dry and subhumid lands	Mountain
(a) Lack of political will and support	0	0	n/a	0	0	n/a
(b) Limited public participation and stakeholder involvement	1	1	n/a	1	1	n/a
(c) Lack of mainstreaming and integration of biodiversity issues into other sectors	2	2	n/a	2	2	n/a
(d) Lack of precautionary and proactive measures	2	2	n/a	2	2	n/a
(e) Inadequate capacity to act, caused by institutional weakness	3	3	n/a	2	2	n/a
(f) Lack of transfer of technology and expertise	2	2	n/a	2	2	n/a
(g) Loss of traditional knowledge	2	2	n/a	2	2	n/a
(h) Lack of adequate scientific research capacities to support all the objectives	2	1	n/a	1	1	n/a

Challenges	Programme of Work					
	Agricultural	Forest	Marine and coastal	Inland water ecosystem	Dry and subhumid lands	Mountain
(i) Lack of accessible knowledge and information	1	1	n/a	1	1	n/a
(j) Lack of public education and awareness at all levels	1	1	n/a	1	1	n/a
(k) Existing scientific and traditional knowledge not fully utilized	2	2	n/a	2	2	n/a
(l) Loss of biodiversity and the corresponding goods and services it provides not properly understood and documented	3	3	n/a	3	2	n/a
(m) Lack of financial, human, technical resources	3	3	n/a	3	3	n/a
(n) Lack of economic incentive measures	3	3	n/a	2	2	n/a
(o) Lack of benefit-sharing	2	2	n/a	2	2	n/a
(p) Lack of synergies at national and international levels	2	2	n/a	2	2	n/a
(q) Lack of horizontal cooperation among stakeholders	1	1	n/a	1	1	n/a
(r) Lack of effective partnerships	2	2	n/a	2	2	n/a
(s) Lack of engagement of scientific community	1	1	n/a	1	1	n/a
(t) Lack of appropriate policies and laws	2	2	n/a	2	2	n/a
(u) Poverty	2	2	n/a	2	2	n/a

Challenges	Programme of Work					
	Agricultural	Forest	Marine and coastal	Inland water ecosystem	Dry and subhumid lands	Mountain
(v) Population pressure	2	3	n/a	3	3	n/a
(w) Unsustainable consumption and production patterns	2	2	n/a	2	2	n/a
(x) Lack of capacities for local communities	2	3	n/a	3	3	n/a
(y) Lack of knowledge and practice of ecosystem-based approaches to management	2	2	n/a	2	2	n/a
(z) Weak law enforcement capacity	3	3	n/a	3	3	n/a
(aa) Natural disasters and environmental change	2	2	n/a	2	2	n/a
(bb) Others (please specify)			n/a			n/a

Inland water ecosystems

148. Has your country incorporated the objectives and relevant activities of the programme of work into the following and implemented them? (decision VII/4)				
Strategies, policies, plans and activities	No	Yes, partially, integrated but not implemented	Yes, fully integrated and implemented	N/A
a) Your biodiversity strategies and action plans		X		
b) Wetland policies and strategies				X
c) Integrated water resources management and water efficiency plans being developed in line with paragraph 25 of the Plan of Implementation of the World Summit on Sustainable Development				X
d) Enhanced coordination and cooperation between national actors responsible for inland water ecosystems and biological diversity	X			
Further comments on incorporation of the objectives and activities of the programme of work				

149. Has your country identified priorities for each activity in the programme of work, including timescales, in relation to outcome oriented targets? (decision VII/4)	
a) No	X
b) Outcome oriented targets developed but priority activities not developed	
c) Priority activities developed but not outcome oriented targets	
d) Yes, comprehensive outcome oriented targets and priority activities developed	
Further comments on the adoption of outcome oriented targets and priorities for activities, including providing a list of targets (if developed).	

150. Is your country promoting synergies between this programme of work and related activities under the Ramsar Convention as well as the implementation of the Joint Work Plan (CBD-Ramsar) at the national level? (decision VII/4)

a) Not applicable (not Party to Ramsar Convention)	X
b) No	
c) No, but potential measures were identified for synergy and joint implementation	
d) Yes, some measures taken for joint implementation (please specify below)	
e) Yes, comprehensive measures taken for joint implementation (please specify below)	
Further comments on the promotion of synergies between the programme of work and related activities under the Ramsar Convention as well as the implementation of the Joint Work Plan (CBD-Ramsar) at the national level.	

151. Has your country taken steps to improve national data on: (decision VII/4)

Issues	Yes	No	No, but development is under way
a) Goods and services provided by inland water ecosystems?			X
b) The uses and related socioeconomic variables of such goods and services?			X
c) Basic hydrological aspects of water supply as they relate to maintaining ecosystem function?	X		
d) Species and all taxonomic levels?	X		
e) On threats to which inland water ecosystems are subjected?			X

Further comments on the development of data sets, in particular a list of data sets developed in case you have replied "YES" above.

The Water Resources Branch of the Ministry of Natural Resources and Energy maintains a comprehensive database of the hydrological condition of all the countries major rivers. Inflow stream requirements have been developed for two major river basins with preparations in the pipeline to assess the remaining two basins. Water quality is measured at key sites on these major rivers.

In 2003 the Fisheries Section of the Ministry of Agriculture undertook a comprehensive fish survey of all major river systems. The results of the survey are still being analyzed.

152. Has your country promoted the application of the guidelines on the rapid assessment of the biological diversity of inland water ecosystems? (decision VII/4)

a) No, the guidelines have not been reviewed	X
b) No, the guidelines have been reviewed and found inappropriate	
c) Yes, the guidelines have been reviewed and application/promotion is pending	
d) Yes, the guidelines promoted and applied	

Further comments on the promotion and application of the guidelines on the rapid assessment of the biological diversity of inland water ecosystems.

Box LXIII.

Please elaborate below on the implementation of this programme of work and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) Outcomes & impacts

Knowledge of the status of Swaziland's hydrology is fairly comprehensive with detailed data on river flows. The two inflow stream assessments have contributed to a greater understanding of the environmental and ecological needs of these two rivers has contributed to a wider understanding the country's situation. Having not ratified the RAMSAR Convention, specific related activities are lacking. The 2003 Fish Survey has also increased the available information of fish species in the country's rivers.

b) Strategic Plan of the Convention

Contributes to goals 3 and 4 of the Strategic Plan.

c) 2010 Target

(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)

The implementation of this Thematic Area has had little impact on the rate of biodiversity loss in the country's inland water systems.

d) NBSAP

The NBSAP identifies the importance and threats to inland water systems. The NBSAP recognizes four key ecosystems with wetlands being one of them. The overall target to protect 10% of the full range of the ecosystems incorporates inland water systems. The aquatic ecosystems are highly restricted in distribution.

e) MDGs

This Thematic Area contributes to achieving MDG Goal 7 "Ensure environmental sustainability" and MDG 1 "Eradicate extreme poverty and hunger". Inland waters support many natural resources that

contribute to meeting nutritional and dietary requirements of many rural people.

f) Constraints

The main constraints related to the implementation of this Thematic Area are related to both the limited distribution of the aquatic ecosystem but more importantly the lack of mainstreaming of this thematic area into national development plans. Access to water for agriculture production is critical for the country's future development, but is currently poorly managed. In 2005 an IWRM Plan will be prepared which will provide guidance on the future management of this resource. As a non-Party to the RAMSAR Convention the country has limited access to specific technical support and guidance. Capacity at all levels is limited and hinders sustainable management of inland waters.

Marine and coastal biological diversity

General

153. Do your country's strategies and action plans include the following? Please use an "X" to indicate your response. (decisions II/10 and IV/15)

a) Developing new marine and coastal protected areas	
b) Improving the management of existing marine and coastal protected areas	
c) Building capacity within the country for management of marine and coastal resources, including through educational programmes and targeted research initiatives (if yes, please elaborate on types of initiatives in the box below)	
d) Instituting improved integrated marine and coastal area management (including catchments management) in order to reduce sediment and nutrient loads into the marine environment	
e) Protection of areas important for reproduction, such as spawning and nursery areas	
f) Improving sewage and other waste treatment	
g) Controlling excessive fishing and destructive fishing practices	
h) Developing a comprehensive oceans policy (if yes, please indicate current stage of development in the box below)	
i) Incorporation of local and traditional knowledge into management of marine and coastal resources (if yes, please elaborate on types of management arrangements in the box below)	
j) Others (please specify below)	
k) Not applicable	X

Please elaborate on the above activities and list any other priority actions relating to conservation and sustainable use of marine and coastal biodiversity.

Implementation of Integrated Marine and Coastal Area Management

154. Has your country established and/or strengthened institutional, administrative and legislative arrangements for the development of integrated management of marine and coastal ecosystems?	
a) No	
b) Early stages of development	
c) Advanced stages of development	
d) Arrangements in place (please provide details below)	
e) Not applicable	X
Further comments on the current status of implementation of integrated marine and coastal area management.	

155. Has your country implemented ecosystem-based management of marine and coastal resources, for example through integration of coastal management and watershed management, or through integrated multidisciplinary coastal and ocean management?	
a) No	
b) Early stages of development	
c) Advanced stages of development	
d) Arrangements in place (please provide details below)	
e) Not applicable	X
Further comments on the current status of application of the ecosystem to management of marine and coastal resources.	

Marine and Coastal Living Resources

156. Has your country identified components of your marine and coastal ecosystems, which are critical for their functioning, as well as key threats to those ecosystems?	
a) No	
b) Plans for a comprehensive assessment of marine and coastal ecosystems are in place (please provide details below)	
c) A comprehensive assessment is currently in progress	
d) Critical ecosystem components have been identified, and management plans for them are being developed (please provide details below)	
e) Management plans for important components of marine and coastal ecosystems are in place (please provide details below)	
f) Not applicable	X
Further comments on the current status of assessment, monitoring and research relating to marine and coastal ecosystems, as well as key threats to them	

157. Is your country undertaking the following activities to implement the Convention's work plan on coral reefs? Please use an "X" to indicate your response.

Activities	Not implemented nor a priority	Not implemented but a priority	Currently implemented	Not applicable
a) Ecological assessment and monitoring of reefs				X
b) Socio-economic assessment and monitoring of communities and stakeholders				X
c) Management, particularly through application of integrated coastal management and marine and coastal protected areas in coral reef environments				X
d) Identification and implementation of additional and alternative measures for securing livelihoods of people who directly depend on coral reef services				X
e) Stakeholder partnerships, community participation programmes and public education campaigns				X
f) Provision of training and career opportunities for marine taxonomists and ecologists				X
g) Development of early warning systems of coral bleaching				X
h) Development of a rapid response capability to document coral bleaching and mortality				X
i) Restoration and rehabilitation of degraded coral reef habitats				X
j) Others (please specify below)				

Please elaborate on ongoing activities.

Marine and Coastal Protected Areas

158. Which of the following statements can best describe the current status of marine and coastal protected areas in your country? Please use an "X" to indicate your response.	
a) Marine and coastal protected areas have been declared and gazetted (please indicate below how many)	
b) Management plans for these marine and coastal protected areas have been developed with involvement of all stakeholders	
c) Effective management with enforcement and monitoring has been put in place	
d) A national system or network of marine and coastal protected areas is under development	
e) A national system or network of marine and coastal protected areas has been put in place	
f) The national system of marine and coastal protected areas includes areas managed for purpose of sustainable use, which may allow extractive activities	
g) The national system of marine and coastal protected areas includes areas which exclude extractive uses	
h) The national system of marine and coastal protected areas is surrounded by sustainable management practices over the wider marine and coastal environment.	
i) Other (please describe below)	
j) Not applicable	X
Further comments on the current status of marine and coastal protected areas.	

Mariculture

159. Is your country applying the following techniques aimed at minimizing adverse impacts of mariculture on marine and coastal biodiversity? Please check all that apply.	
a) Application of environmental impact assessments for mariculture developments	
b) Development and application of effective site selection methods in the framework of integrated marine and coastal area management	
c) Development of effective methods for effluent and waste control	
d) Development of appropriate genetic resource management plans at the hatchery level	
e) Development of controlled hatchery and genetically sound reproduction methods in order to avoid seed collection from nature.	
f) If seed collection from nature cannot be avoided, development of environmentally sound practices for spat collecting operations, including use of selective fishing gear to avoid by-catch	
g) Use of native species and subspecies in mariculture	

h)	Implementation of effective measures to prevent the inadvertent release of mariculture species and fertile polypoids.	
i)	Use of proper methods of breeding and proper places of releasing in order to protect genetic diversity	
j)	Minimizing the use of antibiotics through better husbandry techniques	
k)	Use of selective methods in commercial fishing to avoid or minimize by-catch	
l)	Considering traditional knowledge, where applicable, as a source to develop sustainable mariculture techniques	
m)	Not applicable	X
Further comments on techniques that aim at minimizing adverse impacts of mariculture on marine and coastal biodiversity.		

Alien Species and Genotypes

160. Has your country put in place mechanisms to control pathways of introduction of alien species in the marine and coastal environment? Please check all that apply and elaborate on types of measures in the space below.		
a)	No	
b)	Mechanisms to control potential invasions from ballast water have been put in place (please provide details below)	
c)	Mechanisms to control potential invasions from hull fouling have been put in place (please provide details below)	
d)	Mechanisms to control potential invasions from aquaculture have been put in place (please provide details below)	
e)	Mechanisms to control potential invasions from accidental releases, such as aquarium releases, have been put in place (please provide details below)	
f)	Not applicable	X
Further comments on the current status of activities relating to prevention of introductions of alien species in the marine and coastal environment, as well as any eradication activities.		

Box LXIV.

<p>Please elaborate below on the implementation of this programme of work and associated decisions specifically focusing on:</p> <ul style="list-style-type: none"> a) outcomes and impacts of actions taken; b) contribution to the achievement of the goals of the Strategic Plan of the Convention; c) contribution to progress towards the 2010 target; d) progress in implementing national biodiversity strategies and action plans; e) contribution to the achievement of the Millennium Development Goals; f) constraints encountered in implementation.
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Agricultural biological diversity

161. ? Has your country developed national strategies, programmes and plans that ensure the development and successful implementation of policies and actions that lead to the conservation and sustainable use of agrobiodiversity components? (decisions III/11 and IV/6)

a) No	
b) No, but strategies, programmes and plans are under development	
c) Yes, some strategies, programmes and plans are in place (please provide details below)	X
d) Yes, comprehensive strategies, programmes and plans are in place (please provide details below)	

Further comments on agrobiodiversity components in national strategies, programmes and plans.

Agrobiodiversity components have been incorporated into the NBSAP (4.3 Strategies for the Conservation of Agro-biodiversity) with the goal to conserve the genetic base of Swaziland's crops and livestock breeds. Strategies include to conserve, and sustainably use, plant and farm animal genetic resources.

The Comprehensive Agriculture Sector Policy (CASP) 2005 and the National Food Security Policy (2005) both recognize the importance of agrobiodiversity by focusing on research in plant and genetic resources. The Food Security Policy proposes the following strategies:

- (b) Enhance of the diversity of all genetic resources for food and agriculture, especially plant and animal genetic resources, in all types of production systems.
- (c) Promote an integrated approach to conservation and sustainable utilisation of plant and animal genetic resources for food and agriculture.
- (d) Initiate research programmes to maintain agro-biodiversity and establish a breeding programme for food crops that fits local conditions, for example open-pollinated varieties

162. ? Has your country identified ways and means to address the potential impacts of genetic use restriction technologies on the *In-situ* and *Ex-situ* conservation and sustainable use, including food security, of agricultural biological diversity? (decision V/5)

a) No	
b) No, but potential measures are under review	
c) Yes, some measures identified (please provide details below)	X
d) Yes, comprehensive measures identified (please provide details below)	

Further information on ways and means to address the potential impacts of genetic use restriction technologies on the *In-situ* and *Ex-situ* conservation and sustainable use of agricultural biodiversity.

The potential impacts of genetic use restriction technologies on the *In-situ* and *Ex-situ* conservation and sustainable use are broadly assessed, where applicable, through the Environmental Impact Assessment process under the Environmental management Act of 2003.

Annex to decision V/5 - Programme of work on agricultural biodiversity

Programme element 1 – Assessment	
163. Has your country undertaken specific assessments of components of agricultural biodiversity such as on plant genetic resources, animal genetic resources, pollinators, pest management and nutrient cycling?	
a) No	
b) Yes, assessments are in progress (please specify components below)	X
c) Yes, assessments completed (please specify components and results of assessments below)	
Further comments on specific assessments of components of agricultural biodiversity.	
There is a programme to revive and preserve genetic resources of farm animals. A research programme exists on the preservation of the genetic resources of the local cattle breed notably the Nguni.	

