

**JORDAN**  
**Third national report**

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## 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.

An adhoc team was formulated to prepare the draft text of the report. The team consisted of representatives from Ministry of Environment (MoE), National Center for Agricultural Researches and Technology Transfer (NCARTT), private sector and a legal expert. Three national workshops were subsequently conducted to discuss the content of the draft report. Representatives from the following institutions participated in these workshops:

- Ministry of Agriculture
- Ministry of Environment
- Ministry of Water and Irrigation
- Ministry of Tourism and Antiquities
- Marine Science Station
- Royal Society for Marine life Protection

- Friends of Earth
- Jordan Society for Sustainable Development
- Jordan University for Science and Technology
- Yarmouk University
- University of Jordan
- National Center for Agricultural Researches and Technology Transfer
- Jordan Badia Research and Development Center
- Royal Society for the Conservation of Nature
- Jordan River Foundation
- H.E Dr. Mahmoud Duwairi,

The outputs of the three national workshops were collected and incorporated in the draft report .

Finally, a committee was established to review and analyze the available data collected so far. Representatives from the following institutions participated :

- Ministry of Agriculture
- Ministry of Planning and International Cooperation
- Ministry of Environment
- University of Jordan
- National Center for Agricultural Researches and Technology Transfer
- Jordan Badia Research and Development Center
- IUCN/WESCANIA Regional office /Amman
- Royal Society for Conservation of Nature
- H.E Dr. Mahmoud Duwairi,
- Dr. Mohammed Ajlouni

This report represents the outcome of all mentioned efforts.

## 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.

The Hashemite kingdom of Jordan is a constitutional monarchy which gained independence in 1946. Jordan is centrally located in the Middle East; a complex and dynamic political, social and economic sub-system. Regional tensions have continuously impinged upon the country decision-making processes.

The country would be land blocked-in if not for the short (26 kilometers long) shore in Aqaba on the tip of the Gulf of Aqaba, which gives the country its only port and access to the sea. The area of Jordan is about 89,322 square kilometers (km<sup>2</sup>), of which over 80% are semi-arid and arid areas.

The climate in Jordan is mostly semi-arid to arid desert with an average precipitation ranging from less than 70 mm in the eastern and southern desert areas arising to 350 mm in the middle, and up to 600 mm per annum in the north-west part of the country.

The topography of the country is mostly desert plateau in the west and highland in the east, the eastern highlands descends easterly to the Jordan Valley. The lowest point in Jordan (and on earth) is 416 meters below sea level at the Dead Sea. The highest point is 1,854 meters above sea level at Jabal Um Dami Mount (Rum Area).

Environmental (biological) and cultural resources are highly diverse, however, Jordan has few natural resources, but does export phosphates, potash and shale oil. Natural resources especially water; oil and gas are extremely scarce. Only four percent of land is arable and about 1 percent is forest and woodland. Jordan's water resources consist first and foremost of surface and groundwater, and for several years now, renewable groundwater resources have been extracted at an unsustainable rate in order to meet the increasing demand. Consequently, surface and groundwater quality in some areas is deteriorating. Current water demands in many areas particularly in Amman have not been met satisfactorily and the costs of developing new water resources are rising rapidly.

Due to the conflict in the Middle East, Jordan had witnessed many waves of compulsory migrations that have significantly contributed to the abnormal increase in population, of which the last was due to the influx of over 300,000 Jordanians residing in the Gulf States as well as 250,000 Iraqis and Arabs from other nationalities as a result of the Gulf War. In addition to that, the number of Egyptian workers in Jordan was estimated to exceed 80,000 persons.<sup>1</sup>

Rapid population increase in a narrow strip within the main cities of Amman, Zarqa, and Irbid has placed unprecedented demands on natural and water resources, as it has on the infrastructures and the economy in general. Total demand for water resources is approaching one billion cubic meters per year, which approximates the limit of Jordan's renewable and economically developable water resources.

The population of Jordan grew from an estimated figure of around 470,000 in the early fifties to 900,000 in 1961 (1961 census) to 2,150,00 in 1979 (1979 census) and to 4.14 million in 1994 (1994 census). The total population of the kingdom reached 5,480,000 individuals in 2004. The population is increasing at a growth rate of 2.8 percent per annum with a natural increase rate of 2.4%. This rate of increase indicates that the populations will double itself in a period of about 24.8 years. The average life expectancy at birth is 70.6 years for males and 72.4 years for females and the sex ratio is 110:100. The rise in life expectancy through a short period of time is a salient indicator to the socio-economic development in the country as well as to the efficient medical health care provided by the government, the armed forces and the private sector.<sup>2</sup>

Jordan treasure astonishing biological diversity, including terrestrial, wetland and marine ecosystems. Thanks to its strategic location between three continents; Asia, Africa and Europe, diverse topography, and considerable climatic variations, several habitat types and though disproportionate abundance of life forms are contained in this small country.

<sup>1</sup> DOS (Department of Statistics)- The Jordanian Returnees Survey 1994, Statistical Yearbook 1994.

<sup>2</sup> Population Division Estimate, DOS.

Four main vegetation regions can be found in Jordan, those are the Mediterranean region, the Irano-Turanian region, the Saharo-Arabian region, and the Sudanian (Tropical) region. 11 wetlands exist within these regions, some of which are naturally-occurring like Al Yarmouk River and Azraq Oasis, other are artificial like Wadi Al Arab Dam and Khirbet Al- Samra Sewage Treatment Plant. The value of the existence and functions of these wetlands are tremendous including physical functions (flood control, sand storms stabilizers, source of fresh water, ...etc), biological, cultural and spiritual.

In 1998 Jordan Country Study on Biological Diversity was prepared describing the status and trends of various components of biological diversity in the country. According to this magnificent resource, Jordan has been classified into **four distinct biogeographic regions**.

**Mediterranean Region:** The region is restricted to the highlands of Jordan extending from Irbid in the north to Ras En-Naqab in the south. The altitude ranges from 700-1750 m above sea level. The rainfall ranges from 300-600 mm. This region comprises the most fertile part of Jordan and presents the best climate for the forest ecosystem.

**Irano-Turanian Region:** It is phytogeographically a narrow strip of variable width which surrounded the entire Mediterranean region except at the north. The vegetation is mainly of small shrubs and bushes. The Irano-Turanian region is a transitional zone between the Mediterranean region and the surrounding region. The altitudes usually range from 500-700 m, and rainfall ranges from 150-300 mm. The mean annual minimal temperature varies from 5 to 20°C, and the mean annual maximum temperature ranges from 15 to 25°C.

**Eastern desert Region or "Badia":** Some authors refer to it as Saharo-Arabian region. This region forms most of the territory of Jordan. This region comprises the largest part of Jordan encompassing almost 80% of the total area. The altitude ranges between 500 and 700 m, yet there are recorded few places on the northeastern borders of Jordan which reach 1200m. The mean annual rainfall ranges from 50 to 200 mm. Vegetation is dominated by small shrubs and small annuals located in wadi beds.

**Sudanian Region:** This region started at al-Karamah in the north and continues to the south through the Dead Sea depression and Wadi Araba, which end at the tip of Gulf of Aqaba. The most important characteristic of this region is its altitude, considered the lowest point on earth (-400m below sea level), providing a unique environment and thus a unique ecosystem. Annual rainfall ranges from 50 to 100 mm. The only inland sand dunes in Jordan are restricted to this region. Vegetation is characterized by the presence of tropical tree elements in addition to some shrubs and annual herbs.

The borders of the four regions are not stable and are not well defined because of the integration of ecological elements between the two adjacent regions. Moreover, the climatic conditions, which vary considerably from year to year, affect the stability of these borders.

There are **four ecosystems** in Jordan that include global importance and uniqueness. They are the Dead Sea Basin, the Jordan River, the Gulf of Aqaba and the Eastern Desert.

**Dead Sea Basin:** The Dead Sea is the lowest point on Earth, standing as low as -410m below sea level. The shores of the Dead Sea and the oasis in its vicinity preserve a rare blend of desert biota and biogeographic relicts, which have survived in isolation of the surrounding desert. Several species have been separated from their species' gene pool long enough to evolve into subspecies, and even local endemic species. The presence of the latter is especially significant. It should be noted that the observed endemism and biogeographic coexistence are biological rarities, confined to small biotopes that are easily disturbed. Nevertheless the Dead Sea basin has great economic revenue potential because of its cultural and biological diversity and resources if managed and conserved appropriately.

**Jordan River Basin:** The Jordan River and its tributaries flowing east west on its east bank are considered biologically important. As in the case of the Dead Sea, many endemic forms have evolved over the millennium to create many special habitats and communities. In dry and arid areas, wetlands become important ecosystems for the survival of species thus creating the chance for diversity of species and habitats.

The Jordan River is also an important wetland area in the Middle East because it maintains many globally valuable species. The river lies on a globally important migratory route for birds. It is estimated that about one billion birds migrate annually through this narrow corridor, thus making the basin an important migration route of global avifauna. In addition, the Jordan River represents a high economic value in terms of its forestry, agriculture, fishing, and religious and recreational tourism.

**The Eastern Desert:** This type of ecosystem harbors three biogeographic zones: Oriental, Saharo-Arabian and Afro-tropical. This area extends from the Northern-eastern part of Jordan down to Aqaba area on the Red Sea bordering Saudi Arabia. This ecosystem comprises the eastern three-quarters of the country and is continuous with the Arabian Desert of Syria, Iraq and Saudi Arabia. It is a gently undulating plateau with an elevation of 500 to 900 m. Four broad habitats –or types can be distinguished in the ecosystem.

**Gulf of Aqaba:** The Jordanian segment of the Gulf of Aqaba is only 27 Km. Being the only sea port of Jordan; so many anthropogenic activities have engulfed the short beach in the last 50 years. Currently, only 7 Km of the beach are still “natural”, devoid of ports, hotels, residential constructions and factories. Though a relatively small body of water, the Gulf of Aqaba hosts an extraordinary diversity of corals and related marine life. An estimated 50 percent of the Gulf’s shoreline is fringed with coral reefs. Over 192 scleractinian (reef-building) coral species and 120 species of soft coral have been observed in the Gulf’s waters. Within Jordan’s Gulf waters, some 120 species of scleractinian coral and 10 species of soft coral have been noted. According to scientific accounts, tropical and semi-tropical fish observed in Gulf waters number 268 species. Other estimates place the total number at 1,000 species. While most species find their habitats in reef or sea grass areas, pelagic fish species are commonly found in the Gulf’s open waters. Black tip, hammerhead and whale sharks have also been frequently observed.

Jordan has given high priority to conservation and sustainable use of biodiversity components, in view of its position in a region of uncertain political condition, the climatic conditions, and the country’s rapid development and urbanization that have led to habitat fragmentation and ecosystem degradation. This situation is also manifested in financial constraints, which have impeded adequate progress in implementing the Convention on Biological Diversity. As a result, the programs of work for implementing different articles of the Convention on Biological Diversity have not yet been integrated into national policy and to the developmental action plans, and national financial allocations for implementation have been inadequate.

Conserving biodiversity and sustainable use of biological resources are fundamental to achieving sustainable development as they are an echo to the teachings and beliefs of Islam on the obligation for man to maintain balanced relations with the other elements of creation.

Jordan realizes the fragile nature of ecosystems owing to the socio-economic, physio-geographic and climate conditions of the country. In 1922, the first conservation efforts started with an afforestation project where a network of 23 forests and rangeland have been declared and established, after which several projects were implemented and the number of rangeland reserves increased to reach nowadays 29 reserve. In 1966 The Royal Society for the Conservation of Nature was established, it was mandated by the government to set up a network of Protected Areas (establish & manage), to conserve Jordan’s Wildlife. The government alongside RSCN started a national program due to Late king Hussein’s request to conserve nature by establishing Protected Areas, and the first National Park was Azraq which was established in 1968. The IUCN/WWF mission which started in 1974, aimed to promote further Wildlife conservation in the country, and with the help of The Royal Society for the Conservation of Nature, their research and survey came up with a result to suggest to have 4% of Jordan’s total area as Protected Areas that represent Jordan’s geological, ecological and hydro biological characteristics.

In 1980, Jordan was among the original 30 countries to declare support for the World Conservation Strategy. Another milestone in this effort is the National Environment Strategy (NES), a resource book of information and guidelines for action, compiled by a team of 180 Jordanian specialists with the support of the World Conservation Union (IUCN) and the United States Agency for International Development (USAID). In October 1995, the first Jordanian Environmental Law was passed to achieve the principle objectives mentioned in NES, and the National Environmental Action Plan (NEAP) was prepared emphasizing the need for a national biodiversity inventory. In September 1996, the national Agenda-21 project was launched to lay the ground for sustainable resource development and environmentally sound management in the country and adopted in the year 2000. The country study on biodiversity in Jordan being completed in 1998 by the National Unit for Biodiversity (NUB) under the guidance of the GCEP, with the financial support from the Global Environment Facility (GEF) through the

United Nation Environment Program (UNEP). In 2003, the "Temporary Jordanian Environmental Protection Law" was adopted and in 2003, and the "Ministry of Environment" was created in the same year.

At the regional and international levels, the Government of Jordan has ratified the following conventions: the Convention on Biological Diversity (UNCBD) in 1993, the Convention to Combat Desertification (UN CCD) in 1996, the Ramsar Convention in 1977, the Cartagena Protocol in the 2000, , the Convention of Migratory Species (CMS) in the year 2000, the Convention on Persistent Organic Pollutants (POPs) in 2002, the World Heritage Convention and the Regional Convention for the Conservation of the Red Sea and the Gulf of Aden Environment. The Framework Convention on Climate Change (UNFCCC) was ratified in 1993 and Kyoto Protocol was ratified in 2003. Jordan is also party to IUCN and UNESCO Man and Biosphere Program through a national committee. In this year (2006), the Government of Jordan released the National Agenda document, this document describes to the national policy and targets relevant to the conservation of biodiversity.

The global importance of Jordan's biodiversity lies within its geographical location, climate and geology. Its unique geographical features for a tremendous diversity of habitats, including some of the oddest distribution of species, communities and coral.

Jordan's territorial water in the Gulf of Aqaba is home to many globally important marine species such as the marine turtle (*Chelonia mydas*), whale shark, 300 species of fish and 250 species of corals, many of which are globally endangered and protected by several international conventions and treaties.

In its fresh water sources Jordan maintains two endemic species of fish: Serhani fish (*Aphanius serhani*) and the Dead Sea gara (*Gara ghorensis*). Jordan's biodiversity is yet to be fully uncovered, in fact many species are being discovered every year, and some are first time recordings in science.

In 1977, IUCN-WWF defined 12 different areas of conservation importance, which encompasses the majority of Jordan's biological diversity. These 12 areas make up the network of Jordan's protected areas. In 1998, RSCN has carried a review of the protected areas network and has further proposed six more protected areas. So, the total number of areas that should become part of the protected areas network is eighteen. Up to date, seven protected areas (reserves) have been established.

Special attention was directed to other zones outside protected areas. These zones have significant conservation importance due to their great diversity of species and habitats. They consist of important bird areas, important wetland areas, marginal areas at national borders (protected by the army) and wildlife corridors. In 1995, Bird life International in cooperation with RSCN defined and globally declared 27 areas in Jordan as important bird areas covering a total area of 7600 km<sup>2</sup> about 8.5 % of the total area of Jordan. Seven of these sites are already protected areas and the other ten are proposed, on the other hand thirteen important wetland areas were identified to help protection of nationally and internationally important water birds and other threatened birds.

Jordan also poses other special habitats such as its forests. The juniper forests are the world' s most northerly distribution of this species, and the pine forests are considered the most southerly distribution of that kind of forests. Such habitats are of significant economic value to Jordanian society if properly conserved and managed as they could generate revenue from eco-tourism and forest management.

Jordan still has some work to do in view of the ice shift that has forced certain species to settle in Jordan. The country has to take steps in the field of raising public awareness, formulating policies and strategies, enforce legislations, improve national, regional and international cooperation, and finally documenting the national biodiversity work both in research and nationally-organized meetings.

Several research programs and baseline surveys have been conducted inside protected areas and to lesser extent outside them. These research activities were mainly promoted by the RSCN to meet its principle objective, which is conserving representative sites, and its wild species through shaping and improving management plans for these sites. Other research activities have taken place by academic institutions and voluntary work. One of the major studies that is carried out outside protected is the National Water bird Census, which the RSCN has been implementing, in coordination with Wetlands International, in all major wetlands and water bodies of the country since 2000.

Jordanian universities and academic institutions play a major role in nature conservation. This is mainly achieved through carrying out ecological research. Other than that, some universities such as Jordan University, Yarmouk University and Hashemite University have Herbaria that work as ex-situ conservation centers for plants of all the different habitats in the country. It should also be mentioned

that several professors from all different universities work through their universities on supervising a lot of the ecological research that is being carried out in the country. Also, tissue culture technique can be considered in some cases as a conservation tool that is used in some university laboratories in order to propagate some plant species.

The National Biodiversity Strategy and Action Plan constitute a major contribution to the country's development plan. This strategy was released in the year 2003. The strategy envisages that land, water, pasture, terrestrial and marine ecosystems as well as wildlife and aquatic resources in particular are central to agriculture, fisheries and tourism development. Also, it envisages habitat protection, natural resource conservation and sustainable use options offer significant opportunities for demonstrating that conservation of biodiversity represents a vital investment in future sustainability of Jordan's economic and social development.

During the last 120 years, many native Jordanian species have been lost and became nationally extinct, including some species that were once widespread and common. Some species are now considered to be on the verge of national extinction. This is the result of many threats including destruction of natural habitats and ecosystems, introduction of invasive species, modernization of transportation and improved hunting techniques. About nine macro-mammals and at least five plants are extinct from the wild (Jordan Country Study On Biological Diversity, 1998). Further studies are likely to reveal more extinct organisms, especially invertebrates and plants.

Many wild species in Jordan are considered globally threatened and a total of 49 different species and subspecies are listed in the IUCN 2000 Red Data List. The proportion of threatened species to the total number of species is very high, especially in mammals, where 24 out of 77 mammals (31.16%) are considered globally threatened. In birds, 13 out of 425 total species (3.06%) are considered globally threatened.

The existence of some species in Jordan is uncertain. The species of most concern are those that are known to be declining in range and numbers or those that are confined to a few sites or to vulnerable habitats. Major declines might have occurred in animals that are usually considered well known such as mammals and birds but the status of most species is unknown at the national level because of the lack of systematic research and the lack of agreed methodology. The decline in Jordan's wildlife is mainly affecting large mammal populations as well as other taxonomic groups. About 46 mammal, 11 bird, 4 reptile, 6 freshwater fish, 2 marine invertebrate and 4 marine vertebrate species are nationally threatened in Jordan.

Plant diversity in Jordan is facing a dramatic decline as a result of habitat loss and degradation. Such destruction has led to the isolation of many species, which, in turn has led to a loss of their genetic diversity, and to a high risk of extinction. Currently, between 200 and 250 plant species are nationally rare and 100 to 150 species are nationally threatened.

The main threats to species at risk are the loss and degradation of habitats, over-exploitation of plant and animal species, extensive agricultural and unplanned developmental activities, pollution, invasion of introduced species, overgrazing, water extraction, illegal hunting and trading of species and intensive use of agrochemicals.

While the importance of *in-situ* conservation cannot be overemphasized, *ex-situ* conservation (conserving biodiversity outside of the original habitats) in zoos, aquaria, botanic gardens and germ plasm banks may contribute to species-at-risk conservation by maintaining viable populations of species threatened in the wild, providing educational and public awareness services, and serving as sites for basic and applied research.

Captive breeding programs were established by the Royal Society for the Conservation of Nature to breed and reintroduce some of the nationally extinct animals including Arabian Oryx (*Oryx leucoryx*), Roe Deer (*Capreolus capreolus*), Blue-necked Ostrich (*Struthio camelus molybdophanes*) - the closest subspecies to the globally extinct Syrian Ostrich (*Struthio camelus syricus*) -, Asiatic Wild Ass (*Equus hemionus onager*) - the closest subspecies to the globally extinct Syrian Wild Ass (*Equus hemionus hemippus*).

The Forestry Seed Center was established in 1992 within the Department of Afforestation and Forests with assistance provided by the German Technical Cooperation (GTZ). The main objective of this center



is to secure high quality forest seeds through: selection, collection, processing, certification and handing these seeds

Jordan established a Genetic Resources Unit (GRU) in 1993 at the National Center for Agricultural Research and Technology Transfer (NCARTT)/Ministry of Agriculture through a project proposal supported by the United States Agency for International Development (USAID).

The conventions and legislation for environmental protection are playing a major role in protecting species at risk. Eighteen acts and eight regulations were issued in Jordan, including provisions for the protection of the environment. Most of these acts are being implemented through different government agencies. The 1995 Environmental Law No. 12 and the 1973 Agricultural Law No.20 have articles dealing with animal protection that would help in decreasing pressures on species at risk.

The Ministry of Agriculture has delegated the implementation of wildlife protection (1973 Agricultural Law No. 20) to the RSCN, recognizing it as one of the agencies aiding in the enforcement of hunting laws. Other agencies that share in this task include the Forestry Department rangers, the army and the police. Still, many seem to believe that enforcement is the only responsibility of the RSCN. The RSCN is currently the leading organization in implementing this law, but this NGO, with its five rangers, cannot enforce the law all over Jordan. To overcome this misunderstanding and improve the law enforcement, networks were established between the RSCN and the police and between the RSCN and the Ministry of Agriculture. These networks will hopefully enhance law enforcement within the country. Public awareness programs were also carried out to promote enforcement of agricultural law. During the early stages of 2006 an innovative system for "environmental police" has been developed to coordinate the activities of the police department, Ministry of Agriculture, Ministry of Environment and RSCN. It is hoped that the environmental police system will be operational at the end of 2006.

The institutions involved in the conservation of biodiversity include both governmental and civil society institutions, the most relevant governmental institutions are: the ministry of Environment; the Ministry of Agriculture; the Ministry of Planning and International Cooperation, the ministry of Water and irrigation; and the National Center for Agriculture Research and Technology Transfer. While, the most relevant non-governmental institutional is the RSCN. Jordanian universities play a very important role in the field of research and studies, in addition to its prime role of capacity development at the national, regional and international levels.

It is worth mentioning that however the trend in biological diversity is declining due to several stress factors, higher attention is being given day after day by all involved national parties; thereto say; the trend in conserving biodiversity is thriving.

### Priority Setting Need to review this !!!!!

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	0	0	1	1	3	1	1	1	3	1	1	2	0	0	0	0	0	0
b) Limited public participation and stakeholder involvement	2	2	3	2	3	3	3	3	3	2	2	2	NA	NA	2	2	3	3
c) Lack of mainstreaming and integration of biodiversity issues into other sectors	2	2	2	2	3	3	3	2	3	2	2	2	3	2	2	2	3	3
d) Lack of precautionary and proactive measures	2	2	3	2	3	3	3	3	3	2	2	2	3	2	NA	NA	2	3
e) Inadequate capacity to act, caused by institutional weakness	3	2	3	2	3	3	3	1	3	2	2	3	3	3	NA	NA	3	3
f) Lack of	2	1	3	2	3	3	3	2	2	2	2	2	2	2	0	0	1	3

transfer of technology and expertise																			
g) Loss of traditional knowledge	2	2	3	3	3	3	3	2	3	2	2	2	3	NA	1	1	NA	NA	
h) Lack of adequate scientific research capacities to support all the objectives	2	1	2	2	3	2	3	2	2	1	1	2	1	1	1	1	2	2	
i) Lack of accessible knowledge and information	2	1	2	2	3	3	3	1	2	1	2	2	3	3	2	2	3	2	
j) Lack of public education and awareness at all levels	2	2	2	2	3	3	3	2	2	2	1	3	2	2	2	2	3	3	
k) Existing scientific and traditional knowledge not fully utilized	2	3	3	1	3	3	3	2	2	3	2	3	3	3	2	2	2	2	
l) Loss of biodiversity and the	3	1	3	2	3	3	3	2	3	2	3	3	3	2	2	2	3	3	

corresponding goods and services it provides not properly understood and documented																		
m) Lack of financial, human, technical resources	3	1	3	2	3	3	3	3	3	3	2	2	2	2	2	2	3	3
n) Lack of economic incentive measures	3	2	3	3	3	3	3	3	3	3	3	2	3	3	2	2	3	½
o) Lack of benefit-sharing	3	2	2	2	3	3	3	3	3	3	3	3	3	3	2	2	3	3
p) Lack of synergies at national and international levels	2	1	2	1	3	3	2	2	3	2	1	2	2	3	3	3	3	3
q) Lack of horizontal cooperation among stakeholders	2	2	3	2	3	2	3	3	3	3	2	2	3	2	2	2	3	3
r) Lack of effective	3	2	3	2	3	2	3	2	3	3	2	2	3	3	2	2	3	3

partn ership s																			
s) La ck of engag emen t of scien tific comm unity	3	3	2	2	3	3	3	1	3	2	1	2	2	2	1	1	1	3	
t) La ck of appro priate polici es and laws	2	1	2	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	
u) Po verty	3	3	1	3	2	3	3	3	3	3	3	3	NA	NA	NA	NA	NA	3	
v) Po pulati on press ure	NA	3	3	3	2	3	2	3	3	3	3	3	NA	NA	NA	NA	NA	3	
w) Un sustai nable consu mptio n and produ ction patter ns	NA	1	3	3	2	3	3	3	3	3	2	2	NA	2	NA	NA	NA	NA	
x) La ck of capaci ties for local comm unitie s	1	1	3	3	3	3	3	3	2	3	1	3	NA	NA	NA	NA	NA	1	
y) La ck of knowl edge and practi ce of ecosy stem- based appro aches to mana geme nt	2	2	3	2	3	2	3	2	3	2	3	3	NA	NA	NA	NA	2	2	
z) W eak law	3	2	3	3	3	3	3	3	3	3	NA	2	3	3	2	2	3	3	

enforcement capacity																			
aa) Natural disasters and environmental change	NA	3	2	2	2	NA	2	3	3	3	3	3	NA	NA	1	1	NA	3	
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.

<b>Goal 1</b>	<b>Promote the conservation of the biological diversity of ecosystems, habitats and biomes.</b>		
<b>Target 1.1</b>	<b>At least ten percent of each of the world's ecological regions effectively conserved</b>		
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			
c) Yes, one or more specific national targets have been established			X
Please provide details below.			
Currently, 10.9% of total land areas are established as protected areas including seven nature reserves being managed by the RSCN, forming about 1.4% of Jordan area, in addition to national parks, one marine reserve, and 23 grazing reserves (after that number was calculated another 6 grazing reserves were established). The national target has recently been planned to exceed the global target, were it is Jordan target to reach 12% of Jordan total area established as protected areas in the year 2012 (including six nature reserves planned by the RSCN to be established in the near future), and to approach 15% in the year 2017.			
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).			
<b>Programme of work</b>	<b>Yes</b>	<b>No</b>	<b>Details</b>
a) Agricultural	X		Up to date, 29 grazing reserves have been established all over the country.

b) Inland water	X	<p>Azraq Oasis has been internationally recognized as a Ramsar Site; the Ramsar Site includes the Mudflat. It has been declared as a wetland reserve since 1977. Since 1994, it has been going under continuous rehabilitation in order to regain the natural habitats that used to exist in the oasis before the extensive water pumping. According to the RSCN, the effective conservation of Azraq Wetland Reserve would mean that 0.15% of the major water bodies of the desert are conserved.</p> <p>Al Mujib Reserve hosts wadi Al Mujib, a unique inland wetland ecosystem. Yarmouk River is another inland wetland received attention were recently the Yarmouk Protected Area have been proposed for establishment to include this river.</p> <p>Other inland wetlands of ecological importance planned to be established as part of protected areas include several locations in the Jordan Valley, the establishment of these reserves will be as part of the Integrated Ecosystem Management Project (currently in the planning and environmental assessment phase). Also, Burqa'a, a desert inland wetland is proposed to be established as a protected area in the eastern badia of Jordan.</p>
c) Marine and coastal	X	<p>One marine protected area (seven square kilometers) has been established to promote the conservation of marine ecological regions. This protected area is expected to enhance further establishment of more marine protected areas in the future.</p>
d) Dry and subhumid land	X	<p>None of the proposed nature reserves in the Hammada desert of the country have been established yet.</p> <p>The percentage of protected areas does not exceed more than 0.21% of the total surface area of this habitat type in the country represented by Rum protected area, Azraq &amp; Shaumari reserves. Major proposed protected areas include Bayer, Burqu (Which way we write burqaa) and Rajil protected areas. These areas if protected would raise the percentage of protected hammada vegetation type up to around 4% Taken into consideration the extension area of Wadi Rum protected area..</p> <p>The percentage of effectively-conserved areas in the steppe vegetation type 2.1% of the total surface area of the vegetation type in the country. The main established protected areas where this vegetation type is represented are Dana Biosphere Reserve and Mujib Nature Reserve. As for proposed protected areas, if these become protected, the total conserved percentage of this vegetation type would rise up to 5.77%.</p> <p>As for the tropical vegetation type, it is only represented in one established protected area, which is Mujib Nature reserve where 3.53% of its total area in the country is protected area. It can only be found in one proposed protected area that is Fifa. If this proposed protected area is established, the percentage of the tropical vegetation type that would become protected would rise up to 6.18%</p>



		<p>Sand Dune vegetation type is efficiently represented in the established protected areas with a percentage of 28.85% of the total area of the vegetation type in the country.</p> <p>Also saline vegetation type is efficiently represented with a percentage of 10.45. This vegetation type is only represented by one nature reserve at Mujib.</p>
e) Forest	X	<p>Conservation of the native <b>Aleppo Pine forests</b> in the northern Jordan has been carried out through establishing Dibbeen Nature Reserve which is considered as the only continuous native Aleppo Pine forest in the country. The reserve was declared in 2004 and it is still in the early process of establishment. With its establishment, 5.65% of the total surface area of the pine vegetation type would become protected.</p> <p>Other forest vegetation types in the country include the <b>Evergreen oak</b> that is the most common forest type in the country. This vegetation type is represented in several established protected areas including Dana Biosphere Reserve, and Ajloun Woodland Reserve. Nevertheless, the total percentage of conserved areas of this vegetation type is only 1.25% of its total area in the country.</p> <p>The only vegetation type which has efficient area conserved is the Juniper vegetation type which is represented in one established nature reserve, which is Dana Biosphere Reserve (11.62%). This vegetation type is also represented in one proposed protected area (Jebel Masuda Nature Reserve). If this reserve is established, the total percentage would rise up to 17.70%.</p> <p>The least conserved forest vegetation type in the country is the Deciduous Oak vegetation type which is not represented in any of the already established protected areas. It is represented in only one proposed protected area, which is Yarmouk Nature Reserve. Even if this protected area is established, this vegetation type would have only 6.37% of its total area in the country protected.</p>
f) Mountain	X	<p>Mountains are referred to in Jordan as highlands extending north to south alongside the Rift Valley and in the eastern Badia. The frosted mountains bio-type is discussed above, while the non-forest mountain bio-type is represented in the established Al Mujib Nature Reserve, Dana Biosphere Reserve, and Rum Nature Reserve. Also, it is extensively represented in the proposed Jabal Masaadi Reserve.</p>
<p>III) Has the global or national target been incorporated into relevant plans, programmes and strategies?</p>		
a) No		
b) Yes, into national biodiversity strategy and action plan		X
c) Yes, into sectoral strategies, plans and programmes		X
<p>Please provide details below.</p> <p>During the last decade, Jordan has developed a package of environmental policies and strategies related to Biodiversity and natural resource management. The most recent are the National Biodiversity Strategy (2003), and the Jordan National Agenda (2005). Jordan national targets</p>		

relevant to the conservation of ecological regions are incorporated in these documents.

RSCN has this target as one of its main national targets. Although, as mentioned above, all established and suggested protected areas if established would still not be enough to cover all needed percentages of the habitat types in the country but RSCN still aims to establish these protected areas as soon as possible.

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

As described above, the national targets exceed the global targets, and the total areas of established, planned, and proposed protected areas are increasing.

A national protected areas review was carried out in 1998 in order to study the already proposed protected areas in the country and nominate new sites in order to have enough representation of all vegetation types in all protected areas. Later after this review was carried out, two more protected areas were established (Rum Protected Area and Dibbeen Nature Reserve).

There are two national laws related to the establishment and management of protected areas: the Agricultural Law and the Environmental Protection Law.

**The Agricultural Law**

This was the first law with provision to establish protected areas. It was ratified in 1923 (amended 1951, 1973 and 2002) and it covers the protection of rangeland and forests and the delineation of protected forest boundaries.

Article 30 of this law gives the Minister of Agriculture the authority to control grazing periods in each geographical area and to issue directives for the protection of the environment and its resources within rangelands, including its natural flora.

It was under the Ministry of Agriculture that most of Jordan's existing nature reserves were established.

**Law for Protection of the Environment**

The new environmental law was ratified in 2003. The Cabinet passed the draft of the new law, entitled the 'Law of Protection of the Environment' and referred it to Parliament for enactment in 2006. The law is essentially an "umbrella law", providing a framework and mechanism under which detailed legislative articles can be prepared. There are two 'framework articles' related to protected areas:

**Article (3)a**

This refers to the powers of the Ministry of Environment, the agency created by the law itself to manage environmental affairs. It states that the Ministry of Environment shall be regarded as the authority concerns with the environmental protection in Jordan and the official and national bodies shall implement the instructions and decisions issued in this respect by virtue of this law .

**Article(8)**

Under this article it is prohibited to cast away any polluting or harmful substance to the sea environment in the regional waters of Jordan or on the shore area.

**Article(10)**

This article state that any who plucks out the corals and shells, gets them out of the sea, trade in them or causes their damage in any way, shall be punished by imprisonment for a period not exceeding one year or paying fine not less than JD 10,000 and not exceeding JD 250,00 or both penalties.

**Article (13) a:**

This article states that every institution, company, plant or any party exercises an activity which has a negative impact on the environment shall be obliged to prepare an environmental impact assessment for its project and present it to the Ministry of Environment for taking necessary decision.

**Article (23) a**

Under this article the Ministry of Environment is entrusted with the responsibility of drafting the following related acts:

- Nature protection act
- Natural reserves and national parks act
- Soil protection act

The nature protection act is currently under formulation ,the other two acts were prepared and published in the official gazette

Natural reserves and national parks act no.(29) for the year 2005

**Article(3) a**

This article requires that any concerned agency that undertakes the establishment and management of natural reserves or national parks to present its request to the Ministry of Environment accompanied with a study that includes several requirements to insure good management of the natural reserves or national parks.

**Article(5)a**

Under this article the concerned agency is required to prepare a management plan that includes several requirements

**Article(8)**

This article grants the minister of Environment the right to declare any site as a habitat for any rare species (whether flora or fauna) as a special protected area or if the site has a unique seen regardless of its area

**Soil protection act****Article(3)**

Under this article the MOE, in cooperation with other concerned institutions, assumes ,inter alia ,the following responsibilities:

- set out a comprehensive environmental plan to protect soil and identify the proper land use
- set out a national plan to collect information in the field of soil protection and land use
- set our a work plan to rehabilitate degraded lands
- set our necessary guidelines and instructions for using proper types of plants to avoid soil erosion .

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

Two indicators are being used in relation to this target and those are, (1) the vegetation representation (the proposed protected areas by Clark and the new proposed areas by the RSCN identified vegetation representation to reach the percentage of protection of 4% at least of each vegetation type), and (2) the total areas of established/planned/proposed protected areas (as described in the NBSAP and the recently released National Agenda of Jordan, where the agenda identified the total area established as protected areas to reach the percentage of 12% of Jordan in the year 2012, and to approach 15% in the year 2017).

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

Limited financial resources, limited available technical capacities, and low level of civil society and local community participation are considered the most important challenges in the implementation of this target.

**VII) Please provide any other relevant information.**

**Box IV.**

<b>Target 1.2</b>	<b>Areas of particular importance to biodiversity protected</b>		
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			
c) Yes, one or more specific national targets have been established			X
Please provide details below.			
<p>Jordan National Agenda has taken this issue into account when formulating Jordan's national targets accordingly its Jordan's national target to increase the number of protected areas to 33 by 2017. Currently seven terrestrial and one marine reserve have been established, eleven more terrestrial reserves are proposed to be established. Also, several grazing reserves are established in the eastern Badia. The border areas are considered partially protected since human activities within these sites are limited to limited Bedouin (indigenous nomadic population of Jordan) especially for nomadic grazing. 27 Important Bird Areas (IBAs) have been identified, significant portions of which are protected since these portions are located in established protected areas, many (un protected) IBAs are located in proposed protected areas and expected to be protected in the future.. Also, 13 Important wetlands are identifies according to the Directory of Wetlands including one Ramsar Site: Azraq wetland.</p>			
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).			
<b>Programme of work</b>	<b>Yes</b>	<b>No</b>	<b>Details</b>
a) Agricultural	X		<p>The Government of Jordan established 29 Grazing Reserves and currently operating grazing control and biodiversity research activities. Also, conservation of rangeland is considered as a priority target by the Ministry of Agriculture and the Badia Research and Development Center, where several research and study project has been conducted.</p> <p>Its worth mentioning that the Agricultural Strategy identified the following program under objective 4 of objectives of policies and Strategies for the Development of Rangelands and Livestock Sub-sector</p> <p>“Establishment of rangeland reserves on public lands to be managed by cooperative societies of livestock breeders, living in the reserve areas (Program 4-Project 3)”.</p>
b) Inland water	X		<p>A total of 13 Important wetlands has been identified and described in the Directory of Wetlands including one Ramsar site; Azraq.</p> <p>Jordan has designated Azraq as a Ramsar Site in 1977 over Azraq Wetland Reserve (1245ha) and Azraq Mudflat (6127ha), Azraq is also one of the most important bird areas (inland wetland) in Jordan.,.</p> <p>The other 12 inland wetlands include several rivers and wadies where water runs year round or seasonally, these wetlands are extremely significant and yet sensitive. Some of these wetlands have been protected as part of the established protected areas,</p>

			other are expected to be protect in the future since they form significant portions of the proposed protected areas.
c) Marine and coastal	X		Aqaba is the only Jordanian gate to the sea, opening to the Gulf of Aqaba of the Red Sea. It is considered as the northernmost distribution of corals and forms a unique marine and coastal habitat for several marine floral and faunal species. The coast of Aqaba extends over 27 kilometers where Aqaba Marine Park extending over seven kilometers (about 26% of the total coastal area) is the only protected marine and coastal area in the country.
d) Dry and subhumid land	X		Several significant dry and subhumid regions have been protected, this include Mujib Nature Reserve, Shaumari Wildlife Reserve, Wadi Rum Protected Area, Wadi Al-Butum National Park (UNESCO Site), Perta National Park (UNESCO Site). Other significant regions are proposed to be protected in the future (Jarba, Abu Rukbah, Jebel Masuda, Aqaba, Burqu, Rajil, Bayer, Fifa, Qatar, Jordan Valley). It is the government of Jordan vision that integrated ecosystem management approach would give the maximum possible conservation and sustainable use in these regions, thereto, this approach is in the way of implementation the Jordan Valley region.
a) Forest	X		Three protected areas have been already established to conserve biological diversity within this ecosystem, these reserves are Ajloun Woodland Reserve, Dibeem National Park in addition to the proposed Yarmouk Protected area. Since Jordan has limited forest resources, therefore, Jordan envisages forest as a high profile conservation priority.
b) Mountain	X		In addition to the incorporation of mountain areas within the established protected areas including Dana Biosphere Reserve, Al Mujib Reserve, and Wadi Rum Reserve, mountain bio -types are also included in the Jabal Mas'adi, Abu Rukbah, Jarba, and Aqaba Mountains proposed protected areas.
III) Has the global or national target been incorporated into relevant plans, programmes and strategies?			
c) No			
d) Yes, into national biodiversity strategy and action plan			X
e) Yes, into sectoral strategies, plans and programmes			X
Please provide details below.			
<p>The national targets has been incorporated into four main national plans, those are the National Agenda; the NBSAP, and the RSCN strategic plan and the Agricultural strategy.</p> <p>The Biodiversity Strategy and Action Plan (NBSAP) present the national vision for Jordan. The main strategic goals of the NBSAP are to conserve biodiversity and use biological resources in a sustainable manner by protecting the various species of animals, plants and micro-organisms in their different agricultural environments; and productivity of environmental systems, especially wildlife habitat, forests, grazing land and agricultural land within a balanced environmental order. The Strategic objectives of the NBSAP include ensuring representation of major and key ecosystems in the national protection area network and minimizing habitat degradation within protected areas.</p> <p>The IBAs program in Jordan succeeded to describe 27 important bird areas and to release a book documenting to the major environmental settings, biological significance, and threats to these sites</p>			

To this date, the government of Jordan delegated the responsibility of establishing protected areas to the RSCN which managed to establish and manage seven different wildlife reserves, following is the current reserves:

1. (Shaumari Wildlife Reserve: established in 1975 with an area of 22 km<sup>2</sup>, represents the Hammada vegetation type, and is the center for the Breeding programmes for extinct and endangered species of Jordan, it also represents the focal point for public awareness and environmental education.
2. Azraq Wetland reserve: established in 1978 with an area of 12 km<sup>2</sup>, it represents the remaining parts of the well known Azraq Oasis, It represents the Qa'a vegetation type and it is the most important Bird Area in Jordan because it lies on the migration route of Birds, and is a center for the water studies and conservation.
3. Mujib Wildlife reserve: established in 1987 with an area of 212 km<sup>2</sup>, it represents the lowest reserve on earth, extends to about 24 km along the Dead sea shore, it represents several vegetation types: Steppe, Saline, Water & Tropical; has a breeding center for the Wild Ibex and released more than 60 individuals to the Wild, it represents one of the most important sources for fresh water in Jordan plus mineral and hot water springs, and is a model for hunting laws enforcement in the region.
4. Ajloun Woodland reserve: established in 1988 with an area of 12 km<sup>2</sup>, it represents the Evergreen Oak forests vegetation type, and the remaining parts for the Oak trees in Jordan, has a center for breeding Roe Deer which used to live in the region, and an example for Biodiversity conservation for forests.
5. Dana Nature reserve: established in 1989 with an area of 308 km<sup>2</sup>, it extends from the Sharah mountains in the east to the Araba valley in the west, it represents several vegetation types: Juniper forest, Sand dune, Steppe, Acacia /sudanian rocky & Mediterranean non-forest. Rich in archeological sites and human settlements, has some old copper mines, and is a model for Eco-tourism and Socio-economic projects in Jordan.
6. Wadi Rum Protected Area: established in 1998 with an area of 722 km<sup>2</sup>, it represents parts of the eastern desert, it represents several vegetation types: Sand dune, Acacia/sudanian rocky and Hammada .It is distinguished with its' beautiful mountains, and considered as the second tourist attraction in Jordan after Petra.
7. Dibeen Nature Reserve: established in 2004 representing the last stands of the Aleppo Pine in Jordan and the most south distribution in the northern Hemisphere. The forest is an important refuge for the endangered Persian Squirrel

Proposed protected areas described in the protected areas review are:

No.	Name	Status	Area/km <sup>2</sup>
8	Burqu	Proposed	744
9	Jabel Mas'adi	Proposed	294
10	Wadi Rajil	Proposed	906
11	Bayer	Proposed	460
12	Abu Rukbah	Proposed	190
13	Jarba	Proposed	40
14	Aqaba Mountains	Proposed	60
15	Jordan Valley	Proposed	8
16	Yarmouk river	Proposed	30
17	Ghor Fifa	Proposed	33
18	Qatar	Proposed	50

RSCN started the process of having proper management plans for its' reserves starting 1994,

The management plans represent a reference for all staff working on-site and in the headquarters at RSCN, these plans consist of several sections which cover the following:

- Introduction about the site
- Scientific & non-scientific data about the site: Species, Habitats, Geology, Hydrology, Climate, Human activities, Socio-economic background...etc.
- Analysis for all data
- Impacts & threats for the sites and their biodiversity
- Suggestions for appropriate management.
- Objectives and operational objectives for the plan
- Activities in a time table
- Monitoring & follow-up for the plan

National Parks aim to conserve and protect cultural values of the sites, promote Sustainable tourism, and improve public awareness towards cultural and natural values.

Currently, seven National Parks exist and are managed by the Ministry of Tourism and Antiquities, Local Authorities, Municipalities and Private sector, in addition to **Dibeen National Park** which was established in 1970s as a recreational Park and have recently been re-established as a Forest Reserve under direct management of RSCN

following is a list of these Parks:

<b>National &amp; Recreational Parks</b>	<b>Status</b>	<b>Year</b>
Petra National Authority	World Heritage Site	1995
Wadi Rum	Area of Special Restriction	1996
Aqaba marine reserve & Parks	Under establishment	1995
Wadi Al-Butum National Park	World Heritage Site	1996
Gammadan Municipal Park	Municipal and recreational	1994
Zai National Park	Recreational	1970's
Mount Nebo National Park	Recreational and Archeological	1996

Forest and Rangeland reserves aim to manage and conserve vegetation cover of the sites by minimizing wood collection and grazing, managing water sheds and improve livestock quality and animal husbandry.

The number for these reserves reached to 29 and they are divided into 3 categories:

1. Steppe Reserves
2. Desert Reserves
3. Forest and Highland Reserves

Following is a table for the 29 reserves:

<b>No.</b>	<b>Reserve</b>	<b>Year of establishment</b>	<b>Area/Sq. Km.</b>
1	Khnasry	1946	4.5
2	Sura	1946	4.0
3	Fugeig	1958	10.0
4	Duba'a	1968	3.0
5	Manshia	1968	3.0
6	Sabha	1979	10.5
7	Al-Lajun	1980	11.0
8	South Mujib	1980	10.0
9	Aishia	1981	10.0
10	Tuana	1981	20.0
11	Rajib	1983	6.0
12	Adassieh	1983	20.0
13	Ma'in	1983	83.0

14	Ras Al-Naqab	1986	12.0
15	Wadi Al-Butum	1986	15.0
16	Eira & Yarqa	1986	4.0
17	Desert Azraq	1987	300.0
18	Nakhel	1987	9.0
19	North Mujib	1989	10.0
20	<u>Desertification</u>	<u>1989</u>	<u>5.0</u>
21	Bilal	1991	17.0
22	Faisalieh	1992	20.0
23	Mudawara	1992	20.0
24	Al- Bustanaih	1996	10.0
25	Al-Rugban	1997	20.0
26	Al- Gasab and Al-Sateeh	1998	15.0
27	Sarfa	1995	4.4
28	Al-Kameeyah	1997	10.0
29	Al-Lajun Al- Jadeed	1989	50.0

Marine reserves are still nourishing and developing, one reserve in Aqaba is established and being managed by the reserve management under the guidance and supervision by Commission of Environment of the Aqaba Special Economic Zone Authority (ASEZA). It is located at Aqaba coast and extends for seven kilometers and divided to three zones in which each zone had its privacy; one is the marine research center where no activity is allowed except for scientific researches. Legal diving and some health activities are allowed in zone two and three from the side of the sea to avoid stamping on the corals.

There is a staff with two boats looking for the illegal coral collecting and diving but more rangers are needed to cover all the area.

A review for the protected areas network has been done and it recommended that at least 4% of each vegetation type (13 different vegetation type all over Jordan/Refer to Vegetation Types table & Map in Annexes) should be included in the network. As a result, 6 additional protected areas are to be added to the proposed sites and that make the total number to 18 (6 established & 12 proposed) the total area for the established protected area is 1.56% of the country's total area. The national target has recently been planned to exceed the global target, were it is Jordan target to reach 12% of Jordan total area established as protected areas in the year 2012(including six nature reserves planned by the RSCN to be established in the near future). And to approach 15% in the year 2017. .

The National Environment Strategy for Jordan was produced in August 1991, and was co-sponsored by the Government and the U.S. Agency for International Development. Technical assistance was provided by the World Conservation Union (IUCN). The strategy provides a policy and planning framework for environmental protection in Jordan and incorporates over 400 recommendations and actions. It remains the principal strategic vehicle guiding government and NGO activities. Under the sectoral heading wildlife and habitat the strategy identifies the creation of new reserves as a national priority:

***“Nature reserves.....are established and managed by the RSCN. The RSCN completed a study outlining the establishment of 12 nature reserves covering all environmental and climatic areas in Jordan and its wild animals and plants (the Clarke study). Seven such reserves have been established so far (including those under development). The committee recommends that the establishment of reserves be continued and their protection and management be supported. The Council of Ministers has approved this initiative....(National Environment Strategy 1992, page 67)***

The National Environmental Action Plan (NEAP) was produced in 1996 by the Ministry of Planning as



a follow-up to the National Environment Strategy. It defines the priority actions required for dealing with the major environmental problems of Jordan, as determined through an intensive workshop involving representatives of all relevant institutions, both government and non-government. The process was coordinated by the Ministry of Planning (MOP) and the Ministry of Municipal and Rural Affairs and Environment (MMRAE) with support and advice from the World Bank. The main recommendations concerning protected areas are:

1-It is essential to expand the protected areas network and allow RSCN to manage the planned 12 Nature Reserves in the next few years, covering 4% of the country's area. It is also working in producing a network of protected areas.

2-Reserve management plans must be developed to support the conservation of habitats and wildlife involved.

3-Promote the involvement of local communities in development and management of archaeological and historic sites as well as nature reserves. Their active participation should yield significant income for local people. In addition to the on-site institutional development, training in tourist management must be provided.

4-Besides the involvement of local communities at the sites is essential to undertake public awareness campaigns that aim at public participation in preserving the amenities.

In the Agricultural strategy the following objective was identified under the objectives of policies and strategies for the development of rangelands and livestock sub sector, "Conserve plant biodiversity and use it for rangeland development and expand the establishment of natural and rangeland reserves.

At the policy level, There is, however, a draft policy framework produced under the auspices of the Ministry of Planning in 1996. This framework was prepared with technical guidance and financial support from USAID. Its preparation involved a number of workshops with relevant Jordanian organizations, both government and non-government, in order to secure consensus on key policy issues and priorities. The suggested policy framework, together with the findings of the workshops, were published in July 1996 in a report entitled "Jordan Parks Policy Project", but no action has since been taken to develop and ratify these draft policies. In 2005 a by law that governs the establishment and management of natural reserves and national parks was launched under the new environmental law.

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

Currently seven terrestrial and one marine reserve have been established, eleven more terrestrial reserves are proposed to be established. Also, several grazing reserves are established in the eastern Badia. The border areas are considered partially protected since human activities within these sites are limited to limited Bedouin (indigenous nomadic population of Jordan) especially for nomadic grazing. 27 Important Bird Areas (IBAs) have been identified, significant portions of which are protected since these portions are located in established protected areas, many (un protected) IBAs are located in proposed protected areas and expected to be protected in the future, and few are not expected to be protected as protected areas at least in the short and medium runs. Several grazing reserves, and one Marine Protected Area have been established and several others are planned to be established in the future.

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

One indicator is used in relation to this target; this indicator is the total areas of established/planned/proposed protected areas. However, another indicator is being taken into account but not fully monitored/documented is the representation of vegetation types in the protected areas network.

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

In general, the main challenges in implementation of this target are:

1. Political unrest(Or instability) in the region and its complications on Jordan including changes to the population dynamics of the national community, increased demand on natural resources especially water, financial challenges, and many others.

2. Deficiency in relevant laws and regulatory guidelines
3. Weak enforcement of laws due to limited financial and technical capacities
4. Ambiguity of responsibility generated by deficiency of regulations
5. Lack of financial resources for implementing the National Biodiversity Strategy and Action Plan
- 6.
7. Lack of sufficient information (need rephrase)
8. Limited financial resources
9. Limited technical capacities at the institutional level
10. Low level of civil and local community participation

**Main problems facing forests & rangeland reserves:**

The forests & rangeland reserves management is affected by several factors, the main factors are lack of financial and human resources, lack of management plans, and land use policies.

The site-management at these reserves aims to protect and conserve the plant cover, not taking into consideration the human aspect, fauna and cultural issues. Only few reserves are having management plans that taking into consideration sustainable development and watershed management within their sites.

Some of the major threats to such reserves are overgrazing, illegal woodcutting, plant collection and illegal hunting which resulted from poor legislation and laws enforcement on-site

As for scientific research and ecological data, they are conducted and gathered infrequently and inadequately due to shortage in financial resources. The lack of adequate data prohibit the formulation of proper management policies and strategies.

Overall, these reserves were not established based on international standards, nor national priorities, and are not considered as integrated ecological units with national and regional importance, although they maintain globally floral and faunal important species

**Main problems facing Wildlife reserves:**

Although huge efforts were done by RSCN from year 1966 till now, in the field of nature conservation, and with the GEF/World Bank projects which started in 1994 and lead to Site management plans based on sound scientific researches and monitoring, the Wildlife reserves still face a lot of problems and obstacles.

Lack of effective legislation and laws enforcement, represents a major challenge. Since these sites are managed by RSCN (an NGO), with little funds allocations, RSCN faces a lot of obstacles enforcing hunting laws and other agricultural and environmental laws, mainly with little manpower and equipment. But, recently the Ministry of Environment worked on establishing the environmental police which is supposed to be working on enforcing environmental law and its by-laws.

Recently RSCN managed to start a network with the Police to enhance laws enforcement mainly that touch nature conservation such as illegal hunting and wild species illegal trade. Alongside is the continuous cooperation with the Ministry of Agriculture which started long time ago, and aims to conserve the Forests and enforce the Agricultural law with its concern for hunting, grazing, wood cutting and wild plants collection.

The environmental law no. one for the year 2003, and the reviewed Agricultural law in the years 1999-2000, represent a good step towards better law enforcement but still need to be implemented. Recently the Ministry of Environment worked on establishing the environmental police which is supposed to be working on enforcing environmental law and its by-laws.

The other main problem is manpower, currently RSCN is managing 6 reserves and helping to manage the seventh (Wadi Rum) with Aqaba Special Economic Zone Authority. The total number of staff exceeds 140 individual, but still they are overloaded to cover the whole operation on site, and

RSCN does not have enough financial resources to recruit more staff.

The important problem is the completion of the protected areas network, which presents a major step towards having enough protected sites which resemble Jordan beautiful nature. The finance for such a project is a real important issue.

Mean while other types of problems for the suggested protected areas still exist such as grazing in, wood cutting, plant collection, hunting and other problems which have crucial effect on these sites. Effective solutions can only be secured after the declaration of the Protected Area

The public awareness towards Nature conservation still needs a lot to develop, RSCN managed to establish more than 1225 Nature club in schools all over Jordan, plus working to adjust the educational curricula to better understand Nature conservation and environment issues. But still a lot of work needs to be done in order to increase the base for Public support for nature conservation and behavior.

If we remember all the problems mentioned about the Wildlife reserves, the financial problem is the most important and the most crucial. Finding a solution will lead to better management for current reserves plus a great opportunity to complete the suggested reserves in the future and build the network among all reserves.

**Main problems facing National Parks:**

Currently, there are several National parks in Jordan (Petra National Park, Rum National Park...etc), most of these are managed effectively according to management plans which depend on scientific research, but if we consider recreational parks and Municipal parks, we will find a lot of problems.

The problems are mainly that the sites are not managed according to proper zonation schemes or plan to minimize and control negative impacts from tourists and tourism, in addition to weak scientific base for the sites, and the existing information is already old and needs updating

Another important problem is public awareness and support; these are not adequate nor clearly understood. A lot of efforts should be conducted to enhance these activities and gain a wider support for the near future.

**Main problems facing Marine reserves:**

Although the first marine reserve was established and started to have some conservation activities in Aqaba, the reserve still needs to finalize the management plan and the capacity building needed for the staff and the locals for such activities.

Legislation here plays a main problem because the laws are not clear yet nor enforced enough for better coastal conservation especially with the presence of the coral reefs.

Another important problem is public awareness and support; these are not adequate or clearly understood. A lot of efforts should be conducted to enhance these activities and gain a wider support for the near future.

VII) Please provide any other relevant information.

**Box V.**

<b>Goal 2</b>	<b>Promote the conservation of species diversity</b>	
<b>Target 2.1</b>	<b>Restore, maintain, or reduce the decline of populations of species of selected taxonomic groups</b>	
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.

In general, species conservation in Jordan is based on the conservation of biological habitats required and the protection of significant ecological regions. Conservation efforts range between primary protections up to restoration of degraded habitat. Also, the national target has been set. A red Data List for flora and fauna species at risk is being worked on, however, financial and technical assistance is needed in order to accomplish this target.

Trading in Red Data List species and CITES species is prohibited in Jordan, and enforcement of this prohibition is ongoing widely all over the country. Coordination with neighboring countries is ensured through proper channels in this regard.

Attention is given to declining populations of species, thereto, the RSCN continues to implement captive breeding and reintroduction programs for the Arabian Oryx (*Oryx leucoryx*), the Reem Gazelle (*Gazella subgutturosa*), the mountain Ibex (*Capra ibex*), and the Sirhani fish (*Aphanius sirhani*). All these captive breeding programs are success stories in Jordan and the region, except for the Reem gazelle which still facing serious challenges.

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
Agricultural	X		<p>the Agricultural Strategy identified the following program under objective 4 of objectives of policies and Strategies for the Development of Rangelands and Livestock Sub-sector</p> <p>"Conserve native plants in their original habitats (in-situ conservation) in cooperation with local communities (Program 4-Project 2)".</p> <p>The National Center for Agricultural Research and Technology Transfer implemented a six year project aiming at Conservation and Sustainable utilization of Dryland Agro-biodiversity in two pilot sites in cooperation with local community. Sixteen threaten species were target by the agro-biodiversity project. The project implemented different rehabilitation techniques for in-situ conservation of ecosystems included these species.</p> <p>The project of "Conservation of Medicinal and Herbal aims at conserving several medicinal plants such Plants " as Desert Almond and Pistachio species</p> <p>Red Crescent Social Center implement a series of action designed to protect the doom palm( <i>Hyphaene the bacia</i>) in Aqaba</p> <p>Forestry department at MOA has established a seed center, the center serves as a bank for seeds of indigenous and exotic forest tree species and pastoral shrubs.</p>
Inland water	X		<p>Azraq Wetland Reserve Management Plan focuses on the Azraq Killi Fish program, the endemic fresh water fish found only in Azraq.</p> <p>Mujib Reserve Management Plan focuses on the protection of the different ecosystems to conserve a number of rare</p>

			water vegetation e.g. Wild Palm and Epipactis sp. That was only recorded on the banks of Mujib River.
Marine and coastal	X		Aqaba Marine Park Protected Area Management Plan The Jordan Society for Sustainable Development has developed an observatory in Aqaba aiming at conserving the habitats that are of global importance for birds and hence conserving the 350 different species of migratory birds with focus on indigenous marine birds which pass through Aqaba
Dry and subhumid land	X		Shaumari Wildlife Reserve Management Plan focuses on the reintroduction of the Arabian Oryx, Ostrich and Syrian Wild Ass and the protection of their natural habitats to be released later. On the other hand Wadi Rum Protected Area Management Plan focuses on the protection of the habitats representing the sand dune vegetation types.  Biodiversity of Wadi Araba The Jordan Society for Sustainable Development conducted a project in the Araba Valley to design a tentative plan to conserve biodiversity in the study area depending on ecological sensitivity maps.
Forest	X		Ajloun Reserve Management Plan includes the needed programs to conserve the Evergreen Oak vegetation type in addition to the reintroduction program of the Roe Deer. Once Established: Yarmouk Reserve Management Plan is to conserve the Deciduous Oak Forest vegetation type.
Mountain	X		Dana Biosphere Reserve Management Plan enforces the protection of the 4 biogeographical Mujib Nature Reserve Management Plan (Ibex)
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			X
Please provide details below.			
<p>Under Theme 1 of the NBSAP 2003, the following Strategic Objective is set out: "Reduce the decline and prevent the extinction of fauna and flora species in Jordan", the operational Objectives include:</p> <ul style="list-style-type: none"> <li>➤ Establish the status and distribution of species at risk</li> <li>➤ Conserve key important habitats for species at risk</li> <li>➤ Establish a national species <i>in situ</i> conservation program outside protected areas</li> <li>➤ Effectively control and manage the hunting and trading of species at risk</li> <li>➤ Effectively manage and control the introduction of invasive species</li> </ul> <p>The conservation status of species is not sufficiently assessed and studied in Jordan, and the conservation priorities are not yet identified except for very few species. Recently the RSCN developed a set of criteria to establish prioritization for further research and conservation, these criteria will facilitate the identification of the Red Data Species and updating the list, and though would facilitate the development of specific targets.</p> <p>The conservation activities targeting declining species are described and being implemented for some species within the protected areas management plans prepared and being implemented by the RSCN.</p>			

Attention is given to declining populations of species, thereto, the RSCN continues to implement captive breeding and reintroduction programs for the Arabian Oryx (*Oryx leucoryx*), the Reem Gazelle (*Gazella subgutturosa*), the mountain Ibex (*Capra ibex*), and the Sirhani fish (*Aphanius sirhani*). All these captive breeding programs are success stories in Jordan and the region, except for the Reem gazelle which still facing serious challenges.

A simple action plan for the conservation of the Striped Hyena (*Hyena hyena*) has been recently compiled, and an action plan for the conservation of the Dead Sea Sparrow (*Passer moabiticus*) is being worked on.

Although the Aqaba Marine Park Protected Area Management Plan is in place, still it is not implemented, and neither it nor any national target have any specific programmes of work related to marine life and marine biodiversity except of some efforts spent by NGO's and the Marine Science Station on individual basis.

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

Recently, this target is receiving higher attention in Jordan. Species conservation within the established protected areas is receiving higher attention, and more efforts are being spent to restore, maintain, or reduce the decline of populations of species of selected taxonomic groups as per of the Red Data List. However, and due to several factors, species diversity and populations are declining in non protected areas; it requires more actions to ensure compliance with the global and national target. Thereto, the implementation of this target is still in the planning and research phase, efforts are in place for the conservation of some species, but not all priority species.

Also, the Government of Jordan and in cooperation with the RSCN implements the CITES regulations and guidelines.

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

Species monitoring in protected areas is in operation at limited scale. The species being under the captive breeding and reintroduction programs are monitored in regular basis where the population characteristics are dealt with as critical indicators. Still, limited financial and technical capacities limit the implementation of sufficient monitoring for other species within and out side protected areas.

Attention is given to waterfowls and raptors migrating across Jordan. The indicator used in this regard is species counts at selected IBAs. On the other hand, indicator species are used in monitoring programs to measure the success of conservation in the reserves.

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

Extremely limited technical and financial resources and as will limited involvement of universities and research institutions are considered as the priority challenges to the implementation of this target.

Other challenges include:

1. Lack of sufficient information
2. Habitat degradation
3. Persecution of wildlife (illegal hunting, poisoning and killing)
4. Delay in establishing the suggested national targets relevant to protected areas
5. Illegal trading in wildlife species
6. Invasion of alien and exotic species

VII) Please provide any other relevant information.

None

**Box VI .**

<b>Target 2.2</b>		<b>Status of threatened species improved</b>	
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			
c) Yes, one or more specific national targets have been established		X	
Please provide details below.			
<p>Other than the establishment of protected areas as a tool for improving the status of threatened species, the Red Data List, and the restoration and maintenance of declining species through captive breeding and reintroduction programs for the Arabian Oryx (<i>Oryx leucoryx</i>), the Reem Gazelle (<i>Gazella subgutturosa</i>), the mountain Ibex (<i>Capra ibex</i>), and the Sirhani fish (<i>Aphanius sirhani</i>).</p> <p>The above mentioned established national targets are described in the national Biodiversity Strategy and Action Plan and in the RSCN strategic Plan and national criteria to prioritize the conservation importance of the wild fauna and flora.</p>			
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).			
<b>Programme of work</b>	<b>Yes</b>	<b>No</b>	<b>Details</b>
a) Agricultural	X		<p>Sixteen threaten species were target by the agro-biodiversity project. The project implemented different rehabilitation techniques for in-situ conservation of ecosystems included these species. The results achieved by the project encouraging other projects working in the same ecosystems to adopt these techniques especially in the most fragile and degraded systems in the drylands.</p> <p>The project of "Conservation of Medicinal and Herbal Plants " aims at conserving several medicinal plants such as Desert Almond and Pistachio species</p> <p><u>The Red Crescent Social Center implement a series of action designed to protect the doom palm( Hyphaene the bacia) in Aqaba</u></p>
b) Inland water	X		<p>A special programme has been established in order to conserve and re-enforce the population of the endemic Sirhani Killifish (<i>Aphanius sirhani</i>) in Azraq Wetland Reserve. The programme has started four years ago. After a period of captive breeding in order to increase the stock of the species, a release programme is underway.</p> <p>A Ringing program is implemented yearly to study and monitor the migratory bird species at Azraq Reserve ( RSCN)</p>
c) Marine and coastal	X		<p>Aqaba Special Economic Zone Authority enforces special measures to conserve threatened marine species, this include the management of the established marine park, implementing artificial corals plantation techniques, integrating conservation measures in the Master Plan and enforcing the ratified environmental protection law and guidelines. The Marine Science</p>

			<p>Station; a research center following the University of Jordan and Yarmouk University also continuously monitors the marine environment, including monitoring species diversity and to lesser extent species populations for selected threatened species.</p> <p>The Jordan Society for Sustainable Development has developed an observatory in Aqaba aiming at conserving the habitats that are of global importance for birds and hence help in conserving the 350 different species of migratory birds which pass through Aqaba.</p>
d) Dry and subhumid land	X		<p>A special survey has been carried by the research and survey section in the RSCN in coordination with the Hashemite University in order to evaluate the status of the Dead Sea Sparrow (<i>Paser moabiticus</i>) in the Jordan Valley.</p> <p>Specific survey has been carried in Wadi Araba in order to evaluate the status of Doras Gazelle.</p> <p>The famous captive breeding and reintroduction programme of Arabian Oryx (<i>Oryx leucoryx</i>) in Shaumari Nature Reserve is an undergoing programme since the 1970s. Shaumari has become a center for Oryx in the region. Also, a group of Oryx animals have been shipped into Rum Protected Area in order to be prepared for release into the wild.</p>
e) Forest	X		<p>The presence of endangered species is considered as one of the criteria used in identifying areas to be protected. The protection of the forest is expected to improve the status of threatened species. As an example, Aleppo pine Forest was studied in Dibeen Reserve in addition to the related fauna species like the rare Persian squirrel.</p>
f) Mountain	X		<p>Specific monitoring programmes are being carried out in both Dana Biosphere Reserve and Mujib Nature Reserve in order to evaluate the status of the globally threatened Lesser Kestrel (<i>Falco naumanni</i>). Further studies are planned to take place all along the rift margins. Until now and after three monitoring programmes in the past ten years in Dana Biosphere Reserve, the Lesser Kestrel breeding population in the reserve seems to be stable. As for Mujib nature reserve, one study was carried out in spring 2005 and the population of the little falcon is remarkable.</p>

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	X

Please provide details below.