164. Is your country undertaking assessments of the interactions between agricultural practices and the conservation and sustainable use of the components of biodiversity referred to in Annex I of the Convention (e.g. ecosystems and habitats; species and communities; genomes and genes of social, scientific or economic importance)?	
a) No	X
b) Yes, assessments are under way	
c) Yes, some assessments completed (please provide details below)	
d) Yes, comprehensive assessments completed (please provide details below)	
Further comments on assessment of biodiversity components (e.g. ecosystems and habitats; species and communities; genomes and genes of social, scientific or economic importance).	

165. Has your country carried out an assessment of the knowledge, innovations and practices of farmers and indigenous and local communities in sustaining agricultural biodiversity and agro-ecosystem services for food production and food security?	
a) No	X
b) Yes, assessment is under way	
c) Yes, assessment completed (please specify where information can be retrieved below)	
Further comments on assessment of the knowledge, innovations and practices of farmers and indigenous and local communities.	

166. Has your country been monitoring an overall degradation, status quo or restoration/rehabilitation of agricultural biodiversity since 1993 when the Convention entered into force?

a) No	X
b) Yes, no change found (status quo)	
c) Yes, overall degradation found (please provide details below)	
d) Yes, overall restoration or rehabilitation observed (please provide details below)	

Further comments on observations.

Monitoring of the impacts on agrobiodiversity is not systematically undertaken, however, it is expected that, despite EIA studies carried out, the recent expansion of irrigated agriculture will have degraded some components of agrobiodiversity.

Programme element 2 - Adaptive management

167. Has your country identified management practices, technologies and policies that promote the positive, and mitigate the negative, impacts of agriculture on biodiversity, and enhance productivity and the capacity to sustain livelihoods?

a) No	
b) No, but potential practices, technologies and policies being identified	
c) Yes, some practices, technologies and policies identified (please provide details below)	X
d) Yes, comprehensive practices, technologies and policies identified (please provide details below)	

Further comments on identified management practices, technologies and policies.

Swaziland has identified management practices, technologies and policies that promote the positive, and mitigate the negative, impacts of agriculture on biodiversity. Specifically the country requires Environmental Impact Assessments carried out on all new medium scaled agricultural development. Under this process mitigation (management practices) are recommended and implemented.

The introduction and adoption of useful technologies that promote the sustainable use of biodiversity in agriculture include the promotion of agro-forestry and conservation agriculture. Both these approaches are applied at a small scale with the view to assess their impact for wider adoption. Within the commercial industrial timber and sugar industries, proactive measures are implemented to avoid impacting upon riverine areas and other specific areas important to biodiversity by keeping land clearing and development away from these areas.

At a policy level, the National Forest Policy promotes the introduction and development of agro-forestry practices for Swazi farming systems. The same policy also promotes the conservation of genetic plant resources. The Comprehensive Agriculture Sector Policy and the National Food Security Policy promote sustainable land management practices which include conservation agriculture and community based sustainable range management.

Programme element 3 - Capacity-building

168. Has your country increased the capacities of farmers, indigenous and local communities, and their organizations and other stakeholders, to manage sustainable agricultural biodiversity and to develop strategies and methodologies for *In-situ* conservation, sustainable use and management of agricultural biological diversity?

a) No	X
b) Yes (please specify area/component and target groups with increased capacity)	
Further comments on increased capacities of farmers, indigenous and local communities, and their organizations and other stakeholders.	

169. Has your country put in place operational mechanisms for participation by a wide range of stakeholder groups to develop genuine partnerships contributing to the implementation of the programme of work on agricultural biodiversity?

a) No	X
b) No, but potential mechanisms being identified	
c) No, but mechanisms are under development	
d) Yes, mechanisms are in place	

170. Has your country improved the policy environment, including benefit-sharing arrangements and incentive measures, to support local-level management of agricultural biodiversity?

a) No	
b) No, but some measures and arrangements being identified	X
c) No, but measures and arrangements are under development	
d) Yes, measures and arrangements are being implemented (please specify below)	
Further comments on the measures taken to improve the policy environment.	
Apart from an improved supportive policy environment, no benefit-sharing arrangements and incentive measures to support local-level management of agricultural biodiversity have been developed though arrangements are being identified.	

Programme element 4 – Mainstreaming

171. Is your country mainstreaming or integrating national plans or strategies for the conservation and sustainable use of agricultural biodiversity in sectoral and cross-sectoral plans and programmes?

a) No	
b) No, but review is under way	X
c) No, but potential frameworks and mechanisms are being identified	
d) Yes, some national plans or strategies mainstreamed and integrated into some sectoral plans and programmes (please provide details below)	
e) Yes, some national plans or strategies mainstreamed into major	

sectoral plans and programmes (please provide details below)	
Further comments on mainstreaming and integrating national plans or strategies for the conservation and sustainable use of agricultural biodiversity in sectoral and cross-sectoral plans and programmes.	

172. Is your country supporting the institutional framework and policy and planning mechanisms for the mainstreaming of agricultural biodiversity in agricultural strategies and action plans, and its integration into wider strategies and action plans for biodiversity?	
a) No	
b) Yes, by supporting institutions in undertaking relevant assessments	
c) Yes, by developing policy and planning guidelines	X
d) Yes, by developing training material	
e) Yes, by supporting capacity-building at policy, technical and local levels	
f) Yes, by promoting synergy in the implementation of agreed plans of action and between ongoing assessment and intergovernmental processes.	
Further comments on support for institutional framework and policy and planning mechanisms.	
The NBSAP (4.3 Strategies for the Conservation of Agro-biodiversity) identifies an institutional framework for integrating agro-biodiversity components into wider conservation strategies. Similar institutional frameworks have been identified under the Comprehensive Agriculture Sector Policy 2005 and the National Food Security Policy (2005).	

173. In the case of centers of origin in your country, is your country promoting activities for the conservation, on farm, <i>In-situ</i> , and <i>Ex-situ</i> , of the variability of genetic resources for food and agriculture, including their wild relatives?	
a) No	X
b) Yes (please provide details below)	
Further comments on of the conservation of the variability of genetic resources for food and agriculture in their center of origin.	

Box LXV.

Please provide information concerning the actions taken by your country to implement the Plan of Action for the International Initiative for the Conservation and Sustainable Use of Pollinators.	
The country has not developed a Plan of Action for the International Initiative for the Conservation and Sustainable Use of Pollinators.	

Box LXVI.

Please elaborate below on the implementation of this programme of work and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

a) Outcomes & impacts

Actions taken include the enforcement of EIA for all new agriculture projects to ensure that the impact of agriculture on biodiversity is assessed and considered in the design of the project. Recognition of the importance of agro-biodiversity is clearly articulated in several key agriculture policies. Adaptive management has been adopted by commercial industrial agricultural estates have in general had a positive impact on minimizing the impacts on biodiversity.

b) Strategic Plan of the Convention

Contributes to goals 3 and 4 of the Strategic Plan.

c) 2010 Target

(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)

The implementation of this Thematic Area has had little impact on the impact of agriculture on the rate of biodiversity loss in the country. Some research on specific plant and animal genetic resources has taken place.

d) NBSAP

The NBSAP identifies the importance and threats to agro-biodiversity components and has a specific set of actions and priorities to address them Section 4.3 Strategies for the Conservation of Agro-biodiversity identifies the goal to conserve the genetic base of Swaziland's crops and livestock breeds. Strategies include to conserve, and sustainably use, plant and farm animal genetic resources.

e) MDGs

This Thematic Area contributes to achieving MDG Goal 7 "Ensure environmental sustainability" and MDG 1 "Eradicate extreme poverty and hunger".

f) Constraints

The main constraints related to the implementation of this Thematic Area are related to the institutional, financial and technical related obstacles. Existing and traditional knowledge have not been fully explored and utilized.

Forest Biological Diversity

General

174. Has your country incorporated relevant parts of the work programme into your national biodiversity strategies and action plans and national forest programmes?	
a) No	
b) Yes, please describe the process used	X
c) Yes, please describe constraints/obstacles encountered in the process	
d) Yes, please describe lessons learned	
e) Yes, please describe targets for priority actions in the programme of work	
Further comments on the incorporation of relevant parts of the work programme into your NBSAP and forest programmes	
<p>Holistic and inter-sectoral ecosystem approaches that integrate the conservation and sustainable use of biological diversity, taking account of social and cultural and economic considerations have been incorporated into the National Forest Policy and the National Forest Programme (action plan).</p> <p>Forests are recognized as an ecosystem classification that forms the highest level of the ecosystem classification used in the NBSAP. However the pure forest ecosystem, consisting of afro-montane forest and riparian forest, are highly restricted and cover only 5% of Swaziland. Forests form part of the savanna ecosystem.</p> <p>The ecosystem approach forms the basis for the NBSAP policies and strategies related to biodiversity conservation through improvement of the protected areas network.</p>	

Box LXVII.

Please indicate what recently applied tools (policy, planning, management, assessment and measurement) and measures, if any, your country is using to implement and assess the programme of work. Please indicate what tools and measures would assist the implementation.
National Forest Policy and the National Forest Programme (action plan).

Box LXVIII.

Please indicate to what extent and how your country has involved indigenous and local communities, and respected their rights and interests, in implementing the programme of work.
Indigenous and local communities are recognized as the most important stakeholder group in the implementation of the National Forest Programme. Through community based natural resource management committees, they are involved in forest management.

Box LXIX.

Please indicate what efforts your country has made towards capacity building in human and capital resources for the implementation of the programme of work.

Box LXX.

Please indicate how your country has collaborated and cooperated (e.g., south-south, north-south, south-north, north-north) with other governments, regional or international organizations in implementing the programme of work. Please also indicate what are the constraints and/or needs identified.

The country received assistance from Denmark (DANIDA/DANCED) (2000-2003) to prepare the National Forest Policy, National Forestry Programme and the Forestry Act.

Expanded programme of work on forest biological diversity

The expanded programme of work on biological diversity consists of 3 programme elements, 12 goals, 27 objectives and 130 activities. The three programme elements are:

Conservation, sustainable use and benefit-sharing;
 Institutional and socio-economic enabling environment
 Knowledge, assessment and monitoring.

Programme element 1 – Conservation, sustainable use and benefit-sharing	
175. Is your country applying the ecosystem approach to the management of all types of forests?	
a) No (please provide reasons below)	
b) No, but potential measures being identified (please provide details below)	X
c) Yes (please provide details below)	
Comments on application of the ecosystem approach to management of forests (including effectiveness of actions taken, lessons learned, impact on forest management, constraints, needs, tools, and targets).	

176. Has your country undertaken measures to reduce the threats to, and mitigate its impacts on forest biodiversity?		
Options	X	Details
a) Yes	X	Please specify below the major threats identified in relation to each objective of goal 2 and the measures undertaken to address priority actions
b) No		Please provide reasons below
Further comments on measures to reduce threats to, and mitigate the impacts of threatening processes on forest biodiversity (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).		

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177. Is your country undertaking any measures to protect, recover and restore forest biological diversity?		
Options	X	Details
a) Yes	X	Please identify priority actions in relation to each objective of goal 3 and describe measures undertaken to address these priorities
b) No		Please provide reasons below
Further comments on measures to protect, recover and restore forest biological diversity (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).		

178. Is your country undertaking any measures to promote the sustainable use of forest biological diversity?		
Options	X	Details
a) Yes	X	Please specify priority actions in relation to each objective of goal 4 and describe measures undertaken to address these priorities
b) No		Please provide reasons below
Further comments on the promotion of the sustainable use of forest biological diversity (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).		

179. Is your country undertaking any measures to promote access and benefit-sharing of forest genetic resources?		
Options	X	Details
a) Yes	X	Please specify priority actions in relation to each objective of goal 5 and describe measures undertaken

b) No		Please provide reasons below
Further comments on the promotion of access and benefit-sharing of forest genetic resources. (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets)		

Programme element 2 – Institutional and socio-economic enabling environment		
180. Is your country undertaking any measures to enhance the institutional enabling environment for the conservation and sustainable use of forest biological diversity, including access and benefit-sharing?		
Options	X	Details
a) Yes	X	Please identify priority actions in relation to each objective of Goal 1 and describe measures undertaken to address these priorities
b) No		Please provide reasons below
Further comments on the enhancement of the institutional enabling environment for the conservation and sustainable use of forest biological diversity, including access and benefit-sharing (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).		

181. Is your country undertaking any measures to address socio-economic failures and distortions that lead to decisions that result in loss of forest biological diversity?		
Options	X	Details
a) Yes	X	Please identify priority actions in relation to each objective of Goal 2 and describe measures undertaken to address these priorities
b) No		Please provide reasons below
Further comments on review of socio-economic failures and distortions that lead to decisions that result in loss of forest biological diversity (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).		

182. Is your country undertaking any measures to increase public education, participation and awareness in relation to forest biological diversity?

Options	X	Details
a) Yes	X	Please identify priority actions in relation to each objective of goal 3 and describe measures undertaken to address these priorities
b) No		Please provide reasons below
Further comments on measures to increase public education, participation and awareness in relation to forest biological diversity (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).		

Programme element 3 – Knowledge, assessment and monitoring

183. Is your country undertaking any measures to characterize forest ecosystems at various scales in order to improve the assessment of the status and trends of forest biological diversity?

Options	X	Details
a) Yes	X	Please identify priority actions in relation to each objective of Goal 1 and describe measures undertaken to address these priorities
b) No		Please provide reasons below
Further comments on characterization of forest ecosystems at various scales (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).		

184. Is your country undertaking any measures to improve knowledge on, and methods for, the assessment of the status and trends of forest biological diversity?

Options	X	Details
a) Yes	X	Please identify priority actions in relation to each objective of goal 2 and describe measures undertaken to address these priorities
b) No		Please provide reasons below

Further comments on improvement of knowledge on and methods for the assessment of the status and trends (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).

185. Is your country undertaking any measures to improve the understanding of the role of forest biodiversity and ecosystem functioning?

Options	X	Details
a) Yes	X	Please identify priority actions in relation to each objective of goal 3 and describe measures undertaken to address these priorities
b) No		Please provide reasons below

Further comments on the improvement of the understanding of the role of forest biodiversity and ecosystem functioning (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).

186. Is your country undertaking any measures at national level to improve the infrastructure for data and information management for accurate assessment and monitoring of global forest biodiversity?

Options	X	Details
a) Yes	X	Please identify priority actions in relation to each objective of goal 4 and describe measures undertaken to address these priorities

b) No		Please provide reasons below
Further comments on the improvement of the infrastructure for data and information management (including effectiveness of actions taken, lessons learned, impacts on forest biodiversity, constraints, needs, tools and targets).		

Box LXXI.

Please elaborate below on the implementation of this programme of work and associated decisions specifically focusing on:

- a) outcomes and impacts of actions taken;
- b) contribution to the achievement of the goals of the Strategic Plan of the Convention;
- c) contribution to progress towards the 2010 target;
- d) progress in implementing national biodiversity strategies and action plans;
- e) contribution to the achievement of the Millennium Development Goals;
- f) constraints encountered in implementation.

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Biological diversity of dry and sub-humid lands

187. Is your country supporting scientifically, technically and financially, at the national and regional levels, the activities identified in the programme of work? (decisions V/23 and VII/2)

a) No	
b) Yes (please provide details below)	X

Further comments on scientific, technical and financial support, at the national and regional levels, to the activities identified in the programme of work.

Swaziland is supporting mainly at the technical national level some of the activities identified in the programme of work. A description of these activities can be found in the NBSAP and the NAP of the UNCCD (1998) and its revised version (2000). The draft National Drylands Development Programme (DDP) for Swaziland (2003) integrated many of the outcomes articulated for each activity into a comprehensive integrated programme of action that is still being finalized prior to implementation. The major objectives of the DDP is to contribute to poverty reduction through the sustainable development of drylands leading to reduced vulnerability and improved livelihoods.

188. Has your country integrated actions under the programme of work of dry and sub-humid lands into its national biodiversity strategies and action plans or the National Action Programme (NAP) of the UNCCD? (decisions V/23, VI/4 and VII/2)

a) No	
b) Yes (please provide details below)	X

Further comments on actions under the programme of work of dry and sub-humid lands integrated into national biodiversity strategies and action plans or the National Action Programme (NAP) of the UNCCD.

The programme of work of dry and sub-humid lands are summarized as:

PART A: ASSESSMENTS

- Activity 1. Assessment of status and trends
- Activity 2. Areas of particular value and/or under threat
- Activity 3. Indicators
- Activity 4. Knowledge on processes that affect biodiversity
- Activity 5. Benefits derived from biological diversity
- Activity 6. Best management practices

PART B: TARGETED ACTIONS

- Activity 7. Measures for conservation and sustainable use
- Activity 8. Promotion of responsible resource management
- Activity 9. Support for sustainable livelihoods

Although the NAP was prepared in 1997 and adopted by Cabinet in 2000, the formulation of the NAP did not specifically address each of the above activities, however, there are common elements within the NAP and the programme of work. The NAP incorporates elements of the targeted actions (activities 7 – 9) including the active participation of communities in land management, rehabilitation of degraded land, livestock and range management, drought mitigation and poverty alleviation.