Improving the status of threatened species within the established protected areas is receiving higher attention, and more efforts are being spent to restore, maintain, or reduce the decline of populations of threatened species. Captive breeding and reintroduction programs are in place for selected species (see response to targets 1.1 and 1.2). However, and due to several factors, species diversity and populations are declining in non protected areas; it requires more action to ensure compliance with the global and national regards. Also, the Government of Jordan through the RSCN implements the CITES regulations and guidelines.



In the National Strategy for Agricultural Development 2002 – 2010, Objective 4 for the Development of Rangelands and Livestock Sub-sector aims to “Conserve Plant Biodiversity and Use it for Rangeland Development and Expand the Establishment of Natural and Rangeland Reserves”. Implementation Strategies of this objective include the following:

- o Collect local plant landraces, describe their characteristics and conserve them in gene banks (ex situ conservation).
- o Conserve native plants in their original habitats (in situ conservation) in cooperation with local communities.

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

In the last four decades, improving the status of threatened species received more attention in Jordan, and it is foreseen that the status of these species improved within the established protected areas. However, the status of threatened species outside the protected areas are deteriorating due to several factors. Legislative gaps, technical and financial challenges have much to do with this situation.

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

The number of the species listed in the red Data List.

Number of rehabilitation programmes.

Number of in-situ conservation sites.

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

Legislative gaps, technical and financial challenges are considered as the priority challenges to the implementation of this target. Other challenges include: ( need more verification).

1. Lack of information management and dissemination systems
- 2.
3. Habitat degradation
4. persecution of wildlife (illegal hunting, poisoning and killing)
5. delay in establishing the suggested national targets relevant to protected areas
6. Illegal trading of wildlife species
7. Invasion of alien and exotic species

VII) Please provide any other relevant information.

#### Box VII.

<b>Goal 3</b>	<b>Promote the conservation of genetic diversity</b>	
<b>Target 3.1</b>	<b>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</b>	
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.		
In general, species conservation in Jordan is based on the conservation of biological habitat required and the protection of significant ecological regions.		

The preservation of biodiversity and natural reserves was mentioned in the National Agenda. The National Environment Strategy identifies the establishment of reserves as top priority in wildlife and habitat sector and was considered also by the NBSAP.

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		<p>Under Objective 4 in the National Agricultural strategy the following programs were listed:</p> <p>Objective 4: Conserve Plant Biodiversity and Use it for Rangeland Development and Expand the Establishment of Natural and Rangeland Reserves.</p> <p>Collect local plant landraces, describe their characteristics and conserve them in gene banks (ex-situ conservation) (Program 4-Project 1).</p> <ul style="list-style-type: none"> <li>- Use of native plant species adapted to the local environments for the development of rangelands (Program 4-Project 1).</li> <li>- Conserve native plants in their original habitats (in-situ conservation) in cooperation with local communities (Program 4-Project 2).</li> <li>- Establishment of rangeland reserves on public lands to be managed by cooperative societies of livestock breeders, living in the reserve areas (Program 4-Project 3).</li> </ul> <p>The agrobiodiversity project implemented by NCARTT, concentrate on promoting the conservation and sustainable utilization of the genetic resources of field crops, tree and vegetable crops through the improvement of it yield, utilization of these crops in the crop rotation, establishment of small enterprises such as fruit trees nurseries and training farmers on food processing to add value for these crops and diversify the farm income</p> <p>The project of "Conservation of Medicinal and Herbal Plants "in Mujib Reserve adjacent to the Dead Sea as one of the selected pilot areas for in-situ conservation. The traditional uses of the indigenous plants are gathered from the locals to be used to formulate management plans for the sustainable use of these resources. Initiatives, including the planting of local M/H shrubs and trees.</p>
b) Inland water		X	
c) Marine and coastal		X	
d) Dry and subhumid land			The Jordan Badia Research and Development Center (JBRDC) has a herbarium that contains the plants found in the Badia.
e) Forest			Forestry department at MOA has established a seed center the center serves as a bank for seeds of indigenous and exotic forest tree species and pastoral shrubs.
f) Mountain			Mountains are referred to in Jordan as highlands extending north to south alongside the Rift Valley and in the eastern Badia. JREDS started an ambitious program

		<p>aims to establish the first national botanical garden in Jordan. In March, 2005, under the Patronage of Prince Faisal has opened and declared the Royal Botanical Garden at Tel Ruman. The Royal Botanical Garden aims to conserve the plant species of Jordan through main site at Tel Ruman, and to establish education center for better understanding of Jordan's botanical heritage.</p> <p>The project of "Conserving Herbal and Medicinal Plants "in Mujib Reserve aims to conserve the genetic diversity of the Medicinal and herbal plants, assess their importance and develop socio-economic programs for the locals and enhance the protection of important species</p>
<p>III) Has the global or national target been incorporated into relevant plans, programmes and strategies?</p>		
a) No		
b) Yes, into national biodiversity strategy and action plan		
c) Yes, into sectoral strategies, plans and programmes		X
<p>Please provide details below.</p> <p>In the National Strategy for Agricultural Development 2002 – 2010, Objective 4 for the Development of Rangelands and Livestock Sub-sector aims to "Conserve Plant Biodiversity and Use it for Rangeland Development and Expand the Establishment of Natural and Rangeland Reserves". One of the Implementation Strategies of this objective is to "Collect local plant landraces, describe their characteristics and conserve them in gene banks (ex situ conservation)".</p> <p>The national Agenda 21, 2001 addresses conservation of genetic diversity more directly, setting out the following objectives:</p> <ol style="list-style-type: none"> <li>1. Assess the species diversity of wild flowering and non-flowering plants</li> <li>2. Identify rare; endemic and endangered native plant species.</li> <li>3. Produce Red-Data Book for endangered, rare and extinct plant species in the country.</li> <li>4. Encourage the development of methods and strategies for propagating and cultivating endemic, endangered and rare plants, with special emphasis on the potentialities of the Badia area as a rich source of plant genetic material.</li> <li>5. Establish a national center or centers for the conservation of germ plasm (e.g., botanical garden, herbarium, national / regional propagation units, seed bank).</li> <li>6. Adopt a policy to encourage exchange of germ plasms with regional and international</li> <li>7. institutions</li> <li>8. Conduct identification and conservation of aquatic (marine, fresh and brackish water) plants.</li> <li>9. Establish a special herbarium for algae and fungi.</li> <li>10. Conserve and manage endemic and relict species and their habitats such sand dunes, the Dead Sea and Jordan River habitats.</li> </ol>		
<p>IV) Please provide information on current status and trends in relation to this target.</p> <p>The same as Target 2</p>		
<p>V) Please provide information on indicators used in relation to this target.</p>		
<p>VI) Please provide information on challenges in implementation of this target.</p> <p>Developing national capacity for "beyond protected areas" in-situ conservation:</p> <p>A national network of protected areas has been developed and managed by the RSCN. The network covers around 10.9 % of the area of Jordan. However, biodiversity-rich habitats are being eroded and degraded outside the network of protected areas. Capacity development efforts should be done to establish an enabling environment for in-situ conservation of biodiversity-rich areas beyond the current and proposed protected areas system. The main elements of this effort</p>		

can be focused on Important Bird Areas and National Tourism Parks

VII) Please provide any other relevant information.

**Box VIII .**

<b>Goal 4</b>	<b>Promote sustainable use and consumption.</b>		
<b>Target 4.1</b>	<b>Biodiversity-based products derived from sources that are sustainably managed, and production areas managed consistent with the conservation of biodiversity</b>		
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.			
<p>The national target defined in the NBSAP is the same as the global target; however, only marine biodiversity-based products do have mechanisms and guidelines governing the targeted sustainable management and production areas from which these products are derived from, primarily fisheries and corals, while other biologically significant sources for biodiversity-based products received limited attention to be conserved and sustainably managed. The Strategy presents the following vision of biodiversity for Jordan:</p> <p><b><i>“Jordan has an important role to play in conservation and sustainable use of biological resources to improve quality of life and economic prosperity locally and globally, that agrees with the teachings and beliefs of Islam on the obligation for man to maintain balanced relations with the other elements of creation.”</i></b></p> <p>In support of this vision, the Strategy also presents a series of guiding principles that provide a foundation for implementing its strategic directions. The Strategy also provides a framework for actions at all levels that will enhance our ability to nourish the productivity, diversity and integrity of our natural systems and, as a result, our ability to develop sustainability. It promotes the conservation of biodiversity and the sustainable use of our biological resources, and describes how we will contribute to international efforts to implement the convention.</p> <p>Recently, the government of Jordan has received a grant from the World Bank and the Global Environment Facility for the project “Conservation of Medicinal and Herbal Plants of Jordan”. The project aims at enhancing conservation, utilization of local Medicinal Herbs and Aromatic plants and developing the production as promising sector for income generation and improving livelihood of people in the country.</p>			
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		Update legislation relevant to land ownership and rangeland use, and organize users of rangelands (Program 1-Projects 1,2,4 and 5) was listed under objective one of the policies and strategies for the development of rangelands and livestock sub-sector in the Agricultural Biodiversity. Objective one is to protect Natural Rangelands, organize grazing and develop the Productive Capacity of Rangeland Resources.

b) Inland water	X		The conservation project of Azraq Wetland Reserve including many activities relevant to this target. The Socio-economic programs at Azraq Nature Center which was established to achieve this target in partnership with local communities
c) Marine and coastal	X		Artificial coral reef project in the north coast of Aqaba
d) Dry and subhumid land	X		One of the objectives of the agrobiodiversity project is promoting alternative sources of income by utilizing the plant biodiversity. This has been achieved through cost / benefit assessment to the different targeted crops, training farmers on food processing nursery establishment, packaging and marketing rural products and helping them in marketing these products to increase farmers income and improve their livelihood.
e) Forest	X		The Socio-economic programs at Dibeen Nature Reserve and Ajloun Natural Reserve to achieve this target in partnership with local communities.
f) Mountain	X		The project of "Conserving Herbal and Medicinal Plants "in Mujib Reserve aims to conserve the genetic diversity of the Medicinal and herbal plants, assess their importance and develop socio-economic programs for the locals and enhance the protection of important species. The Socio-economic programs at Dana Reserve which was established to achieve this target in partnership with local communities
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 (2003) addressed this target in the form of strategic objectives, and those are:</p> <ol style="list-style-type: none"> <li>1. Conserve biodiversity and use biological resources in a sustainable manner by protecting the various species of animals, plants and micro-organisms in their different agricultural environments; and productivity of environmental systems, especially forests, grazing land and agricultural land within a balanced environmental order.</li> <li>2. Improve the understanding of ecosystems, increase our resource management capability; and promote an understanding of the need to conserve biodiversity by using biological resources in a sustainable manner; Operational objectives under this Theme were established to: <ol style="list-style-type: none"> <li>a. Promote the use of environmentally sound fishing techniques</li> <li>b. Improve the quality and production of rangeland vegetation cover</li> </ol> </li> <li>3. Managing natural resources and distribute roles among institutions in a way that conserves the basic natural resources which are necessary for human growth and survival, such as soil, water, plant cover and climate, developing these elements and using them appropriately in a sustainable manner.</li> <li>4. Maintain or develop incentives and legislation that support the conservation of biodiversity and the sustainable use of biological resources; and</li> <li>5. Work with other countries to conserve biodiversity, use biological resources in a sustainable</li> </ol>			

manner and share equitably the benefits that arise from the utilization of genetic resources.

The strategy recognizes the social, economic and ecological values of forests and that their conservation and sustainable development are fundamental to Jordan's local communities. The strategy addresses the need to ensure the conservation of marine and coastal life and sustainable harvesting of commercial fish, and the need to ensure the conservation and sustainable use of rangelands. It describes mechanisms through which these communities will be able to develop their own understanding of, and response to, the Convention.

The national Agenda 21, 2001 addresses conservation of genetic diversity more directly, setting out the following objectives:

1. Assess the species diversity of wild flowering and non-flowering plants
2. Identify rare; endemic and endangered native plant species.
3. Produce Red-Data Book for endangered, rare and extinct plant species in the country.
4. Encourage the development of methods and strategies for propagating and cultivating endemic, endangered and rare plants, with special emphasis on the potentialities of the Badia area as a rich source of plant genetic material.
5. Establish a national center or centers for the conservation of germ plasm (e.g., botanical garden, herbarium, national / regional propagation units, seed bank).
6. Adopt a policy to encourage exchange of germ plasms with regional and international
7. institutions
8. Conduct identification and conservation of aquatic (marine, fresh and brackish water) plants.
9. Establish a special herbarium for algae and fungi.
10. Conserve and manage endemic and relict species and their habitats such sand dunes, the Dead Sea and Jordan River habitats.

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

Increasing attention and promotion of this target is going on. The RSCN is promoting this target along the protected areas network and has already created success stories within the protected areas. Also, many similar projects and activities are in the way being operated in the near future.

Implementation mechanisms are extremely necessary to be established soon in order to conserve such important sources.

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

None.

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

The main challenges are:

- o Lack of information accessibility
- o Ambiguity of responsibility and lack or sufficient coordination
- o Weak institutional and technical capacities
- o Limited financial resources

VII) Please provide any other relevant information.

None

#### Box IX.

<b>Target 4.2</b>	<b>Unsustainable consumption, of biological resources, or that impacts upon biodiversity, reduced</b>
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.			
<p>The national target established in the National Biodiversity Strategy and Action Plan (NBSAP, 2003) is the same as the global target. Under Theme two (Sustainable Use of Biological Resources) of the NBSAP, one of the Strategic Objectives relating to wild plants is to better utilize and recognize the social, economic, and ecological values of trees, forests and forest lands and ensure their sustainable management in a manner consistent with land use, environmental considerations and development needs. The Strategic Objective related to terrestrial and freshwater wild fauna is to effectively conserve and manage terrestrial fauna species and key habitats while that relating to marine life and fisheries is to ensure the conservation of marine and coastal life and the sustainable harvesting of commercial fish. Regarding microorganisms, one of the Strategic Objectives is to conserve endogenous microorganisms diversity both <i>in-situ</i> and <i>ex-situ</i> while those for agricultural resources include the promotion of alternative and modified land use practices through community-based farm habitat and species management for the sustainable use and conservation of agro-biodiversity.</p> <p>The Environment Protection Law of Jordan and the EIA bylaw established mechanisms to ensure reducing impacts to biological resources and diversity, the mechanisms include environmental licensing, EIA, and environmental management of developmental projects.</p>			
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		The National Center for Agricultural Research and Technology Transfer implemented a six year project aiming at Conservation and Sustainable utilization of Dryland Agro-biodiversity in two pilot sites in cooperation with local community. The project included public awareness campaign, demonstrate some techniques for rehabilitation of ecosystems, suggested policy reform options, and train farmers on the best practices to conserve agro-biodiversity on-farm.
b) Inland water	X		Azraq Wetland Reserve Management Plan and Restoration Programs The Jordan Valley Master Plan
c) Marine and coastal	X		Aqaba Marine Park Programs and Aqaba Development Master Plan The Jordan Society for Sustainable Development has developed an observatory in Aqaba aiming at conserving the habitats that are of global importance for birds and hence help in conserving the 350 different species of migratory birds which pass through Aqaba
d) Dry and subhumid land	X		The establishment of 13 grazing reserve in areas characterized by being Dry and subhumid land. The Jordan Rift Valley Master Plan will deal with the sustainable use of the 4 new protected areas that will be established, starting with proper land use and conservation of habitats and ecosystems, through zoning plans, proper grazing programs and ecotourism plans
e) Forest	X		Establishment of Dibeen national Park (protected area) and the enforcement of tree cutting related legislations.
f) Mountain			Dana Reserve Management Plan and Mujib Reserve Management Plan include zoning plans of the protected areas that specifies the best use of the PA land, in addition to ecotourism, grazing, socio-economic and educational plans that guide the management of the

			reserve to the best and sustainable use .
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>Implementing measures targeting the reduction of unsustainable consumption of biological resources or impacts upon biodiversity have been incorporated in all relevant national strategies and programs. This include the National Biodiversity Strategy and Action Plan, where this target have been addressed same as the global target, the second theme of NBSAP (2003), Operational Objectives where put in place to include:</p> <ul style="list-style-type: none"> <li>- Enforce the prohibition of illegal cutting</li> <li>- Control and monitor persecution of wild animals</li> <li>- Promote, improve and properly utilize the local resources of plant biodiversity</li> <li>- Develop the capability to manage rangelands on a sustainable basis respecting the carrying capacity of the ecosystem</li> </ul> <p>Also, this target is addressed in the National Agenda recently released by a special committee.</p> <p>The Environment Protection Law being enforced in the country also addressed this target and formulated legislative mechanisms to ensure achieving it, this includes the EIA guidelines No. 37 of the year 2005.</p> <p>The unsustainable pumping and management of water resources, and the ever growing increase in water demand generated severe impacts on wetlands and resulted in significant deterioration in wetland habitats especially at Azraq. The government of Jordan recognized this critical situation and managed to mitigate the situation through reverse water pumping to the wetland in order to restore the maximum possible wetland habitat within this Ramsar site.</p> <p>The recently prepared master plans for Aqaba and the Jordan Valley recognized the urgent need for reducing unsustainable consumption of biological resources, or that impacts upon biodiversity, both plans included programs and activities relevant to this target.</p> <p>RSCN addresses this target in all management plans prepared for protected areas, and also in the areas surrounding these protected areas. The RSCN programs included alternative socio-economic programs designed specifically to suite each area and aiming at reducing the over consumption of biological resources by local communities.</p>			
IV) Please provide information on current status and trends in relation to this target.			
<p>Unsustainable consumption of biological resources or impacts upon biodiversity are increasing due to the forced changes to population dynamics of the country, which generated deleterious pressure on biological resources in terms of habitat deterioration, increased demand on land in or close to biologically significant and yet sensitive regions, especially Aqaba; the only opening to sea in Jordan. Also, several economic projects (industrial, agricultural, tourism, etc.) where established and participated in the generation of additional challenges and impacts to biological resources. One of the most sensed impacts is the ongoing deterioration in wetland habitats due to the over exploitation of surface and ground water resources due to the change in the population size and consumption-reduction behavior and due to the introduction of economical activities demanding water and land.</p> <p>Nevertheless, the trend in governmental and public awareness of this issue, and the stakeholders understanding and appreciation to the need for strategies and measures to reduce the consumption of biological resources or impacts upon biodiversity is increasing. Several legislations and actions are being enforced/implemented on the ground to ensure achieving the stated target.</p>			
V) Please provide information on indicators used in relation to this target.			



None
<b>VI) Please provide information on challenges in implementation of this target.</b>
The challenges include but not necessarily limited to: <ol style="list-style-type: none"> <li>1. Limited natural resources especially water</li> <li>2. Limited financial resources</li> <li>3. Limited experience and capacities at leading institutions</li> <li>4. The political unrest in the region</li> <li>5. Economical development and the introduction of several economic activities which from one side would improve welfare and generate financial resources to the government and the people, and from the other side introduce negative impacts to the available environmental resources</li> <li>6. The concentration of major economical activities at sensitive and yet limited marine resources</li> <li>7. Limited cooperation and coordination between relevant organizations</li> </ol>
<b>VII) Please provide any other relevant information.</b>
None

**Box X.**

<b>Target 4.3</b>	<b>No species of wild flora or fauna endangered by international trade</b>		
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.			
Jordan is a signatory of CITES. RSCN is the national body responsible for the convention in the country. Wildlife Enforcement Section at the RSCN has been working in coordination with all related governmental bodies in order to control trade of endangered species of flora and fauna. These bodies include the public security, the army and the customs. Trade in raptors, especially in falcons, is one of the main concerns in Jordan. The control on this type of trade is being considered as a top priority by all related bodies.			
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	No specifications
b) Inland water		X	No specifications
c) Marine and coastal		X	No specifications
d) Dry and subhumid land		X	No specifications
e) Forest		X	No specifications
f) Mountain		X	No specifications
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 national target has been addressed in the Agricultural Law in article 57. In the NBSAP the following relevant Operational Objectives were formulated under the first theme; "Effectively control and manage the hunting and trading of species at risk" and in Theme 2 "Control trading of wildlife". This target is also comprehensively addressed in the RSCN strategic and operational plans.</p> <p>On the other hand, trading of endangered flora and fauna is addressed in the national Agenda 21 by recommending the establishment of a national representative office for CITES in Jordan.</p> <p>Also, this target is addressed and implemented by several relevant governmental bodies, including the army, the police, the customs department, and the veterinary department at the Ministry of Agriculture.</p>	
IV) Please provide information on current status and trends in relation to this target.	
<p>Jordan is enforcing the CITES and the relevant operational objectives presented into NBSAP to the extent possible. Jordan is also considering improving its capacities in this regard, however, technical and financial factors makes this more challenging.</p> <p>Network between RSCN and the rangers of Ministry of Agriculture and the awareness programs given to the customs employees at the border points in Jordan.</p> <p>During the early stages of 2006 an innovative system for "environmental police" has been developed to coordinate the activities of the police department, Ministry of Agriculture, Ministry of Environment and RSCN. The environmental police members will be aware and trained on the different environmental violations and their fees. It is hoped that the environmental police system will be operational at the end of 2006.</p>	
V) Please provide information on indicators used in relation to this target.	
Number of permission licenses issued and the number of violations captured.	
VI) Please provide information on challenges in implementation of this target.	
<p>The challenges include:</p> <ol style="list-style-type: none"> <li>1. Limited financial resources</li> <li>2. Limited number of trained and qualified rangers</li> <li>3. Limited vehicles and equipments available to ensure the implementation of this target</li> </ol>	
VII) Please provide any other relevant information.	
<p>RSCN is responsible for giving the CITES permissions, including flora and fauna. There are 4 plant species on the CITES appendix II (one of them includes 4 subspecies). Jordan is committed to applying the convention's conditions. A national workshop was conducted in Feb.2006 for all stakeholders to raise the level of awareness on CITES convention.</p>	

**Box XI .**

<b>Goal 5</b>	<b>Pressures from habitat loss, land use change and degradation, and unsustainable water use, reduced.</b>
<b>Target 5.1</b>	<b>Rate of loss and degradation of natural habitats decreased</b>
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.

Jordan laws and bylaws address this target in several ways and at several sectors. This includes the water management strategy, land use regulations, the environment protection law, the agriculture law, and many others.

The NBSAP and the recently released Jordan national Agenda also addresses this target as a national priority. At the operational level, the developed master plans for Aqaba and for the Jordan valley integrated this target in the planning process and are currently being enforced.

The "Integrated Ecosystem Management in the Jordan Rift Valley" seek to establish 4 new protected areas in the Jordan Rift Valley thus decreasing the pressure on the important habitats.

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		Update legislation relevant to land ownership and rangeland use, and organize users of rangelands (Program 1-Projects 1,2,4 and 5) was listed under objective one of the policies and strategies for the development of rangelands and livestock sub-sector in the Agricultural Biodiversity. Objective one is to protect Natural Rangelands, organize grazing and develop the Productive Capacity of Rangeland Resources. The establishment of 29 grazing reserves.
b) Inland water	X		Jordan is one of the ten poorest countries in water resources, however, Jordan implements all possible measures to ensure water efficiency and minimum losses, this include very well controlled water supply and water loss (leak) management, enhancing reasonable water consumption/reduction behavior, public awareness and education, development of alternatives to some thereto, Jordan have no choice but counting the existing water management system. Azraq Wetland Reserve was established in order to conserve wetland biological resources, and to reduce pressures from habitat loss, land use change and degradation, and unsustainable water use. The Reserve management plan includes many restoration and management programs designed specifically to achieve this target. On another hand the establishment of Mujib Nature Reserve conserves the riverine system of Mujib area that flows from east to west ending in the Dead Sea
c) Marine and coastal	X		The Establishment of Aqaba Marine Park and the enforcement of marine environment protection laws and bylaw form the basis to achieve this target. Other programs include the implementation of corals artificial cultivation.
d) Dry and subhumid land	X		Decrease of land degradation and habitat loss in the established reserves through preparation and implementation of a site zoning plan in addition to the proposal for establishment of Burqu reserve, Rajel, Bayer and Al Hazeem in the eastern desert will increase the rate of protection of habitats.
e) Forest	X		The establishment of Ajloun woodland reserve and dana reserve and recently Dibeem reserve has helped through applying the management plan to decrease the impact on

			the forest habitats.
f) Mountain	X		The establishment of Dana reserve and Mujib Reserve
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 Strategic Objectives in Theme one and two presents to this target, including the objectives of minimizing habitat degradation within protected areas, protecting agricultural land in rain fed areas from fragmentation and urban encroachment, and reducing rangeland degradation.</p> <p>The National Agenda 21 for 2001 provides a more inclusive approach to reducing habitat degradation by proposing to promote forest management activities to prevent forest destruction. In order to determine the status of plant biodiversity in the different habitats in Jordan (terrestrial &amp; aquatic), Agenda 21 proposes the following actions:</p> <ul style="list-style-type: none"> <li>➤ Continuous monitoring to identify changes in habitats locally and internationally</li> <li>➤ Training of manpower</li> <li>➤ Information should be deposited in a data base bank and linked to a G.I.S.</li> <li>➤ Ensuring sustainable development plans address issues of plant habitat destruction and conservation</li> </ul> <p>It is now obligatory that all developmental and economical programs and projects have EIA studies that assess in quantitative basis the expected impacts and habitat losses by similar projects, these EIAs either set mitigation measures in order to avoid or minimize such impacts, or advice prohibiting it in case the impacts are significant, deleterious and not mitigated. .</p> <p>Aqaba and Jordan valley development master plans also recognized and addressed this target, measures are taken in order to implement these plans, however, limited financial resources are considered as serious challenges to the implementation of this target.</p> <p>RSCN review of the protected areas network proposed the establishment of new protected areas, this proposal forms the basis for future programs relevant to this target.</p>			
IV) Please provide information on current status and trends in relation to this target.			
<p>Nevertheless, habitat and biological resources are deteriorating due to several challenges; more attention and programs are in place aiming at achieving the target. These efforts succeeded in many cases in reducing pressures from habitat loss, land use change and degradation, and unsustainable water use. Success stories are evident within the established protected areas and in most of the implemented programs relevant to grazing control, wood cutting, habitat restoration, and in the enforcement of the land use regulations.</p>			
V) Please provide information on indicators used in relation to this target.			
<ul style="list-style-type: none"> <li>- Percentage of degraded land decreased.</li> <li>- Increase of numbers of protected areas.</li> </ul>			
VI) Please provide information on challenges in implementation of this target.			
<p>The challenges include:</p> <ol style="list-style-type: none"> <li>1. Changes in the population dynamics and consumption behavior;</li> <li>2. Increased demand on land resources;</li> <li>3. Increased demand on water resources;</li> <li>4. Limited financial land qualified technical resources;</li> <li>5. Information gaps and the need for more extensive field surveys;</li> <li>6. Lack of efficient land use planning</li> </ol>			

VII) Please provide any other relevant information.

None

**Box XII.**

<b>Goal 6</b>	<b>Control threats from invasive alien species.</b>		
<b>Target 6.1</b>	<b>Pathways for major potential alien invasive species controlled</b>		
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.			
None			
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).			
<b>Programme of work</b>	<b>Yes</b>	<b>No</b>	<b>Details</b>
a) Agricultural		X	
b) Inland water		X	
c) Marine and coastal		X	
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.			
In Theme 1 of NBSAP 2003, one of the Operational Objectives is to: Effectively manage and control the introduction of invasive species			
IV) Please provide information on current status and trends in relation to this target.			
The only case where invasive species were documented and managed is the Azraq Oasis through the conservation program of Killi Fish.			
The Government of Jordan is implementing the CITES convention which prevents the intrusion of invasive species in the country .			

V) Please provide information on indicators used in relation to this target.
No. Of alien species reduced
VI) Please provide information on challenges in implementation of this target.
No sufficient data and expertise in this field. In addition to financial resources.
VII) Please provide any other relevant information.
The enforcement of the CITES convention and the measures taken within the established nature reserves are considered as the only approaches in Jordan work on alien invasive species. However, it is expected that the intended Integrated Ecosystem Management Project in the Jordan Valley will address this issue and may consider ecosystem approach and precautionary and bio-geographical approaches as appropriate in its work on alien invasive species.

**Box XIII.**

<b>Target 6.2</b>	<b>Management plans in place for major alien species that threaten ecosystems, habitats or species</b>		
I) National target: Has a national target been established corresponding to the global target above?			
a) No			No
b) Yes, the same as the global target			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
None			
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		Azraq Wetland Reserve Management Plan addresses this topic and sets actions to eradicate alien species and enhancing/restoring affected species, primarily for the Azraq Killifish. The riverine system in the Mujib Reserve is covered by the management plan of Mujib Reserve.
c) Marine and coastal		X	
a) Dry and subhumid land	X		Dana Management Plan is in place since establishment, covering all issues of use in the reserve, from grazing, tourism, research, monitoring programs...and so on.
b) Forest	X		A semi final draft of Management plan of Ajloun Woodland Reserve is ready covering issues of use in the reserve.
c) Mountain		X	Mujib and Dana Nature Reserves management plans address this topic.
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>In Theme 1 of NBSAP 2003, one of the Operational Objectives is to:  - Effectively manage and control the introduction of invasive species</p> <p>In Theme 2, a Strategic Objective relating to Microorganisms is to:  Preserve endogenous biodiversity from the invasion of alien microorganisms</p>	
IV) Please provide information on current status and trends in relation to this target.	
None	
V) Please provide information on indicators used in relation to this target.	
No. Of invasive species and	
VI) Please provide information on challenges in implementation of this target.	
Lack of technical and scientific experience	
VII) Please provide any other relevant information.	
None	

**Box XIV.**

<b>Goal 7</b>	<b>Address challenges to biodiversity from climate change, and pollution.</b>		
<b>Target 7.1</b>	<b>Maintain and enhance resilience of the components of biodiversity to adapt to climate change</b>		
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.			
None			
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		X	
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.	
The issue of climate change is quite recent in Jordan and work towards this end has just commenced, therefore, this issue is still underway to be integrated into sectoral strategies, plans and programmes. Jordan is a signatory of the UNFCCC and the Kyoto Protocol. It has developed a vulnerability and adaptation study in 1997 that focused only on water resource management. To date, no data or vulnerability and adaptation scenarios were studied for the linkages between climate change and biodiversity.	
IV) Please provide information on current status and trends in relation to this target.	
None	
V) Please provide information on indicators used in relation to this target.	
None	
VI) Please provide information on challenges in implementation of this target.	
Lack of expertise in this field in addition to financial resources. No baseline data or studies to link between biodiversity and climate change.	
VII) Please provide any other relevant information.	
None Jordan will begin preparing its 2 <sup>nd</sup> national communication report for the UNFCCC in 2006 where adaptation measures will be studied in details including biodiversity and ecosystems.	

**Box XV.**

<b>Target 7.2</b>	<b>Reduce pollution and its impacts on biodiversity</b>		
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 has identified the following strategic objective: Prevent industrial pollution and reduce environmental impacts of energy consumption			
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).			
<b>Programme of work</b>	<b>Yes</b>	<b>No</b>	<b>Details</b>
g) Agricultural		x	
h) Inland water		x	Environmental law includes articles that prohibit pollution discharge in natural waters. A new regulation is being prepared for the quality of surface water.



i) Marine and coastal			By-law of the protection of marine life was approved in year 2005. The law stresses on zero discharge to sea water policy.
j) Dry and subhumid land		x	
k) Forest		x	
l) 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 linkage between pollution and biodiversity is not particularly strong, especially considering its implications on human health, which obviously has a higher priority. Nevertheless, the NBSAP does address this issue in Theme 3, such that one of its Strategic Objectives is to prevent industrial pollution and reduce environmental impacts of energy consumption on biodiversity in the country. Its operational objectives are as follows:</p> <ul style="list-style-type: none"> <li>➤ Promote the use of environmentally friendly and cleaner production processes based on their economical and ecological benefits</li> <li>➤ Promote the use of environmental management systems such as ISO 14,001</li> <li>➤ Ensure that new industrial and energy projects are submitted to environmental impact assessment or due diligence procedures</li> </ul> <p>More generally, Agenda 21 aims to prevent land degradation by proposing to initiate effective water pollution prevention and control programs, eliminate soil pollution sources and eliminate or minimize air pollution. With these objectives, the document recommends the establishment of a national environment pollution monitoring system that covers water, soil and air. The system should establish proper linkages among laboratories, monitoring stations and local industries.</p> <p>The Environmental Impact Assessment Act number (37) for the year 2005 requires that any activity to conduct an EIA study before its establishment. This will subsequently help in reducing pollution and its impacts on the biodiversity.</p>			
IV) Please provide information on current status and trends in relation to this target.			
The efforts are scattered here and there and the lack of data base and the presence of monitoring system prevents the judgment on performance of this target.			
V) Please provide information on indicators used in relation to this target.			
None			
VI) Please provide information on challenges in implementation of this target.			
Lack of monitoring system and weak enforcement of the presence laws and regulations. Lack of an efficient environmental audit system			
VII) Please provide any other relevant information.			
None			

**Box XVI .**

<b>Goal 8</b>	<b>Maintain capacity of ecosystems to deliver goods and services and support livelihoods.</b>		
<b>Target 8.1</b>	<b>Capacity of ecosystems to deliver goods and services maintained</b>		
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			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
Not directly, the National Agenda identified conservation of biodiversity and natural reserves as a target.			
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).			
<b>Programme of work</b>	<b>Yes</b>	<b>No</b>	<b>Details</b>
d) Agricultural	X		The Agricultural Strategy Identified the following objective under objectives of policies and strategies for the development of rangelands and livestock sub-sector "Protect natural rangelands, organize grazing, and develop the productive capacity of rangeland resources" The Agro-biodiversity project tries to introduce the field gene bank and natural reserve concept that will be managed by local community through establishing these natural reserves and training the farmers on implementing management plans for these sites.
e) Inland water			Azraq Wetland Reserve Management Plan and Restoration Programs The Jordan Valley Master Plan Conservation of the riverine system in Mujib Nature Reserve
f) Marine and coastal	X		Aqaba marine park management plan is the only some how related point to this objective that exists, but it has a very narrow proximity to this specific point.
g) Dry and subhumid land	X		Rangeland conservation project (GEF project) in the Badia implemented by BRDC The Jordan Valley Master Plan Conservation of habitats in Mujib and Dana Nature Reserves and the Socio-economic projects in the reserves
h) Forest			The establishment of several rangeland reserves by the Ministry of Agriculture Conservation of Forests through Ajloun Woodland Reserve and Dibbin Nature Reserve
i) Mountain	X		Conservation of habitats in Mujib and Dana Nature Reserves
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>This target is touched upon in Theme 2 of the NBSAP 2003, whose Strategic Objectives include:</p> <ul style="list-style-type: none"> <li>➤ Recognizing the social, economic and ecological values of forests and ensure their conservation and sustainable development</li> <li>➤ Ensuring the conservation of marine and coastal life and sustainable harvesting of commercial fish</li> <li>➤ Ensuring the conservation and sustainable use of rangelands</li> </ul> <p>Operational objectives under the same theme include:</p> <ul style="list-style-type: none"> <li>➤ Promoting the use of environmentally sound fishing techniques</li> <li>➤ Improving the quality and production of rangeland vegetation cover</li> </ul>	
IV) Please provide information on current status and trends in relation to this target.	
<p>This target is receiving an increasing attention. It is now being a component of many projects such as the agrobiodiversity project.</p> <p>The GEF small grant program has been very active in Jordan and many small income generating project aiming at conserving biodiversity were implemented.</p>	
V) Please provide information on indicators used in relation to this target.	
<p>The number of families getting benefits from the any management project.</p> <p>The number of small conservation-based income generating project</p>	
VI) Please provide information on challenges in implementation of this target.	
Financial resources	
VII) Please provide any other relevant information.	
None	

**Box XVII.**

<b>Target 8.2</b>	<b>Biological resources that support sustainable livelihoods, local food security and health care, especially of poor people maintained</b>		
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			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
Not directly, the National Agenda identified conservation of biodiversity and natural reserves as a target.			
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).			
<b>Programme of work</b>	<b>Yes</b>	<b>No</b>	<b>Details</b>
a) Agricultural			The programs being implemented help in achieving this target but were not designed specifically to achieve this target. This target comes as a commutative result of

			many conservation measures being implemented.
b) Inland water			The programs being implemented help in achieving this target but were not designed specifically to achieve this target. This target comes as a commutative result of many conservation measures being implemented.
c) Marine and coastal			The programs being implemented help in achieving this target but were not designed specifically to achieve this target. This target comes as a commutative result of many conservation measures being implemented.
d) Dry and subhumid land			The programs being implemented help in achieving this target but were not designed specifically to achieve this target. This target comes as a commutative result of many conservation measures being implemented.
e) Forest			The programs being implemented help in achieving this target but were not designed specifically to achieve this target. This target comes as a commutative result of many conservation measures being implemented.
f) Mountain			The programs being implemented help in achieving this target but were not designed specifically to achieve this target. This target comes as a commutative result of many conservation measures being implemented.
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.			
In the national Agenda 21, sustainable livelihood is only addressed in the context of forests and rangelands, such that ensuring a sustainable utilization of their resources by the design and implementation of a rational management system will provide employment and help to develop income generation activities for the rural communities.			
IV) Please provide information on current status and trends in relation to this target.			
The RSCN has a role in developing Socio-economic programs for the locals in each reserve depending on the natural resources and the nature of each protected area. In Dana the gardens are utilized to produce natural products to be packaged and distributed. In all the reserves, special zones are managed to serve as rangelands where grazing is allowed in certain periods and to a certain limit.			
V) Please provide information on indicators used in relation to this target.			
None			
VI) Please provide information on challenges in implementation of this target.			
Financial resources Low empowerment of local communities Lack of rights to resource management in rural areas.			
VII) Please provide any other relevant information.			
None			

**Box XVIII.**

<b>Goal 9</b>	<b>Maintain socio-cultural diversity of indigenous and local communities.</b>		
<b>Target 9.1</b>	<b>Protect traditional knowledge, innovations and practices</b>		
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.			
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).			
<b>Programme of work</b>	<b>Yes</b>	<b>No</b>	<b>Details</b>
a) Agricultural	X		The agro-biodiversity project promote the conservation of traditional knowledge through documentation and training farmers on traditional food and promoting these products in local markets.  The Herbal & Medicinal plant project through a Socio-economic study aims to determine the uses of locally available medicinal plants for human and livestock healthcare, Identify the species in high demand in the area and the primary collectors and all current and potential local users of medicinal plants in addition to assessment of local community impact on medicinal plant resources
b) Inland water		X	
c) Marine and coastal		X	
d) Dry and subhumid land		X	The Badia projects are based on traditional knowledge
e) Forest		X	
a) Mountain	X		An objective of the Conservation of Medicinal and Herbal Plants is to assess the traditional knowledge of the locals in the project area and document the local use of the Medicinal and Herbal Plants.
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.			
None			
IV) Please provide information on current status and trends in relation to this target.			
None			

V) Please provide information on indicators used in relation to this target.
None
VI) Please provide information on challenges in implementation of this target.
-----
VII) Please provide any other relevant information.
None

**Box XIX.**

<b>Target 9.2</b>	<b>Protect the rights of indigenous and local communities over their traditional knowledge, innovations and practices, including their rights to benefit sharing</b>		
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.			
None			
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	The Agro-biodiversity project introduce the Intellectual property right concept to local community and tray to help in documentation of the indigenous enovations of the local communities in the target areas of the project.
b) Inland water		X	
c) Marine and coastal		X	
d) Dry and subhumid land	X		This target is one of the policies of the BRDC
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.			
None			

IV) Please provide information on current status and trends in relation to this target.
This target has started to receive attention.
V) Please provide information on indicators used in relation to this target.
-----
VI) Please provide information on challenges in implementation of this target.
-----
VII) Please provide any other relevant information.
None

**Box XX.**

<b>Goal 10</b>	<b>Ensure the fair and equitable sharing of benefits arising out of the use of genetic resources.</b>		
<b>Target 10.1</b>	<b>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</b>		
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.			
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		X	
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.			

None
IV) Please provide information on current status and trends in relation to this target.
None
V) Please provide information on indicators used in relation to this target.
None
VI) Please provide information on challenges in implementation of this target.
The challenge will appear when starting to implement PGRFA treaty
VII) Please provide any other relevant information.
None

**Box XXI.**

<b>Target 10.2</b>	<b>Benefits arising from the commercial and other utilization of genetic resources shared with the countries providing such resources</b>		
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.			
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
b) Agricultural		X	
c) Inland water		X	
d) Marine and coastal		X	
e) Dry and subhumid land		X	
f) Forest		X	
g) 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			
c) Yes, into sectoral strategies, plans and programmes			
Please provide details below.			
The national Agenda 21 for 2001 touches upon the issue of genetic resources and proposes that shared benefits of these resources should be made clear in contracts with government institution or non-governmental groups interested in their utilization. It also recommends that clear rules and			



legislation be issued by the government to control the handling and exchange of genetic resources.

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

None

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

None

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

VII) Please provide any other relevant information.

None

**Box XXII.**

<b>Goal 11</b>	<b>Parties have improved financial, human, scientific, technical and technological capacity to implement the Convention.</b>		
<b>Target 11.1</b>	<b>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</b>		
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			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
Jordan is not a developed country			
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).			
<b>Programme of work</b>	<b>Yes</b>	<b>No</b>	<b>Details</b>
a) Agricultural			
b) Inland water			
c) Marine and coastal			
d) Dry and subhumid land			
e) Forest			
f) Mountain			
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			
c) Yes, into sectoral strategies, plans and programmes			

Please provide details below.
Jordan is not a developed country
IV) Please provide information on current status and trends in relation to this target.
Jordan is not a developed country
V) Please provide information on indicators used in relation to this target.
Jordan is not a developed country
VI) Please provide information on challenges in implementation of this target.
Jordan is not a developed country
VII) Please provide any other relevant information.
Jordan is not a developed country

**Box XXIII.**

<b>Target 11.2</b>	<b>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</b>		
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			
c) Yes, one or more specific national targets have been established			
Please provide details below.			
Jordan is not a developed country			
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			
b) Inland water			
c) Marine and coastal			
d) Dry and subhumid land			
e) Forest			
f) Mountain			
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	
c) Yes, into sectoral strategies, plans and programmes	
Please provide details below.	
Jordan is not a developed country	
IV) Please provide information on current status and trends in relation to this target.	
Jordan is not a developed country	
V) Please provide information on indicators used in relation to this target.	
Jordan is not a developed country	
VI) Please provide information on challenges in implementation of this target.	
Jordan is not a developed country	
VII) Please provide any other relevant information.	
Jordan is not a developed country	

### **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.**

<b>Target 1. A widely accessible working list of known plant species, as a step towards a complete world flora.</b>	
I) Has your country established national target corresponding to the above global target?	
a) Yes	X
b) No	
Please specify	
Jordan national target corresponding to the above global target have been established include:	
<ol style="list-style-type: none"> <li>1. The Establishment of a plant data bank and link it to regional as well as international sites concerned with conservation The preparation of Jordan Flora Red Data List;</li> <li>2. The Establishment of a National Herbarium;</li> <li>3. The Establishment of a National Botanical Garden.</li> </ol>	
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 national target has been established and presented in the NBSAP. The NBSAP described the target under the second theme of the strategy in the form of strategic objectives, operational objectives and priority actions, the fourth Operational Objectives is to "Establish a plant data bank and link it to regional as well as international sites concerned with conservation"; in addition to two proposed Projects under the same theme, and those are:

- 1- Establishment of a National Herbarium
- 2- Establishment of a National Botanical Garden

As for Agenda 21, it directly addresses this target by proposing that extensive studies be carried out to assess various habitats and ecosystems of plant species and be concerned with:

- Data base
- Species distribution in a grid system
- Population distribution
- Status of species (endemic, endangered, threatened)
- Keystone species
- Assessment of sustainable use of economic, medicinal and edible plants
- Invasive and alien species

There are some initiatives to have a complete floral list of Jordan from different governmental and non governmental organizations in addition to scientific society. The flora red data list is being worked on, however, financial and technical challenges limits progress in implementing this target. The above mentioned target has been also incorporated in the RSCN strategy.

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

Extensive work was carried out during the past three decades from which plant collection and deposition was made. About 60,000 specimens are deposited at the Herbarium, Department of Biological Sciences, and University of Jordan. Another collection of around 10,000 specimens is deposited at the Herbarium, Department of Biological Sciences, Yarmouk University. A third small collection comprising one of the old collections of Meyer and Dinsmor is deposited at the Ministry of Agriculture, National Center of Agricultural Research and Technology Transfer.

Many herbaria exist in Jordan that have major collections the biggest being at Yarmouk University with about 20,000 specimens are present deposited at the Herbarium of the Jordan Natural History Museum and about 12,000 specimens at the Department of Biological Sciences Herbarium. The University of Jordan Herbarium has about 40,000 specimens and the Ministry of Agriculture about of (6,000).

The figures in the last two paragraphs are contradictory. Once it says the number of specimens in the university of Jordan herbarium is 60,000 and then it says they are 40,000

There are some initiatives to have a complete floral list of Jordan from different governmental and non governmental organizations in addition to scientific society. RSCN for example has gathered the known identified species and added all the new records and will add all the new records that are discovered through research in different parts of Jordan. A national botanical garden has been established in 2004.

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

The measures include launching the National Botanical Garden, and the Medicinal Plants Projects. In addition to conducting several field surveys and the establishment of many herbaria.

No legislative measures.

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

Extensive work was carried out during the past three decades from which plant collection and deposition was made. About 60,000 specimens are deposited at the Herbarium, Department of Biological Sciences, and University of Jordan. Another collection of around 10,000 specimens is deposited at the Herbarium, Department of Biological Sciences, Yarmouk University. A third small collection comprising one of the old collections of Meyer and Dinsmor is deposited at the Ministry of Agriculture, National Center of Agricultural Research and Technology Transfer.

Many herbaria exist in Jordan that have major collections the biggest being at Yarmouk University with about 20,000 specimens are present deposited at the Herbarium of the Jordan Natural History Museum and about 12,000 specimens at the Department of Biological Sciences Herbarium. The University of Jordan Herbarium has about 40,000 specimens and the Ministry of Agriculture about of (6,000).

Again the same contradiction in numbers

Species list and status have been partially completed for some established protected areas, more research and field surveys are either being conducted or planned and will be conducted subject to the availability of financial and technical resources.

There are some initiatives to have a complete floral list of Jordan from different governmental and non governmental organizations in addition to scientific society. RSCN for example has gathered the known identified species and added all the new records and will add all the new records that are discovered through research in different parts of Jordan. The establishment of a National Botanical Garden is also in progress.

**The indicators include:**

1. The Establishment of a plant data bank and link it to regional as well as international sites concerned with conservation;
2. The preparation of Jordan Flora Red Data List;
3. Establishment of a National Herbarium
4. Establishment of a National Botanical Garden

VI) Constraints to achieving progress towards the target

1. Limited financial resources
2. Shortage in highly qualified researchers
3. The need for effective cooperation between the related organizations and research centers

VII) Any other relevant information

Wild plants constitute a very important component of Jordan's biological diversity. Conservation of this natural heritage is listed high on the priorities of the government. The total number of plant species recorded in Jordan exceeds 2600 species of which 100 are endemic (including species of the genus *Crocus*, *Colchicum*, *Iris* and *Verbascum*), 375 are rare or very rare (including species of the genus *Orchis*, *Romulea*, *Biarum* and *Globularia*), 150 are endangered (including species of the genus *Juniper* and *Cupressus*) and currently about 75 species are considered extinct. These species represent 152 families and about 700 genera. Flowering plants constitute the most dominant group of species and are particularly visible in the spring. Several species have ornamental or medicinal value.

Plant flagship species would include *Iris petrana*, Jordan's floral emblem, *Iris negranesis*, *Moringa peregrina*, *Salvadora persicum*, *Cyclamen persicum*, *Aloe vera*, *Pinus halepensis*, *Juniperus phoenicia*, *Acacia arabica*, *Pistacia palestina* and others.

Studies on plants have been concentrated on certain groups and much research is still needed to document the status and distribution of bryophytes, pteridophytes and lichens. Serious synecological and autecological studies are also needed on communities and vegetation types.

As it is the case for the vegetation of many areas in the Mediterranean region, the flora of Jordan is facing a continuous deterioration because of one or several of the following factors :

1. **Cultivation:** replacing natural vegetation cover with cultivated crops utilizing modern agriculture machinery.
2. **Grazing:** the carrying capacity of many of the vegetated areas is way below the actual number of grazing animals mainly goats and sheep. In several areas, illegal grazing as well as overgrazing led to serious vegetation destruction, Goat grazing can seriously reduce plant growth and cause high seedling mortality.
3. **Tree harvesting:** the forested areas of Badia are particularly stricken by tree harvesting for firewood and charcoal production. An estimated 1000 trees are lost annually most of which are old trees, which have a very significant contribution to genetic diversity. The two most commonly harvested trees are *Cupressus* and *Pistacia*.
4. **Urbanization:** the spread of land usage for building houses, highways and roads as well as encroachment of people on public and state owned land gradually led to a decrease in forested areas. Jordan is facing a population boom which leads to an increasing demand for food and housing areas. Many cities, towns or villages have extended over their normal range and many agricultural zones are being shifted to residential zones.
5. **Off-road driving:** trampling of vegetation in transitional and fragile ecosystems by off-road vehicles is leading to destruction of vegetation cover and soil erosion.
6. **Plant collecting:** several plant species are threatened by unregulated collecting. These include medicinal and ornamental plant species of the genus *Tulipa*, *Narcissus*, *Lupinus* and *Cyclamen*. In Jordan, hundreds of specimens are illegally smuggled yearly in the form of either living or dry herbarium specimens. Many rare, endemic or new species to the flora of Jordan have been collected and taken to herbaria of various nations, especially European countries, without leaving duplicate specimens in Jordan or giving information about the place of their deposition or even a list of their names, numbers and locations.
7. **Natural disasters:** Water stress, heavy rain, snow and flash flood rains are among the environmental factors that can lead to the destruction of plant species and to serious changes in the plant communities.
8. **Pests and pathogens:** the effect of these biological factors is insignificant compared to other factors, as no epidemics were reported in Jordan for the past 50 years.
9. **Pollution:** this factor is one with the least scientifically documented.. In certain areas, for example near the Cement factories or the refinery in the Al-Hashemiah area, where there are permanent source of pollution, vegetation monitoring is of high priority. Other forms of pollution can exist and information needs to be gathered about them.

**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

X

b) No

Please specify

Jordan established its national target same as the global target in this regard. A national flora red data list is being worked on where recently the RSCN has developed national criteria to prioritize the conservation status of these plants.

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

a) Yes

b) No

X

Please specify

Jordan has partially incorporated the above target into relevant programs and strategies, this include the following:

1. The operational objective presented in the NBSAP of establishing a plant data bank and link it to regional as well as international sites concerned with conservation;
2. The RSCN strategic objective of preparing Flora Red Data List of Jordan;
3. The Conservation of Medicinal and Herbal Plant Project ;
4. The National Herbarium project.

In order to determine the status of plant biodiversity in the different habitats in Jordan (terrestrial & aquatic), Agenda 21 proposes the following actions:

- Continuous monitoring to identify changes in habitats locally and internationally
- Training of manpower
- Information should be deposited in a data base bank and linked to a G.I.S.
- Ensuring sustainable development plans address issues of plant habitat destruction and conservation
- Initiating a National herbarium and a Botanical garden/s.
- Establishing a well-equipped national tissue culture unit or propagation center for propagation and regeneration of plant species, facing the threat of extinction
- Establishing a national seed or gene bank.

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

In addition to the progress discussed under the second target, the following presents to the major programs and progress relevant to this target:

1. The RSCN, and in compliance with its strategic plan, has developed a national criteria to prioritize the conservation status for the flora of Jordan based on its scientific, conservation status, social and importance, in order to prepare Flora Red Data List of Jordan;
2. The Conservation of Medicinal and Herbal Plant Project aims at identifying the status and managing the important herbal and medicinal plants through designing test models to improve conservation and improve the livelihood of rural communities through the sustainable use of medicinal and herbal (M/H) plants ,while ensuring effective in-situ protection of threatened habitats and ecosystems in these areas.
3. The National botanical garden has recently been established.
4. Research on the status of flora in certain areas like nature reserves to identify the presence and status of different flora species are partially carried out by RSCN.
5. Other initiatives are done through the Badia Research Center and NCARTT focusing on some species.
6. There is other research through the academic institutions on some groups and species of plants.

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

No legislative measures.

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

**The indicators include:**

5. The Establishment of a plant data bank and link it to regional as well as international sites concerned with conservation;
6. The preparation of the national criteria to prioritize the conservation status for the flora of Jordan based on its scientific, conservation status, social and importance;
7. The preparation of Jordan Flora Red Data List;

VI) Constraints to achieving progress towards the target

1. Limited financial resources
2. Shortage in highly qualified researchers
3. The need for effective cooperation between the related organizations and research centers

VII) Any other relevant information



**Box XXVI.**

<b>Target 3. Development of models with protocols for plant conservation and sustainable use, based on research and practical experience.</b>	
I) Has your country established national target corresponding to the above global target?	
a) Yes	
b) No	X
Please specify	
II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?	
a) Yes	
b) No	X
Please specify	
III) Current status (please indicate current status related to this target)	
IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)	
No legislative measures.	
V) Progress made towards target (please specify indicators used to monitor progress towards the target)	
VI) Constraints to achieving progress towards the target	
VII) Any other relevant information	

**Box XXVII.**

<b>Target 4. At least ten percent of each of the world's ecological regions effectively conserved.</b>	
I) Has your country established national target corresponding to the above global target?	
a) Yes	X
b) No	
Please specify	
<p>Currently, 10.9% of total land areas in Jordan are established as protected areas including seven nature reserves being managed by the RSCN, forming about 1% of Jordan area, in addition to national parks, one marine reserve, and 23 grazing reserves. The national target has recently been planned to exceed the global target, were it is Jordan target to reach 12% of Jordan total area established as protected areas in the year 2012 (including six nature reserves planned by the RSCN to be established in the near future). And to approach 15% in the year 2017.</p>	
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>During the last decade, Jordan has developed a package of environmental policies and strategies related to Biodiversity and natural resource management. The most recent are the National Biodiversity Strategy (2003), and the Jordan National Agenda (2005). Jordan national targets relevant to the conservation of ecological regions are incorporated in these documents.</p> <p>RSCN has this target as one of its main national targets. Although, as mentioned above, all protected areas if established would still not be enough to cover all needed percentages of the habitat types in the country but RSCN still aims to establish these protected areas as soon as possible.</p>	
III) Current status (please indicate current status related to this target)	
<p>The establishment of nature reserves to protect about 4% of each vegetation type and other protected areas aim to conserve the main ecological systems located in Jordan. More protected areas are proposed to be established within the next few years, some as nature reserves, other as national parks and as grazing reserves. It is obvious that the implementation of programs and projects relevant to this target is increasing.</p> <p>The establishment of protected areas is only one method of conserving ecological regions. Recently, the government of Jordan and the RSCN has applied for a GEF fund in order to implement integrated ecosystem management, and though conservation of ecological regions, within the Jordan rift valley. This project will result in the establishment of new protected areas and in the implementation of several ecological conservation programs.</p>	
IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)	

A national protected areas review was carried out in 1998 in order to study the already proposed protected areas in the country and nominate new sites in order to have enough representation of all vegetation types in all protected areas. Later after this review was carried out, two more protected areas were established (Rum Protected Area and Dibbeen Nature Reserve).

The establishment of nature reserves to protect about 4% of each vegetation type and other protected areas aim to conserve the main ecological systems located in Jordan. More protected areas are proposed to be established within the next few years, some as nature reserves, other as national parks and as grazing reserves. It is obvious that the implementation of programs and projects relevant to this target is increasing.

The establishment of protected areas is only one method of conserving ecological regions. Recently, the government of Jordan and the RSCN has applied for a GEF fund in order to implement integrated ecosystem management, and though conservation of ecological regions, within the Jordan rift valley. This project will result in the establishment of new protected areas and in the implementation of several ecological conservation programs.

There are two national laws related to the establishment and management of protected areas: the Agricultural Law and the Environmental Protection Law.

Article 34 of the Temporary Agriculture Law No. 44 aims to protect forests and forest products by prohibiting:

- Cutting of forest trees and plant wildlife without a license
- Collection of any forest resource without a license
- Making charcoal from forests without a license

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

One indicator is used in relation to this target; this indicator is the total areas of established/planned/proposed protected areas. However, another indicator is being taken into account but not fully monitored/documented is the representation of vegetation types in the protected areas network.

VI) Constraints to achieving progress towards the target

1. Limited financial resources
2. Shortage in highly qualified researchers
3. The need for effective cooperation between the related organizations and research centers

VII) Any other relevant information

**Box XXVIII.**

<b>Target 5. Protection of fifty percent of the most important areas for plant diversity assured.</b>	
I) Has your country established national target corresponding to the above global target?	
a) Yes	X
b) No	
Please specify	
<p>Jordan national target corresponding to the global target is the establishment of nature reserves to protect about 4% of each vegetation type in addition to the establishment of other protected areas with aim to conserve the main ecological systems located in Jordan. More protected areas are proposed to be established within the next few years, some as nature reserves, other as national parks and as grazing reserves.</p> <p>The national target for the establishment of protected areas has recently been planned to reach 12% of Jordan total area established as protected areas in the year 2012(including six nature reserves planned by the RSCN to be established in the near future), and to approach 15% in the year 2017.</p>	
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>Currently, 10.9% of total land areas are established as protected areas including seven nature reserves being managed by the RSCN, forming 1.4% of Jordan area, in addition to national parks, one marine reserve, and 23 grazing reserves.</p> <p>A national protected areas review was carried out in 1998 in order to study the already proposed protected areas in the country and nominate new sites in order to have enough representation of all vegetation types in all protected areas. Later after this review was carried out, two more protected areas were established (Rum Protected Area and Dibbeen Nature Reserve).</p>	
III) Current status (please indicate current status related to this target)	
<p>Currently, 10.9% of total land areas are established as protected areas including seven nature reserves being managed by the RSCN, forming about 1% of Jordan area, in addition to national parks, one marine reserve, and 23 grazing reserves.</p> <p>A national protected areas review was carried out in 1998 in order to study the already proposed protected areas in the country and nominate new sites in order to have enough representation of all vegetation types in all protected areas. Later after this review was carried out, two more protected areas were established (Rum Protected Area and Dibbeen Nature Reserve).</p> <p>The RSCN is preparing for a GEF-WB funded project :The Integrated Ecosystem Management in the Rift Valley to assess and establish 4 new protected areas in the Rift Valley.</p> <p>One indicator is used in relation to this target; this indicator is the total areas of established/planned/proposed protected areas. However, another indicator is being taken into account but not fully monitored/documentated is the representation of vegetation types in the protected areas network.</p>	
IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)	
<p>There are two national laws related to the establishment and management of protected areas: the Agricultural Law and the Environmental Protection Law.</p>	

V) Progress made towards target (please specify indicators used to monitor progress towards the target)
<p>Currently, 10.9% of total land areas are established as protected areas including seven nature reserves being managed by the RSCN, forming about 1% of Jordan area, in addition to national parks, one marine reserve, and 23 grazing reserves.</p> <p>A national protected areas review was carried out in 1998 in order to study the already proposed protected areas in the country and nominate new sites in order to have enough representation of all vegetation types in all protected areas. Later after this review was carried out, two more protected areas were established (Rum Protected Area and Dibbeen Nature Reserve).</p>
VI) Constraints to achieving progress towards the target
<ol style="list-style-type: none"> <li>1. Limited financial resources</li> <li>2. Shortage in relevant legislations and law enforcement</li> <li>3. Shortage in highly qualified researchers</li> <li>4. The need for effective cooperation between the related organizations and research centers</li> </ol>
VII) Any other relevant information

**Box XXIX.**

<b>Target 6. At least thirty percent of production lands managed consistent with the conservation of plant diversity.</b>	
I) Has your country established national target corresponding to the above global target?	
a) Yes	X
b) No	
Please specify	
<p>Jordan national target corresponding to the global target is the establishment of nature reserves to protect about 4% of each vegetation type in addition to the establishment of other protected areas with aim to conserve the main ecological systems located in Jordan. More protected areas are proposed to be established within the next few years, some as nature reserves, other as national parks and as grazing reserves.</p> <p>The national target for the establishment of protected areas has recently been planned to reach 12% of Jordan total area established as protected areas in the year 2012(including six nature reserves planned by the RSCN to be established in the near future), and to approach 15% in the year 2017.</p>	
II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?	
a) Yes	
b) No	
Please specify	

In the National Strategy for Agricultural Development 2002 – 2010, Objective 3 for the Policies and Strategies for the Development of Rain fed Sub-sector aims to “Protect the Environment, and Agro-biodiversity, and Improve the Quality of Agricultural Produce”. One of this objective’s Implementation Strategies is to: Protect agro-biodiversity (plants and animals) and use of local land races for crop improvement, and apply international agreements in this respect (Program 2 Project 1).

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

Currently, 10.9% of total land areas are established as protected areas including seven nature reserves being managed by the RSCN, forming about 1% of Jordan area, in addition to national parks, one marine reserve, and 23 grazing reserves.

A national protected areas review was carried out in 1998 in order to study the already proposed protected areas in the country and nominate new sites in order to have enough representation of all vegetation types in all protected areas. Later after this review was carried out, two more protected areas were established (Rum Protected Area and Dibbeen Nature Reserve).

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

See the box above  
No legislative measures.

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

Currently, 10.9% of total land areas are established as protected areas including seven nature reserves being managed by the RSCN, forming 1.4% of Jordan area, in addition to national parks, one marine reserve, and 23 grazing reserves.

A national protected areas review was carried out in 1998 in order to study the already proposed protected areas in the country and nominate new sites in order to have enough representation of all vegetation types in all protected areas. Later after this review was carried out, two more protected areas were established (Rum Protected Area and Dibbeen Nature Reserve).