The NBSAP was prepared in 1999 and remains in draft form pending a review and official adoption. The NBSAP did not specifically incorporate the programme of work presented above, however, it does identify strategies that broadly cover the above including the improvement of the protected areas network, sustainable use and equitable sharing of biological resources and enhancing public awareness of the value of protecting biodiversity.

189. Has your country undertaken measures to ensure synergistic/collaborative implementation of the programme of work between the national UNCCD process and other processes under related environmental conventions? (decisions V/23, VI/4 and VII/2)

a) No	
b) Yes, some linkages established (please provide details below)	X
c) Yes, extensive linkages established (please provide details below)	

Further comments on the measures to ensure the synergistic/collaborative implementation of the programme of work between the national UNCCD processes and other processes under related environmental conventions.

The NCSA addressed explicitly synergies amongst the Rio Conventions. The NCSA identified numerous gaps in capacity and an action plan was prepared that will narrow the gaps and facilitate a smoother and more integrated implementation of the action plans for each convention. One relevant NCSA recommendation is the establishment of an Environmental Conventions Coordinating Unit that will oversee the implementation of the Conventions and ensure that synergistic and collaborative opportunities are maximised.

Programme Part A: Assessment

190. Has your country assessed and analyzed information on the state of dryland biological diversity and the pressures on it, disseminated existing knowledge and best practices, and filled knowledge gaps in order to determine adequate activities? (Decision V/23, Part A: Assessment, Operational objective, activities 1 to 6)

a) No	X
b) No, but assessment is ongoing	
c) Yes, some assessments undertaken (please provide details below)	
d) Yes, comprehensive assessment undertaken (please provide details below)	

Further comments on the relevant information on assessments of the status and trends and

dissemination of existing knowledge and best practices.

The dry and sub-humid lands of Swaziland have been identified through a preliminary assessment to inform the formulation of a programme of action to address the key threats to natural resource management in this area (the draft National Drylands Development Programme). The dry and sub-humid lands contain half of the country's protected areas. The assessment made in this context is of a general nature (soils, water, agriculture, land degradation) rather than focusing on biological diversity and the pressure on it. Isolated studies of the biodiversity in the drylands have been carried out and checklists and protected area management plans prepared. However, the information and data obtained has only been circulated in a restricted manner.

Programme Part B: Targeted Actions

191. Has your country taken measures to promote the conservation and sustainable use of the biological diversity of dry and sub-humid lands and the fair and equitable sharing of the benefits arising out of the utilization of its genetic resources, and to combat the loss of biological diversity in dry and sub-humid lands and its socio-economic consequences? (part B of annex I of decision V/23, activities 7 to 9)

a) No	X
b) Yes, some measures taken (please provide details below)	
c) Yes, many measures taken (please provide details below)	

Further comments on the measures taken to promote the conservation and sustainable use of the biological diversity of dry and sub-humid lands and the fair and equitable sharing of the benefits arising out of the utilization of its genetic resources, and to combat the loss of biological diversity in dry and sub-humid lands and its socio-economic consequences.

The only activities that can be reported in this context is the preparation of plans of actions that still have to be worked out and implemented as concrete activities.

192. Has your country taken measures to strengthen national capacities, including local capacities, to enhance the implementation of the programme of work?

a) No	X
b) Yes, some measures taken (please provide details below)	
c) Yes, comprehensive measures taken (please provide details below)	
d) Yes, all identified capacity needs met (please provide details below)	

Further comments on measures taken to strengthen national capacities, including local capacities, to enhance the implementation of the programme of work.

Box LXXII.

Please elaborate below on the implementation of this programme of work and associated decisions specifically focusing on:

- outcomes and impacts of actions taken;
- contribution to the achievement of the goals of the Strategic Plan of the Convention;
- contribution to progress towards the 2010 target;
- progress in implementing national biodiversity strategies and action plans;
- contribution to the achievement of the Millennium Development Goals;
- constraints encountered in implementation.

a) Outcomes & impacts

There has been no implementation of this specific programme of work on biological diversity of dry and sub-humid lands and hence the outcomes and impacts of actions is very limited.

b) Strategic Plan of the Convention

Limited contribution to goal 4 of the Strategic Plan.

c) 2010 Target

(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)

As a result of the non-implementation there has been little impact on the biological diversity of dry and sub-humid lands. However, the concept of the dry and sub-humid lands has the potential to significantly contributing towards the target.

d) NBSAP

The NBSAP does not specifically address the threats to biodiversity in the dry and sub-humid lands, however, one of the recognized ecosystems, namely the savanna woodland mosaic, largely coincides with the dry and sub-humid lands.

e) MDGs

As a result of the non-implementation there has been limited contribution towards the MDG goals, however, the concept of the dry and sub-humid lands has the potential to impact on the achievement of the MDG Goal 7 "Ensure environmental sustainability" and MDG 1 "Eradicate extreme poverty and hunger".

f) Constraints

The main constraints related to the non-implementation of this particular programme of work are related to a lack of mainstreaming, lack of political will and the lack of finance.

Mountain Biodiversity

Programme Element 1. Direct actions for conservation, sustainable use and benefit sharing

193. Has your country taken any measures to prevent and mitigate the negative impacts of key threats to mountain biodiversity?

a) No	X
b) No, but relevant measures are being considered	
c) Yes, some measures taken (please provide details below)	
d) Yes, many measures taken (please provide details below)	

Further comments on the measures taken to prevent and mitigate the negative impacts of key threats to mountain biodiversity

Although there is no clear definition of mountain biodiversity presented in the Convention, mountains are considered to not clearly exist in Swaziland or perhaps only at a very limited scale.

194. Has your country taken any measures to protect, recover and restore mountain biodiversity?	
a) No	X
b) No, but some measures are being considered	
c) Yes, some measures taken (please provide details below)	
d) Yes, many measures taken (please provide details below)	
Further comments on the measures taken to protect, recover and restore mountain biodiversity	
Although there is no clear definition of mountain biodiversity presented in the Convention, mountains are considered to not clearly exist in Swaziland or perhaps only at a very limited scale.	

195. Has your country taken any measures to promote the sustainable use of mountain biological resources and to maintain genetic diversity in mountain ecosystems?	
a) No	X
b) No, but some measures are being considered	
c) Yes, some measures taken (please provide details below)	
d) Yes, many measures taken (please provide details below)	
Further comments on the measures to promote the sustainable use of mountain biological resources and to maintain genetic diversity in mountain ecosystems	
Although there is no clear definition of mountain biodiversity presented in the Convention, mountains are considered to not clearly exist in Swaziland or perhaps only at a very limited scale.	

196. Has your country taken any measures for sharing the benefits arising from the utilization of mountain genetic resources, including preservation and maintenance of traditional knowledge?	
a) No	X
b) No, but some measures are being considered	
c) Yes, some measures taken (please provide details below)	
d) Yes, many measures taken (please provide details below)	
Further comments on the measures for sharing the benefits arising from the utilization of mountain genetic resources	
Although there is no clear definition of mountain biodiversity presented in the Convention, mountains are considered to not clearly exist in Swaziland or perhaps only at a very limited scale.	

Programme Element 2. Means of implementation for conservation, sustainable use and benefit sharing	
197. Has your country developed any legal, policy and institutional framework for conservation and sustainable use of mountain biodiversity and for implementing this programme of work?	
a) No	X
b) No, but relevant frameworks are being developed	
c) Yes, some frameworks are in place (please provide details below)	
d) Yes, comprehensive frameworks are in place (please provide details)	

below)	
Further comments on the legal, policy and institutional frameworks for conservation and sustainable use of mountain biodiversity and for implementing the programme of work on mountain biodiversity.	
Although there is no clear definition of mountain biodiversity presented in the Convention, mountains are considered to not clearly exist in Swaziland or perhaps only at a very limited scale.	

198. Has your country been involved in regional and/or transboundary cooperative agreements on mountain ecosystems for conservation and sustainable use of mountain biodiversity?	
a) No	X
b) No, but some cooperation frameworks are being considered	
c) Yes (please provide details below)	
Further information on the regional and/or transboundary cooperative agreements on mountain ecosystems for conservation and sustainable use of mountain biodiversity	
Although there is no clear definition of mountain biodiversity presented in the Convention, mountains are considered to not clearly exist in Swaziland or perhaps only at a very limited scale.	

Programme Element 3. Supporting actions for conservation, sustainable use and benefit sharing	
199. Has your country taken any measures for identification, monitoring and assessment of mountain biological diversity?	
a) No	X
b) No, but relevant programmes are under development	
c) Yes, some measures are in place (please provide details below)	
d) Yes, comprehensive measures are in place (please provide details below)	
Further comments on the measures for identification, monitoring and assessment of mountain biodiversity	
Although there is no clear definition of mountain biodiversity presented in the Convention, mountains are considered to not clearly exist in Swaziland or perhaps only at a very limited scale.	

200. Has your country taken any measures for improving research, technical and scientific cooperation and capacity building for conservation and sustainable use of mountain biodiversity?	
a) No	X
b) No, but relevant programmes are under development	
c) Yes, some measures are in place (please provide details below)	
d) Yes, comprehensive measures are in place (please provide details below)	
Further comments on the measures for improving research, technical and scientific cooperation and capacity building for conservation and sustainable use of mountain biodiversity	
Although there is no clear definition of mountain biodiversity presented in the Convention, mountains are considered to not clearly exist in Swaziland or perhaps only at a very limited scale.	

201. Has your country taken any measures to develop, promote, validate and transfer appropriate technologies for the conservation of mountain ecosystems?	
a) No	X
b) No, but relevant programmes are under development	
c) Yes, some measures are in place (please provide details below)	
d) Yes, comprehensive measures are in place (please provide details below)	
Further comments on the measures to develop, promote, validate and transfer appropriate technologies for the conservation of mountain ecosystems	
Although there is no clear definition of mountain biodiversity presented in the Convention, mountains are considered to not clearly exist in Swaziland or perhaps only at a very limited scale.	

Box LXXIII .

Please elaborate below on the implementation of this programme of work and associated decisions specifically focusing on:	
<ul style="list-style-type: none"> a) outcomes and impacts of actions taken; b) contribution to the achievement of the goals of the Strategic Plan of the Convention; c) contribution to progress towards the 2010 target; d) progress in implementing national biodiversity strategies and action plans; e) contribution to the achievement of the Millennium Development Goals; f) constraints encountered in implementation. 	

E. OPERATIONS OF THE CONVENTION

202. Has your country actively participated in subregional and regional activities in order to prepare for Convention meetings and enhance implementation of the Convention? (decision V/20)	
a) No	
b) Yes (please provide details below)	X
Further comments on the regional and subregional activities in which your country has been involved.	
In preparation for the COP8, Swaziland participated in the Southern Africa Biodiversity Support Programme in order to prepare for the COP8.	

203. Is your country strengthening regional and subregional cooperation, enhancing integration and promoting synergies with relevant regional and subregional processes? (decision VI/27 B)	
a) No	
b) Yes (please provide details below)	X
Further comments on regional and subregional cooperation and processes.	
The country is implementing the SADC Biodiversity Support Programme (SADC BSP) which aims at promoting regional cohesion in the implementation of two of the themes of the CBD, IAS and ABS.	

The following question (204) is for DEVELOPED COUNTRIES

204. Is your country supporting the work of existing regional coordination mechanisms and the development of regional and subregional networks or processes? (decision VI/27 B)	
a) No	
b) No, but programmes are under development	
c) Yes, included in existing cooperation frameworks (please provide details below)	
d) Yes, some cooperative activities ongoing (please provide details below)	
Further comments on support for the work of existing regional coordination mechanisms and the development of regional and subregional networks or processes.	

205. Is your country working with other Parties to strengthen the existing regional and subregional mechanisms and initiatives for capacity-building? (decision VI/27 B)	
a) No	
b) Yes	X

206. Has your country contributed to the assessment of the regional and subregional mechanisms for implementation of the Convention? (decision VI/27 B)	
a) No	
b) Yes (please provide details below)	X
Further comments on contribution to the assessment of the regional and subregional mechanisms.	
Needs Assessment carried out and further passed on to the SADC BSP for completing the regional picture and developing mechanism. Expert rosters developed in the region.	

Box LXXIV.

<p>Please elaborate below on the implementation of the above decisions specifically focusing on:</p> <ul style="list-style-type: none"> a) outcomes and impacts of actions taken; b) contribution to the achievement of the goals of the Strategic Plan of the Convention; c) contribution to progress towards the 2010 target; d) progress in implementing national biodiversity strategies and action plans; e) contribution to the achievement of the Millennium Development Goals; f) constraints encountered in implementation.
<p>a) Outcomes & impacts</p> <p>In preparation for COP8 Swaziland, for the first time, participated in regional discussions on formulating a regional position for the COP8. The preparation process entailed national consultations to inform the regional meetings.</p> <p>b) Strategic Plan of the Convention</p> <p>It will contribute to goal 1 and 4 of the Strategic Plan.</p> <p>c) 2010 Target</p> <p><i>(to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth)</i></p>

Regional cooperation will contribute towards the target.

d) NBSAP

Cooperation with regional parties will contribute to the implementation of the NBSAP.

e) MDGs

Cooperation with regional parties will contribute to the implementation of the MDG goals.

f) Constraints

The main constraints related to enhancing cooperation is related to staff resources and finances required to participate and attend meetings.

F. COMMENTS ON THE FORMAT

Box LXXV.

Please provide below recommendations on how to improve this reporting format.



Government of the
Kingdom of Swaziland

CBD Status Summary Report

Swaziland Environment Authority

CBD Focal Point
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February 2006

Executive Summary

The Third National Report (3NR) to the Conference of Parties (COP) has been prepared in accordance with Article 26 of the Convention on Biological Diversity (CBD) which requires Parties to prepare periodic reports of the measures taken to implement the provisions of the CBD and their effectiveness.

The 3NR, which takes the form of a series of questions related to the Convention article and CBD programme areas, was submitted to the CBD COP in March 2006. The completed 3NR indicates that Swaziland, as a Party, has still many challenges to face in fulfilling her key obligations to the CBD. Institutional competence, legislative support and legal enforcement remain areas of concern.

Natural processes, e.g. erosion, and human activities, i.e. agriculture, forest plantations, and human settlements, are causing a decrease in the diversity and distribution of Swaziland's natural flora and fauna. Large-scale irrigated agriculture, particularly monoculture agriculture such as sugar cane, pineapple and citrus production has resulted in clearing of large tracts of land and destruction of the natural vegetation. This in turn, results in loss of the animals which depend on it.

Ever increasing poverty, particularly in the rural areas, is resulting in the rapid degradation of these resources in a vicious cycle of declining availability of these hitherto free resources.

This combined with recurrent drought, is resulting in a heavily degraded natural environment that agencies responsible for its management and protection, are battling to address in light of higher national priorities.

Land degradation, fragmentation of habitats, alien plant invasions and rapid degradation of the biological resources are the key challenges to be addressed by the country. The various policy and legislative initiatives launched by government since Rio have so far remained mostly on paper, are not cross-sectoral or integrated and most importantly are not matched by adequate funding and expertise to implement the measures recommended by stakeholders.

Despite these challenges, Swaziland does support a diverse assemblage of habitats which are home to a wide range of organisms. Although the information base on Swaziland's biodiversity is still incomplete, survey work has shown that a significant portion of southern Africa's plant and animal species occur here. The eastern region of Swaziland, for example, forms part of the Maputaland Centre of Plant Diversity (one of the World's hotspots of floral, as well as faunal, species richness and endemism), while the western region falls within two areas of global significance, the Drakensberg Escarpment Endemic Bird Area and the Barberton Centre of Plant Endemism. The value of Swaziland's biodiversity has long been recognised by Swazis who make use of it on a daily basis for various reasons including: traditional medicine, food, building material and traditional attire. Traditional systems of conserving biodiversity also exist but have not been documented and are currently being eroded.

Recent studies have been conducted on components of Swaziland's biodiversity that address certain articles of the Convention on Biological Diversity (CBD). Recent publications include, *inter alia*, a Flora Red Data List (2002), a vertebrate Red Data Book (2003), a Swaziland Fish and Fisheries Survey (2004), a Swaziland Tree Atlas (2005), a revised and updated Vegetation Map (2004), and the distribution of some raptor nests (2005). Not only do these publications demonstrate Swaziland's commitment to the CBD, but also provide valuable baseline information which could be used to make wise and sensible conservation- and environmentally-related decisions. These usefulness of these resources need to be acknowledged

and put to good use. However, the country should not lose sight of the fact that the majority of its biodiversity components have yet to be surveyed, even on a superficial level.

Although numerous actual and potential threats to Swaziland's biodiversity exist, a comprehensive study of these threats and their impact is missing. Regional threats include factors such as atmospheric and water pollution, reductions of flow in rivers that have their sources in South Africa, cross-border smuggling of organisms and the washing downstream of alien invasive plant species from South Africa. Local threats to Swaziland's biodiversity can be grouped into the following categories: 1) those that destroy or alter the habitat, 2) over-exploitation, 3) the impact of exotic species, 4) weak law enforcement, 5) ignorance, 6) population growth, and 7) lack of equity in ownership and management of biodiversity.

The following three government institutions/bodies are principally responsible for managing biodiversity in the country: the Swaziland National Trust Commission (SNTC); the Swaziland Environment Authority (SEA); and the Ministry of Agriculture and Cooperatives (MOAC). Private bodies and NGOs also play a role in the conservation and management of the biodiversity of Swaziland.

A number of laws provide protection to certain components of Swaziland's biodiversity. The Game Act of Swaziland is, if enforced, a very powerful tool for protecting mammals and birds. The Flora Protection Act provides some legal protection to threatened species of plants, but is in need of revision. In particular, the schedules of the Act require updating. Furthermore, the issue of who requires permits for what activities remains rather unclear and open to abuse. The Swaziland National Trust Commission (SNTC) Act and the Swaziland Environment Authority (SEA) Act are also important pieces of legislation for the conservation and management of biodiversity.

Seven key goals have been identified by BSAP, which are to:

1. Establish an effective, sustainable institutional framework for coordinating and facilitating the management of biodiversity in Swaziland and for the implementing of relevant policies, strategies and laws.
2. Provide easily accessible and up-to-date biodiversity information.
3. Identify components of biodiversity with national, regional and/or international significance and conserve these components within an achievable, prioritised framework of interventions.
4. Identify and promote ways and means for the sustainable use of biodiversity.
5. Promote the conservation of biodiversity through sustainable development of nature-based tourism in the country.
6. Foster a greater public understanding of biological diversity.
7. Create conditions and incentives for local biodiversity conservation.

Within each of the seven key areas (listed above), objectives and priority actions have been identified and developed.

A Biodiversity Programme Implementation Committee (consisting of individuals involved with the formulation of BSAP) has been established to oversee the implementation of BSAP. As the implementation of BSAP will require a large amount of administrative work, it has been suggested that the Swaziland Environment Authority (SEA) recruit a BSAP Implementation Officer.

The SEA is presently developing a fully integrated and participatory conservation management project for the implementation of BSAP. It is, therefore, not possible at this stage to provide a budget or time schedule for the plan of action.

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1. INTRODUCTION

Swaziland lies between latitudes 25 and 28 degrees south and 31 and 32 degrees east in the south-eastern part of Africa. The country is landlocked and covers an area of 17364 km². It is bounded by South Africa in the north, west and south, and by Mozambique in the east. Although Swaziland is small in size, it has great variation in landscape, geology and climate. Swaziland is located between the South African plateau (reaching over 1800 metres) and the coastal plains of Mozambique. Thus the western part of the country lies in the escarpment area, and the eastern part in the zone of the coastal plains. Separating Swaziland from the Mozambique coastal plains, is the Lubombo Mountain Range.

With its divergent geology, climate and subsequent landforms, the physiographic regions within the country's boundaries are very distinct. Although the country has historically been divided into four regions (Highveld, Middleveld, Lowveld, and Lubombo), it has now been more appropriately reclassified into six physiographic zones, taking into account elevation, landforms and geology (Remmelzvaal, 1993). These six zones are: Highveld, Upper Middleveld, Lower Middleveld, Western Lowveld, Eastern Lowveld and Lubombo Range.

Swaziland, despite its small size, supports a diverse assemblage of habitats which are home to a wide range of organisms. Although the information base on Swaziland's biodiversity is still incomplete, survey work has shown that a significant portion of southern Africa's plant and animal species occur here. The eastern region of Swaziland, for example, forms part of the Maputaland Centre of Plant Diversity (one of the World's "hotspots" of floral, as well as faunal, species richness and endemism), while the western region falls within two areas of global significance, the Drakensberg Escarpment Endemic Bird Area and the Barberton Centre of Plant Endemism. The value of Swaziland's biodiversity has long been recognised by Swazis who make use of it on a daily basis for various reasons including: traditional medicine, food, building material, traditional attire. Traditional systems of conserving biodiversity also exist but have not been documented and are currently being eroded.

Value of Biodiversity to Swaziland

There is a general failing by society to recognise value when it is not overtly expressed in monetary terms, when it cannot be owned, and when there is little understanding of the benefits being enjoyed. Biodiversity is often undervalued due to the lack of markets, institutions and information regarding biodiversity's services. This frequently results in inappropriate decisions being taken regarding the use of biodiversity or decisions are taken which compromise Swaziland's biodiversity.

In order to ensure the sustainable use of biodiversity, societal resources must be allocated to management, or services which biodiversity could supply in the short term will be lost.

Clearly, there is a need to demonstrate the value of biodiversity to promote the sustainable utilisation of biodiversity. A first step in demonstrating value is defining the goods and services provided by biodiversity.

Goods and services supplied by biodiversity in Swaziland

For the sake of simplicity, biodiversity is often broken into three components: genetic diversity, species diversity and ecosystem diversity. The above three components of biodiversity, integrated with the physical environment, generate a wide range of critical goods and services for humanity. In a country like Swaziland, where a large percentage of the community rely heavily on the natural resources directly for home consumption (fuel wood, house building materials, etc) and for economic production (cattle farming, crop farming, etc), the dependence on ecosystem services and the associated biodiversity is critical.

The services supplied by biodiversity in contributing to, and in association with, functional ecosystems, provide Swazi society with a wide range of goods and services (Table 1). These services can generate a range of benefits for the Swaziland community and are used in a number of ways, including:-

- Direct use, where goods such as plants are consumed or used in industrial production,
- Indirect use, where services such as the ability of wetlands to reduce flood damage (due to indigenous plant cover) make a cost savings to communities,
- Option use, where resources such as attractive indigenous forests and birds can be used to promote tourism growth in the future, and
- Existence use, where the existence of a resource, such as a forest, may give certain communities a feeling of well-being because ancestors are buried there.

TABLE 1. GOODS AND SERVICES SUPPLIED BY BIODIVERSITY, ADAPTED FROM MANDER (1998)

Goods and services	Functions	Examples
Gas regulation	Regulation of chemical composition of the atmosphere	Carbon sequestration, Oxygen and ozone production,
Climate regulation	Regulation of temperatures, precipitation at local levels	Urban heat amelioration, cloud formation, wind regulation,
Disturbance regulation	Regulation of episodic and large environmental fluctuations on ecosystem functioning	Flood control, drought recovery, refuges from disease, pollution events,
Water regulation	Regulation of water flow	Capture and gradual release of water by vegetation for agricultural, industrial and household use
Water supply	Storage and retention of water	Supply of water by watersheds, reservoirs and rivers
Erosion control	Retention of soil within an ecosystem	Prevention of soil loss by vegetation cover, and by capturing soil in wetlands
Soil formation	Soil formation processes	Weathering of rock by water and accumulation of organic material in woodlands
Nutrient cycling	Storage, recycling, capture and processing of nutrients	Nitrogen fixation, nitrogen cycling through food chains
Waste treatment	Recovery of nutrients, removal and breakdown of excess nutrients	Breaking down of waste, detoxifying pollution
Pollination	Movement of floral gametes	Supply of pollinators for plant reproduction, including insects, birds and rodents
Biological control	Regulation of animal and plant populations	Predator control of prey species, predator control of herbivores - rodent control, insect control, bats control
Refugia	Habitat for resident and migratory populations	Nurseries, habitat for migratory birds, regional habitats for species
Food production	Primary production for food from indigenous species	Production of fish, bush meat, crops, fruit, by non-commercial farming
Raw materials	Primary production for raw materials	Production of fuel, craftwork materials, house building materials, stock fodder, fencing materials
Genetic resources	Unique biological materials and products	Genes for resistance to plant diseases, ornamental species, plant medicines, fibres

Goods and services	Functions	Examples
Recreation	Providing opportunities for recreation activities	Ecotourism, sport fishing, outdoor recreation activities
Cultural	Providing opportunities for non-commercial uses	Aesthetic, educational, spiritual, intrinsic and scientific values of ecosystems

It is important to note that a wide range of the above services are not consumed as goods (such a medicine or fuelwood) but are services supplied to the wider community (such as pollination, erosion control and flood control). Many of these services, for example, disturbance regulation and genetic resources, will play a critical role in supplying the Swaziland community with future options.

Status of Biodiversity in Swaziland

Various components of Swaziland's biodiversity have been inventoried and researched over the past few decades. Most of this work has been aimed at producing checklists and atlases, which document presence and distribution of species, respectively. Recently work has also been conducted on mapping ecosystems and vegetation types.

Ecosystems

During the development of the National Biodiversity Strategy and Action Plan (NBSAP), the importance of taking an ecosystem approach for the successful conservation of biodiversity was recognised and an ecosystem map for Swaziland was drafted. This map, for the first time, shows ecosystems as opposed to geographical regions or vegetation types. The four ecosystems are: (see Figure 1):

- 1) Montane grasslands
- 2) Savanna-woodland mosaic
- 3) Forests
- 4) Aquatic systems

The justification for these four ecosystems is as follows. An ecosystem comprises a distinct biological community together with (and often shaped by) its associated physical environment. An ecosystem is, therefore, a functional unit which is distinct from other ecosystems in both its species composition and the ecological processes driving that ecosystem.

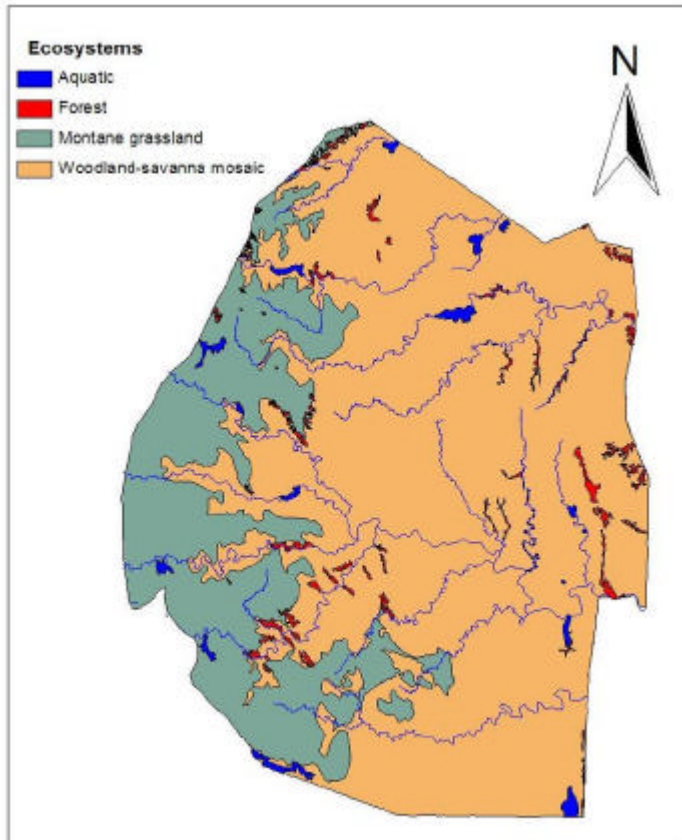


FIGURE 1. MAP OF SWAZILAND SHOWING THE FOUR ECOSYSTEMS DEVELOPED AND ADOPTED BY THE NBSAP

The area covered by each of these ecosystems varies greatly with aquatic and forest ecosystems accounting for just 6% of Swaziland's total area. The savanna ecosystem has the greatest area under protection (5%), while just 2% of each of the other three ecosystems is currently protected.

Plants and animals are not uniformly distributed across the four ecosystems. The distribution of vertebrates in relation to these ecosystems has been studied (Monadjem *et al.* 2003a) and can be used as an example. The savanna ecosystem supports the highest number of species, followed by montane grassland, aquatic ecosystem and lastly forest (Table 2). Furthermore, species composition varies greatly between ecosystems. Poynton & Boycott (1996) demonstrated the existence of two distinct amphibian faunas in Swaziland. The "afromontane" fauna corresponds with aquatic ecosystems in high-lying montane grasslands, while the "East African lowland" fauna corresponds with aquatic ecosystems in low-lying savannas. Similarly, there appear to be two broad mammalian faunas (Monadjem, 1998b); one corresponds with montane grasslands, while the other with low-lying savannas. Though not quantified, a similar pattern seems to be evident in the avifauna (A. Monadjem & V. Parker, personal observations). It is interesting to note that the greatest number of endemic and near-endemic vertebrates occur in the montane grassland ecosystem (Table 2). Interestingly, trees show a different pattern to that of vertebrates, with forests having the highest diversity (this is discussed further, below).

TABLE 2. SPECIES DIVERSITY BY ECOSYSTEM. VALUES IN BRACKETS REPRESENT THE PERCENTAGE OF THE TOTAL INDIGENOUS FAUNA (FROM MONADJEM ET AL. 2003A)

Taxon	Grassland	Savanna	Forest	Aquatic	Total
Fish	0	0	0	51 (100%)	51
Amphibians	9 (21%)	10 (24%)	1 (2%)	37 (88%)	42
Reptiles	51 (46%)	76 (69%)	12 (11%)	7 (6%)	110
Birds	138 (28%)	290 (58%)	91 (18%)	97 (19%)	500
Mammals	49 (39%)	95 (75%)	13 (10%)	1(1%)	127
Total	247 (30%)	471 (57%)	117 (14%)	192 (23%)	821

Vegetation types

The vegetation of Swaziland was originally described by P'Ons (1967) and Acocks (1988). Based on this material, Sweet and Khumalo (1994) provide a detailed description of the vegetation in Swaziland, which they then classified into 22 units within the six physiographic zones mentioned above. A new vegetation map has recently been produced and published in the Swaziland Tree Atlas (Dobson & Lotter 2004; Loffler & Loffler 2005).

These vegetation units are based on climatic, topographic, and soil characteristics as well as plant species composition. The vegetation classification of Sweet & Khumalo (1994) is similar to the vegetation types described by Goudie & Price Williams (1983), but is more detailed than the latter. In contrast, the vegetation map of Dobson & Lotter (2004) is based on the categories developed for South Africa, and hence demonstrates a regional perspective lacking in earlier maps.

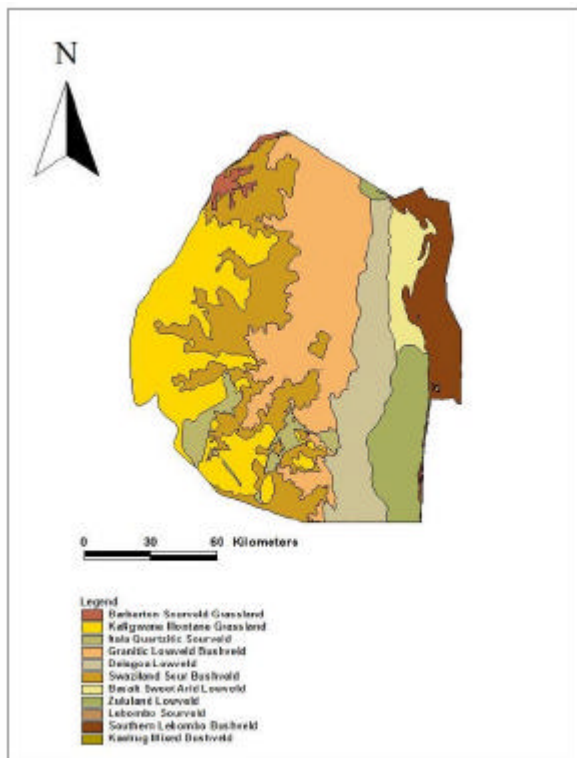


FIGURE 2. MAP OF THE RECENTLY PRODUCED VEGETATION TYPES OF SWAZILAND (FROM DOBSON & LOTTER 2004)

Fauna & Flora

By comparison with the southern African region, the plants and animals of Swaziland have been relatively well surveyed. This is particularly true for trees, birds and frogs. However, very limited information is available for certain groups such as the majority of invertebrates.

In a comparison of species richness of plants and vertebrates, the former account for more than three-quarters of the species, followed by birds (Figure 3).