VI) Constraints to achieving progress towards the target

1. Limited financial resources
2. Shortage in relevant legislations and law enforcement
3. Shortage in highly qualified researchers
4. The need for effective cooperation between the related organizations and research centers

VII) Any other relevant information

**Box XXX.**

<b>Target 7. Sixty percent of the world's threatened species conserved <i>In-situ</i>.</b>	
I) Has your country established national target corresponding to the above global target?	
a) Yes	X
b) No	
Please specify	
This target is presented under Theme number two of the NBSAP, the Operational Objective relevant to this target defines the need for conservation system for endangered flora species ( <i>in situ</i> and <i>ex situ</i> ). The National Strategy for Agricultural Development 2002 – 2010 also addressed this target in the fourth objective targeting the development of rangelands and livestock sub-sector aiming at "Conserving Plant Biodiversity and Use it for Rangeland Development and Expand the Establishment of Natural and Rangeland Reserves". The implementation strategies of this objective include "Conserving native plants in their original habitats (in situ conservation) in cooperation with local communities".	
II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?	
a) Yes	X
b) No	
Please specify	
Conservation of wildlife through conserving their habitats, i.e the establishment and management of nature reserves (RSCN).	
III) Current status (please indicate current status related to this target)	
<ul style="list-style-type: none"> <li>- Conservation of wildlife through conserving their habitats, i.e the establishment and management of nature reserves (RSCN).</li> <li>- Development of criteria to prioritize the conservation status of Jordan's wildlife on a national level. (RSCN)</li> <li>- Development of conservation Action plans for some important species (RSCN).</li> </ul>	
IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)	
No legislative measures.	
V) Progress made towards target (please specify indicators used to monitor progress towards the target)	
- Number of endangered species decreased.	
VI) Constraints to achieving progress towards the target	
<ol style="list-style-type: none"> <li>1. Limited financial resources</li> <li>2. Shortage in relevant legislations and law enforcement</li> <li>3. Shortage in highly qualified researchers</li> <li>4. The need for effective cooperation between the related organizations and research centers</li> </ol>	
VII) Any other relevant information	

**Box XXXI.**

<b>Target 8. Sixty percent of threatened plant species in accessible <i>Ex-situ</i> collections, preferably in the country of origin, and 10 percent of them included in recovery and restoration programmes.</b>	
I) Has your country established national target corresponding to the above global target?	
a) Yes	
b) No	X
Please specify	
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>In Theme 2 of NBSAP 2003, the Operational Objectives include applying the conservation system for endangered flora species (<i>in situ</i> and <i>ex situ</i>) and Priority Actions include the establishment of a national botanical garden and a national herbarium.</p> <p>In the National Strategy for Agricultural Development 2002 – 2010, Objective 4 for the Development of Rangelands and Livestock Sub-sector aims to “Conserve Plant Biodiversity and Use it for Rangeland Development and Expand the Establishment of Natural and Rangeland Reserves”. Implementation Strategies of this objective include the collecting local plant landraces, describing their characteristics and conserving them in gene banks (<i>ex situ</i> conservation).</p>	
III) Current status (please indicate current status related to this target)	
IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)	
No legislative measures.	
V) Progress made towards target (please specify indicators used to monitor progress towards the target)	
VI) Constraints to achieving progress towards the target	
<ol style="list-style-type: none"> <li>1. Limited financial resources</li> <li>2. Shortage in relevant legislations and law enforcement</li> <li>3. Shortage in highly qualified researchers</li> <li>4. The need for effective cooperation between the related organizations and research centers</li> </ol>	
VII) Any other relevant information	



**Box XXXII.**

<b>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.</b>	
I) Has your country established national target corresponding to the above global target?	
a) Yes	
b) No	X
Please specify	
II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?	
a) Yes	X
b) No	
Please specify	
A Strategic Objective of the NBSAP 2003 is to Promote alternative and modified land use practices through community-based farm habitat and species management for the sustainable use and conservation of biological diversity of the wild relatives and landraces of crops through education and capacity building measures.	
III) Current status (please indicate current status related to this target)	
<p>The implementation of the Conservation of Medicinal and Herbal Plant Project.</p> <p>Jordan Government launched the project as it realized the importance of medicinal and herbal plants as a promising sector in the country. The Global Environment Facility (GEF) is funded the Conservation of Medicinal and Herbal Plants Project and is being implemented by the World Bank (WB) and the Ministry of Planning and International Cooperation (MOPIC). The project emerged from the crucial needs of the country to conserve wild medicinal and herbal (M/H) plant resources and to promote an economical promising and value adding M/H plant sector</p> <p>Thus, it is expected to receive governmental and non-governmental appreciation and support. The project also responds to the feedback obtained throughout preparation from all stakeholders (from subsistence farmers to the private sector). The project will be the first to address the conservation of M/H plants and give priority to the field of M/H plants. Furthermore, it will initiate and strengthen the institutional and technical capacity of key partners in this area including the Enhanced Productivity Program of Ministry of Planning (EPP/MOP), the National Centre for Agricultural Research and Technology Transfer (NCARTT), Royal Society for the Conservation of Nature (RSCN) in addition to the private sector.</p>	
IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)	
No legislative measures.	
V) Progress made towards target (please specify indicators used to monitor progress towards the target)	

VI) Constraints to achieving progress towards the target
<ol style="list-style-type: none"> <li>1. Limited financial resources</li> <li>2. Shortage in highly qualified researchers</li> <li>3. Shortage in relevant legislations and law enforcement</li> <li>4. The need for effective cooperation between the related organizations and research centers</li> </ol>
VII) Any other relevant information

**Box XXXIII.**

<b>Target 10. Management plans in place for at least 100 major alien species that threaten plants, plant communities and associated habitats and ecosystems.</b>	
I) Has your country established national target corresponding to the above global target?	
a) Yes	
b) No	X
Please specify	
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>In Theme 1 of NBSAP 2003, one of the Operational Objectives is to effectively manage and control the introduction of invasive species. Nevertheless, a specific target for a management plan to control major alien species has not yet been proposed.</p>	
III) Current status (please indicate current status related to this target)	
<p>Higher attention is given to achieve this target, nevertheless, constrains limits achieving 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>In Regulation for the Development of Wadi Rum Area No. 24 for 2001, Article 9-A-10 states that it is prohibited to enter "exotic (alien) animal or plant species to Wadi Rum area".</p> <p>Article 12-B-6 of the Regulation for the Marine Aqaba Park No. 22 for 2001 states that it is prohibited to enter "exotic (alien) animal or plant species into the Park's area".</p> <p>These regulations are site -specific and do not correspond to Jordan as a whole. Until now, legislations addressing the control of invasive and alien species on the national level have not yet been developed.</p>	

V) Progress made towards target (please specify indicators used to monitor progress towards the target)
VI) Constraints to achieving progress towards the target
<ol style="list-style-type: none"> <li>1. Limited financial resources</li> <li>2. Shortage in highly qualified researchers</li> <li>3. Shortage in relevant legislations and law enforcement</li> <li>4. The need for effective cooperation between the related organizations and research centers</li> </ol>
VII) Any other relevant information

**Box XXXIV.**

<b>Target 11. No species of wild flora endangered by international trade.</b>	
I) Has your country established national target corresponding to the above global target?	
a) Yes	X
b) No	
Please specify	
The national target is the same as the global target.	
II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?	
a) Yes	X
b) No	
Please specify	
Operational Objective in Theme 1 of NBSAP 2003 effectively control and manage the hunting and trading of species at risk	
The RSCN in coordination and full cooperation with relevant governmental bodies is implementing the hunting control and the CITES programs. RSCN rangers work on daily basis on implementing this target, however, legislative, financial, and technical constrains affect effective implementation of this target.	
III) Current status (please indicate current status related to this target)	
Higher attention is given to achieve this target, nevertheless, constrains limits achieving this target.	
RSCN is responsible for giving the CITES permissions, including flora and fauna. There are 4 plant species on the CITES appendix II (one of them includes 4 subspecies). Coordination is assured between all related national governmental and non governmental bodies.	
Jordan is committed to applying the convention's conditions.	
IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)	

Law enforcement by the RSCN rangers and other involved and related governmental authorities.

During the early stages of 2006 an innovative system for "environmental police" has been developed to coordinate the activities of the police department, Ministry of Agriculture, Ministry of Environment and RSCN. The environmental police members will be aware and trained on the different environmental violations and their fees. It is hoped that the environmental police system will be operational at the end of 2006.

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

- Number of species on the CITES lists decreased.

VI) Constraints to achieving progress towards the target

1. Limited financial resources
2. Shortage in highly qualified researchers
3. Shortage in relevant legislations and law enforcement
4. The need for effective cooperation between the related organizations and research centers

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

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

a) Yes

b) No

X

Please specify

A national strategy that provides for a specific percentage of plant-based products derived from sustainably managed sources is not yet in place. The issue is nevertheless addressed in the NBSAP 2003, whose Strategic Objectives include:

- Recognizing the social, economic and ecological values of forests and ensure their conservation and sustainable development
- Ensuring the conservation and sustainable use of rangelands

Operational objectives under Theme 2 of the NBSAP also include the improvement in the quality and production of rangeland vegetation cover.

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

IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)
Article 34 of the Temporary Agriculture Law No. 44 aims to protect forests and forest products by prohibiting the cutting of forest trees and plant wildlife without a license, collection of any forest resource without a license and making charcoal from forests without a license
V) Progress made towards target (please specify indicators used to monitor progress towards the target)
VI) Constraints to achieving progress towards the target
VII) Any other relevant information

**Box XXXVI.**

<b>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.</b>	
I) Has your country established national target corresponding to the above global target?	
a) Yes	
b) No	
Please specify	
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 Conservation of Medicinal and Herbal Plants Project aims at:

- Identification of species in high demand in the area and available medicinal plants used for human and livestock healthcare
- Identification of primary collectors and all current and potential local users of medicinal plants and the impact on medicinal plant resources
- Estimating the biomass of palatable plant species, including targeted medicinal plants and calculating the carrying capacity for livestock grazing in Mujib reserve.
- documenting localities and traditional names of medicinal plants used in Mujib Nature Reserve and surrounding area; and the traditional use of these medicinal and herbal plants by the laymen, Hajat and herbalists;
- documenting method of preparation and conservation used by the primary users and collectors and any wrong use, adverse effects of the plants used by locals and herbalists.

III) Current status (please indicate current status related to this target)
IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)
No legislative measures.
V) Progress made towards target (please specify indicators used to monitor progress towards the target)
VI) Constraints to achieving progress towards the target
VII) Any other relevant information

**Box XXXVII .**

<b>Target 14. The importance of plant diversity and the need for its conservation incorporated into communication, educational and public-awareness programmes.</b>	
I) Has your country established national target corresponding to the above global target?	
a) Yes	<input checked="" type="checkbox"/>
b) No	<input type="checkbox"/>
Please specify	
II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?	
a) Yes	<input checked="" type="checkbox"/>
b) No	<input type="checkbox"/>
Please specify	

Theme five of the NBSAP 2003 has the Strategic Objective to encourage and support the participation of individuals, local community, private sector and other stakeholders in efforts leading to conservation and sustainable use of biodiversity.

Operational objectives include:

- Raise individuals and local community awareness on the importance of public participation in non-governmental organization activities
- Implement legal, administrative and incentive measures to promote participation of individuals and local communities in the conservation and sustainable use of biodiversity
- Develop technical training programs on skills and practices supporting individual and local community participation in the development of biodiversity related projects
- Improve knowledge on the status and trends of biodiversity in Jordan
- Develop socio-economic projects at the local community level for the sustainable use of biological resources

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

Development of socio-economic projects related to plant species in the different reserves.(RSCN)

The RSCN has established several environmental clubs in cooperation with the RSCN to increase awareness of students of the importance of biodiversity and nature conservation.

The Agro-biodiversity project in cooperation with RSCN and the Ministry of Education developed a educational material for the students to be inserted in the curriculum.

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

No legislative measures.

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

Numbers of local projects increased

VI) Constraints to achieving progress towards the target

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

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

a) Yes

b) No

X

Please specify
Training and capacity building is always a component of any development program implemented by the Government of Jordan. Training in plant conservation is specifically addressed in the national Agenda 21 for 2001, which proposes the training of manpower with the aim of determining the status of plant biodiversity in the different habitats (terrestrial & aquatic).
III) Current status (please indicate current status related to this target)
IV) Measures taken to achieve target (please indicate activities, legislative measures and other steps taken with a view to achieve the target)
No legislative measures.
V) Progress made towards target (please specify indicators used to monitor progress towards the target)
VI) Constraints to achieving progress towards the target
VII) Any other relevant information

**Box XXXIX.**

<b>Target 16. Networks for plant conservation activities established or strengthened at national, regional and international levels.</b>	
I) Has your country established national target corresponding to the above global target?	
a) Yes	
b) No	
Please specify	
II) Has your country incorporated the above global or national target into relevant plans, programmes and strategies?	
a) Yes	X
b) No	
Please specify	



Under Theme 5 of the NBSAP 2003, one of the Strategic Objectives is to enhance interdepartmental and intergovernmental coordination for the protection, conservation and management of resources. In order to achieve this, the following operational objectives were set out:

- Enhance interdepartmental and intergovernmental coordination for the protection, conservation and management of resources

Operational objectives include:

- Establish a permanent National Biodiversity Unit, a multi-stakeholder steering committee and Technical Advisory Group with the mandate of coordinating NBSAP implementation
- Promote the application of integrated program planning where the projects will be inter-sectorally, intra-sectorally and regionally integrated
- Promote and participate in the establishment of lines of cooperation and coordination with neighbor countries

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

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

Enhance the relations between the Kingdom and the regional and international states, bodies and organizations in respect of the affairs concerning the preservation of the environment, and recommend for joining them as well as follow up on their activities

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

VI) Constraints to achieving progress towards the target

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.

## 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.

<b>3. ?<sup>3</sup></b> 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)	
➤ No	
➤ No, but application is under consideration	
➤ Yes, some aspects are being applied	X
➤ Yes, substantially implemented	

<b>4. ?</b> 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)	
➤ No	
➤ No, but development is under consideration	
➤ Yes, practical expressions have been developed for applying some principles of the ecosystem approach	X
➤ Yes, practical expressions have been developed for applying most principles of the ecosystem approach	

<b>5.</b> 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)	
➤ No	
➤ Yes, within the country	X
➤ Yes, including providing support to other Parties	

<sup>3</sup> Please note that all the questions marked with ? have been previously covered in the second national reports and some thematic reports.

<b>6. ?</b> Has your country promoted regional cooperation in applying the ecosystem approach across national borders? (decision V/6)	
➤ No	
➤ Yes, informal cooperation (please provide details below)	
➤ Yes, formal cooperation (please provide details below)	X
Further comments on regional cooperation in applying the ecosystem approach across national borders.	
<p>The RSCN has been working formally with several conservation bodies in the region in order to conserve different ecosystems in the Middle East. Several approaches have been followed including exchange of expertise and offering training to national NGOs and GOs in neighboring countries including Lebanon, Syria, Palestinian Authority, Yemen, Saudi Arabia, United Arab Emirates. Qatar, Bahrain, Egypt and Oman</p> <p>Also, there has been a continuous cooperation specifically with BirdLife International partners in the region. RSCN, BirdLife International's partner in Jordan has been working closely with BirdLife International's partners in Lebanon (SPNL) and Palestinian Authority.</p>	

<b>7.</b> 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>Coordination, cooperation and exchange of experiences, capacity building, technology transfer and awareness raising to assist with the implementation of the ecosystem approach is ongoing in Jordan at all levels, however, more efforts are needed to reach optimum coordination and cooperation.</p> <p>The mechanisms are in place but also require extensive work to ensure adequate implementation and though achieving the maximum possible benefits. This might require target oriented program to improve the institutional arrangements relevant to this target and to develop proper mechanisms.</p> <p>Relevant programs include:</p> <ul style="list-style-type: none"> <li>➤ <b>Regional Conservation and Sustainable Use of Dry land Agro biodiversity Project (Jordan, Syria, Lebanon and Palestinian Authority).</b> The project had several activities that were of direct relevancy to this output. These include graduate training, short-term training, workshops, and knowledge sharing for technical staff, cooperating farmers and beneficiaries. Traveling workshops organized by the Regional Component and between the participating countries were very successful in exchanged their experiences and knowledge sharing. Farmers and technicians participated in these regional workshops.</li> <li>➤ <b>Conservation and Sustainable Use of Biodiversity in Dibeen Nature Reserve.</b> The project will also build in-country capacity in forest management and conservation-oriented land use planning. Specific objectives are to designate and establish a nature reserve with the Regional Forest Park; prepare and implement</li> </ul>	

conservation management plan and eco-tourism development plan; develop a competent and effective reserve and forest park management team; and a land use plan for the regional forest park. There will be a socio-economic program for local communities; and implement awareness and outreach program.

- **The Outreach Division at the RSCN** has been facilitating and carrying out several regional and national training courses and workshops in order to stimulate the exchange of experience between the different countries of the region. It is known that Jordan is relatively ahead in the field of conservation compared to the other countries in the region. So, RSCN has always been eager to give all needed support for all NGOs and GOs that work on conserving biodiversity in the region. In addition to the Public Awareness section that promotes the principles of conservation in Jordan through the Nature Clubs and through participation in Curricula development with the Ministry of Education.

**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	
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 comments on the creation of an enabling environment for the implementation of the ecosystem approach.

Some policies and programs are in place including the EIA mechanisms, and the protected areas establishment protocols. Recently the government of Jordan and in partnership with the RSCN submitted request for fund from the GEF for the integrated ecosystem management project in the Jordan Rift Valley. The main objective of this extremely important project is to secure the ecological integrity of the Jordan Rift Valley, as a globally important ecological corridor and migratory flyway, through a combination of site protection and management, nature-based socio-economic development and land use planning. It will provide a large-scale pilot programme for introducing the principles and practice of integrated ecological management throughout a productive landscape and thus a potential global model. The proposed project is a comprehensive programme that will mainstream biodiversity conservation into land use and development programmes. It will build on the lessons learned from previous successful GEF initiatives, including the Dana Project.

The management of the established protected areas follows to the extent possible the ecosystem approach, where management of the protected areas is focused on the delineated areas, while law enforcement and involving local communities extend to surrounding communities and land in order to ensure sensible ecosystem management.

## C. ARTICLES OF THE CONVENTION

### Article 5 – Cooperation

<b>9. ?</b> 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)	
c) Yes, multilateral cooperation (please give details below)	
d) Yes, regional and/or subregional cooperation (please give details below)	
e) Yes, other forms of cooperation (please give details below)	X
Further comments on cooperation with other Parties in respect of areas beyond national jurisdiction for the conservation and sustainable use of biodiversity.	
<p>Jordan is cooperating with regional countries for the conservation and sustainable use of biodiversity, this include enforcement of the CITES convention, conserving the marine environment from various environmental stressors, conservation of birds migration flyways, and in developing successful captive breeding programs for some mammalian species.</p> <p>RSCN provides through a specialized unit the needed training on ecosystems and habitat management on a regional scale.</p> <p>Cooperation is more apparent in the research programs, where researchers from several countries participate in biodiversity research programs in Jordan, and in capacity development, were Jordan is cooperating with Syria, Lebanon, Saudi Arabia, Yemen, Bahrain, Emirates, Egypt, and the Palestinian Authority. Jordan, Lebanon, The Palestinian Authority and Syria sign an agreement in cooperation in Conservation and sustainable use of agro-biodiversity specially on Accesses and Benefit Sharing of plant genetic resources of these resources.</p>	

<b>10.</b> 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	X
c) Yes, some mechanisms and networks have been established (please provide details below)	
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>In the National Biodiversity Strategy and Action Plan, Theme 5, Operational Objectives include the promotion and participation in the establishment of lines of cooperation and coordination with neighboring countries.</p> <p>In 2005, Ministers of Agriculture in Jordan, Syria and Lebanon assigned bilateral cooperation agreement in conservation of agro-biodiversity this agreement include exchange of information, technology transfer, training and other issues relevant to the implementation of the CBD and the IPGRFA.</p> <p>Substantial research on biodiversity is going on in Jordan carried out by many governmental institutions, universities and research centers. These research programmes were carried out in</p>	

cooperation These research programs were carried out in cooperation with international and regional research institutions and scientists and contributed to the development of the basic information which shaped Jordanian policies and activities in biodiversity conservation.

The Government of Jordan has signed several bilateral agreements with Arab countries regarding environmental conservation issues. Biodiversity conservation was highlighted in all of these agreements. The agreements include:

1. Cooperation agreement between the Hashemite Kingdom of Jordan and the Tunisian Government in 1997: The Second item of this agreement relates to Protected Areas and National Parks and includes the following:
  - a. Technical information sharing in the field of designing and preparing gardens, protected areas and parks
  - b. Providing technical support in the field of preparing and managing protected areas
  - c. Studying the possibility of benefiting from specialized technical elements in the countries in the field of wildlife, parks and protected areas
2. Cooperation agreement between the Hashemite Kingdom of Jordan and the Popular Democratic Republic of Algeria in 2002: Article 8 of this agreement includes:
  - a. Coordination and cooperation in the field of plant and animal biodiversity, exchange of strategies and cooperation in preparing policies relevant to environmental balance
  - b. Cooperation in the field of protecting and increasing the populations of endangered species as well as benefiting from service centers in both countries with the aim of protecting the environment
  - c. Cooperation and coordination in the field of nature reserves and their establishment, urban parks and gardens and exchange of rare animals and plants between the countries for the benefit of the environment
  - d. Exchange of studies and research on plant and animal biodiversity for the benefit of the environment in both countries
3. Cooperation agreement between the Hashemite Kingdom of Jordan and the Government of Kuwait in 2004: Article 2 of this agreement states that the fields of cooperation between the two countries include management of nature reserves and the management of coastal and marine areas. Article 5 states that the two countries will exchange experts in accordance with a designated work plan.
4. Cooperation agreement between the Hashemite Kingdom of Jordan and the Government of Syria in 2001: Article 11 of this agreement includes the same points a, b, c, and d of Cooperation agreement between the Hashemite Kingdom of Jordan and the Popular Democratic Republic of Algeria, in addition to the following points:
  - e. Cooperation in establishing transboundary natural reserves between the two countries.
  - f. Cooperation in monitoring trading with wild plants and animals especially endangered ones according to the prepared lists of the two countries.
  - g. Cooperation and coordination in the field of eco-tourism.
5. Cooperation agreement between the Hashemite Kingdom of Jordan and Iraq in 2005: Article 11 of this agreement includes the same points; a, b, c, d, and e mentioned in the cooperation agreement between the Hashemite Kingdom of Jordan and the Government of Syria.
6. Also, a memorandum of understanding with the government of Egypt was prepared and included cooperation in conserving biodiversity as one of its items.

Other cooperation programs and activities include:

- i. Cooperation with the kingdom of Saudi Arabia, United Arab Emirates and Oman in the field of Oryx captive breeding and reintroduction;
- ii. Training on wetlands management, management of protected areas, ecotourism, public awareness and education, and birds ringing. These programs were delivered at the regional level by the RSCN Training Unit and in cooperation with reputable national and international scientists;
- iii. Cooperation in conservation and research programs concerning the marine environment and

- biodiversity with regional countries of the Red Sea and the Gulf of Aden (PERSGA project) which involves 8 countries among of which is Jordan.
- iv. Jordan and Israel have continuous regional meetings for certain specific issues. There are at early stages of development and measurable targets in the field of algae, fish, and coral. There is also coordination in the field of zooplankton and phytoplankton;
  - v. The GEF project "Promoting Best Practices for the Conservation and Sustainability of Biodiversity of Global Significance in Arid and Semi-Arid Zones";
  - vi. In the field of genetic resources activities including collection, documentation and conservation, NCARTT cooperates with the International Center for Agriculture Resources in Dry Areas (ICARDA), International Plant Genetic Resources Institute (IPGRI) and Kew Gardens. NCARTT has signed an agreement to carry out yearly joint collection for wild plants in all Jordan. Kew Gardens in this aspect provides some financial support to cover the collection activities;
  - vii. At the academic level there is some cooperation at the international and regional level; and
  - viii. Cooperation with Syrian government targeting the conservation of the Bold Ibis.

**11.** Is your country taking steps to harmonize national policies and programs, 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.

The Government of Jordan has signed several bilateral agreements with Arab countries regarding environmental conservation issues. Biodiversity conservation was highlighted in all of these agreements. In the National Biodiversity Strategy and Action, Theme 5, Operational Objectives include the promotion and participation in the establishment of lines of cooperation and coordination with neighboring countries.

The Ministry of Environment is currently implementing the National Capacity Self Assessment for Global Environmental project (NCSA) funded by the Global Environmental facility (GEF) and administered by the UNDP country office in Jordan. The NCSA is a GEF initiative that aims to assess the capacity constraints and potentials for implementing the three International environmental conventions on Biodiversity, Climate change and Desertification. The project focuses on cross-cutting issues within the three conventions to complement and enhance linkages and integration as well as promote resource mobilization and coordination in implementation. The NCSA process represents the only nationally focused, global initiative explicitly designed to examine potential synergies between the Rio Conventions. In addition, they can be used by countries to mainstream the global environment into broader national sustainable development processes.

The National Center for Agricultural Research and Technology transfer is working with the FAO in harmonizing the Material Transfer Agreement (MTA) to be used by the international community for transferring any genetic material under the Multi-lateral International System or the bi-lateral agreements between different countries.

**Box XLI.**

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.

There is no clear and fixed strategy for the cooperation but the cooperation agreements between Jordan and other countries and regional projects in the field of conserving biodiversity is considered as a major step in the way of identifying a clear strategy.

## **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)	
d) Yes, comprehensive strategies, plans and programmes are in place (please provide details below)	X

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

During the last decade, Jordan has developed a package of environmental policies and strategies related to Biodiversity and natural resource management, these include:

1. National Environmental Strategy 1992;
2. National Economic and Social Development Plan, (1993-1997);
3. National Environmental Action Plan, published in 1995;
4. Jordan Country Study on Biological Diversity, which gave a comprehensive look at the country's biodiversity and prepared the ground for the National Biodiversity Strategy and Action Plan, published in 1998;
5. National Strategy for Agricultural Development: for the decade 2000-2010 stressed on sustainable agriculture and protection of natural and biological resources; and
6. The Jordanian National Biodiversity Strategy and Action Plan (2003) is a response to the obligations of CBD and have been developed as a guide to the implementation of the biodiversity convention in the country. The NBSAP was developed by an intergovernmental biodiversity steering committee with representation from all stakeholders.

During March 2005, the Ministry of Environment organized a workshop for all the stakeholder in the environmental sector to reach a national consensus on list of projects within the action plan that have priority in order to integrate these projects within the ministry and other governmental institutes work plans. The workshops also aimed at developing a resource mobilization mechanism and develop partnerships with the donor organizations.

Also, the recently released National Agenda which document to the government vision, policy and



targets of all sectors, presented to the main National Targets for the conservation and sustainable use of biological resources.

**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	
c) No, but measurable targets are in advanced stages of development	
d) Yes, relevant targets are in place (please provide details below)	X
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.

Jordan established a set of measurable targets within its national strategies and action plans, most of these targets are relevant to the establishment and conservation of protected areas and significant biological areas. Other national targets are established in a non-measurable form, still those targets are under implementation as financial and technical resources are available. The non-measurable targets include but not necessarily limited to the following:

1. Conserve biodiversity and use biological resources in a sustainable manner by protecting the various species of animals, plants and micro-organisms in their different agricultural environments.
2. Improve understanding of ecosystems, increase resource management capability, and promote an understanding of the need to conserve biodiversity.
3. Maintain or develop incentives through laws and and legislation that support the conservation of biodiversity and the sustainable use of biological resources.
4. Work with other countries to conserve biodiversity, use biological resources in a sustainable manner and share equitably the benefits that arise from the utilization of genetic resources.

**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.

The NBSAP (2003) identified five priority action themes, and those are:

**Theme 1.** Protection of biological resources

**Theme 2.** Sustainable use of biological resources

**Theme 3.** Reducing the impact of industry on biodiversity

**Theme 4.** Promoting integrated land use planning and water resources development land tenure and land use planning

**Theme 5.** Towards a biodiversity-oriented society

**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)	
c) Yes, in major sectors (please provide details below)	x
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.

The five-year National Economic and Social Development Plan, (1993-1997) defined environment as a cross-sectoral issue, and included it as a significant part of the Plan's overall economic and social objectives: "Conserving the environment and preventing deterioration of its component elements through regulating economic and human activities in such a way as to secure a healthy environment for people as well as for fauna and flora, to ensure the non-depletion of exhaustible resources and to prevent soil erosion, desertification and pollution". Re-Phrase

The National Environmental Action Plan (NEAP) identified 41 priority environmental needs, which included four cross-sectoral environmental management capacity building needs and 37 sectoral environmental actions. Immediate attention was attended to a list of 19 priorities included the following which related to biodiversity and natural resource management:

1. Development of a national land use planning/zoning system
2. Management of agricultural plastic waste
3. Preservation of forest lands
4. Improved management of national cultural and natural heritage
5. Development of a national plan for heritage utilization
6. Completion of a protected area network
7. National biodiversity inventory

In other sectors in Jordan, specific objectives for biodiversity conservation is not usually developed. Instead, protection of the environment in general is included in most of these policies.

#### **Agriculture Sector**

One of the Environmental Objectives of the National Strategy for Agricultural Development (2002 – 2010) is to "conserve Jordan's biodiversity and utilize it in supporting agricultural development".

#### **Water Sector**

According to the Water Strategy for Jordan for 1997 "The full potential of surface water and ground water shall be tapped to the extent permissible by economic feasibility, and by social and environmental impacts.

#### **Land Development and Management**

The Jordan Valley Authority's Strategic Plan 2003-2008, Goal Three, aims to develop, manage, regulate and protect land and related resources in the Jordan Valley in order to maximize their economic usefulness while taking into account environmental considerations.

However, EIA procedures become obligatory to all projects and being enforced widely in Jordan. The recently released EIA regulations specified to the overall EIA requirement and scope of work for a wide-spectrum of projects and programs. This necessarily is cross-linked to the integration of the conservation and sustainable use of biodiversity as well as benefit sharing into relevant sectoral or cross-sectoral plans, programmes and policies.

<b>16. Are migratory species and their habitats addressed by your country's national biodiversity strategy or action plan (NBSAP)? (decision VI/20)</b>	
a) Yes	X
b) No	
<b>I) If YES, please briefly describe the extent to which it addresses</b>	
(a) Conservation, sustainable use and/or restoration of migratory species	
(b) Conservation, sustainable use and/or restoration of migratory species' habitats, including protected areas	<p>However, the NBSAP mentioned migratory species directly, only under the identified threats chapter, where it states that: "Uncontrolled off-road driving has led to destruction of several habitats and is causing disturbances to breeding areas of migratory bird species which, decreasing the number of successful breeding occasions and the number of migratory birds visiting Jordan".</p> <p>Birds migration is considered as priority for conservation by all related bodies were 27 Important Bird Areas have been identified and mentioned in the NBSAP, and significant portions of these areas are protected as part of the established protected areas or are proposed for establishment. Conservation is limited to the establishment of protected areas and to sustainable management of hunting.</p>
(c) Minimizing or eliminating barriers or obstacles to migration	
(d) Research and monitoring for migratory species	
(e) Transboundary movement	
<b>II) If NO, please briefly indicate below</b>	
(a) The extent to which your country addresses migratory species at national level	<p>Migratory species are considered of the important biodiversity elements to Jordan, especially since Jordan is located at a cross point between three continents. Migratory species are addressed almost in all management plans prepared for the established protected areas, and are being monitored to the extent possible.</p>
(b) Cooperation with other Range States since 2000	<p>Cooperation with other countries include the implementation of the CITES convention, the Birds of No Boundaries Project which have been carried out by Jordan, Palestine and Israel, and in the preparation for the intended Soaring Birds Project in cooperation with several countries located along side the Great Rift Valley and with the Birdlife International.</p>

### Biodiversity and Climate Change

<b>17. Has your country implemented projects aimed at mitigating and adapting to climate change that incorporate biodiversity conservation and sustainable use? (decision VII/15)</b>	
a) No	X
b) No, but some projects or programs are under development	
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.	
None	

<b>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)</b>	
a) No	X
b) No, but relevant mechanisms are under development	
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.	
None	

**Box XLII .**

<p>Please elaborate below on the implementation of this article and associated decisions specifically focusing on:</p> <ul style="list-style-type: none"> <li>a) outcomes and impacts of actions taken;</li> <li>b) contribution to the achievement of the goals of the Strategic Plan of the Convention;</li> <li>c) contribution to progress towards the 2010 target;</li> <li>d) progress in implementing national biodiversity strategies and action plans;</li> <li>e) contribution to the achievement of the Millennium Development Goals;</li> <li>f) constraints encountered in implementation.</li> </ul>
<p>Most of the projects implemented in Jordan are in line with commitments made under the United Nations Framework Convention on Biological Diversity :</p> <p>Outcomes ,action taken :</p> <ul style="list-style-type: none"> <li>a. Understand the causes of agro -biodiversity degradation at project sites;</li> <li>b. The RSCN has developed a comprehensive database on biodiversity resources that is being used as a decision-support system for the RSCN but not accessible at a national level.</li> <li>c. Promote modified and alternative land-use practices;</li> </ul> <p>Progress and contribution 2010</p> <ul style="list-style-type: none"> <li>d. Promote the sustainable use and conservation of the agro-biodiversity of the wild and land races of project target crops;</li> <li>e. Increase national capacity to deliver project training needs, for conservation and sustain-able use of agro-biodiversity;</li> <li>f. Reform agricultural policies and related policies to promote agro-biodiversity in project target areas</li> <li>g. The National Country Study on Biological Diversity and the National Biodiversity Strategy and</li> </ul>

Action Plan identified threats to biodiversity and gave recommendations to overcome those threats.	
Constrains :	<ol style="list-style-type: none"> <li>1. Lack of clear and systematic integration of the CBD main concepts (conservation, sustainable use and benefits sharing) in the national policy formulation process.</li> <li>2. Lack of a sustainable coordination mechanism between institutions working in Biodiversity:</li> <li>3. Lack of a clear policy, legislative and institutional enabling environment for regulating access to genetic resources and benefits sharing.</li> <li>4. Need developing linkages between research and policy making.</li> </ol>

## 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.	
<p>The implementation of many projects aiming to conservation of biological heritage at different part of the country such as Azraq and Dana, Ajloun and Dibeen reserves, in addition to the initiatives taken place in different parts of the country aiming at conserving in-situ and on- farm agro-biodiversity and Medicinal and Herbal plant species in-situ and on- farm. ., The agrobiodiversity project was targeting the landraces and wild relatives of 13 plant genera , while the Medicinal and herbal plant project targeted 250 wild plants.</p> <p>The RSCN has been conducting a National Water Bird Census since 3 years, aiming to identify the numbers and status of water birds in wet areas and monitor the change in numbers and habitats. The output data is used to determine the hunting program in Jordan.</p> <p>The National Country Study on Biological Diversity and the National Biodiversity Strategy and Action Plan identified threats to biodiversity and gave recommendations to overcome those threats.</p> <p>The RSCN has developed a database on biodiversity resources (based on the available information) that is being used as a decision-support system for the RSCN but not accessible at a national level. and, it worth mentioning that most of the projects implemented in Jordan did botanical surveys and the data resulted from these surveys are scattered in many institutes.</p>	

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)	X
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. The answer for this should include the area of the different ecosystems reserved by the different reserves and the number of species under monitoring from the total number of species.