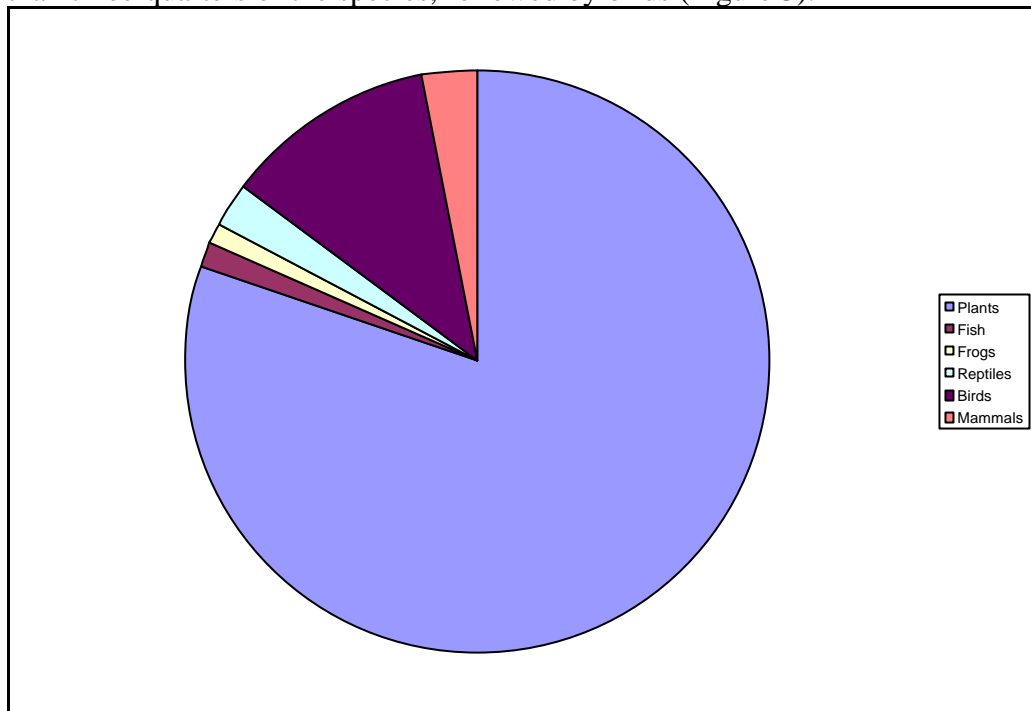


FIGURE 3. GRAPH SHOWING PROPORTIONAL CONTRIBUTION OF PLANT AND VERTEBRATE ANIMAL SPECIES IN SWAZILAND.

Flora

The gymnosperms and angiosperms were initially surveyed by Compton (1966, 1976) who recorded 2 118 species as occurring in Swaziland. Although an impressive contribution, many species were overlooked by Compton. Kemp (1983) revised the flora of Swaziland and produced an updated flora checklist listing 2 715 species which included Pteridophytes. Since this publication, various collectors have contributed a large number of new species, bringing it up to 3 441 species (Braun et al. 2004).

Atlases have been produced for the Pteridophytes and trees of Swaziland (Roux 2003; Loffler & Loffler 2005). The latter work is impressive in its coverage, possibly providing the most detailed atlas of its kind for any group of plant or animal in Africa. A total of 633 tree species were recorded during the project, with 35 exotic and 598 indigenous species, representing just over 17% of Swaziland's indigenous flora. Spatial diversity of tree species varies considerably within the country, with certain forests supporting the highest diversity (Figure 3).

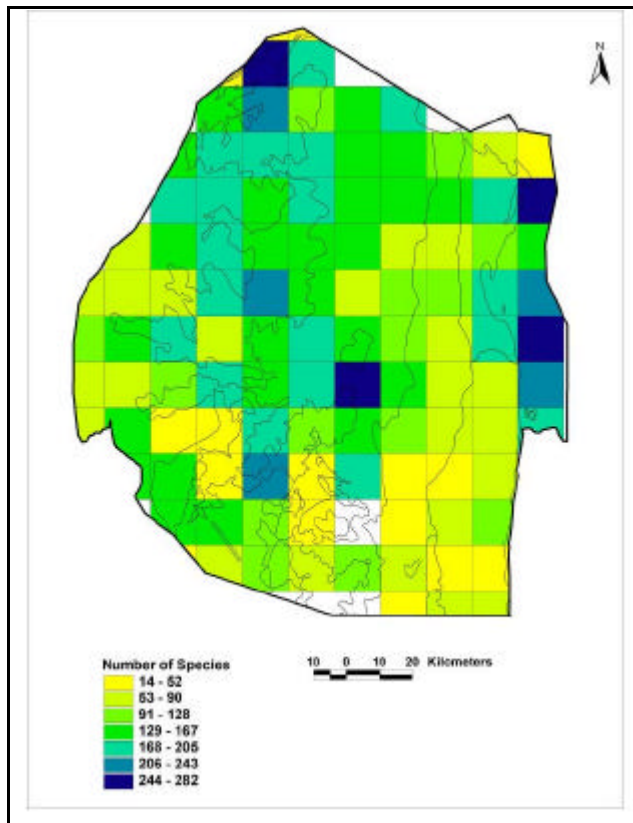


FIGURE 4. MAP SHOWING DISTRIBUTION OF TREE SPECIES RICHNESS. DARK BLUE SQUARES INDICATE HIGHEST RICHNESS (FROM LOFFLER & LOFFLER 2005)

Invertebrates

Swaziland's non-arthropod invertebrates remain poorly known and require urgent attention in the form of country-wide surveys.

The arthropods are by far the largest phylum (in terms of number of species as well as number of individuals) of animal or plant on the Planet. The number of species of insects (which is the largest class in this phylum) in southern Africa is estimated to lie somewhere between 43 000 and 80 000 or more (Scholtz & Chown 1995), compared to approximately 2 000 vertebrates. Due to this incredible diversity, the taxonomy of arthropods is still far from being fully understood and new species are discovered almost daily.

In Swaziland, very little attention has been paid to arthropod diversity. Most of the survey work has concentrated on economically-important groups such as pests (e.g. certain groups of insects) and vectors of disease (e.g. ticks). However, amateur collectors have greatly contributed to our knowledge of some groups e.g. moths and butterflies (Duke et al. 1999).

That arthropods are the most diverse group of organisms in Swaziland, is not in doubt. For example, the Lepidoptera (butterfly and moths) account for 1 654 species in the country, and they represent just a fraction of total arthropod diversity. There may well be in excess of 20 000 species of arthropods in Swaziland, but far more survey work is required before a meaningful estimate can be made.

Vertebrates

Vertebrates have been relatively well documented in Swaziland. Included in this group are the fishes, amphibians, reptiles, birds and mammals. In total, 821 species of vertebrates have been recorded from Swaziland (Table 3).

The fishes of Swaziland were originally surveyed by Clay (1976) and Hyslop (1994), and most recently by Bills et al. (2004). The amphibians of Swaziland were first surveyed by Poynton (1964) and more thoroughly by Boycott (1992a,b,c) and Boycott & Culverwell

(1992). The latest distributions for Swazi frogs have been published in the recent South African frog atlas (Minter et al. 2004).

The birds of Swaziland were practically unknown prior to the intensive 7-year survey by Parker (1992, 1994). This survey is regarded as one of the most thorough vertebrate surveys of the southern African region, and has contributed immensely to the knowledge of the distribution and abundance of birds in Swaziland. Recently, information on the distribution of certain raptor nest sites has been published (Monadjem 2005; Monadjem & Garcelon 2005). Up to 1996, no published information existed on Swaziland's mammals. An intensive 5-year survey has resulted in the publication of a checklist (Monadjem 1997a) and a book on the mammals of Swaziland (Monadjem 1998a). More recently, work on a bat atlas for the country has been ongoing since 2004 (Monadjem, unpublished data).

Endemism

Despite the small size of the country, Swaziland has an impressive list of endemic species. A total of 20 endemic plants are listed for Swaziland (Dlamini & Dlamini 2002) or suspected to be endemic (Dobson, in litt.). The highest species richness of endemic plants (accounting for 60% of endemic species) lies within montane grasslands around Mbabane and Malolotja Nature Reserve in the north-western part of the country (Figure 5). The northern parts of the Lubombos support a smaller proportion of endemics, with a small number of species scattered around the country (Monadjem et al. 2003b).

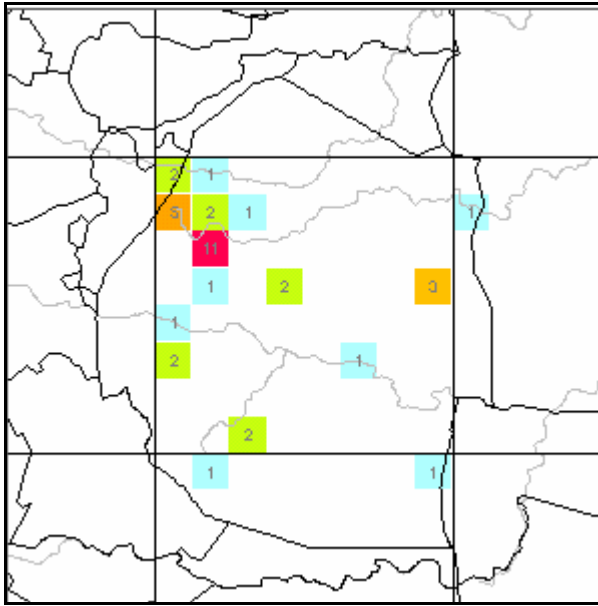


FIGURE 5. DISTRIBUTION OF ENDEMIC PLANT SPECIES RICHNESS IN SWAZILAND (FROM MONADJEM ET AL. 2003B)

The sole endemic vertebrate is a lizard; the Swazi thick-tailed rock gecko (*Afroedura major*) (Figure 6) which occurs in rocky outcrops on the ecotone between the montane grassland and savanna ecosystems (Table 3).



FIGURE 6. THE ENDEMIC SWAZI THICK-TAILED GECKO IN NATURAL HABITAT (PHOTOGRAPH BY A. MONADJEM)

No other vertebrates are endemic to Swaziland. However, a number of species are near-endemics, occurring in neighbouring South Africa and Swaziland only. A total of 52 such bird species have been documented from Swaziland, with half of them restricted to montane grasslands (Table 3).

Montane grasslands, therefore, play an important role by providing habitat for many of Swaziland's endemic and near-endemic plants and animals.

TABLE 3. DISTRIBUTION OF ENDEMIC AND NEAR-ENDEMIC VERTEBRATES IN ECOSYSTEMS OF SWAZILAND (FROM CLANCEY 1986; MONADJEM ET AL. 2003A)

Taxon	Grassland	Savanna	Forest	Aquatic	Total
Endemic (vertebrates)	1 (100%)	0	0	0	1
Near endemics (birds)	26 (50%)	13 (25%)	12 (23%)	1 (2%)	52

Threatened species

Many species in Swaziland have declining populations, some of which have already gone extinct such as the African wild dog (*Lycaon pictus*). A necessary first step to conservation is an assessment of species status to identify and, where possible, quantify rates of decline. Swaziland has produced two recent red data lists; one for plants (Dlamini & Dlamini 2002) and one for vertebrates (Monadjem et al. 2003). The former list has been updated for trees (Loffler & Loffler 2005).

A total of 132 species of vertebrates are listed in this book, consisting of 11 species of fish, 4 species of amphibians, 14 species of reptiles, 55 species of birds and 48 species of mammals (Table 4). These threatened species represent between 9-20% of the total numbers of fishes, amphibians, reptiles and birds occurring in Swaziland, but a significant 38% of the mammalian fauna. When only the high risk categories are considered (i.e. regionally extinct, critically endangered, endangered and vulnerable), the threatened birds and mammals represent between 7-9% of their total species richness, while the fishes, amphibians and reptiles represent between 2-4% of their diversities. Therefore, in both absolute and relative terms, birds and mammals are disproportionately threatened in Swaziland.

TABLE 4. SUMMARY OF THE NUMBER OF VERTEBRATES IN EACH THREAT CATEGORY. VALUES IN BRACKETS REPRESENT THE PERCENTAGE OF THE TOTAL INDIGENOUS FAUNA OCCURRING IN SWAZILAND

Threat category	Number of species				
	Fishes	Amphibians	Reptiles	Birds	Mammals
<i>Regionally Extinct</i>	0	1 (2%)	0	7 (1%)	3 (1%)
Critically endangered	3	0	0	1	0
Endangered	1	0	0	12	3
Vulnerable	2	0	2	14	6
<i>Sub-total (threatened)</i>	6 (10%)	0	2 (2%)	27 (5%)	9 (7%)
<i>Sub-total (others)</i>	5	3	12	21	36
Total	11 (18%)	4 (9%)	14 (13%)	55 (11%)	48 (37%)

Of the 34 high risk species of birds, 13 (38%) species are birds of prey and a further 9 (26%) species are water birds (or birds associated with wetlands). These two groups of birds, therefore, account for almost two-thirds of threatened birds, even though they only represent less than one-third of the species diversity. Of the 12 high risk species of mammals, 9 (75%) are either ungulates or large carnivores (> 10 kg). These four groups (birds of prey, water birds, ungulates and large carnivores) account for 61% of all high risk vertebrates.

A total of 305 species of plants have been included in the red data list for the country, representing 9% of the total plant species richness. However, 62 species (2%) are threatened (Critically Endangered, Endangered or Vulnerable), while 155 species are data deficient.

National status

The global targets of restoring and maintaining populations of declining species, and improving the status of threatened species (Goal 2) have not been met. As can be seen from the results presented above, populations of many species are still in decline, and several species have gone extinct in the past few decades. The NBSAP calls for the protection of threatened and endemic species. A first step in this process is the identification of threatened species. To this end, Red Data Lists have been prepared for two groups of organisms: vertebrates and higher plants.

Article 7 of the CBD calls for the identification and monitoring of various components of biodiversity. Although a significant amount of work has been conducted on various taxa and at the ecosystem level, this work has not been coordinated or managed. Rather, it has been carried out by independent researchers, working on personal agendas (albeit for the good of the nation). At present, an umbrella institution that would set national targets for biodiversity research, access funding and review findings at regular intervals does not exist.

2. THREATS TO BIODIVERSITY

Red Data Books exist for Swaziland's vertebrates and higher plants, which perform a very important function in that they not only list threatened species within a particular group, but they also discuss the threats facing those species and the group in general.

Global threats

McNeely et al. (1990) have listed and discussed in detail the global threats to biodiversity. Included in this category are factors such as the rapidly increasing human population whose needs will soon outstrip the biological resources of this Planet; global warming and climate change; the threat of nuclear war and nuclear disasters (such as the one at Chernobyl); and international trade in endangered species and species products.

Regional threats

Regional threats to the biodiversity of Swaziland include factors such as atmospheric and water pollution; reduction of flow in rivers which have their sources in South Africa; cross-border smuggling of indigenous species and species products; and the washing downstream of alien invasive plant species (such as *Chromolaena*, *Lantana*, *Sesbania* and *Melia*) from South Africa.

Local threats

It is difficult to catalogue the threats to Swaziland's biodiversity, since almost every human activity, from collecting firewood to building houses and from keeping cattle to irrigation farming, impinges, in one way or another, on biodiversity. The different activities, however, do not all have the same impact.

Presented below is a framework of threats to Swaziland's biodiversity. Factors are either proximate in that they are directly responsible for biodiversity erosion (e.g. illegal hunting) or are ultimate causes of the problem (e.g. poverty) which are usually political or economical in nature. The loss of biodiversity will not be stemmed until the root causes are addressed. The threats facing Swaziland's fauna can be grouped into the broad categories discussed below.

Habitat destruction

Habitat destruction is probably the most important factor leading to the decline and, ultimately, the extinction of animal and plant populations the world over. Habitat destruction has best been publicised by the clear-cutting of tropical forests. However, habitat destruction can be, and usually is, much more subtle. Any alteration to the natural "abode" of a species that negatively affects populations of that species is referred to as habitat destruction.

Habitat destruction may take on any of the following forms.

(i) *Urbanisation*: Swaziland's towns and cities are expanding at rapid rates. With this expansion, comes extreme habitat transformation (from natural vegetation to "concrete jungle"). At present, at least one species of bird, the Blue Swallow *Hirundo atrocaerulea*, is threatened by such uncontrolled expansion of the city of Mbabane.

(ii) *Agricultural development*: Agricultural development has transformed a very large area of Swaziland. In the Highveld much of the natural grassland and forest have been replaced by timber plantations. Sugar cane, cotton, citrus and maize have replaced natural savanna in the Lowveld and Middleveld. Finally, subsistence farming has replaced natural vegetation in all four regions. Most indigenous species are unable to survive in exotic plantations or crop mono-cultures. Linked with land transformation is the transformation of aquatic habitats, such as rivers, as a result of chemical pollution (pesticide and fertilizer residues) and in-

creases in the silt load (due to soil erosion). This can have a severe impact on fish populations and macro-invertebrates. Much of the farming done in the Lowveld requires irrigation which, in turn, affects the flow of the rivers and hence alters their suitability for aquatic organisms. Pesticide pollution may poison soil microflora and reduce their numbers which in turn may cause larger plants to lose their vigour and eventually disappear.

(iii) *Industrial development*: Industrial development at Matsapha, if unrestrained, could have an enormous impact on Swaziland's environment and biodiversity. Numerous projects have shown that the Usushwana River at Matsapha is being seriously contaminated with industrial waste which is causing the decline in populations of aquatic organisms, and altering the species composition of macro-invertebrates, fish and aquatic plants. Air pollution is also a concern. The effects of acid rain on plants can be highly detrimental.

(iv) *Construction*: Insensitive construction (e.g. roads) is potentially very damaging, often leading to destruction of natural veld and soil erosion.

(v) *Wood-cutting*: Certain species of trees are felled for building homes and fences, household implements and furniture and for firewood. The rate of deforestation has yet to be measured, but appears to be quite high judging by the amount of firewood on sale on the sides of the Nation's main roads (especially in the Middleveld and Lowveld). This not only affects the tree species that are being cut, but also the animals for which these trees form their natural habitat. Large expanses of Swazi Nation Land have been cleared of trees, which has drastically reduced the bird and mammal species composition of these areas. Swaziland's indigenous trees are also cut for the manufacturing of tourist artefacts. Populations of some species of trees (such as *Pterocarpus angolensis*, kiasat or umvangati) are rapidly being depleted, which could result in local extinctions.

(vi) *Live-stock*: The density of live-stock, especially cattle, on Swazi Nation Land in many communities is far higher than the carrying capacity of the land. As a result, severe overgrazing has occurred in these areas. This has led to a reduction in the species diversity of small mammals, birds and probably certain insect groups such as grasshoppers. The effect of overgrazing on the indigenous flora has not been quantified but appears to be highly detrimental.

(vii) *Indiscriminate use of fire*

Fire is an integral and essential part of both grassland and savanna ecosystems (which together cover over 99% of Swaziland). However, the indiscriminate use of fire (such as annual winter burning on the Highveld) can and does alter the habitat which often results in a decrease in biodiversity.

Over-exploitation

Illegal and uncontrolled hunting has resulted in the extermination of most of Swaziland's large mammals, especially on Swazi Nation Land. By the late 1950s, numerous species of mammals had been hunted to extinction, although most of these species have now been reintroduced to nature and game reserves. However, at least one species of mammal (wild dog *Lycaon pictus*) and one species of bird (Kori Bustard *Ardeotis kori*), which were hunted to extinction, have not been reintroduced to the Kingdom.

Many species of fauna and flora are used in traditional medicine and are thus heavily exploited by local tinyanga (traditional healers). The effects of this exploitation have yet to be quantified. But many tinyanga are now complaining about the difficulty of finding certain species which were common not so long ago indicating a decline in the population of these species.

Many species of vertebrates are killed for food and/or superstition. For example, most snakes detected by Swazis are killed on the spot, despite the fact that only a very small proportion of the Kingdom's species are venomous (and despite the fact that snakes play many important ecological roles e.g. control of pest populations).

Impact of exotic species

Introduced (exotic) species often survive and increase rapidly in new environments due to the fact that their natural predators are missing. These introduced species can have a significant impact on the ecosystems into which they have been introduced. For example, the exotic fish rainbow trout *Onychorhynchus mykiss* and large mouth bass *Micropterus salmoides* can have devastating effects on local fish populations in southern Africa. Both these species occur in Swaziland, where their impacts have yet to be studied.

The introduction of alien plants can have considerable impact on the natural vegetation (such as *Chromolaena odorata*, *Sesbania* spp., *Psidium guava*, and *Lantana* spp.), which in turn can affect animal populations such as butterflies.

Weak law enforcement

Within the reserve network, laws pertaining to conservation of biodiversity are enforced. However, outside of these protected areas, the laws are often ignored or only marginally enforced. For example, the killing of any species of bird (with the exception of the helmeted guineafowl or *imphangele*) constitutes a crime, but the numerous people that hunt birds outside of protected areas are rarely prosecuted.

Ignorance

Many of the actions referred to above (habitat destruction, over-harvesting, etc) are as a direct result of ignorance of the value of biodiversity. There is also a lack of understanding (both on the part of the lay-person as well as the technical “expert”) of ecosystem functioning, especially in the tropics and subtropics. As a result, developments which appear benign are often very destructive. There is therefore, an urgent need both to educate the general public about biodiversity issues and to conduct further research.

Population growth

The Swazi population is growing at over 3% per annum (one of the highest growth rates in Africa). With the economic growth rate at only 2.7% per annum, the population is growing faster than the formal economy. This has resulted in an increasing number of people turning to the exploitation of natural resources. Proper family planning is an essential component of sustainable environmental management.

Lack of equity in ownership and management

In Swaziland (as is the case in many other countries in Africa), neighbouring communities have traditionally been excluded from the management (and exploitation) of protected areas. As a result, many communities feel that these protected areas are of little value to them (Hackel, 1990). For these protected areas to demonstrate their value, neighbouring communities need to be integrated into their management and planning. This is beginning to happen in Swaziland, but the whole process needs to be accelerated and taken further.

A related threat is the removal of responsibilities of biodiversity management from government, and the often unclear lines of responsibility for wildlife management in the country.

3. *IN-SITU* CONSERVATION

In-situ conservation refers to the conservation of plants and animals in their natural habitats. *In-situ* conservation is generally viewed as the preferred method of conservation world-wide.

Nature reserves and game parks

A total of seven existing reserves, covering 64100 ha (3.7 % of the country), have been proclaimed in Swaziland. Four are managed by the Swaziland National Trust Commission (Malolotja, Hawane, Mlawula (including Ndzindza) and Mantenga Nature Reserves), and three by Big Game Parks (Mlilwane Game Reserve, Hlane National Park, Mkhaya Game Reserve). These protected areas are distributed widely, but with a bias towards the north-eastern parts of the country (Figure 7).

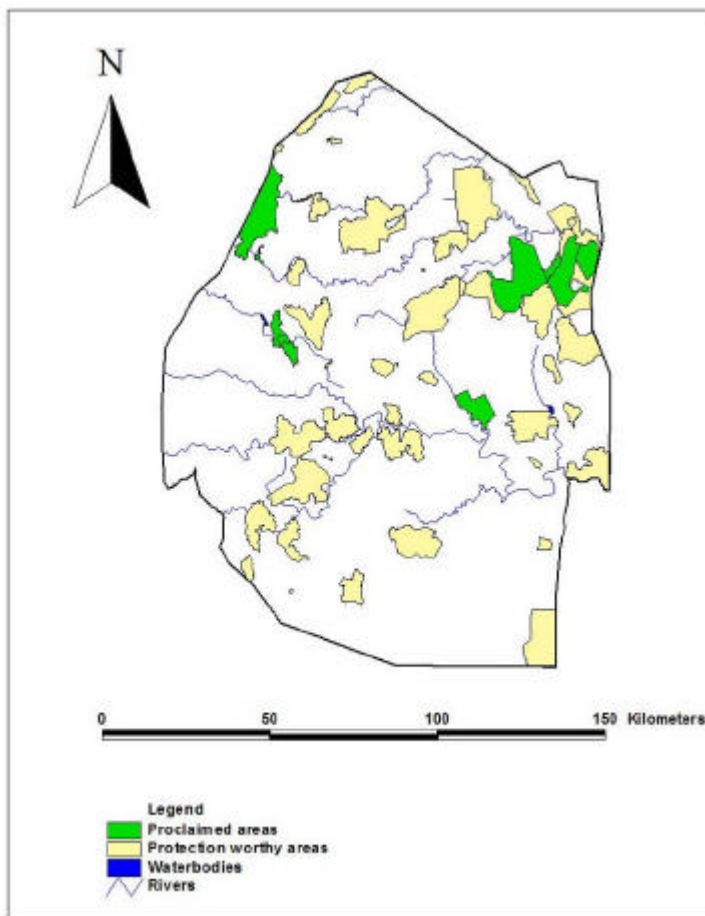


FIGURE 7. MAP SHOWING PROCLAIMED (GREEN) AND PROTECTION WORTHY (BEIGE) AREAS (ADAPTED FROM ROQUES 2002)

An examination of Figure 7 reveals a clear absence of protected areas in the southern half of the country. There is no ecological reason for this. In fact, several habitat types occur in the south-west of Swaziland that are not found elsewhere in the country.

With just 3.7% of the country under protection (representing the northern regions only), Swaziland clearly needs more proclaimed parks and reserves. Proclamation of some or all the protection worthy areas identified during the field survey in 2002 would go a long way to addressing this issue.

An indication of how effective conservation areas really are is the proportion of threatened species occurring within them. This information is available for trees and vertebrates. As

shown in Figure 8, only 50% of red data listed tree species are found in protected areas, compared with almost 80% of threatened mammals. This either suggests that the location of protected areas is biased towards mammals, or that mammals are disproportionately threatened. The reality is that it is probably a combination of both these factors.

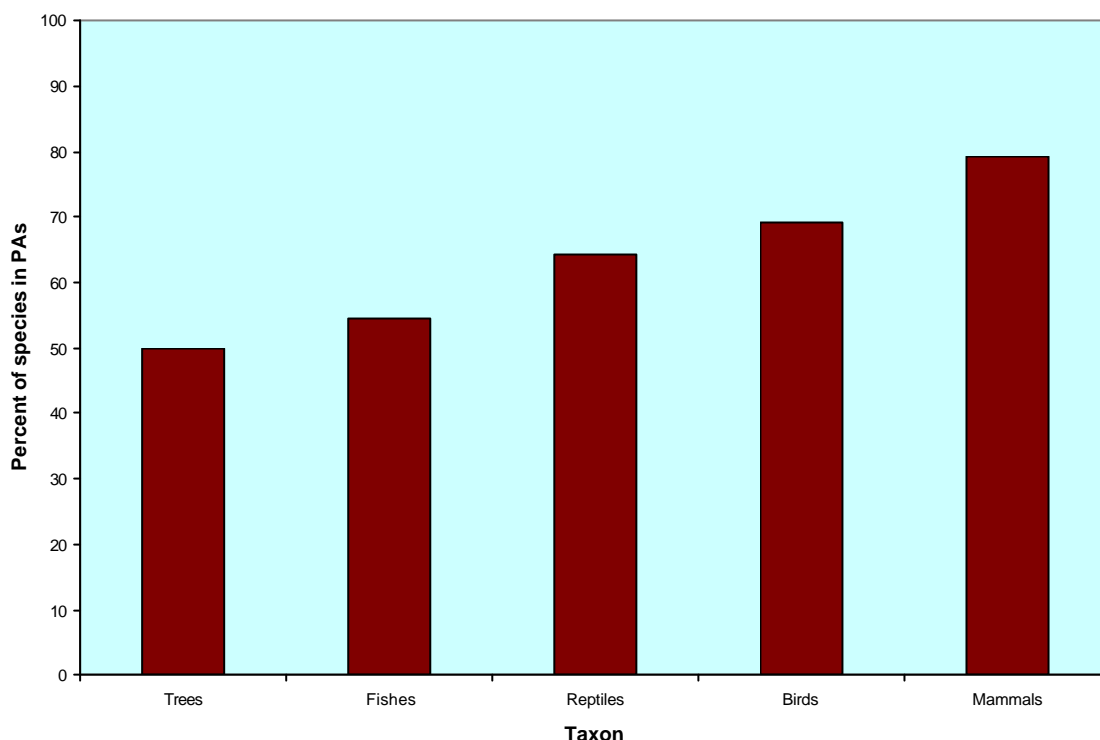


FIGURE 8. PERCENT OF RED DATA LISTED SPECIES OCCURRING IN PROTECTED AREAS IN SWAZILAND. DATA SOURCED FROM LOFFLER & LOFFTER (2005) AND MONADJEM ET AL. (2003)

National status

As can be seen from the results presented above, the global targets of conserving 10% of ecosystems and areas of importance for biodiversity within the country (Goal 1) have not been met.

Article 8 of the CBD calls for *in situ* conservation with emphasis on developing an adequate protected area network. As can be seen from the figures presented above, Swaziland does not have an adequate reserve network. For a start, the 10% target has not been met for any ecosystem. In fact, several habitat types are not represented in protected areas at all. Furthermore, many threatened species (and even more non-threatened species) currently survive beyond the boundaries of protected areas. This is a critical issue that needs to be addressed urgently by Swaziland.

Some progress has been made with trans-frontier conservation and the country has established a Transfrontier Conservation Areas Programme. There are plans for transfrontier activities with both South Africa (Malolotja Nature Reserve and possibly a new reserve in the far south near Lavumisa) and Mozambique (Lubombo Conservancy including Hlane and Mlawula parks).

The country has also submitted a GEF proposal for a Biodiversity Conservation and Participatory Development Project which would assist to link fragmented protected areas through a network of corridors.

Article 8 also calls for the control of alien invasive species. Currently information on the assessment of the risks posed to ecosystems, habitats or species by the introduction of alien species has been carried out by the Ministry of Agriculture in close collaboration with the private industrial timber growers in the country. These industrial plantations closely monitor and track invasives within their plantations mainly to comply with Forest Stewardship Council requirements. Specific invasive floral species have been identified in several ecosystems that are having detrimental impacts on the environment. In November 2005 the Prime Minister declared *Chromolaena odorata* a national disaster as it is having a major impact on degrading agricultural land and protected areas – no control or management measures have yet been announced.

4. *EX-SITU* CONSERVATION

Ex-situ conservation refers to the conservation of plants and animals in non-natural habitats for example in zoos, botanical gardens and seed storage facilities.

Animals

There are currently few *ex-situ* measures in place for the conservation of indigenous, non-domestic animals. There are no reputable zoos, snake parks or crocodile farms (although crocodiles are being kept in captivity by a few land-owners). Ostriches are being bred in captivity on several privately owned properties, the largest population being controlled by Big Game Parks. However, all of the ostriches currently occurring in Swaziland (either in captivity or in the wild) originate from sources outside of the country and genetically do not represent the indigenous population.

A few species of large herbivores (e.g. roan, sable, tsessebe, elephant) and large carnivores (e.g. lion, cheetah, leopard) are kept in a semi-wild state at Hlane National Park, Mkhaya Game Reserve, Mlilwane Game Reserve and a few other nature reserves and private ranches. These areas form important refuges for these threatened species in Swaziland, and may serve as foci for future re-introductions to areas where the species are currently locally extinct. Nguni cattle (an indigenous breed adapted to the Swazi environment) are being conserved at Nsalitje.

Plants

Ex-situ conservation of all species of plants in Swaziland is the formal responsibility of the Gene Bank (located at the Malkerns Research Station, Ministry of Agriculture and Cooperatives). At present, though, most of the Unit's effort is expended on collecting seeds from crops and other plant species used for agricultural purposes.

Nurseries are an important repository of plant material. There are numerous private nurseries scattered around the country, most of which deal mainly in exotic species. A small number of nurseries specialising in indigenous species exist in the Manzini and Simunye areas. Community-run nurseries are a recent phenomenon and some, such as the one at Maguga, show potential.

The National Herbarium is situated at the Malkerns Research Station (Ministry of Agriculture and Cooperatives). Compton, during his survey of the flora of Swaziland, collected a large number of plants which served as the foundation of this Herbarium. The National Herbarium was involved in SABONET (Southern African Botanical Network; this was a GEF-funded project which aimed to electronically link-up all major herbaria in southern Africa and to provide support for modernising the storage of information at these herbaria via the use of appropriate computer database programmes. The SABONET programme has now ended and there does not appear to be any follow up to it). There are plans to move the National Herbarium to new grounds just outside of Manzini.

Botanical gardens are an important form of *ex-situ* conservation, not only for the plants that are cultivated but also for the animals that are associated with those plants (such as insects and birds). At present, there are no botanical gardens in Swaziland, although there are plans to develop one such garden on the new premises of the National Herbarium.

National status

The global target of maintaining genetic diversity of crops, livestock and other valuable species (Goal 3) has partially been met. The Gene Bank and National Herbarium have taken the lead in this regard with respect to plants, while the Ministry of Agriculture and Cooperatives has initiated a project to characterize genetic diversity of indigenous livestock in the country.

Article 9 of the CBD calls for *ex situ* conservation. The establishment of the National Plant Genetic Resources Centre and the National Tree Seed Centre partially addresses this issue, but both institutions are under-resourced. The new premises of the National Botanical Garden near Manzini are spacious and could potentially play an important role in *ex situ* conservation of various indigenous plant species. However, progress has been hampered by a lack of funds.

A number of large mammal species have been re-introduced to the country, both on SNTC parks and privately-owned ranches and reserves. However, the re-introduction of less charismatic species has yet to be initiated.