Jordan NBSAP identified operational objectives, these objectives defines to the monitoring targets as follow:

1. Collect comprehensive information on the biology, status and distribution of Jordan's terrestrial fauna.
2. Conserve key natural habitats and ecosystems.
3. Control and monitor persecution of wild animals and control trading and spreading of diseases through wildlife.
4. Control and monitor invasion of alien species through the country.

Biodiversity indicators being monitored at the national level were developed and currently in use for the protection of vegetation types, establishment of protected areas, birds and birds migration within the identified Important Bird Areas, and the restored wetland habitats within Azraq Oasis.

Currently, 10.9% of total land areas are established as protected areas including seven nature reserves being managed by the RSCN, forming 1.4% of Jordan area, all the protected areas have a monitoring programs to assess the effectiveness of conservation of the habitats and special monitoring programs for key and indicator species.

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

a) No	X
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)	X

Further comments on monitoring programmes on key threats to biodiversity.

**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	X
c) Yes, some mechanisms or systems are being established	
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.

The Research and Survey Section was established within the RSCN in 1993 to carry out ecological field research. The database Established includes over 500 animal species and nearly 1500 plant species recorded in the country, with detailed descriptions of each species such as their taxonomy, habitat, and dates and locations where each was recorded.

The National Information Technology Centre (NITC) is one of the centers of the Higher Council for Science and Technology. It was established in 1993 to undertake the responsibility of developing and managing a national information system. One of the major functions of the centre is to conduct specialized surveys and studies. NIC conducts studies and surveys to promote and develop systems of information sources within the framework of the National Information System.

Also, the EIA section at the Ministry of Environment holds are prepared EIAs which contains extensive documentation and information. These studies are available and accessible upon acceptance of the reports.

However, a comprehensive data base and information gathering and exchange mechanisms are considered as a national priority to maintain and organize data derived from inventories and monitoring programs and coordinate information collection and management at the national level. Data bases and gene banks.

**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.

I think the NBSAP required to develop such indicators  
 The National Water Census at the RSCN monitors the status of water bird species in general with special emphasis on 17 key water bird species.  
 The monitoring program of the Killi Fish in Azraq Wetland Reserve since it is endemic species of Jordan and is only locatd in Azraq .

**Box XLIII.**

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.

There are many institutions involved in environmental management in Jordan, but there are few institutions involved in biodiversity conservation, monitoring, and ensuring the sustainable use of biological resources. Those institutions are the RSCN, the Marine Science Station, the Badia Research and Development Program of the Higher Council for Science and Technology, the National Center for Agriculture Research and Technology Transfer (NCARTT), and the biological departments at the Universities.

The outcomes include several reports, management plans, EIAs, scientific papers, books, and many other documents relevant to the subject of this article. Also, databases were developed to regulate significant portion of these information.

Gathered field information forms the basis for decision making concerning the conservation of biodiversity, sustainable development in order to ensure sustainable development.

The RSCN identifies the existing biodiversity in the protected areas mainly and all over the country for specific purposes and assess the status of the species and habitats. The data is analyzed and presented in reports or action plans with the appropriate recommendations for the management of the sites or species. Special monitoring programs are set to measure the success of conservation using indicator species.

RSCN has contributed to the preparation of the BSAP document in 4 aspects, the Terrestrial Fauna, Species at Risk, Protected Areas and Ecotourism.

**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	X
b) No, but a plan is under development	
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.	
None	

**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.

In view of the fact that Jordan has few specialists in the field of taxonomy, there is some good work done in the country in specific within the academic institutions which are carried out with unsatisfactory level of cooperation. However, taxonomy efforts in Jordan are still to be described as premature, scattered and not coordinated.

Taxonomist researchers are very much limited in Jordan and the Arab Region. Therefore, training of manpower is very much needed.

**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.

The Jordanian academic institutions introduce courses that are considered some form of training in the field of taxonomy. For instance, Jordan University introduce plant taxonomy course during the academic studies. Also, the RSCN has few taxonomists whom are delivering in house (within the RSCN) training to fresh researchers hired by the RSCN, and to a lesser extent to some researchers at the regional level.

Taxonomist researchers are very much limited in Jordan and the Arab Region. Therefore, training of manpower is very much needed.

**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.\***<sup>4</sup> 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

<sup>4</sup> 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.

d) Yes, comprehensive collaborative programmes are being implemented (please provide details about collaborative programmes, including results of regional needs assessment and priority identification)	
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.	
There is some good work done in the country in specific within the academic and research institutions which are done in isolation. However, taxonomy efforts in Jordan are still to be described as premature, scattered and not coordinated. The Agro-biodiversity project produce 3 regional filed guides one on each Medics, Lathyrus and fruit trees.	

<b>29. *</b> 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.	
Generally, Jordan is in shortage in taxonomists, until know we have only less than 20 specialists. However, there are some students in this field, expected to finish there higher studies in the nearest future.	
There is some excellent work that has been done at the level of vertebrates. Jordan has done mapping for the distribution of species. Some excellent work on taxonomy has been done for birds, mammals, and reptiles. Also good publications were produced for birds, mammals and reptiles. It is also worth saying that taxonomy is only of individual interest. The importance of awareness for taxonomy and collection housing issue is very low in Jordan.	

<b>30. *</b> 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	X
b) Yes, relevant programmes are under development	
c) Yes, some activities are being undertaken for this purpose (please provide details below)	
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.	
The agro biodiversity recognize the lack of such experience in all the region and the project conduct 3 regional training courses on plant taxonomy utilizing regional and international expertise.	

<b>31. *</b> 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)	
c) Yes, for marine and coastal biodiversity (please provide details below)	X
d) Yes, for dry and sub-humid lands (please provide details below)	
e) Yes, for inland waters biodiversity (please provide details below)	
f) Yes, for mountain biodiversity (please provide details below)	
g) Yes, for protected areas (please provide details below)	
h) Yes, for agricultural biodiversity (please provide details below)	
i) Yes, for island biodiversity (please provide details below)	
Further comments on the development of taxonomic support for the implementation of the programmes of work under the Convention.	
<p>Marine Science Station has made certain researches on collection and identification of more than 400 species of fish from the Jordanian Gulf of Aqaba. In addition, it collected and identified more than 150 species of hard coral and some of the soft coral and marine fauna.</p> <p>The RSCN also developed contacts and special arrangements with scientific researchers and international conservation institutions concerning the taxonomic support for the implementation of the programmes of work under the Convention especially for terrestrial biodiversity and birds monitoring. These arrangements require further development in order to ensure consistent support and capacity development.</p>	

<b>32. *</b> 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	X
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)	
e) Yes, for impact assessment, monitoring and indicators (please provide details below)	
f) Yes, for invasive alien species (please provide details below)	
g) Yes, for others (please provide details below)	
Further comments on the development of taxonomic support for the implementation of the cross-cutting issues under the Convention.	

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

<b>33. ?</b> 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>Due to many human and natural activities this wealth of biodiversity is subjected to degradation. Therefore the government of Jordan recognizes this danger and start thinking of mechanisms to Conserve and sustainable utilization of the national biodiversity in a faire and equitable way to all biodiversity stakeholders. These efforts came in response to the different national obligations of the CBD and its COP decisions. It has taken serious steps for implementing this convention. This commitment has been reflected through:</p> <ol style="list-style-type: none"> <li>1. The ratification of biodiversity-related conventions;</li> <li>2. The development of the National Biodiversity Strategy and Action Plan; and</li> <li>3. The implementation of many projects aiming at conservation of biological heritage at different part of the country such as Azraq and Dana, Ajlon and Debeen reserves, in addition to the initiatives taken place in different parts of the country aiming at conserving agro-biodiversity and Medicinal and Herbal plant species in-situ and on-farm.</li> </ol>	

<b>34. ?</b> 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 most legislation pertaining the environment and biodiversity were the Environmental Law No. (1) for the year 2003, the Agriculture Law No. (44) for the year 2002, and Aqaba Special Economic Zone Law No. (32) for the year 2000.</p> <p>The Government of Jordan has recently issued a Bylaw for Environmental Impact Assessment (Bylaw No. 37 for 2005), which requires that any development project that may have an impact on the environment, including biodiversity, to undergo an EIA process, in order to minimize these impacts.</p> <p>In the Nature Reserves and National Parks Bylaw No. 29 for 2005, Article 8 states that the Ministry of Environment may designate any site for rare floral or faunal species, regardless of its area, and declare it a Special Protection Area. Methods for managing and protecting this area will be in accordance with instructions issued by the Minister for that purpose.</p> <p>In the Temporary Agriculture Law No. for 2002, Article 35-B &amp; C prohibits any person from logging or destroying any rare or endangered fruit or forest tree. This act is punishable by imprisonment or a</p>	

fine (500 JD and 3 months for each tree).

Regulation for the Protection of the Environment in the Aqaba Special Economic Zone No. 21 for 2001, Annex 5, states that "a project will normally have a significant effect on the environment if it will significantly affect a rare or endangered species of animal or plant or the habitat of the species". This would require the agency responsible for project implementation to conduct a full Environmental Impact Assessment in order to mitigate and minimize these effects.

The Ministry of Environment recently signed a memorandum of understanding with the RSCN concerning the establishment and management of protected areas. This memorandum came to regulate the regulation between the ministry and the RSCN in this regard since the RSCN was handed over decades ago this responsibility and given the mandate over the established ones.

Trading Red Data List species and CITES species is prohibited in Jordan, and enforcement of this prohibition is ongoing widely all over the country. Coordination with neighboring countries is ensured through proper channels in this regard.

**35. ?** On Article 8(I), 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.

The National Environment Strategy (NES) identifies the establishment of reserves as top priority in wildlife and habitat sector. Protecting wildlife guarantee the sound and planned use of natural resources without endangering the environmental balance and biological diversity. NES identified several recommendations related to the wildlife and habitat, that were categorized as follows:

1. Recommendation related to land and information;
2. Recommendations related to habitat protection;
3. Recommendations related to wildlife management;
4. Recommendations regarding grazing reserves; and
5. Recommendations regarding forest areas.

The NBSAP addressed under theme number three the need for reducing impacts of industry on biodiversity. The strategic objectives identified under this theme is to "Minimize the negative impacts of mining activities on environment and biodiversity", and four operational objectives were defined to:

1. Promote the implementation of eco-efficient mining procedures;
2. Modernize the mining law and mining codes to meet the needs of the latest development in mining activities and to include articles for the protection of biodiversity;
3. Strengthen the control on mining activities by concerned government authorities; and
4. Prevent mining in forested areas.

Priority actions were also identified by the NBSAP to include the following:

1. Monitoring the environmental impacts of quarry operations;
2. Monitoring the environmental impacts of mining operations;
3. Study of the feasibility, costs and benefits of rehabilitating limestone aggregate quarry sites; and
4. Restoration of building stones quarry sites.

Other suggested actions by the NBSAP include:

1. Examination of the environmental toxicity of phosphate mines and fertilizers plants dumping sites;
2. Rehabilitation of 20 limestone quarry sites in municipalities as a model project;
3. Establishing a fund for the protection of environment and rehabilitation of mining sites within the Natural Resources Authority;
4. Revision of licensing conditions for quarries;
5. Mineral resources monitoring system established by government and private sectors for sustainable development;
6. Promoting the implementation of environmentally friendly mining methods; and
7. Integration of environmental management in mining policies.

Recently, the Ministry of Environment released the EIA regulations which describes to the processes and categories of activities as having significant adverse effects on biodiversity, and though defines to the EIA requirements and procedures required to study, and though mitigate these activities. These regulations are being enforced largely in the country.

**Box XLIV.**

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

Many institutions and initiatives were involved in research and data acquisition in addition to educational and awareness programs that have been designed and directed toward conservation and sustainable utilization of biodiversity components

There are a number of (NGOs) working in Jordan that are active in community development and a wide range of other activities.

It is recognized that other, more fundamental, biodiversity issues need to be addressed at the national level if Jordan is to stem the decline in habitats and species. Uppermost, is the need to ratify and apply the legislation already developed for enhancing the protection of key ecosystems and species and to progress the National Land Use Plan so that it embraces biodiversity conservation needs and, thereafter, is integrated into the planning system as rapidly as possible.

### 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 National Environment Strategy identifies the establishment of reserves as top priority in wildlife and habitat sector. Protecting wildlife guarantee the sound and planned use of natural resources without endangering the environmental balance and biological diversity.

Currently, 10.9% of total land areas are established as protected areas including seven nature reserves being managed by the RSCN, forming about 1% of Jordan area, in addition to national parks, one marine reserve, and 28 grazing reserves. The national target has recently been planned to exceed the global target, were it is Jordan target to reach 12% of Jordan total area established as protected areas in the year 2012(including six nature reserves planned by the RSCN to be established in the near future), and to approach 15% in the year 2017.

27 Important Bird Areas (IBAs) have been identified, significant portions of which are protected since these portions are located in established protected areas, many (un protected) IBAs are located in proposed protected areas and expected to be protected in the future, and few are not expected to be protected as protected areas at least in the short and medium runs. Also, 13 important wetlands are identifies according to the Directory of Wetlands including one Ramsar Site: Azraq wetland.

**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.

Currently, 10.9% of total land areas are established as protected areas including seven nature reserves being managed by the RSCN, forming about 1% of Jordan area, in addition to national parks, one marine reserve, and 23 grazing reserves. The national target has recently been planned to exceed the global target, were it is Jordan target to reach 12% of Jordan total area established as protected areas in the year 2012(including six nature reserves planned by the RSCN to be established in the near future), and to approach 15% in the year 2017.

27 Important Bird Areas (IBAs) have been identified, significant portions of which are protected since these portions are located in established protected areas, many (un protected) IBAs are located in proposed protected areas and expected to be protected in the future, and few are not expected to be protected as protected areas at least in the short and medium runs. Also, 13 important wetlands are identifies according to the Directory of Wetlands including one Ramsar Site: Azraq wetland.

**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)	
e) Yes, significant actions taken (please provide details below)	X

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.

Azraq Wetland Reserve represent one of the most important wetland ecosystems in Jordan and the world, it forms part of the Azraq Ramsar Site and it is protected and being managed by the RSCN. Wide range of management activities are being implemented including habitat restoration and management, species conservation, public awareness and education.

One marine reserve has been established at Aqaba to protect significant portion of the unique marine ecosystem. Also, the Royal Marine Conservation Society of Jordan which was Known previously as Jordan Royal Ecological Diving Society (JREDS). JREDS began with a group of divers in 1994 with a mission to protect Aqaba's marine life from further degradation. JREDS' objective is to prevent destruction of the Gulf of Aqaba by promoting sustainable management of natural marine resources, raising public awareness, encouraging community participation and conducting environmental monitoring.



<b>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)</b>	
a) No	
b) No, but some programmes are under development	X
c) Yes, some steps identified and implemented (please provide details below)	
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.	
<p>The main objective of the "Integrated Eco-system Management in the Rift Valley " Project is to secure the ecological integrity of the Jordan Rift Valley , as a globally important ecological corridor and migratory flyway , through a combination of site protection and management, nature – based socio-economic development and landuse planning .through :</p> <ul style="list-style-type: none"> <li>- Establishment of a network of 4 protected areas in the rift valley with management programs, safeguarding key habitats.</li> <li>- Conservation oriented landuse plan for ecologically strategic areas of the rift valley</li> <li>- Effective institutional and operational systems in place for the enforcement of all environmental laws and regulations governing infrastructure and building development , industrial processes and other landuses and activities of the rift valley.</li> <li>- New and improved facilities constructed and new operational systems developed for the treatment and reuse of wastewater from the urban, agricultural and industrial sources through the associated proposed rift valley improvement project.</li> </ul>	

<b>40. Is your country applying environmental impact assessment guidelines to projects or plans for evaluating effects on protected areas? (decision VII/28)</b>	
a) No	
b) No, but relevant EIA guidelines are under development	X
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 provide details below)	
Further comments on application of environmental impact assessment guidelines to projects or plans for evaluating effects on protected areas.	
<p>Protected Areas in Jordan are considered the main mechanism of the convention of Biodiversity Convention implementation. They embrace within their management key themes of the convention like the integration of economic development with biodiversity conservation and the sustainable use of biodiversity. Protected Areas in Jordan are considered effectively managed according to international criteria.</p> <p>EIA guidelines and regulations are in place, where biodiversity and protected areas are considered in</p>	

most cases (according to the nature of the developmental activity being studied for its anticipated impacts) as valued ecosystem components to be well studied. Also, the establishment of protected areas is required to have EIA studies, not only to assess anticipated negative impacts, but also to assess positive impacts that can ensure achieving maximum benefits. currently, the RSCN is preparing EIA study for the intended integrated Ecosystem Management in the Jordan Valley Project.

**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 Agricultural law number 44 of the year 2002 articles that regulate how to deal with biodiversity in the country which are: article number 3, 12, 27, 37, 55, 57, 31, 34 and 35. Article 57 deals with the protection of wild birds and animals. Regulations for the protection of wildlife species, their Hunting and Trade was developed based on section (A) of article 57.

Decades ago, the RSCN was handed over the responsibility and mandate to manage protected areas in coordination with the Ministry of Agriculture and other related governmental bodies. A draft national parks policy was developed in 1996 to include guidelines on developing and managing national parks, but the policy has not been endorsed. However, the Environmental Protection Law requested in Article (23)(A) the Cabinet Council to issue Regulation of Nature Protection and Regulation of natural reserves and national parks.

Recently, the Ministry of Environment signed a memorandum of understanding with the RSCN concerning the establishment and management of protected areas, the Ministry delegated the management responsibility of protected areas to the RSCN according to the environmental law.

The National Biodiversity Strategy and Action Plan of 2003 has identified the following gaps and barriers:

1. The lack of a protected area bylaw (This has been rectified recently through the issuance of the Nature Reserves and National Parks Bylaw No. 29 for 2005)
2. Weak enforcement of laws (This is being mitigated by increasing cooperation between the implementing agency for protection of nature reserves (the RSCN), the Forestry Department at the Ministry of Agriculture and the Public Security Directorate.

More recently (September 2005), a National Stakeholders Workshop was held entitled the National Priority Capacity Constraints for Implementing the Rio Conventions. The workshop determined the following constraints in the field of biodiversity:

1. Lack of a long-term coordination mechanism between institutions working in Biodiversity;
2. Lack of a national knowledge management and data processing system for monitoring and reporting on Biodiversity;
3. Weak institutional and legislative framework for regulating access to genetic resources and benefits sharing;
4. Lack of an institutional process for assessing the impact of regional and international agreements on biodiversity;
5. Absence of national management guidelines for conservation sites;
6. Weak mobilization of financial resources available for biodiversity;

7. Lack of national directives for biodiversity Impact Assessment;
8. Low integration of the CBD main concepts in the national policy formulation process;
9. Low national capacity for in-situ conservation outside protected areas, including lack of capacity of community management;
10. Lack of clear national policies for regional and international technology transfer
11. Lack of long-term programmes for awareness and education on new concepts in Biodiversity management;
12. Weak linkages between research and policy making; and
13. Lack of economic incentives and valuation of biodiversity components.

**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	X
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 Ministry of Environment is currently implementing a National Capacity Self Assessment for Global Environmental Management, funded by the Global Environment Facility and administered by UNDP. This project focuses on cross-cutting issues within the three conventions (CBD, Convention on Climate Change and Convention to Combat Desertification) to complement and enhance linkages and integration as well as promote resource mobilization and coordination in implementation. Batair correct and elaborate

The RSCN is a non governmental organization solely devoted to nature conservation and is handed over the mandate of protected areas management. The RSCN conducts on regular basis capacity needs assessment for the organization, and is currently assessing capacity needs at the national level. RSCN has a good role in building the capacity of other governmental and NGOs in Jordan and the neighboring countries in the field of Conservation, socio-economy, and habitat management through the Out reach division activities..

**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)	X

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

An annual budget is allocated by the Ministry of Finance to several ministries and governmental organizations to be spent on the establishment and management of sites, research and monitoring of biodiversity of Jordan.

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	
c) Yes, some national methods, standards, criteria and indicators developed and in use (please provide details below)	X
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.	
<p>Two indicators are being used in relation to this target and those are, (1) the vegetation representation (the proposed protected areas by Clark and the new proposed areas by the RSCN identified vegetation representation to reach the percentage of protection of 4% at least of each vegetation type), and (2) the total areas of established/planned/proposed protected areas (as described in the NBSAP and the recently released National Agenda of Jordan, where the agenda identified the total area established as protected areas to reach the percentage of 12% of Jordan in the year 2012, and to approach 15% in the year 2017).</p> <p>Also, each established protected area has its own management plan where site-specific methods, standards, criteria and indicators for evaluating the effectiveness of protected areas management and governance are defined and being implemented.</p>	

#### Box XLV.

<p>Please elaborate below on the implementation of this article and associated decisions specifically focusing on:</p> <ul style="list-style-type: none"> <li>a) outcomes and impacts of actions taken;</li> <li>b) contribution to the achievement of the goals of the Strategic Plan of the Convention;</li> <li>c) contribution to progress towards the 2010 target;</li> <li>d) progress in implementing national biodiversity strategies and action plans;</li> <li>e) contribution to the achievement of the Millennium Development Goals;</li> <li>f) constraints encountered in implementation.</li> </ul>
<p>A national protected areas review was carried out in 1998 in order to study the already proposed protected areas in the country and nominate new sites in order to have enough representation of all vegetation types in all protected areas. Later after this review was carried out, two more protected areas were established (Rum Protected Area and Dibbeen Nature Reserve).</p> <p>Currently seven terrestrial and one marine reserve have been established, eleven more terrestrial reserves are proposed to be established. Also, several grazing reserves are established in the eastern Badia. The border areas are considered partially protected since human activities within these sites are limited to limited Bedouin (indigenous nomadic population of Jordan) especially for nomadic grazing. 27 Important Bird Areas (IBAs) have been identified, significant portions of which are protected since these portions are located in established protected areas, many (un protected) IBAs are located in proposed protected areas and expected to be protected in the future, and few are not expected to be protected as protected areas at least in the short and medium runs. Also, 13 Important wetlands are identified according to the Directory of Wetlands including one Ramsar Site: Azraq wetland.</p> <p>To this date, the government of Jordan delegated the responsibility of establishing protected areas to the RSCN which managed to establish and manage seven different wildlife reserves, following is the current reserves:</p> <ol style="list-style-type: none"> <li>8. Shaumari Wildlife Reserve: established in 1975 with an area of 22 km<sup>2</sup>, represents the Qa'a</li> </ol>

vegetation type, and is the center for the Breeding programmes for extinct and endangered species of Jordan, it also represents the focal point for public awareness and environmental education.

9. Azraq Wetland reserve: established in 1978 with an area of 12 km<sup>2</sup>, it represents the remaining parts of the well known Azraq Oasis, It represents the Qa'a vegetation type and it is the most important Bird Area in Jordan because it lies on the migration route of Birds, and is a center for the water studies and conservation.
10. Mujib Wildlife reserve: established in 1987 with an area of 212 km<sup>2</sup>, it represents the lowest reserve on earth, extends to about 24 km along the Dead sea shore, it represents several vegetation types: Steppe, Saline, Water & Tropical; has a breeding center for the Wild Ibex and released more than 60 individuals to the Wild, it represents one of the most important sources for fresh water in Jordan plus mineral and hot water springs, and is a model for hunting laws enforcement in the region.
11. Ajloun Woodland reserve: established in 1988 with an area of 12 km<sup>2</sup>, it represents the Evergreen Oak forests vegetation type, and the remaining parts for the Oak trees in Jordan, has a center for breeding Roe Deer which used to live in the region, and an example for Biodiversity conservation for forests.
12. Dana Nature reserve: established in 1989 with an area of 308 km<sup>2</sup>, it extends from the Sharah mountains in the east to the Araba valley in the west, it represents several vegetation types: Juniper forest, Sand dune, Steppe, Acacia /sudanian rocky & Mediterranean non-forest. Rich in archeological sites and human settlements, has some old copper mines, and is a model for Eco-tourism and Socio-economic projects in Jordan.
13. Wadi Rum reserve: established in 1998 with an area of 722 km<sup>2</sup>, it represents parts of the eastern desert, it represents several vegetation types: Sand dune, Acacia/sudanian rocky and Hammada .It is distinguished with its' beautiful mountains, and considered as the second tourist attraction in Jordan after Petra.
14. Dibeen Nature Reserve: established in 2004 representing the last stands of the Aleppo Pine in Jordan and the most south distribution in the northern Hemisphere. The forest is an important refuge for the endangered Persian Squirrel

Proposed protected areas described in the protected areas review are:

No.	Name	Status	Area/km <sup>2</sup>
8	Burqu	Proposed	744
9	Jabel Mas'adi	Proposed	294
10	Wadi Rajil	Proposed	906
11	Bayer	Proposed	460
12	Abu Rukbah	Proposed	190
13	Jarba	Proposed	40
14	Aqaba Mountains	Proposed	60
15	Jordan Valley	Proposed	8
16	Yarmouk river	Proposed	30
17	Ghor Fifa	Proposed	33
18	Qatar	Proposed	50

RSCN started the process of having proper management plans for its' reserves starting 1994, with the big aid from UNDP/World bank-Global Environment Facility.

From that date, RSCN managed to prepare management plans for Dana, Azraq, Mujib and currently preparations for Rum management plan is in the final stages and initial work for Ajloun plan has already started.

The management plans represent a reference for all staff working on-site and in the headquarters at RSCN, these plans consist of several sections which cover the following:

- Introduction about the site

- Scientific & non-scientific data about the site: Species, Habitats, Geology, Hydrology, Climate, Human activities, Socio-economic background...etc.
- Analysis for all data
- Impacts & threats for the sites and their biodiversity
- Suggestions for appropriate management.
- Objectives and operational objectives for the plan
- Activities in a time table
- Monitoring & follow-up for the plan

National Parks aim to conserve and protect cultural values of the sites, promote Sustainable tourism, and improve public awareness towards cultural and natural values.

Currently, seven National Parks exist and are managed by the Ministry of Tourism and Antiquities, Local Authorities, Municipalities and Private sector, in addition to **Dibbin National Park** which was established in 1970s as a recreational Park and have recently been re-established as a Forest Reserve under direct management by the RSCN.

following is a list of these Parks:

<b>National &amp; Recreational Parks</b>	<b>Status</b>	<b>Year</b>
Petra National Authority	World Heritage Site	1995
Wadi Rum	Area of Special Restriction	1996
Aqaba marine reserve & Parks	Under establishment	1995
Wadi Al-Butum National Park	World Heritage Site	1996
Gammadan Municipal Park	Municipal and recreational	1994
Zai National Park	Recreational	1970's
Mount Nebo National Park	Recreational and Archeological	1996

Forest and Rangeland reserves aim to manage and conserve vegetation cover of the sites by minimizing wood collection and grazing, managing water sheds and improve livestock quality and animal husbandry.

The number for these reserves reached to 29, and they are divided into 3 categories:

4. Steppe Reserves
5. Desert Reserves
6. Forest and Highland Reserves

Following is a table for the 23 reserves:

<b>No.</b>	<b>Reserve</b>	<b>Year of establishment</b>	<b>Area/Sq. Km.</b>
1	Khnasry	1946	4.5
2	Sura	1946	4.0
3	Fugeig	1958	10.0
4	Duba'a	1968	3.0
5	Manshia	1968	3.0
6	Sabha	1979	10.5
7	Al-Lajun	1980	11.0
8	South Mujib	1980	10.0
9	Aishia	1981	10.0
10	Tuana	1981	20.0
11	Rajib	1983	6.0
12	Adassieh	1983	20.0
13	Ma'in	1983	83.0
14	Ras Al-Naqab	1986	12.0

15	Wadi Al-Butum	1986	15.0
16	Eira & Yarqa	1986	4.0
17	Desert Azraq	1987	300.0
18	Nakhel	1987	9.0
19	North Mujib	1989	10.0
20	<u>Desertification</u>	<u>1989</u>	<u>5.0</u>
21	Bilal	1991	17.0
22	Faisalieh	1992	20.0
23	Mudawara	1992	20.0
24	Al- Bustanaih	1996	10.0
25	Al-Rugban	1997	20.0
26	Al- Gasab and Al-Sateeh	1998	15.0
27	Sarfa	1995	4.4
28	Al-Kameeyah	1997	10.0
29	Al-Lajun Al- Jadeed	1989	50.0

Marine reserves are still nourishing and developing, one reserve in Aqaba is established and being managed by the reserve management under the guidance and supervision by Commission of Environment of the Aqaba Special Economic Zone Authority (ASEZA). It lays in Aqaba cost for seven kilometers and divided to three zones in which each zone had its privacy; one is the marine research center where no activity is allowed except scientific researches. Legal diving and some health activities are allowed in zone two and three from the side of the sea to avoid stamping on the corals.

There is a staff with two boats looking for the illegal coral collecting and diving but more rangers are needed to cover all the area.

A review for the protected areas network has been done and it recommended that at least 4% of each vegetation type (13 different vegetation type all over Jordan/Refer to Vegetation Types table & Map in Annexes) should be included in the network. As a result, 6 additional protected areas are to be added to the proposed sites and that make the total number to 18 (6 established & 12 proposed) the total area for the established protected area is 1.56% of the country's total area. The national target has recently been planned to exceed the global target, were it is Jordan target to reach 12% of Jordan total area established as protected areas in the year 2012(including six nature reserves planned by the RSCN to be established in the near future). And to approach 15% in the year 2017. .

The National Environment Strategy for Jordan was produced in August 1991, and was co-sponsored by the Government and the U.S. Agency for International Development. Technical assistance was provided by the World Conservation Union (IUCN). The strategy provides a policy and planning framework for environmental protection in Jordan and incorporates over 400 recommendations and actions. It remains the principal strategic vehicle guiding government and NGO activities. Under the sectoral heading wildlife and habitat the strategy identifies the creation of new reserves as a national priority:

***“Nature reserves.....are established and managed by the RSCN. The RSCN completed a study outlining the establishment of 12 nature reserves covering all environmental and climatic areas in Jordan and its wild animals and plants (the Clarke study). Seven such reserves have been established so far (including those under development). The committee recommends that the establishment of reserves be continued and their protection and management be supported. The Council of Ministers has approved this initiative....(National Environment Strategy 1992, page 67)***

The National Environmental Action Plan (NEAP) was produced in 1996 by the Ministry of Planning as a follow-up to the National Environment Strategy. It defines the priority actions required for dealing with the major environmental problems of Jordan, as determined through an intensive workshop involving representatives of all relevant institutions, both government and non-government. The process was coordinated by the Ministry of Planning (MOP) and the Ministry of Municipal and Rural

Affairs and Environment (MMRAE) with support and advice from the World Bank. The main recommendations concerning protected areas are:

1-It is essential to expand the protected areas network and allow RSCN to manage the planned 12 Nature Reserves in the next few years, covering 4% of the country's area. It is also working in producing a network of protected areas.

2-Reserve management plans must be developed to support the conservation of habitats and wildlife involved.

3-Promote the involvement of local communities in development and management of archaeological and historic sites as well as nature reserves. Their active participation should yield significant income for local people. In addition to the on-site institutional development, training in tourist management must be provided.

4-Besides the involvement of local communities at the sites it is essential to undertake public awareness campaigns that aim at public participation in preserving the amenities. Also information and details regarding the sites has to be documented and made available to visitors.

Jordan does not, as yet, have an officially endorsed policy on protected areas. There is, however, a draft policy framework produced under the auspices of the Ministry of Planning in 1996. This framework was prepared with technical guidance and financial support from USAID. Its preparation involved a number of workshops with relevant Jordanian organizations, both government and non-government, in order to secure consensus on key policy issues and priorities. The suggested policy framework, together with the findings of the workshops, were published in July 1996 in a report entitled "Jordan Parks Policy Project", but no action has since been taken to develop and ratify these draft policies

The policy section of the Policy Project Report covers six pages and is broken down into various categories such as "environmental benefits and awareness" and "community participation". These are reproduced in full in Annex 1. The policies of most relevance to this review are the so-called 'Fundamental Policies' and these presented verbatim as follows:

#### **Fundamental Jordan Protected Area policies**

- Jordan Protected Areas (JPAs) will conserve the natural, cultural, archaeological, and scenic resources of the kingdom, while leaving them unimpaired for use and enjoyment by future generations. Visitor use, scientific study, education, and public enjoyment should be encouraged, but only in such a manner that will not adversely affect the resource.
- JPAs will be designated through a process of evaluation using the "Selecting Areas for a JPA system Criteria." An approved set of formal criteria will be applied during the designation process to assess significance. Additions to the JPA system will be strategic, and the system will expand in conjunction with the availability of the staff and financial resources to meet protection and operating requirements.
- The system should represent a full spectrum of significant Jordan flora and fauna, ecosystems and natural habitats as well as sites of important archaeological and cultural interest, and artifacts from important events in history. Proper selection of areas designated as JPAs will produce a nation wide system of representative sites, with priority given to the finest example of the nation's natural resources, outstanding archaeological artifacts and sites illustrating or commemorating the most significant events in Jordan's history.
- If the resource will be adversely affected by certain extractive activities - water removal, mining, grazing and controlled hunting are examples - such uses should be controlled or prohibited. Where visitor use and outdoor recreation activities are allowed within the JPA system, special care must be taken that natural, archaeological or cultural features are not substantially disturbed or artificially introduced to the scene. Recreation and leisure are appropriate activities across most of the JPA categories but major resource modification or impact are not appropriate in a JPA.
- JPAs will normally be established through an agreed-upon national strategy based on approved criteria, incorporating where possible existing protected areas, whether public or private. Where this is not the case, existing expropriation laws may apply. In cases in which public land ownership is not imperative, a variety of compensation tools are available. For new JPA areas, displacement of resident



inhabitants is an option only in cases involving extreme resource degradation.

- Since the successful protection of significant resources and the quality of visitor experience do not stop at JPA boundaries, decisions regarding JPAs should make maximum use of land-use management tools such as clearly defined buffer zones, to protect the resource integrity on site and in adjacent areas.

There are two national laws related to the establishment and management of protected areas: the Agricultural Law and the Environmental Protection Law.

### **The Agricultural Law**

This was the first law with provision to establish protected areas. It was ratified in 1927 (amended 1951, 1973 and 2002) and it covers the protection of rangeland and forests and the delineation of protected forest boundaries.

Article 30 of this law gives the Minister of Agriculture the authority to control grazing periods in each geographical area And to issue directives for the protection of the environment and its resources within rangelands, including its natural flora.

It was under the Ministry of Agriculture that most of Jordan's existing nature reserves were established. Prior to designation, each proposed site was reviewed by a Cabinet Committee and later assigned to the management of RSCN through the Ministry of Agriculture. This process was not a direct function of enacting Law No 20, as described above, because these sites do not conform to the criteria for rangeland or forests. Their legal strength arises from parliamentary approval, not directly from the pre-written legislation. There are also some blatant anomalies: the Dana Reserve, for example, was not placed under the ultimate jurisdiction of the Ministry of Agriculture but assigned directly to RSCN; and Wadi Rum was declared a Special Regulation Area by the Aqaba Regional Authority without reference to RSCN or any Government Ministry.

### **Law for Protection of the Environment**

The new environmental law was ratified in 2003. The Cabinet passed the draft of the new law, entitled the 'Law of Protection of the Environment' and referred it to Parliament for enactment in 2006. The law is essentially an "umbrella law", providing a framework and mechanism under which detailed legislative articles can be prepared. There are two 'framework articles' related to protected areas:

#### **Article (3)a**

This refers to the powers of the Ministry of Environment, the agency created by the law itself to manage environmental affairs. It states that the Ministry of Environment shall be regarded as the authority concerns with the environmental protection in Jordan and the official and national bodies shall implement the instructions and decisions issued in this respect by virtue of this law .

#### **Article(8)**

Under this article it is prohibited to cast away any polluting or harmful substance to the sea environment in the regional waters of Jordan or on the shore area.

#### **Article(10)**

This article state that any who plucks out the corals and shells, gets them out of the sea, trade in them or causes their damage in any way, shall be punished by imprisonment for a period not exceeding one year or paying fine not less than JD 10,000 and not exceeding JD 250,00 or both penalties.

#### **Article (13) a:**

This article states that every institution, company, plant or any party exercises an activity which has a negative impact on the environment shall be obliged to prepare an environmental impact assessment for its project and present it to the Ministry of Environment for taking necessary decision.

Limited financial resources, limited available technical capacities, and limited civil society and local community participation are considered the most important challenges in the implementation of this target.

In general, the main challenges in implementation of this target are:

1. Political unrest in the region and its complications on Jordan including changes to the population

dynamics of the national community, increased demand on natural resources especially water, financial challenges, and many others.

2. Deficiency in relevant laws and regulatory guidelines
3. Low weak enforcement due to limited financial and technical capacities
4. Ambiguity of responsibility generated by deficiency of regulations
5. Delay in releasing the national biodiversity policy
6. Lack of sufficient information
7. Limited financial resources
8. Limited technical capacities at the institutional level
9. Limited civil local community participation

#### **Main problems facing forests & rangeland reserves:**

The management of these reserves is affected by several problems, the main ones are still financial and human resources, plus that the management style is not based on proper scientific data , boundaries definition, zonation plans and land use policies.

The site-management at these reserves aims to protect and conserve the floral cover, not taking into consideration the human aspect, fauna and cultural issues. Only few reserves are working on sustainable development and watershed management within their sites.

Although these reserves are mainly concerned with the floral cover, the habitat status and economic values for the plants and other resources are still unclear and underestimated. If this issue changes in the future it will lead to better promotion to such sites, which in the end will create additional funds through tourism, and will cover the running costs for these sites.

Some of the major threats to such reserves are the overgrazing, woodcutting, plant collection and illegal hunting, although the sites are declared as reserves. These threats resulted from poor legislation and laws enforcement on-site.

As for scientific research and ecological data, they are done and gathered infrequently and inadequately, which resulted to non-existing inventory for the sites. All the problem was mainly due to lack of human and funding resources which lead in the end to minimized research towards proper conservation, management policies and strategies.

Overall, these reserves were not established based on international standards, nor national priorities, and are not considered as integrated ecological units with national and regional importance, although they maintain globally floral and faunal important species.

#### **Main problems facing Wildlife reserves:**

Although huge efforts were done by RSCN from year 1966 till now, in the field of nature conservation, and with the GEF/World Bank projects which started in 1994 and lead to Site management plans based on sound scientific researches and monitoring, the Wildlife reserves still face lot of problems and obstacles.

Lack of effective legislation and laws enforcement, represents a major part of the reserves' problem. Since these sites are managed by RSCN (an NGO), with little funds allocations, RSCN faces a lot of obstacles enforcing hunting laws and other agricultural and environmental laws, mainly with little manpower and equipment.

Recently RSCN managed to start a network with the Police to better laws enforcement mainly that touch nature conservation such as illegal hunting and wild species illegal trade. Alongside is the continuous cooperation with the Ministry of Agriculture which started long time ago, and aims to conserve the Forests and enforce the Agricultural law with its concern for hunting, grazing , wood cutting and wild plants collection.

The GCEP environmental law no. 12 for the year 1995, and the reviewed Agricultural law in the years 1999-2000, represent a good step towards better law enforcement but still need to be implemented.

The other main problem is manpower, currently RSCN is managing 5 reserves and helping to manage the sixth (Wadi Rum) with Aqaba regional authority. The total number of staff exceeds 140 individual, but still they are overloaded to cover the whole operation on site, and RSCN does not have enough financial resources to recruit more staff.

The important problem is the completion of the protected areas network, which presents a major step towards having enough protected sites which resemble Jordan beautiful nature. The finance for such a project is a real important issue, RSCN is seeking to find donors for such project but still it needs a lot of time, effort and finance to reach to this stage.

Mean while other types of problems for the suggested protected areas appear such as grazing in these sites, wood cutting, plant collection , hunting and other problems which have crucial effect on these sites, and does not find a suitable procedure for protecting and conserving until the declaration of the Protected Area.

The public awareness towards Nature conservation still needs a lot to develop, RSCN managed to establish more than 1000 Nature club in schools, plus working to adjust the educational curriculums to better understand Nature conservation and environment issues. But still a lot of work needs to be done in order to increase the base for Public support for nature conservation and behavior.

If we remember all the problems mentioned about the Wildlife reserves, the financial problem is the most important and the most crucial. Finding a solution will lead to better management for current reserves plus a great opportunity to complete the suggested reserves in the future and build the network among all reserves.

**Main problems facing National Parks:**

Currently, there are several National parks in Jordan (Petra National Park, Rum National Park...etc), these are managed effectively according to management plans which depend on scientific research, but if we consider recreational parks and Municipal parks, we will find a lot of problems.

The problems are mainly that the sites are not managed according to proper zonation schemes or plan to minimize and control negative impacts from tourists and tourism, plus that there are no clear scientific data for the sites, and the old data were not updated through the whole past years.

Another important problem is public awareness and support, these are not adequate nor clearly understood. A lot of efforts should be conducted to enhance these activities and gain a wider support for the near future.

**Main problems facing Marine reserves:**

Although the first marine reserve was established and started to have some conservation activities in Aqaba, the reserve still needs to finalize the management plan and the capacity building needed for the staff and the locals for such activities.

Legislation here plays a main problem because the laws are not clear yet nor enforced enough for better coastal conservation especially with the presence of the coral reefs.

Another important problem is public awareness and support, these are not adequate nor clearly understood. A lot of efforts should be conducted to enhance these activities and gain a wider support for the near future.

The insufficient base line information available concerning marine life due to financial situation, and weak involvement of legislative authorities, which creates a deficiency in information needed to support appropriate management of the existing marine reserve.

## 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	X
c) Yes, some alien species identified and tracking system in place	
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	X
b) Yes, but only for some alien species of concern (please provide details below)	
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.	

47. ? Has your country undertaken measures to prevent the introduction of, control or eradicate, those alien species which threaten ecosystems, habitats or species?	
a) No	
b) No, but potential measures are under consideration	X
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.	
<p>Jordan does not have a specific law that prohibits the introduction of alien species or controls invading species on ecological grounds. Jordan also has no studies and strategies pertinent to the topic. Jordan has identified some invasive fish species in Jordan River. Also roadside plantation program introduced some alien species imported from abroad. For example, legumes to ornament the side of roads have caused some allergy to Jordanians.</p> <p>Few examples relevant to this topic are found in Jordan, including:</p> <ol style="list-style-type: none"> <li>1. In Regulation for the Development of Wadi Rum Area No. 24 for 2001, Article 9-A-10 states that it is prohibited to enter "exotic (alien) animal or plant species to Wadi Rum area".</li> <li>2. Article 12-B-6 of the Regulation for the Marine Aqaba Park No. 22 for 2001 states that it is prohibited to enter "exotic (alien) animal or plant species into the Park's area".</li> <li>3. Azraq Wetland Reserve Management Plan addresses this topic and sets actions to eradicate alien species and enhancing/restoring affected species, primarily for the Azraq Killifish.</li> </ol>	

Nevertheless, these regulations are site -specific and do not correspond to Jordan as a whole. Until now, legislations addressing the control of invasive and alien species on the national level have not yet been developed.

**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	X
b) Yes, bilateral cooperation	
c) Yes, regional and/or subregional cooperation	
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	X
b) Yes (please provide details below)	

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

The enforcement of the CITES convention and the measures taken within the established nature reserves are considered as the only approaches in Jordan work on alien invasive species. However, it is expected that the intended Integrated Ecosystem Management Project in the Jordan Valley will address this issue and may consider ecosystem approach and precautionary and bio-geographical approaches as appropriate in its work on alien invasive species.

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

a) No	X
b) No, but needs and priorities are being identified	
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.

None

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

a) No	X
b) No, but mechanisms are under development	
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.
None

**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.**

Nevertheless, the NBSAP 2003 does address the issue of alien species through one of the Operational Objectives of Theme 1, which is to “effectively manage and control the introduction of invasive species”. There are also two bylaws that prohibit the introduction of alien species to specific protected areas:

1. In Regulation for the Development of Wadi Rum Area No. 24 for 2001, Article 9-A-10 states that it is prohibited to enter “exotic (alien) animal or plant species to Wadi Rum area”.
2. Article 12-B-6 of the Regulation for the Marine Aqaba Park No. 22 for 2001 states that it is prohibited to enter “exotic (alien) animal or plant species into the Park’s area”.

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

**Further comments on cooperation between various sectors.**

Only for CITES species as per of the implementation of the convention obligations.

**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.**

Only for CITES species as per of the implementation of the convention obligations.

<b>55.</b> 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	X
b) No, but programmes for this purpose are under development	
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.	

<b>56.</b> 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	X
b) No, but relevant measures and policies are under development	
c) Yes, some measures, policies and tools are in place (please provide details below)	
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>There are two bylaws that prohibit the introduction of alien species to specific protected areas:</p> <p>In Regulation for the Development of Wadi Rum Area No. 24 for 2001, Article 9-A-10 states that it is prohibited to enter "exotic (alien) animal or plant species to Wadi Rum area".</p> <p>Article 12-B-6 of the Regulation for the Marine Aqaba Park No. 22 for 2001 states that it is prohibited to enter "exotic (alien) animal or plant species into the Park's area".</p>	

**Box XLVI.**

<p>Please elaborate below on the implementation of this article and associated decisions specifically focusing on:</p> <ul style="list-style-type: none"> <li>a) outcomes and impacts of actions taken;</li> <li>b) contribution to the achievement of the goals of the Strategic Plan of the Convention;</li> <li>c) contribution to progress towards the 2010 target;</li> <li>d) progress in implementing national biodiversity strategies and action plans;</li> <li>e) contribution to the achievement of the Millennium Development Goals;</li> <li>f) constraints encountered in implementation.</li> </ul>
No comment

## Article 8(j) - Traditional knowledge and related provisions

### GURTS

<b>57.</b> 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	
b) No, but some programmes are under development	
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 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.	
The agro-biodiversity project concentrated most of its efforts toward a sustainable approach which include a participatory approach and training and capacity building of farmers in use of plant genetic resources for income generating small enterprises. This approach involved local community in decision-making processes from planning to evaluation and impact assessment.	

### Status and Trends

<b>58.</b> 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	
b) No, but support to relevant studies is being considered	
c) Yes (please provide information on the studies undertaken)	X
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.	
Indigenous peoples are defined by the World Bank as social groups with a social and cultural identity distinct from the dominant society that makes them vulnerable to being disadvantaged in the development process.	
Since the national community of Jordan is composed primarily of indigenous Bedouin population and Palestinian immigrants (most of them became Jordanian citizens having the same rights and responsibilities like other Jordanians).	
For a long time, the Bedouin population roaming the eastern desert between Saudi Arabia, Jordan, Iraq and Syria, has taken the opportunity provided by military service to move beyond camel, sheep and goat grazing as the primary source of livelihood. Some of them became ministers, members of the parliament, high-ranking officers in the military as well as in the security forces. Supported by the government educational system, a great number of Bedouins became doctors, engineers and scholars. Subsequently a large segment of the Bedouins settled down in the cities of Amman and Zarqa. They are related to their tribes only by blood. Government policies encouraged settlement by providing schools, medical services, and the development of water resources. The proportion of people living the traditional Bedouin lifestyle dwindled from 3.5 percent in 1960 to less than 1 percent in 1995.	



the term indigenous people can only be addressed taking into account the following facts:

1. The Indigenous People of Jordan are deep rooted in the land of their ancestors.
2. The Indigenous People are not ethnically identified. They are Arabs and predominantly Moslems with no separate cultural and educational entity.
3. The Tribal Customary Law has been cancelled in 1985. The Civil Law provisions are applied equally to all citizens irrespective of religion or ethnic composition. However, some of the tribal norms and traditions closely related to the prevention of crime, offence or revenge, have been incorporated in the Penal Code.
4. Subsistence-oriented economy is practiced at a very limited scale in the semi-nomadic society. Camel and sheep grazing is still the main source of income to families in this sub-group.

Governmental institutions, academic institutions of Jordan such as the University of Jordan, nongovernmental organizations, and the private sector had carried out limited number of studies aiming at the determination of status, trends and threats related to the knowledge, innovations and practices of indigenous and local communities.

Local communities' involvement in the preparation of these studies is limited to very few cases.

Some studies were carried out by the RSCN to investigate status, trends and threats related to the knowledge, innovations and practices of indigenous and local communities within the established protected areas and in the communities living close to these areas. However, Jordan witness shortage in the available information relevant to this subject especially in relation to biodiversity.

Its worth mentioning that the Badia Research and Development Center (BRDC) vision is improve the quality of life of the bedouins taking into account their traditional knowledge. Two socio-economic studies were conducted by the agro-biodiversity to document indigenous knowledge and the traditional practices of the local community.

### **Akwé:Kon Guidelines**

<b>59.</b> 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	X
b) No, but review is under way	
c) Yes, a review undertaken (please provide details on the review)	
Further information on the review.	
Cultural environment and socio-economy are considered as issues of concern to all category one projects requiring comprehensive EIA. This obligation is stated in the EIA regulation issued according to the Environmental Protection Law.	

<b>60.</b> 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	X
b) No, but a review of the Akwé: Kon guidelines is under way	
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.	

None

### 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.

Forty two percent of the Jordanian society is under the age of 14, so more than 50% of the Jordanians are in schools. In 1995, the Ministry of Education in Jordan launched a long term project to integrate environmental protection within the national education curricula.

The Agro biodiversity project with cooperation with the Jordan Environment Society, in date reviewed the matrix of biodiversity concepts in the national curricula and produced the following results:

- Produce the reference matrix for biodiversity concepts.
- Conduct a comprehensive survey for biodiversity concepts in the national curricula grades (1 - 11) in four subjects.
- Preparation of a suggested matrix in the four studied subjects according to the identified gaps.
- Produce a teacher technical guide for the new concepts.

In addition to its outreach, public awareness and environmental education programs targeting the local communities living close to the protected areas, the RSCN has established 1225 nature clubs in schools all over Jordan. The RSCN develops regular activities for these clubs through well trained supervisors for these clubs supported by education materials which are produced regularly by RSCN.

The RSCN established several environmentally sound income generation activities alternative to some deleterious, environmentally un sound activities, such as cutting trees and over exploitation of some nature products.

The RSCN employed qualified local individuals to participate in the day to day management of the established protected areas, those employees receives extensive and continues capacity development programs. Also, the RSCN established community empowering, and capacity development programs targeting local civil society organizations and as will, individuals.

The BRDC established several environmentally sound income generation activities for the bediouns in the North eastern Badia and sent a number of its employees who are from the bediouns (local community) to continue their higher education abroad on its own expenses. The employees got specialized in areas related to the proper management of the natural resources found in the badia including biodiversity.

**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.

Local community involvement in decision making is assured indirectly through their elected representatives in the Deputies House. Local communities also participates in decision making at their local community level by their representatives in the Municipalities Councils, and through participation in the workshops and discussion groups hold for specific purposes by some governmental and non governmental institutions. In the Bylaw for Environmental Impact Assessment, projects falling under Article 5-B-1, i.e. require a comprehensive EIA. The EIA should include consultation with all stakeholders, including local NGOs.

Also, the RSCN employed qualified local individuals to participate in the day to day management of the established protected areas, those employees receives extensive and continues capacity development programs. Also, the RSCN established community empowering, and capacity development programs targeting local civil society organizations and as will, individuals.

This may not be a comprehensive inclusion mechanism for decision-making on the sustainable use of biodiversity specifically, but it does allow for substantial participation of the local community in development projects planned in their areas.

Most of the BRDC's employees are from the bediouns and get involved in the policies of the center with affects the activities in the activities in the Badia.

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

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.

Women are represented in the Deputies House, in the Municipalities Councils and also they occupy decision making positions at governmental and non governmental institutions, even more, some women became ministers.

Several women organizations were established all over Jordan in the last few decades and many women are members in many civil society organizations. Women are given their rights in Jordan as addressed in the constitution.

Women participation is ensured and effective in all workshops and discussion groups carried out within their local communities concerning any developmental project.

One of the main strategic objectives of the RSCN; the non governmental organization in charge of managing established protected areas, is to involve local communities as partners with RSCN in the establishment and management of protected areas and ensure they are the prime beneficiaries of socio-economic programmes. The continuous technical support and training provided for RSCN through the GEF project and other initiatives, combined with consolidation of organizational structures and procedures, and have greatly enhanced the Society's ability to manage national biodiversity programmes and to act as the key government partner in these programmes. This objective is being implemented since years ago, and achieving significant outcomes.

### Support to implementation

<b>64.</b> Has your country established national, subregional and/or regional indigenous and local community biodiversity advisory committees?	
a) No	x
b) No, but relevant work is under way	
c) Yes	

<b>65.</b> 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.	
None	

<b>66.</b> 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.	
The RSCN and the BRDC policy is to higher people from the local community to manage their lands, in the form of reserves and get them trained on the appropriate management tools.	

### 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.

All the actions taken falls in achieving the strategic plan of the Convention, 2010 target and the NBSAP. The in situ conservation is considered as the main tool of conserving biodiversity in the country. The national agenda has identified the target of increasing the protected area as percentage of total land from 10.9% to 13% by the year 2012.

In general, the main challenges in implementation of this article are:

1. Political unrest in the region and its complications on Jordan including changes to the population dynamics of the national community, increased demand on natural resources especially water, financial challenges, and many others.
2. Deficiency in relevant laws and regulatory guidelines
3. Low weak enforcement due to limited financial and technical capacities
4. Ambiguity of responsibility generated by deficiency of regulations
5. Delay in releasing the national biodiversity policy
6. Lack of sufficient information
7. Limited financial resources
8. Limited technical capacities at the institutional level
9. Limited civil local community participation

### **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.

Several institutions are concerned with ex-situ conservation:

- Forestry Department at the Ministry of Agriculture has established seed center and botanical gardens which represent program for biodiversity conservation at national level. The main objective of the center it to secure forest and range seed through selection, collection, processing, certification and handling seeds. Two botanical gardens were established, one in high lands (Yajoz) comprises of 150 species, while the second one in Jordan Rift Valley (Dairalla) comprises of 70 species.
- NCARTT established Genetic Resource Unit in 1993. The main objective of this unit is conserving plant genetic resources (in-situ and ex-situ) from extinction and deterioration, as well as making them available to user. Also, NCARTT has established a Program of Biodiversity, Genetic Resources and Medicinal Plants (2002), the objective of this program is to sum up diverse efforts, experts and activities concerning conservation and sustainable use of plant biodiversity.
- In addition, some universities established herbariums. The biggest herbarium being at Yarmouk University in which about 20,000 specimens.
- The Royal Marine Conservation Society of Jordan started an ambitious program aims to establish the first national botanical garden in Jordan which has been opened and declared as the Royal Botanical Garden In March, 2005, at Tel Ruman. The Royal Botanical Garden aims to conserve the plant species of Jordan through main site at Tel Ruman, and to establish education center for better understanding of Jordan's botanical heritage. Are these projects established for the above category of plants.

<b>68. ?</b> 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.	
<ul style="list-style-type: none"> <li>The national strategy aims at providing a basis for re-introducing animals and plants and restoring the balance of the components of the natural environment. This can be achieved, in part, through establishing nature reserves managed by staff with proper scientific and practical qualifications. Conducting natural reserves increases biodiversity and restore plant cover which will eventually provide the necessary food and habitat for threatened and re-introduced wildlife species.</li> <li>(This part is talking about reintroduction and not breeding) .RSCN reintroduce etc...conducted captive breeding programs for the following species: Arabian Oryx, Gazelles, Ostriches, Onagers, the Persian fallow deer, the Eurasian Roe deer and the Nubian Ibex. These species were reintroduced into their natural habitats. Also, a special programme has been established in order to conserve and re-enforce the population of the endemic Sirhani Killifish (<i>Aphanius sirhani</i>) in Azraq Wetland Reserve. The programme has started four years. After a period of captive breeding in order to increase the stock of the species, a release programme is underway.</li> </ul>	

<b>69. ?</b> On Article 9(d), has your country taken measures to regulate and manage the collection of biological resources from natural habitats for <i>ex-situ</i> conservation purposes so as not to threaten ecosystems and <i>in-situ</i> 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 <i>ex-situ</i> conservation purposes so as not to threaten ecosystems and <i>in-situ</i> populations of species.	
<ul style="list-style-type: none"> <li>NCARTT during its collections of programs do not collect bulk specimens but only samples, also when it comes to annual regular collections it does not collect from the same site for two successive years.</li> <li>RSCN in its captive breeding programs especially for the Arabian Oryx brought the species from out side the country. While in the Sirhani Killifish program the number of females and males taken from the Azraq Oasis was based on an assessment of the present population.</li> </ul>	

**Box XLVIII .**

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.

These actions were contributed to re-introduce these to its natural eco-system and increase in number.

All the actions taken were carried in response to one of the main objectives of the national biodiversity strategy and action plan and the MDGs. It also contributes to the target goals of the year 2010.

Lack of financial resources and technical cooperation are considered to be the main constraint encountered in implementation.

The RSCN, after a long experiment of re-introducing certain species in captivity, has succeeded in bringing most of the species into the wild and is phasing out what is left. The Nubian Ibex is a major success story.

**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.

The role of environmental protection is divided between various governmental institutions, such as the Ministry of Environment, Ministry of Public Health, Ministry of Water and Irrigation, Ministry of Agriculture, Ministry of Tourism, Ministry of Energy and Mineral Resources/the Natural Resources Authority, Ministry of Planning, and the Aqaba Special Economic Zone. Each of these institutions has articles in their respective laws granting them the responsibility to maintain and monitor some aspects of environmental quality.

The local community involvement in decision making is assured at the highest level through their elected representatives in the Deputies House. Local communities also participate in decision making at their local community level by their representatives in the Municipalities Councils, and through participation in the workshops and discussion groups held for specific purposes by some governmental and non-governmental institutions. In the Bylaw for Environmental Impact Assessment, projects falling under Article 5-B-1, i.e. require a comprehensive EIA. The EIA should include consultation with all stakeholders, including local NGOs.

Also, the RSCN employed qualified local individuals to participate in the day to day management of the established protected areas, those employees receive extensive and continuous capacity development programs. Also, the RSCN established community empowering, and capacity

development programs targeting local civil society organizations and as will, individuals.

This may not be a comprehensive inclusion mechanism for decision-making on the sustainable use of biodiversity specifically, but it does allow for substantial participation of the local community in development projects planned in their areas.

In January, 2003 the Ministry of Environment was established as an entity with the aim to promote protection of the environment, improve its various elements, and to execute this policy in the coordination with the relevant authorities.

This Ministry is the National Coordinating Body (the focal point) of the convention of Biodiversity and other related environmental Conventions. The Ministry of Environment established a special directorate for Nature protection that acts as a focal point for coordinating national and regional activities related to the CBD and the UNCCD. It is responsible to follow up Jordan commitment to its obligations under the CBD, this responsibility has been reflected through:

- Ratification of biodiversity related conventions;
- Issuance of the new Environmental Protection Law;
- The Government of Jordan adopted a number of significant legislations and regulations related to biodiversity conservation.
- Release of Jordan country study on biological diversity aimed to aware decision makers of the threats facing biodiversity.
- Release and enforcement of EIA regulations in order to ensure sustainable use of biological resources. EIAs are being prepared in the planning phase of all development projects and it ensures the involvement of all related stakeholders at all decision making levels and the locals;
- Signing a memorandum of understanding with the RSCN concerning the establishment and management of protected areas;
- Ensuring Jordan five-year National Economic and Social Development Plan (1993-1997) is taking environmental issues, especially biodiversity into account, where this plan defined environment as a cross-sectoral issue, and included it as a significant part of the Plan's overall economic and social objectives: "Conserving the environment and preventing deterioration of its component elements through regulating economic and human activities in such a way as to secure a healthy environment for people as well as for fauna and flora, to ensure the non-depletion of exhaustible resources and to check soil erosion, desertification and pollution" (Objective 8, p. 101.).
- Preparation of National Agenda 21 document under the patronage of the former General Corporation for Environment Protection (currently replaced with the Ministry of Environment) and UNDP assistance. The document outlines several key areas related directly to natural resources and dry land issues and promotes the participatory approach at all levels to ensure success and sustainability. The Agenda also reflects the integrated approach to environment and development and converges with objectives of poverty alleviation and sustainable human development. Thus, Agenda 21 outlines a multi-disciplinary national plan of action for an environmentally sound and sustainable economic development. The Agenda 21 demonstrates an umbrella document that identifies combating desertification as a national priority and promotes its integration into the national policy and calls for the involvement of all stakeholders in the implementation of proposed programmes and actions.
- Development of the National Biodiversity Strategy and Action Plan. The Strategy presents the national vision for Jordan and its strategic goals;
- Ecotourism is flourishing in Jordan in the already implemented natural reserves in addition to the efforts done by the Ministry of Tourism and Antiquities and the Tourism Board to promote ecotourism in Jordan.
- Participatory Rural Appraisal is being followed in managing natural reserves in Jordan.
- The implementation of many projects aiming at conservation of biological heritage at different part of the country such as Azraq and Dana, Ajlun and Debeen reserves, in addition to the initiatives taken place in different parts of the country aiming at conserving agro-biodiversity and Medicinal and Herbal plant species in-situ and on- farm.
- Preparation of environmentally sound master plans for the Jordan Vally and for Aqaba Special Economic Zone. These master plans were prepared in participatory manor and several stakeholders including representatives of local communities participated in one way or another in the preparation of these plans.



**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.

National legislations regarding environmental impact assessment were not introduced until 1995, with the issuing of Law No. 12 for Environment Protection now the 2003 Temporary Law No. 1 for Environment Protection. Pursuant to this law, the bylaw for EIA (Bylaw No. 37) was issued in 2005, requiring an environmental impact assessment study to be made for all development projects in the country, whether implemented by the private or public sectors. A similar bylaw was issued for the Aqaba Special Economic Zone in 2001 (the Bylaw for Protection of the Environment in the Aqaba Special Economic Zone No. 21). Until then EIAs were only conducted by few institutions, mostly in response to demands from donor agencies. The methodology applied for the assessment was in line with the donor's standards, as Jordan did not yet have standards of its own. Nevertheless, despite the fact that the biodiversity component is now always included in the EIA, there are no detailed directives for assessment of biodiversity impact. The laws and procedures only provide guidelines and are prone to subjective rather than scientific interpretations.

Specific measures were also taken to minimize negative impacts to biodiversity, including restoration of degraded wetlands, dry lands, and marine habitat. Also, integrating planning objectives targeting sustainable use of biological resources into planning for land use and for other projects and programs is ensured by relevant governmental institutions. Cooperation and coordination between related bodies was ensured in many cases.

It worth mentioning that documenting baseline condition is critical to decision making concerning the conservation of biological resources, thereto, the government of Jordan and civil society organization invested in related research programs. Still much work is needed. Also, several public awareness and education programs have been implemented by the RSCN and many others.

**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	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 that protect and encourage customary use of biological resources that is compatible with conservation or sustainable use requirements.

<b>73. ?</b> 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	
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 help local populations develop and implement remedial action in degraded areas where biodiversity has been reduced.	
The agro-biodiversity project introduce the concept of on-farm conservation and local community management of field gene banks which will help in rehabilitation of degraded areas and conserve it's biodiversity.	

<b>74. ?</b> Has your country identified indicators and incentive measures for sectors relevant to the conservation and sustainable use of biodiversity? (decision V/24)	
a) No	X
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 agro-biodiversity project through it's policy and legal team are assessing the most suitable incentives and test it with local communities and decision makers and present it for NCARTT for further legal processes.	

<b>75. ?</b> 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.	
Poverty alleviation has been addressed in the National Biodiversity Strategy and Action Plan by stressing the importance of economic valuation of biodiversity and the importance of developing socio-economic projects at the local community level for the sustainable use of biological resources.	
Jordan five-year National Economic and Social Development Plan (1993-1997) is taking environmental issues, especially biodiversity into account, where this plan defined environment as a cross-sectoral issue, and included it as a significant part of the Plan's overall economic and social	

objectives: "Conserving the environment and preventing deterioration of its component elements through regulating economic and human activities in such a way as to secure a healthy environment for people as well as for fauna and flora, to ensure the non-depletion of exhaustible resources and to check soil erosion, desertification and pollution" (Objective 8, p. 101.).

Several programs relevant to sustainable use practices, programmes and policies for the sustainable use of biological diversity have been implemented by civil society organization, and in particular by the RSCN. All these programs are encouraged by the government and many of them are also financed by the government.

The agro-biodiversity project promote different mechanisms for use of agro-biodiversity to increase local community income and alleviate poverty in rural communities through its training on food processing, mushroom production, fruit trees nursery establishment and others in addition to packaging and marketing.

RSCN has developed a number of socio-economic programs in all the reserves depending on the natural resources in each reserve. The programs are totally managed and done by locals. These projects aim to assist the local communities to have a source of income along with nature protection.

**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.

In particular, one mechanism is in place to involve private sector through investing in operating established projects and programs. Currently two examples are in place, and those are:

- Areas of ecological importance are under the management of private sector for recreational purposes (national parks), and for sports (game reserve);
- Ecotourism projects since it is flourishing in Jordan in the already established nature reserves and elsewhere, in addition to the efforts done by the Ministry of Tourism and Antiquities and the Tourism Board to promote ecotourism in Jordan.

other mechanisms are not yet considered. MHP Project.

**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	X
b) No, but the principles and guidelines are under review	
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.

<b>78.</b> 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	X
b) No, but relevant programmes are under development	
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

<b>79. ?</b> 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	X
c) Yes, mechanisms are in place (please specify below)	
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.	
<p>The Ministry of Tourism has developed the National Tourism Strategy 2004-2010 with a private-sector led perspective on placing tourism as a major income-generating and revenue based sector. This strategy did not address the need to assess, monitor and measure the impact of tourism on biodiversity.</p> <p>However, the RSCN implements similar activities within the established nature reserves as part of the overall environmental management of these sites. A Tourism development plan is prepared for each reserve, the effect of tourism on certain sites is measured and assessed. The RSCN is concerned with these impacts and intends to address this issue in the coming Integrated Ecosystem Management Project in the Jordan Valley.</p>	

<b>80. ?</b> 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.	