Agro-biodiversity

Agriculture is the backbone of the economy of Swaziland. Swaziland covers an area of over 1 736 000 ha, of which approximately 129 980 ha is being used for crop production. Grazing land covers about 1 252 314 ha and commercial forest plantations cover 86 758 ha. Thus, over 80% of Swaziland is dedicated to agriculture. Agricultural production in Swaziland is either done commercially (mainly on title deed land) or on a subsistence basis (mainly on Swazi Nation Land).

Crops

The main commercial crops grown in Swaziland are presented in Table 5. In addition to this, approximately 100 000 ha are under commercial timber plantations.

TABLE 5: COMMERCIALY GROWN CROPS IN SWAZILAND FROM EARNSHAW (1998)

Crop	Area under commercial cultivation (ha)
Sugar cane	40 131
Cotton	26 000
Citrus	2 200
Pineapple	918
Tobacco	400
Non-citrus fruit	126
Maize	not available
Beans	6 194
Jugo beans	3 097
Cow peas	2 789
Goundnuts	7 174

Animals

Table 6 presents the types and numbers of livestock occurring in Swaziland. Cattle and goats are the main types of livestock kept. The Nguni is an indigenous breed which is better adapted to the environmental conditions of Swaziland than exotic breeds, and thus should be prevented from extinction through hybridisation. The same applies to the indigenous breed of goat and poultry.

TABLE 6. THE DIFFERENT TYPES OF LIVESTOCK IN SWAZILAND FROM THE NATIONAL LIVESTOCK POPULATION CENSUS OF 1999 (GOVERNMENT OF SWAZILAND, 1999)

Type of livestock	Number of animals
Cattle	599 067
Dairy cows	3 102
Indigenous sheep	15 831
Exotic sheep	3 865
Indigenous goats	358 832
Exotic goats	3 865
Indigenous pigs	26 767
Exotic pigs	10 670
Donkeys	12 280
Horses	1 276
Mules	39
Poultry	1 360 381

Fisheries

There are four main species of fish that are cultured in Swaziland. Two of these species are exotics and have been introduced in recent times: common carp (*Cyprinus carpio*) and rainbow trout (*Onychorhynchus mykiss*); while two are indigenous: tilapia (*Oreochromis mossambicus*) and catfish or barbel (*Clarias gariepinus*).

National status

The global target of maintaining genetic diversity of crops, livestock and other valuable species (Goal 3) has partially been met. The Gene Bank and National Herbarium have taken the lead in this regard with respect to plants, while the Ministry of Agriculture and Cooperatives has initiated a project to characterize genetic diversity of indigenous livestock in the country.

5. LEGISLATIVE AND INSTITUTIONAL CAPACITY FOR BIODIVERSITY MANAGEMENT

The Swaziland Environment Authority conducted a Biodiversity Capacity Building Needs Assessment with the aim to assess institutional and stakeholder capabilities for *in situ* and *ex situ* conservation and sustainable use of biodiversity. This study aimed to assess capabilities of key institutions to implement biodiversity conservation measures and compile a report on human and financial resources needed to implement biodiversity conservation in Swaziland (Monadjem et al. 2003c).

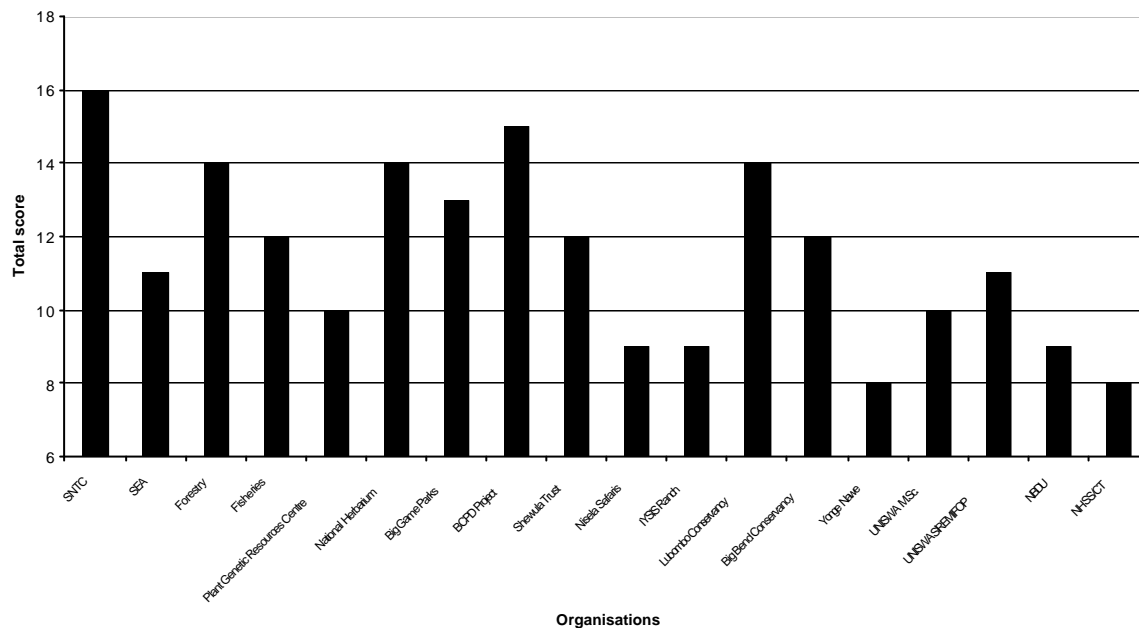
Very few institutions have appropriate mandates for effective biodiversity conservation and management in Swaziland. Of the 29 institutions surveyed, only 18 have any mandate at all, and just four appear to have adequate mandates for biodiversity conservation (Table 7; Figure 9)

TABLE 7 EIGHTEEN INSTITUTIONS THAT HAVE MANDATES PERTAINING TO BIODIVERSITY

Institution	Predominant mandate with respect to biodiversity		
	Conservation/management		Awareness/training/research
	<i>In situ</i>	<i>Ex situ</i>	
SNTC	?		?
SEA	?		
Forestry Section	?		?
Fisheries Section	?		
National Plant Genetic Resources Centre		?	
Swaziland National Herbarium		?	
Big Game Parks	?		
BCPD Project	?		
Shewula Trust	?		
Nisela Safaris	?		
IYSIS Cattle Ranch	?		
Lubombo Conservancy	?		
Big Bend Conservancy	?		
Yonge Nawe			?
UNISWA M.Sc.			?
SIREMIFOP			?
NBDU			?
NHSS			?

A further concern is the fact that only two institutions (Swaziland National Herbarium and National Plant Genetic Resources Centre) have direct mandates for *ex situ* conservation. Of greater concern is that a third of all institutions surveyed, many of which impact significantly on biodiversity in Swaziland, had no mandate at all for biodiversity conservation and/or management (see Figure 9).

FIGURE 9: DETAILED COMPARISON OF EIGHTEEN INSTITUTIONS BASED ON SIX CRITERIA. A SCORE OF 18 INDICATES THAT THEIR MANDATE FULLY COVERS ALL SIX CRITERIA, WHILE A SCORE OF 6 INDICATES THAT NONE OF THE CRITERIA WERE INCLUDED IN THE MANDATE (ADAPTED FROM MONADJEM ET



The institutional capacity and capability self-assessment revealed that the institutions with primary mandates for biodiversity conservation in Swaziland are generally inadequately funded and/or staffed with poor legislative support. These institutions include: Swaziland Environment Authority (SEA), Swaziland National Trust Commission (SNTC), Forestry Section, Fisheries Section and Swaziland National Herbarium.

A large amount of fragmented legislation pertaining to biodiversity exists in the country, most of which is housed in the Ministry of Tourism, Environment and Communication and Ministry of Agriculture and Cooperatives. Much of this legislation is outdated and many gaps and overlaps were identified. Major gaps in the legislation include the lack of support for sustainable utilization of biological resources on Swazi Nation Land, and the lack of an umbrella Act that integrates the fragmented legislation. Other gaps include insufficient protection of threatened species and aquatic systems, and inadequate support for *ex situ* conservation and control of alien invasive organisms. The major overlap in legislation pertains to the proclamation of sanctuaries/reserves.

To address the problems associated with the country's legislation, it is recommended that an all-encompassing Biodiversity Management Act be created. This would integrate existing legislation and clearly define the roles of various key institutions. Furthermore, the Act would have the authority to develop new and relevant legislation. It is envisaged that the Partnership for the Development of Environmental Law and Institutions in Africa (PADELIA) will streamline the country's biodiversity legislation resulting in the formulation of this proposed Biodiversity Management Act.

Some positive achievements have been made with regards to updating legislation. A new Flora Protection Act of 2000 has been gazetted. This is an Act to protect indigenous flora and to provide for matters incidental thereto. The Act replaces the 1952 Act. What is significantly different about the new Act as compared to the 1952 Act is a requirement that an Environmental Impact Assessment (EIA) be carried out in respect of any activity that would impact on indigenous flora.

Also recently gazetted is the Environmental Management Act of 2002 to strengthen the country's environmental governance capacity and to provide and promote the enhancement, protection and conservation of the environment and the sustainable management of natural resources. It also turned the SEA into a body corporate and established the Swaziland Environment Fund. Closely related is the Environmental Audit, Assessment and Review Regulations that was gazetted in 2000 that requires a systematic examination of the environmental impact of the proposed project to determine whether or not the activity will have any adverse impacts on the environment and prepare a mitigation plan to manage the resulting impacts.

National status of other issues

Cooperation

Article 5 calls for international cooperation. The General Transfrontier Conservation and Resource Area Protocol was signed between the Governments of the Republic of South Africa, Republic of Mozambique, and Kingdom of Swaziland on 22 June 2000 establishing the Lubombo TFCA. The Lubombo Conservancy-Goba Transfrontier Conservation Area Protocol between the Governments of the Republic of Mozambique and the Kingdom of Swaziland was also signed in June 2000. A Bilateral Lubombo Conservancy-Goba TFCA Task Group was established.

Swaziland is also involved in several initiatives aimed at promoting regional and international cooperation. Cooperation arrangements exist with the Republic of South Africa and Republic of Mozambique. These include the SADC Protocol on Shared Water Courses, the SADC Wildlife Protocol and the SADC Biodiversity Support Programme. On the management of trans-boundary watersheds, catchments, river basins, etc., Swaziland and the Republic of South Africa and Republic of Mozambique signed an agreement at the ministerial level to jointly manage the watershed area of the Usutu River basin.

Swaziland participates in the Southern African Biodiversity Support Programme of the SADC which seeks to co-ordinate the work of the national biodiversity programmes of SADC member states. Furthermore; Swaziland participates on the Southern African Botanical Network (SABONET), and the SAFRINET technical support network of BioNET International.

Therefore, in general Swaziland enjoys bilateral and regional cooperation from her neighbours on issues shared by these states. The cooperation to date has been very helpful and rewarding to the country.

General measures for conservation

Article 6 of the CBD calls for the putting in place of general measures for conservation and sustainable use. Swaziland's NBSAP was drafted in 2001 and has still to be officially approved by the Government of Swaziland, however, it is used as a practical working document. In addition the country prepared the Swaziland Environment Action Plan (1998), a National Environment Policy (2000), a National Action Program of the Convention to Combat Desertification (2001), a National Forest Policy (2002), a National Forestry Programme (2002) and the Comprehensive Agriculture Sector Policy (2005). All these plans and policies broadly share the common objectives of the CBD. Hence, Swaziland has made good progress with regards to the development of appropriate action plans and policies for the conservation of biological diversity.

Sustainable use and community-based natural resource management

Article 10 calls for the development of components of biological diversity. Swaziland has adopted legal measures for the minimization of adverse impacts on biological resources through the enforcement of environmental impact assessments for any new developments. Swaziland has used the Community Based Natural Resource Management (CBNRM) system

as a mechanism to involve the private sector and indigenous/local communities in biodiversity conservation. Shewula Nature Reserve serves as an example where local communities are involved in the development of a protected area adjoining an already existing protected area.

The national Forest Policy (2002) and Action Programme encourages community based resource management of natural resources through the formation of Natural Resource Management Committees at community level. Proactive advocacy with local traditional leaders and community members is an on going initiative led by the Forestry Section of the Ministry of Agriculture.

With regard to tourism, Swaziland has adopted legal measures for the assessment of impacts on biological resources by tourism activities through the enforcement of environmental impact assessments for any new developments and projects related to tourism.

Swaziland has also supported capacity-building activities to assist local communities in planning tourism developments. For example, the Swaziland Tourism Authority with financial support of the EU has assisted a local community in establishing two tourist lodges in the Ngwempisi Gorge in western Swaziland and is still preparing programmes with the support of the EU to capacitate local communities in developing tourism projects.

6. PRIORITIES AND FUTURE OPTIONS

The 3NR has highlighted that the sustainable management and utilisation of the country's natural biodiversity is at a critical crossroads. With the extreme pressures being faced by the natural environment by socio-economic and physical pressures, priority areas for intervention can be identified.

Challenges to be faced include strengthening the political will and support for biodiversity conservation and management across all sectors of the economy and society. It is only with strong political will that the required resources can be accessed. Much work is needed to educate and inform our political leaders on the importance of biodiversity for sustainable development.

Limited public participation and stakeholder involvement in biodiversity issues remains a major obstacle. Participation and informed involvement in biodiversity management decisions remains only at the higher scientific level. The general population and main users of biodiversity, have still to be given the opportunity to effectively participate in managing the nation's biodiversity for the benefit of all.

A critical challenge still remains in integrating biodiversity issues into all sectors of government and society. The lack of mainstreaming and integration of biodiversity issues into the activities of all sectors is resulting in two steps forward and one step back as initiatives to better manage and protect biodiversity are negated by poorly planned large scale developments.

With the country's limited integration of biodiversity, precautionary and proactive measures that might help enhance efforts to improve the management of biodiversity are being hampered by a general lack of awareness of the longer term impacts of decisions made today.

Several studies have identified the country has inadequate capacity to act which in turn is caused by institutional weakness and insufficient funds.

Traditional knowledge in biodiversity management, though high in the early days of Swaziland's history, is being lost or undermined as the nation's culture and traditions are lost or weakened.

The HIV AIDS epidemic is removing the persons with this knowledge at alarming rates. Consequently, the time honoured and respected practices that worked with nature are being replaced by overexploitation and poor management.

The challenge of scientific research capacities to support biodiversity management is still a major one. The scientific cadre is limited in both numbers and skills. National resources for research are extremely limited as decision-makers, through poorly informed judgement, do not advocate for the necessary resources to study key components of the nation's biodiversity and its interaction with society.

The loss of biodiversity and the corresponding goods and services it provides are not properly understood and documented. Given the importance of the nation's natural resources for its economic and social development, government is failing to recognise the value and importance of the goods and services the ecosystems provide. Water, a critical element of the economically important irrigated agriculture sector, rises in the Highveld region of the country. The degradation of this important catchment through mismanagement and poor decision-making is already having noticeable effects downstream as irrigators struggle to abstract sufficient water for their industry. Dams built to store water are themselves being impacted as erosion and sedimentation reduce their holding capacities.

To ensure the integrity and productivity of ecosystems, the local communities that reside in these critical areas need to be supported and rewarded to practice more sustainable land use practices. The general lack of capacities for local communities to make informed decisions on biodiversity management, often results in the further erosion of biodiversity and critical ecosystems. Under the draft Forestry Policy, natural resource management committees are to be setup. These com-

mittees, according to the policy, will be supported by government and development partners and empowered to improve their decision-making processes.

Natural disasters and environmental change is affecting the majority of the sub-region and Swaziland in particular. Drought has been the major type of natural disaster affecting the country over the past 10 years. These droughts have left the natural environment stressed and unable to provide the goods and services it once did. However, the goods and services are still being demanded by the population thus the natural environment is rapidly degrading to a point where it may not be able to recover.

Key priorities for the country

Alien invasive species

Invasive species are spreading at an alarming rate throughout Swaziland. Grazing for both wild-life and livestock are threatened by these weeds as is our biodiversity. Management of these invasives is going to be a costly and timely exercise and will need whole-hearted support and co-operation by government, the private sector and neighbouring countries.

Fragmentation of ecosystems

A specific trend that needs urgent attention with regards the conversion of land to sugar cane is the fragmentation of the Lowveld ecosystem. This is a phenomenon associated with the proliferation of irrigation schemes and requires attention at national and sub-continental levels. The destruction of vegetation through these schemes has contributed to the gradual diminution of Lowveld Woodland areas. More and more areas of bushveld are being destroyed, with the risk that fragmentation will spread to the point where any remaining woodland is isolated in small pockets, eventually resulting in non-viable habitats.

Biodiversity conservation options for communal management

The lack of awareness of the importance and role of indigenous forests and woodlands in people's daily lives stipulates the need for intensive research and education programmes in the country. Management of any resource requires appropriate research, education and training in order to develop the necessary experience and expertise to make wise decisions. The generation of income from the sustainable use of the country's biodiversity will have to become the major economic engine for supporting conservation action in communal areas. This will have to be implemented through a proposed Natural Resource Accounting system.

Natural Resource Accounting

The economic, environmental and social gains and losses resulting from the conversion of land are not corrected for in the current system of National Income Accounting (NIA). A careful investigation needs to be made into the way contributions of agricultural production to GDP are currently calculated, so as to provide an improved estimate. The NIA system for Swaziland should include Natural Resource Accounting (NRA). It is not easy to place monetary values to the value of biodiversity, but Natural Resource Accounting provides a means of doing so. According to the Natural Resource Accounting in Southern Africa, sustainable development (to which Swaziland is committed, as reflected in the NDS and other policy documents) is concerned with the question of whether current actions augment or reduce the opportunities (i.e. economical, ecological and social) that future generations face as a result of decisions made in the present. Given the close linkages that there are in economic activity and environmental change, development indicators should integrate the economy and the environment more closely. There is therefore a strong argument for Swaziland to introduce Natural Resource Accounting in the NIA system.

Legislative development

Legislation dealing with land and livestock in Swaziland need to be urgently updated and enforced as it influences biodiversity immeasurably. The Swaziland Flora Protection Act (2000) which provides legal protection for over 200 plant species in the country needs its Schedules to be regularly revised. In addition, the Plant Control Act (1981) which provides for the control, movement and growing of plants incorporating the protection of land from noxious weeds needs to be urgently updated. A new list of noxious weeds needs to be drafted and the Act amended accordingly.

To better protect existing wetlands and their unique ecosystem, the country needs to sign and ratify the Ramsar Convention on Wetlands and the Conservation of Migratory Species of Wild Animals both of which are viewed by local conservationists as critical to the protection and management of Swaziland's threatened biodiversity.

Lack of control of the medicinal plant trade

The quantity and type of indigenous plant products that are sold to markets, inside and outside of Swaziland, for medicine are largely undocumented in the country. Where the species are harvested from and how they are harvested needs to be quantified and justified. This illegal trade is not monitored in Swaziland and the species that are sold are in many cases not harvested sustainably. Extinctions of species could occur in the immediate future if this trade is not formalised and regulated.

In-situ conservation of genetic resources

Indigenous species that are threatened for various reasons are not being propagated and very few are monitored effectively. Large tracts of land have been cleared and are presently earmarked for agricultural expansion and have had large numbers of indigenous species removed or destroyed. Unfortunately, there is still no formal institution that acts as refugia for the important species or that offers the education facility that is needed for children to help them appreciate what biodiversity Swaziland has to offer and its management there-of. The Swaziland National Trust Commission reserves which are managed with a view to protecting the flora (unlike the game reserves) fulfil an important role with regard to *in situ* conservation of genetic resources.

Capacity building

To effectively implement the Convention, the country has identified priority needs through the National Capacity Self Assessment process which was completed in 2005. The NCSA culminated in the preparation of a Capacity Development Action Plan that proposes an integrated capacity development process in order to fulfil the country's capacity requirements to implement the Multinational Environmental Agreements the country has signed.

The 2010 Target

The Conference of the Parties, in decision VII/30, annex II, decided to establish a provisional framework for goals and targets in order to clarify the 2010 global target adopted by decision VI/26, help assess the progress towards the target, and promote coherence among the programmes of work of the Convention. Parties and Governments were invited to develop their own targets with this flexible framework.

In the completed 3NR, Swaziland was only able to report mixed progress in setting national targets. With the absence of national targets, the country is relying on meeting the global targets within the framework of the NBSAP.

Under Focal Area: Protect the components of biodiversity, the country remains committed to achieving the 10% target for the conservation of the biological diversity of ecosystems, habitats and biomes with some areas of the country that of particular importance to biodiversity protected

receiving greater emphasis. However due to a variety of reasons, new protected areas have not been declared for over 15 years.

The country has taken some steps to promote the conservation of species diversity (Goal 2) with the assistance of SABONET. Under this programme taxonomic priorities were identified for the restoration, maintenance and reduction in the decline of populations of species of selected taxonomic groups. The major challenge is sourcing funding to develop the targets and prepare appropriate methodologies for implementation.

Under Goal 3 (Promote the conservation of genetic diversity) the country has been unable to establish or implement programmes to identify the nation's genetic diversity.

Under the Focal Area: Promote sustainable use, the country can only again report mixed progress. The trend emerging is that there is little sustainable use and consumption of biodiversity-based products derived from sources that are sustainably managed.

Under Focal Area: Address threats to biodiversity, the pressures from habitat loss, land use change and degradation, and unsustainable water use are increasing. Degradation of habitats through climatic change, drought and settlement expansions has markedly affected the integrity of many habitats. Alien invasive species are rapidly expanding and adversely affecting natural ecosystems. In 2006, the government finally acknowledged the severity of the impact and dedicated E6m towards eradicating AIS. It is not clear at this stage how this money will be spent and on what sort of programmes.

Efforts to address challenges to biodiversity from climate change, and pollution (Goal 7) remain in their infancy. The country recognises the predicted impacts climate change and pollution will have but not concrete proposals and resources have been secured to investigate these changes.

With an already degrading natural environment, attributable to some extent by climate change, the resilience of the components of biodiversity to adapt to climate change is likely to be very weak further removing critical components from the natural environment.

Under the Focal Area: Maintain goods and services from biodiversity to support human well-being, the country reported that the capacity of ecosystems to deliver goods and services and support livelihoods (Goal 8) is declining in the face of overexploitation. Biological resources that support sustainable livelihoods, local food security and health care, especially of poor people maintained are rapidly degrading.

Under the Focal Area: Protect traditional knowledge, innovations and practices, traditional knowledge, innovations and practices are being eroded through a variety of mechanisms with the primary loss of knowledge being the death of citizens from HIV AIDS related illnesses.

Under the Focal Area: Ensure the fair and equitable sharing of benefits arising out of the use of genetic resources, the country is still in the early days of identifying these benefits.

Under the Focal Area: Ensure provision of adequate resources, the country is failing to improve the financial, human, scientific, technical and technological capacity to implement the Convention. Higher national priorities, related mostly to ensure economic development, are removing these resources from being used to implement obligations under the CBD.

New and additional financial resources to be transferred to country Parties, to allow for the effective implementation of their commitments under the Convention, in accordance with Article 20, are not happening in a meaningful way. International support for biodiversity management is limited.

7. ACHIEVEMENTS SINCE BECOMING A PARTY TO THE CBD

Since becoming a Contracting Party to the Convention on Biological Diversity (CBD), Swaziland has:

- Prepared a National Biodiversity Strategy and action Plan (NBSAP).
- Signed and ratified the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) on 3 March 1973 and 24 Jan 1997 respectively.
- Formulated a National Environment Action Plan (SEAP)
- Formulated a Forest Policy (2000), a National Forestry Programme (2002) and Forestry Bill (draft).
- Gazetted a new Flora Protection Act of 2000. This is an Act to protect indigenous flora and to provide for matters incidental thereto. The Act replaces the 1952 Act. The Act prohibits any person from plucking, gathering, cutting, uprooting, injuring, breaking or destroying a plant of any species that is listed in the Schedule to the Act. The Minister responsible for agriculture is empowered to establish and extend flora reserves and botanical gardens. What is significantly different about the new Act as compared to the 1952 Act is a requirement that an Environmental Impact Assessment (EIA) be carried out in respect of any activity that would impact on indigenous flora.
- Amendment of the Game Act of 1953 in 1991 and 1993. In terms of this Act, no plant may be removed or tampered with, no animal may be removed or hunted. By Legal Notice in 1998 the responsibility for the administration of the Act was transferred to the King's Office issued by His Majesty King Mswati III. This Act is clear, strict and is reasonably well enforced
- Established a Biodiversity Implementation Programme Committee (BPIC) to oversee the implementation of the CBD and its related activities.
- Gazetted the Environmental Management Act of 2002 to strengthen the country's environmental governance capacity and to provide and promote the enhancement, protection and conservation of the environment and the sustainable management of natural resources. It also turned the SEA into a body corporate and established the Swaziland Environment Fund.
- Gazetted the Environmental Audit, Assessment and Review Regulations in 2000 that requires a systematic examination of the environmental impact of the proposed project to determine whether or not the activity will have any adverse impacts on the environment and prepare a mitigation plan to manage the resulting impacts.
- Acquired Block B World Bank/GEF funds to prepare a project on biodiversity conservation and eco-tourism development.
- Strengthened the National Plant Genetic Resources Centre and National Herbarium.
- Carried out a study in 2001 to identify protection worthy areas with the view to declare them protected. This process is on-going and to date an additional 44 areas have been identified that would cover 14% of the country. Swaziland's seven existing reserves, which cover 64,100 ha, cover only 3.7 % of the country.
- Established a Transfrontier Conservation Area (TFCA) focusing on a eco-system wide management approach in areas of highly significant biodiversity shared by Swaziland, Mozambique and South Africa.
- Established the country's first Community Based Conservation Management area in Shewula.

- Initiated the formulation of a national biosafety framework.. A national biosafety framework is a system of legal, technical and administrative instruments set in place to address safety for the environment, including the safety of humans, in the field of modern biotechnology.
- Carried out a Farm Animals Genetic Resources Survey.
- Carried out a Fisheries Survey in 2002 to prepare an inventory of fish species in the major rivers.
- Prepared two National Biodiversity Country Reports in 1998 and 2002.
- Prepared National atlases for several groups including birds, trees and frogs.
- Prepared red data lists and books for plants and vertebrates.
- Prepared numerous other publications relating to biodiversity including books, checklists or maps for mammals, reptiles and vegetation types.

8. REFERENCES

- Acocks, J.P. 1988. *Veld types of South Africa*, 3rd Edition. Mem. Bot. Surv. S. Afr. No. 57. Botanical Institute, Pretoria.
- Bills, R., Boycott, R., Fakudze, M., Khumalo, N., Msibi, J., Scott, L., Terry, S. & Tweddle, D. 2004. *Fish and Fisheries Survey of Swaziland (2002-2003)*. SAIAB Investigational Report No. 70, 165 pp.
- Boycott, R.C. 1992a. New amphibian records for Swaziland. *Durban Mus. Novit.* 17: 64-70.
- Boycott, R.C. 1992b. *An annotated checklist of the amphibians and reptiles of Swaziland*. The Conservation Trust of Swaziland, Mbabane.
- Boycott, R.C. 1992c. *A herpetofaunal survey of Swaziland*. Unpublished thesis, University of Natal, Durban.
- Boycott, R.C. & Culverwell, J.B. 1992. Swaziland Herpetofauna - a preliminary synthesis. *J. Herp. Assoc. Afr.* 40: 38-41.
- Braun, K.P., Dlamini, S.D., Mdladla, D.R., Methule, N.P., Dlamini, P.W. & Dlamini, M.S. 2004. *Swaziland Flora Checklist*. SABONET Report 27.
- Clay, D. 1976. An investigation into the distribution of fish in Swaziland. *Rev. Zool. Afr.* 90: 547-548.
- Clancey, P.A. 1986. Endemicity in the southern African avifauna. *Durban Mus. Novit.* 13: 245-284.
- Compton, R.H. 1966. An annotated check-list of the flora of Swaziland. *Journal of South African Botany, Supplement* 6.
- Compton, R.H. 1976. The flora of Swaziland. *Journal of South African Botany, Supplement* 11.
- Dlamini, T.S. & Dlamini, G.M. 2002. Swaziland. In J.S. Golding (ed.) Southern African Plant Red Data Lists. *Southern African Botanical Diversity Network Report* No. 14: 121-134.
- Dobson, L. & Lotter, M. (2004). *Vegetation Map of Swaziland*. In: Mucina, L. and Rutherford, M.C. (eds.), *Vegetation Map of South Africa, Lesotho and Swaziland: Shapefiles of basic mapping units*. Beta version 4.0, February 2004, National Botanical Institute, Cape Town.
- Duke, N., Saunders, J. & Saunders, C. 1999. *A checklist of insects of Swaziland*. The Conservation Trust of Swaziland, Mbabane.
- Earnshaw, D.M. 1998. Commercial biological resources/genetic wealth in Swaziland. Swaziland Government / United Nations Development Programme Report.
- Goudie, A.S. & Price Williams, D. 1983. *The Atlas of Swaziland*. The Swaziland National Trust Commission. Occasional Paper No. 4.
- Hackel, J.D. 1990. Conservation attitudes in southern Africa: a comparison between KwaZulu and Swaziland. *Human Ecology* 18: 203-209.
- Hyslop, E.J. 1994. *An annotated checklist of the freshwater fishes of Swaziland*. The Conservation Trust of Swaziland, Mbabane.
- I'Ons, J.H. 1967. *Veld types of Swaziland*. Bulletin No. 18. Ministry of Agriculture, Mbabane.
- Kemp, E.S. (1983). *A Flora Checklist for Swaziland*. Occasional Papers 2. Swaziland National Trust Commission, Lobamba, Swaziland.
- Loffler L. & Loffler P. 2005. *Swaziland Tree Atlas including selected shrubs and climbers*. Southern African Botanical Diversity Network Report No. 38. SABONET, Pretoria.
- Mander, M. 1998. The value and commercialisation potential of biodiversity in Swaziland: a preliminary discussion. Swaziland Government / United Nations Development Programme Report.
- McNeely, J.A., Miller, K.R., Reid, W.V., Mittermeier, R.A. & Werner, T.B. 1990. *Conserving the World's biological diversity*. IUCN.

- Minter, L.R., Burger, M., Harrison, J.A., Braak, H.H., Bishop, P.J. & Kloepfer, D. 2004. *Atlas and Red Data Book of Frogs of South Africa, Lesotho and Swaziland*. Smithsonian Institution, Washington.
- Monadjem, A. 1997a. *An annotated checklist of the mammals of Swaziland*. The Conservation Trust of Swaziland, Manzini.
- Monadjem, A. 1997b. *A survey of information on the zoological biodiversity in Swaziland*. Swaziland Government/United Nations Development Programme Report, Mbabane.
- Monadjem, A. 1998a. *The Mammals of Swaziland*. Conservation Trust & Big Game Parks, Mbabane.
- Monadjem, A. 1998b. Distribution patterns and conservation status of the mammals in Swaziland, southern Africa. *Koedoe* 41: 45-59.
- Monadjem, A. 2005. Breeding biology of the Marabou Stork (*Leptoptilos crumeniferus*) in Swaziland. *Ostrich* 76: 90-94.
- Monadjem, A. & Garcelon, D. 2005. Nesting distribution of vultures in relation to land use in Swaziland. *Biodiversity & Conservation* 14: 2079-2093.
- Monadjem, A., Boycott, R.C., Parker, V. & Culverwell, J. 2003. *Threatened vertebrates of Swaziland. Swaziland Red Data Book: fishes, amphibians, reptiles, birds and mammals*. Ministry of Tourism, Environment and Communication, Mbabane.
- Monadjem, A., Mahlaba, T.A., Dobson, L. & Magagula, C.N. 2003. Consultancy Study for the Analysis of Species Distributions to Refine the Boundaries of the Biodiversity and Tourism Corridors. Swaziland Environment Authority, Mbabane.**
- Monadjem, A., Mahlaba, T.A., Dobson, L. & Dlamini, S. 2003. Assessment of Capacity Building Needs for Implementation of General Measures for *In Situ* and *Ex Situ* Conservation and Sustainable Use of Biodiversity. Swaziland Environment Authority, Mbabane**
- Parker, V. 1992. *Swaziland bird checklist*. The Conservation Trust of Swaziland, Mbabane.
- Parker, V. 1994. *Swaziland bird atlas 1985-1991*. Websters, Mbabane.
- Poynton, J.C. 1964. The Amphibia of southern Africa: a faunal study. *Ann. Natal Mus.* 17: 1-334.
- Poynton, J.C. and Boycott, R.C. 1996. Species turnover between Afromontane and eastern African lowland faunas: patterns shown by amphibians. *J. Biogeogr.* 23: 669-680.
- Roques, K. 2002. *A preliminary field assessment of protection worthy areas of Swaziland*. Swaziland Environment Authority, Mbabane.
- Roux, J.P. 2003. *Swaziland ferns and fern allies*. SABONET Report 19.
- Scholtz, C.H. and Chown, S.L. 1995. Insects in southern Africa: how many species are there? *S. Afr. J. Sci.* 91: 124-126.
- Sweet, R.J. & Khumalo, S. 1994. *Range resources and grazing potentials in Swaziland*. Report to the Ministry of Agriculture and Cooperatives & UNDP, Mbabane.