The Royal Society for the Conservation of Nature (RSCN) runs awareness programmes targeting tourism operators and aiming at promoting ecotourism and increases their awareness of the impacts of tourism on biodiversity and upgrade the technical capacity at the local level to minimize the impacts.

The RSCN has already provided special training programs for tourism operators for some private companies and according to their request.

**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 National Tourism Strategy 2004-2010 does address the role of the local community in tourism in general by providing that "Tourism should target the citizens and communities of Jordan as its primary beneficiaries by providing opportunity for income generation and employment, and by positively contributing revenue to Government programmes, supporting quality of life, environmental excellence and the development of society."

Conservation and Sustainable Use of Biodiversity in Dibeen Nature Reserve: The project will also build in-country capacity in forest management and conservation-oriented land use planning. Specific objectives are to designate and establish a nature reserve with the Regional Forest Park; prepare and implement conservation management plan and eco-tourism development plan; develop a competent and effective reserve and forest park management team; and a land use plan for the regional forest park.

It is the RSCN policy to hire and train qualified individuals from the local communities living within or close to forests, thereto, the RSCN hired locals as managers, researchers, eco-tourism guides, and rangers at the established forest nature reserves and parks. The RSCN provided and continue conducting on job training to these employees. Also, the RSCN provides with technical assistance to local civil society organizations, aiming at enhancing their capacities and awareness in order to have them heavily involved in the protection of forests. The RSCN also assists these societies to acquire funds for their activities, and for the establishment of environment friendly small and medium enterprises alternative to some ongoing environmentally unsound economical activities.

**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	
c) Yes, a few principles of the guidelines are integrated into some sectoral plans and NBSAPs (please specify which principle and sector)	X
d) Yes, many principles of the guidelines are integrated into some sectoral plans and NBSAPs (please specify which	

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

Weak planning and development control is the main cause of biodiversity loss from tourism. Jordan does not, as yet, have an effective land use planning system, and tourism development is usually based on discrete projects, without reference to agreed national criteria or guidelines. Biodiversity issues are only considered if they are raised in the context of the project itself – usually by donors – rather than as a routine procedure of the planning process. For large development projects, Jordan is obliged under Environmental Law No 12 to conduct Environmental Impact Assessments (EIAs), EIA regulations have been released recently and it is being enforced for all developmental projects including tourism.

The concept of carrying capacity have been identified by the NBSAP, in terms of protecting biodiversity, as an important tool for minimizing damage and disturbance to habitats, species and ecological processes.

The tourism industry is familiar with standards. They are, nowadays, a fundamental part of virtually all tourism services. Environmental standards, however, have not been widely introduced into Jordan's tourism industry and, where they exist, they are not rigorously applied. The standards that are of most concern to biodiversity conservation are those governing the location of buildings and infrastructure (to avoid, for example, damaging important habitats), water and waste treatment (to minimize and ensure effective, safe disposal) and general site operations (like site cleanliness). Appropriate standards are also required for tour operators and guides, since they have a great influence over the behavior of visitors.

Most aspects of tourism development at the site level are regulated under the 'Tourism Law'; a law which concentrates on the protection of antiquities, since this is what most tourism sites in Jordan are renowned for. Although this law gives the Ministry of Tourism and Antiquities (MOTA) considerable license to control tourism activities, it does not facilitate the protection of important natural features like habitats and species. With the wide variety of management agencies, there is some confusion as to which organization has, or should have, responsibility for setting and enforcing environmental regulations and standards on the ground, especially as several laws, emanating from different ministries, apply to the same site. In the future, the situation is likely to become more confusing as new sets of bylaws take effect. Clarification of responsibilities, roles and the legal powers of site staff are vitally important if the quality and consistency of environmental management in tourism sites are to be improved

In general, there is a low level of awareness, both within and outside the tourism industry, of the environmental impacts of tourism and of alternative approaches like eco-tourism. At the visitor level, signs of this lack of awareness are evident in every tourist site, such as littering, graffiti and noisy behavior. At the institutional level, tourism developments generally proceed with little public consultation or stakeholder involvement and there have been very few national initiatives to raise awareness. In order to improve the level of awareness and to promote the benefits of eco-tourism to all stakeholders, concerted effort is needed at both the site and national levels.

Jordan NBSAP identified two strategic goals where the principles of the Guidelines on Biodiversity and Tourism Development are integrated, those strategic goals are:

1. Minimize the impact of tourism activities on biodiversity and natural habitats in and around tourism areas through the implementation of eco-tourism principles.
2. Promote the understanding and implementation of eco-tourism principles.

The operational objectives described by the NBSAP to achieve the stated strategic goals are:

1. Develop and implement environmental guidelines and standards for tourism projects based on the carrying capacity of the sites.
2. Support eco-tourism projects.

Also, three priority actions were identified by the NBSAP, those actions are:

1. National environmental standards and guidelines for tourism projects.
2. Institutional management plans for tourism sites.
3. Eco-tourism development in protected areas.

According to the National Tourism Strategy 2004-2010, "Tourism should target the citizens and communities of Jordan as its primary beneficiaries by providing opportunity for income generation and employment, and by positively contributing revenue to Government programmes, supporting quality of life, environmental excellence and the development of society."

Also, it is now obligatory by the Ministry of Tourism and Antiquities that all tourism development projects are required to get environmental license from the Ministry of Environment, and though should prepare EIA study in compliance with the enforced EIA regulations.

#### **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.

Sustainable use of biological resources have been integrated as a principle in several sectors in Jordan, this include integration at the policy level, the release of many new legislations taking this principle into account, and in the planning and implementation of almost all recent developmental projects.

Recently, the NBSAP was released. The Strategy provides a framework for actions at all levels that will enhance our ability to insure the productivity, diversity and integrity of our natural systems and, as a result, our ability to develop sustainability. It promotes the conservation of biodiversity and the sustainable use of our biological resources, and describes how we will contribute to international efforts to implement the convention. The NBSAP main strategic goals are:

- Conserve biodiversity and use biological resources in a sustainable manner by protecting the various species of animals, plants and micro-organisms in their different agricultural environments; and productivity of environmental systems, especially forests, grazing land and agricultural land within a balanced environmental order.
- Improve our understanding of ecosystems, increase our resource management capability; and promote an understanding of the need to conserve biodiversity by using biological resources in a sustainable manner;
- Managing natural resources and distribute roles among institutions in a way that conserves the basic natural resources which are necessary for human growth and survival, such as soil, water, plant cover and climate, developing these elements and using them appropriately in a sustainable manner.
- Maintain or develop incentives and legislation that support the conservation of biodiversity and the sustainable use of biological resources; and
- Work with other countries to conserve biodiversity, use biological resources in a sustainable manner and share equitably the benefits that arise from the utilization of genetic resources.

The Strategy recognizes that the conservation of biodiversity and the sustainable use of biological resources are fundamental to Jordan's local communities. It describes mechanisms through which these communities will be able to develop their own understanding of, and response to, the Convention.

The recently released Environmental Law and the EIA regulations are considered as critical steps toward Jordan commitment to its obligations under this article of the convention. From now on, all developmental projects are required to prepare and implement the recommendations of well prepared EIAs.

RSCN programmes of work are considered pioneering in conserving biological diversity and promoting sustainable use of biological resources in Jordan. These programs are being implemented within the established protected areas, and integrating local communities in these programs.

Public education and awareness programmes are being implement, nd the level of the community awareness toward the need to sustainable use of biological resources is increasing. However, more efforts and extensive, well planned programs are needed.

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

There is not a clear national policy to adopt economically and socially sound measures although the RSCN in managing natural reserves and the Badia Research and Development Center develop such measures, in addition to some of the projects implemented in Jordan ( AGB project experience, Dana, Azraq)

One of the policy options suggested by the agro-biodiversity project through its policy and legal team was the most suitable incentives suggested by the local communities and decision makers. This suggestion has been present it to the implemented agency to be used in the coming projects.

**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.

The National Biodiversity Strategy and Action Plan of 2003 identified Strategic and Operational Objectives for the Economic Valuation of Biodiversity such as assessing economic and social opportunities arising from the actual and potential use of Jordan's biological resources and demonstrating the economic and financial advantages of biodiversity conservation".



<b>85. ?</b> Has your country developed training and capacity-building programmes to implement incentive measures and promote private-sector initiatives? (decision III/18)	
a) No	X
b) No, but relevant programmes are under development	
c) Yes, some programmes are in place	
d) Yes, many programmes are in place	

<b>86.</b> 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.	
A major shortcoming in biodiversity management in Jordan is the absence of economic tools for biodiversity conservation. Economic tools are to be developed and advocated in decision-making processes, with particular emphasis on providing economic incentives and economic valuation. An important component of systemic capacity development will be to develop such economic tools. But, when designing and implementing incentive measures the proposals will be considered.	

<b>87.</b> 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	X
b) No, but identification of such policies and practices is under way	
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.	
No comment ( New laws and legislations)	

**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.

No comment since there is on clear policy for incentive measures hence the effect of the actions can't be assessed.

## 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.

Scientific and technical, research, education and training in measures for the identification, conservation and sustainable use of biological diversity and its components has been established in Jordan through governmental and non governmental universities, the research centers established by these universities, the RSCN, the Marine Science Station, the Higher Council for Science and Technology, the Jordan Society for Sustainable Development, and the NCARTT. Also, other institutions contribute to these programmes, but to lesser extent than those institutions.

A number of valuable studies have been done, but many areas of survey and research are still missing, for both flowering and non-flowering plants as well as non-vascular plants such as algae, bryophytes, lichens and fungi.

Research to propagate and conserve rare and endangered plants is currently carried out in various research centers including universities.

Several research programs and baseline surveys have been conducted inside protected areas and to a lesser extent outside them. Other research activities have been conducted by academic institutions on terrestrial and marine ecosystems as well as wildlife and aquatic resources, in particular, being central of agriculture, fisheries and tourism development as well as habitat protection, natural resource conservation and sustainable use options through voluntary work.

Natioanl Agenda 21, of Jordan stresses the need to continue surveys and experiments to propagate and cultivate other threatened species are also needed.

In 1998 the RSCN established a " Regional Training and Development Unit" to facilitate its regional development programme in the following subjects:

- Protected area management.

- Ecotourism development.
- Institutional development.
- Environmental awareness.

Also, The Research and Survey Section (RS) was established within the RSCN in 1993 to carry ecological field research. The duties and responsibilities of the section are to collect, review, and analyze the scientific and technical information needed to plan conservation management strategies and activities.

The following list includes the main objectives of the section:

- To establish the status and distribution of habitats and species in Jordan as the basis for conservation programs both within and outside protected areas.
- To identify ecosystems, habitats and species of high conservation value.
- To determine the appropriate actions for the protection and management of important habitats and species.
- To provide advice and guidance on the conservation of wildlife and other natural resources to all agencies involved in their use.
- To establish and maintain a national database of Jordan's biological diversity.
- To carry out numerous ecological field research activities every year within and outside protected areas. This *Field Research Manual* addresses the needs of this function.

In 2002 the NCARTT Established: Biodiversity, Genetic Resources and Medicinal Plants Research programme. The objective of this program is to sum up diverse efforts, experts and activities concerning conservation and sustainable use of plant biodiversity.

BRDC has implemented an important applied research project in the zone <100 mm rainfall. Particular significance was the research relating to the conservation of biodiversity, range land, soils, socio-economic and anthropological research relating to the range land users (living in the Badia). The program was executed jointly between (RSCN), University of Jordan, Jordan University of Science and Technology and Durham University in UK.

The program main objectives were:

- Update information on the biodiversity of the eastern desert and Badia program area.
- Build up biodiversity management and conservation for local ecologists.
- Strengthen coordination and cooperation between national and international conservation and research institutions.

The Marine Science Station (MSS)

The MSS was founded in mid 1970s. The main objectives of establishing the MSS:

- to create a marine research facility for scientist and postgraduate students of the two Jordanian Universities that existed at that time; the University of Jordan and Yarmouk University.
- to provide a haven for international scientists interested in studying the tropical-subtropical marine ecosystem. The Gulf of Aqaba with its unique characteristics provides an ideal oceanic model for such studies.

More recently the MSS has focused on ecosystem studies, particularly the coral reef ecosystem, to provide an integrated understanding of the ecosystem functioning that enables adopting suitable management schemes to optimize the benefits of the scarce Jordanian coastal resources and yet preserve them for the future generations as a part of our valuable human heritage.

Several GEF projects conducted or being implemented had research and capacity building components. Below is a briefing about some of these projects

- Conservation and Sustainable Use of Dryland Agrobiodiversity in Jordan

This project which started in 1999 and ended in 2005 was a part of a regional project including Syria, Lebanon and the Palestinian Authority. This region is characterized by important food crops and pasture species, and is one of the few nuclear centers where numerous species of temperate-zone agriculture (notably wheat, barley, lentil, pea and vetch) originated 10,000 years ago, and where their wild relatives and landraces of enormous genetic diversity are still found.

This project is concerned with agricultural biodiversity, referring to biological resources of a actual or potential agricultural value, and the diversity of these species within agro-ecosystems, and with the

conservation and sustainable use of biodiversity within agricultural systems.

This project aims to promote conservation and sustainable use of important genetic agricultural resources with community-driven in-situ conservation techniques. More specific objectives of this project include:

- Understand the causes of agro-biodiversity degradation at project sites;
- Promote modified and alternative land-use practices;
- Promote the sustainable use and conservation of the agro-biodiversity of the wild and land races of project target crops;
- Increase national capacity to deliver project training needs, for conservation and sustainable use of agro-biodiversity;
- Reform agricultural policies and related policies to promote agro-biodiversity in project target areas

Socio-economic survey and public awareness campaign has been conducted. Fellowships agreement between project and Jordanian Universities were formulated and signed, 11 persons started their studies. Agreements with the University of Jordan and Jordan University for Science and Technology were developed to implement project activities such as GIS, land use, taxonomy, policy and legal issues. Water harvesting infrastructure were established and maintained in two sites (Ajloun & Mouaqar). Field gene banks were identified and established. Alternative sources of income for farmers were introduced. Traditional products were promoted in biodiversity fairs. Crop rotating and seed treatment experiments were prepared. This project has been granted a one year no-cost extension.

Capacity Building Component of the project:

The efforts made through the project's life time have evidently progressed very well to achieve most of its objectives. Capacity building was one of the major concerns of the Agro biodiversity project since inception; it is one of the main tools to sustain the project activities.

The project has been able to develop successful working mechanisms at the national and regional levels to deliver training and overall capacity related to agro-biodiversity and the sustainable management of natural resources.

The training program was very efficiently utilized by all beneficiaries and it had a great and direct impact on the sustainability of the project as well as the immediate performance of work and on enhancing the participatory approach of the project.

The cooperation between all parties, mainly the regional coordinator, contracted institution and the implementing agencies resulted in delivering a successful training plan.

ICARDA through its experts and the coordination with other institutions (IPGRI, ACSAD) provided training on different aspects mainly management, technical aspects and monitoring and evaluation, The Universities as contracted institutions provided training and upgrade the qualifications of the project staff and the executing institutions.

The project had several activities that were of direct relevancy to this output. These include graduate training, short-term training, workshop, field days, traveling workshops and knowledge sharing for technical staff, cooperating farmers and beneficiaries.

The training topics were selected according to the project's goal which aims to build the capacity of the national team and according to an assessment of national staff.

The topics covered conserving natural resources, habitat management, field gene banks, water harvesting, soil conservation measures, taxonomy and identification of target species, monitoring and evaluation, GIS and database management, eco-geographic survey techniques, tissue culture, participatory breeding, rangeland, grazing management and on-farm management practices.

The project also launched a series of workshops for the sack of local communities in order to establish a long sustainable income generating without disturbing the biodiversity. The topics covered topics of apiculture, food processing, plant propagation, nursery establishment, Mushroom production, handicrafts from biodiversity products, packaging and marketing, ..etc.

Traveling workshops organized by the Regional Component and between the participating countries were very successful in exchanged their experiences and knowledge sharing. Farmers and technicians participated in these regional workshops.

During the training programs, the project used several tools and training materials and the focus was on the practical side of the training through demonstration and field visits.

The project provided 20 scholarships for M.Sc. studies on biodiversity related subjects, beneficiaries from the scholarships represented NCARTT and MOA staff, 3 Jordanian Universities were contracted to provide the M.Sc. degree; University of Jordan, Jordan University of Science and Technology and Yarmouk University.

The training courses conducted during the project lifetime was a great success, not only to increase awareness and knowledge of the local community in different related topics, but it was a tool to increase their participation in the project activities. The training was a mean for the local community to practice the utilization of biodiversity to generate income, thus conserve natural recourses.

In addition to all training needs, the project provided incentives to farmers to practice the training and to start their own projects and activities that will generate income and to develop the status their farms without disturbing the biodiversity.

Training topics were selected according to the real need of the local community and building on their own experience.

Training courses were conducted in cooperation with Agricultural departments in both target areas. The training courses targeted all community members, and women had clear presence in the workshops especially the food processing courses.

- Conservation of soaring migratory birds in the eastern sector of the Africa-Eurasia flyway system (Rift Valley and Red Sea flyways)

The aim of this project is to establish a regional conservation and monitoring program targeting globally significant bird species (including raptors) and bird habitats in the east Palearctic and west Arabian flyway. This flyway is an area of global biodiversity significance characterized by thousands of migratory birds that hibernate in southern Europe and the Middle East.

The project will seek to:

Develop collaborative conservation and management capacity within the concerned counterpart agencies and NGOs to oversee protection and sustainable management of bird habitats in the flyway;

Perform baseline ecological surveys and socio-economic analysis at the community level;

Put in place and operate satellite based monitoring to monitor key indicative bird species using the flyway;

Establish a set of alternative and biodiversity friendly options and incentives supporting native bird habitats with local communities and national stakeholders to alleviate impacts on the flyway;

Develop / update regulatory measures, policies and legal frameworks for the protection of critical bird habitats and species in the flyway;

Enhance regional coordination and cooperation frameworks through interactive and internet based information system; and

Design and implement training and awareness raising to serve local NGO communities and concerned stakeholders in the project

- Conservation and Sustainable Use of Biodiversity in Dibeen Nature Reserve

Dibeen Forest located in the north of Jordan, is one of the best remaining examples of natural pine-oak forests in the region. The forest supports over 17 endangered species and has significant biodiversity. However, the forest and its associated biodiversity are threatened through unmanaged visitor pressure; fragmentation; illegal woodcutting; and hunting.

The overall objective of the project is to establish a nature reserve in Dibeen Forest to conserve unique and globally significant biodiversity and develop sustainable alternative economic uses of the forest resources in context of a regional forest park. The project will also build in-country capacity in forest management and conservation-oriented land use planning. Specific objectives are to designate and establish a nature reserve with the Regional Forest Park; prepare and implement conservation management plan and eco-tourism development plan; develop a competent and effective reserve

and forest park management team; and a land use plan for the regional forest park. There will be a socio-economic program for local communities; and implement awareness and outreach program

This project was launched in March 2004. A detailed work plan has been prepared and necessary equipment for conducting surveys purchased. Several surveys have been conducted including the birds and flora surveys.

- Conservation of Medicinal and Herbal Plants

The overall objective of the Project, is to support the conservation, management and sustainable utilization of medicinal and herbal plants in Jordan.

According to the term of reference, the medicinal and herbal plants cultivation study will focus on identifying medicinal and herbal plant species that could be successfully grown under rainfed and irrigated production systems in Jordan. These plant species could be either indigenous to Jordan or have been under cultivation in other countries. Plant species whose future sustainability will be possible by ex-situ cultivation will be also addressed.

Cultivation of medicinal and herbal plant program should be implemented in two concurrent components. The first component will focus on cultivation and production of the most economic, high demanded plants adapted to the environment and production systems in Jordan. The second component will have emphasis on the indigenous wild plant species that are important for their medicinal properties, also those which tolerate major stresses such as salinity and drought. In-situ and ex-situ conservation for these plant species should be given due attention.

Strong research and technology transfer program should be developed in order to achieve project objectives. The areas that need to be addressed in this program include: crop adaptation, crop management, organic farming, crop improvement, stress tolerance, post harvest technologies, biodiversity conservation and socio-economics.

A qualified staff is very essential for successful implementation of the program. Degree and non-degree and short-term training should be provided to upgrade and train the technical staff on medicinal and herbal plants cultivation. Cooperation with universities and specialized international centers will be essential.

- Integrated Ecosystem Management in the Jordan Rift Valley:

main objective of the project is to secure the ecological integrity of the Jordan Rift Valley, as a globally important ecological corridor and migratory flyway, through a combination of site protection and management, nature-based socio-economic development and land use planning. It will provide a large-scale pilot programme for introducing the principles and practice of integrated ecological management throughout a productive landscape and thus a potential global model. The proposed project is a comprehensive programme that will mainstream biodiversity conservation into land use and development programmes. It will build on the lessons learned from previous successful GEF initiatives, including the Jordan Project

**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.

- There is substantial research going on in Jordan about biodiversity in different government institutions, universities and research centers. These research programmes contributed to the development of the basic information which shaped Jordan strategies in bio-diversity conservation. Only government universities have had a direct linkage to biodiversity by teaching basic science, courses, researches and graduate studies, ... etc.
- Several research programs and baseline surveys have been conducted by the RSCN and universities professors inside protected areas and to a lesser extent outside them. Other research activities have been conducted by academic institutions on terrestrial and marine ecosystems as well as wildlife and aquatic resources, in particular, being central of agriculture, fisheries and tourism development as well as habitat protection, natural resource conservation and sustainable use options through voluntary work.

- Different local and regional projects implemented in Jordan carried out deferent research activity concerning biodiversity issue including surveys, management and public awareness.

**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	
b) Yes (please provide details below)	x

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

- Research to propagate and conserve rare and endangered plants is currently carried out in various research centers including universities.
- Conservation and Sustainable Use of Dryland Agrobiodiversity I in Jordan had several Agreements with the University of Jordan and Jordan University for Science and Technology to developed and implement research activities such as GIS, land use, taxonomy, policy and legal issues. Water harvesting infrastructure were established and maintained in two sites (Ajloun & Mouaqar).
- Ongoing efforts in the management and conservation of endangered species and their habitats in protected areas
- Rehabilitate endangered and endemic species

**Box LI.**

Please elaborate below on the implementation of this article specifically focusing on:	
<ul style="list-style-type: none"> <li>a) outcomes and impacts of actions taken;</li> <li>b) contribution to the achievement of the goals of the Strategic Plan of the Convention;</li> <li>c) contribution to progress towards the 2010 target;</li> <li>d) progress in implementing national biodiversity strategies and action plans;</li> <li>e) contribution to the achievement of the Millennium Development Goals;</li> <li>f) constraints encountered in implementation.</li> </ul>	
<ul style="list-style-type: none"> <li>a. National Agenda 21, of Jordan stresses the need to continue surveys and experiments to propagate and cultivate other threatened species are also needed.</li> <li>b. A number of valuable studies have been done, but many areas of survey and research are still missing, for both flowering and non-flowering plants as well as non-vascular plants such as algae, bryophytes, lichens and fungi</li> <li>c. Practical training programmes should be developed based on best practices in biodiversity conservation at the national or regional level of implementation. Such training programmes will increase the practical capacity by proof and evidence of the success stories in biodiversity conservation and provide hands-on experiences to be applied in local conditions.</li> <li>d. Lack of a sustainable coordination mechanism between institutions working in Biodiversity: There is a need to establish a practical, effective and sustainable coordination mechanism that brings together main institutions working in biodiversity for proper coordination. The MoE can act as the secretariat and focal point of this coordination mechanism.</li> </ul>	

**Article 13 - Public education and awareness**

<b>91.</b> 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	
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)	X
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.	
<p>Jordan has developed its national environmental education, awareness and communication strategy.</p> <p>Public education and awareness programmes are being implemented primarily by the RSCN. The RSCN developed its own strategy to target several target groups of the community including school students, university students, local communities living within the surroundings of the established protected areas, visitors visiting the established protected areas, the hunters, the tourism operators, and many others.</p> <p>Public participation is being promoted by the government and the RSCN, and several activities have been carried out during the last few years.</p> <p>Forty two percent of the Jordanian society is under the age of 14, so more than 50% of the Jordanians are in schools. In 1995, the Ministry of Education in Jordan launched a long term project to integrate environmental protection within the national education curricula.</p>	



The Agro biodiversity project with cooperation with the Jordan Environment Society, in date reviewed the matrix of biodiversity concepts in the national curricula and produced the following results:

- Produce the reference matrix for biodiversity concepts.
- Conduct a comprehensive survey for biodiversity concepts in the national curricula grades (1 - 11) in four subjects.
- Preparation of a suggested matrix in the four studied subjects according to the identified gaps.
- Produce a teacher technical guide for the new concepts.

In addition to its outreach, public awareness and environmental education programs targeting the local communities living close to the protected areas, the RSCN has established 1000 nature clubs in schools all over Jordan. The RSCN develops regular activities for these clubs through well trained supervisors for these clubs supported by education materials which are produced regularly by RSCN.

The Jordanian academic institutions are taking part in raising the public awareness about the importance of conserving biodiversity and help people understands this fact when they visit their available herbaria.

The marine museum at the Marine Science Station in Aqaba, many visitors centers established within the established protected areas, the RSCN Nature Center, and the natural history museums at the universities are considered as important tools for educating university students and other people concerning nature conservation.

Also, most implemented project in Jordan for Conservation or protection of nature or Agrobiodiversity had components in education and public awareness.

Also, BRDC conduct public awareness and education activities to the Bedouins on the right means of conserving the natural resources at the Badia.

**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.

Jordan University offers 7 educational courses all for undergraduate studies, three of them in the field of taxonomy (one partially on animal taxonomy, plant taxonomy, and paleontology) and the rest are on biodiversity, ecosystem management, and environmental management.

<b>93.</b> 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.	
<p>Ministry of Environment , Some Universities, NCARTT, and RSCN implemented projects which has a public awareness component through which brochures, leaflets and press release related to biodiversity conservation were prepared and distributed such the NBSAP project and the Agro-biodiversity project.</p> <p>Some times there are certain programs by TV and radio about the importance of biodiversity and its components. Specialists from universities, research institutions and private sector to talk about this issue are invited.</p>	

<b>94.</b> 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.	
<p>Education and public awareness programs are largely promoted by non-governmental organizations and in specific RSCN that target schools in close cooperation with the Ministry of Education. RSCN and GCEP (the Ministry of Environment now) have produced some publications on biodiversity to raise awareness and create a better understanding for the topic. Also some programs usually introduced by TV and national broadcasting stations.</p> <p>NGOs like Jordan Environment Society and others have their own public awareness programs.</p>	

<b>95.</b> 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	x
c) Yes, some activities supported (please provide details below)	
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.	
<p>At the national level :</p> <p>Lots of awareness raising activities is taking place mainly carried out by the RSCN. Jordan University offers 7 educational courses all for undergraduate studies, three of them in the field of taxonomy (one partially on animal taxonomy, plant taxonomy, and paleontology) and the rest are on biodiversity, ecosystem management, and environmental management.</p> <p>Many governmental and NGOs specialists usually participated in different local, regional and international activities regarding this issue. Similar activities were conducted within the agro-</p>	

biodiversity project.

**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.

Deferent ministries and universities has established specific departments related to this issue

**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	
b) Yes (please provide details below)	x

Further comments on the promotion of cooperation and exchange programmes for biodiversity education and awareness, at the national, regional and international levels.

1-The Ministry of Education is disseminating biodiversity information and facilitates students understanding through formal and informal activities. The Ministry has introduced 365 environmental terminologies many are of biodiversity related issues diffused in the curriculum starting from the 5<sup>th</sup> and all through Tawjihi .

2-Marine Science Station major goal is to promote awareness among community about marine biodiversity. The Station, organizes seminars, lectures, and produce publications and films

**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)	
b) Yes, some activities undertaken for some issues and thematic areas (please provide details below)	X
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.

A number of programs cover this issue by RSCN's Public awareness & Public Relation sections. The forest campaign is an example.

<b>99. ?</b> 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	
b) Yes (please provide details below)	x
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.	
Jordan, has formed a national biodiversity committee composed of a wide range of stakeholders from government, the private sector, academics and NGOs.	

<b>100.</b> 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	No
b) No, but some programmes are under development	
c) Yes, some programmes developed and activities undertaken for this purpose (please provide details below)	
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.	
None	

**Box LII .**

<p>Please elaborate below on the implementation of this article and associated decisions specifically focusing on:</p> <ul style="list-style-type: none"> <li>a) outcomes and impacts of actions taken;</li> <li>b) contribution to the achievement of the goals of the Strategic Plan of the Convention;</li> <li>c) contribution to progress towards the 2010 target;</li> <li>d) progress in implementing national biodiversity strategies and action plans;</li> <li>e) contribution to the achievement of the Millennium Development Goals;</li> <li>f) constraints encountered in implementation.</li> </ul>
<p>All that actions taken fall within achieving the 2010 target, MDGs and the NBSAP. Although many awareness and education programmes have been implemented in Jordan, there is still a need to advocate new concepts on biodiversity science and applications, especially benefits sharing, ecosystem approach and strategic biodiversity impact assessments for various stakeholders to keep up with new technical developments.</p>

## Article 14 - Impact assessment and minimizing adverse impacts

<b>101. ?</b> 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.	
<p>The first EIA ever conducted in Jordan was in the 1950s. National legislations regarding environmental impact assessment were not introduced until 1995, with the issuing of Law No. 12 for Environment Protection now the 2003 Temporary Law No. 1 for Environment Protection. Pursuant to this law, the bylaw for EIA (Bylaw No. 37) was issued in 2005, requiring an environmental impact assessment study to be made for all development projects in the country, whether implemented by the private or public sectors. A similar bylaw was issued for the Aqaba Special Economic Zone in 2001 (the Bylaw for Protection of the Environment in the Aqaba Special Economic Zone No. 21). Until then EIAs were only conducted by few institutions, mostly in response to demands from donor agencies. The methodology applied for the assessment was in line with the donor's standards, as Jordan did not yet have standards of its own. Nevertheless, despite the fact that the biodiversity component is now always included in the EIA, there are no detailed directives for assessment of biodiversity impact. The laws and procedures only provide guidelines and are prone to subjective rather than scientific interpretations.</p>	

<b>102. ?</b> 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	X
c) No, but mechanisms are in advanced stages of development	
d) Yes, mechanisms are in place (please provide details below)	
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.	
<p>The Ministry of Environment is in the early stages of preparing standards for Strategic Environmental Assessment, which will address the issue of environmental impact of national programmes and policies.</p>	

**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	x
b) No, but assessment of options is in progress	
c) Yes, some completed, others in progress (please provide details below)	
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.

**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	x
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 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	
c) No, but mechanisms are in advanced stages of development	
d) Yes, mechanisms are in place (please provide details below)	x

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

The government has recently issued a Bylaw for Protection of the Environment in Emergency Situations. In Article 2 of this bylaw, the Environment is defined as the medium where humans, animals and plants live. The bylaw sets forth the national mechanism through which the country controls and deals with emergency environmental incidents, such as pollution and emission of hazardous material.

**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.

In accordance with decision VI/7, the current EIA bylaw requires the following for all development projects planned in the country:

1. A screening process whereby the Ministry of Environment determines whether the project requires a comprehensive EIA, a preliminary EIA or no EIA.
2. In case of a comprehensive EIA, a scoping session is required, whereby all stakeholders are invited to participate and express their opinions on the project. The aim of scoping is to determine the significant environmental impacts of the project.
3. If the preliminary EIA showed that it may have a major impact on the environment, then a comprehensive EIA is in order. According to Annex 4 of the bylaw, major impacts include the following:
  - a. Largely affects a rare or endangered species of plant or animal.
  - b. Affects the movements of any kind of fish or wild animals residing or migrating in the area.
  - c. Significantly decreased resources available to fish, wild animals or plants.
  - d. Created a health hazard to animals or plants in the area.
4. According to Annex 5, the EIA report should include the following:
  - a. Policy, legal and administrative framework.
  - b. Project description
  - c. Baseline data
  - d. Environmental impacts
  - e. Analysis of impacts
  - f. Mitigation Plan
  - g. Environmental Monitoring and Post-Auditing Plan

**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)

X

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

In the Temporary Agriculture Law No. for 2002, Article 35–B & C prohibits any person from logging or destroying any rare or endangered fruit or forest tree. This act is punishable by imprisonment or a fine (500 JD and 3 months for each tree).

In the same Law, Article 55 stipulates that it is forbidden to use dynamite or poisonous material for fishing, as well as destroying corals in regional waters. These acts are punishable by imprisonment and monetary fines. Hunting wild animals and birds are strictly controlled under Article 56 and infringement is also punishable by this law.

The Environment Protection Law has also some articles related to this issue:

**Article (9)(A)**

The captain of the steamer, ship, sea carrier or boat, who casts away or spills any polluting substances, emptying or dumping them, in the regional waters of the Kingdom or on the shore area, shall be punished by imprisonment for a period not less than one year and not exceeding three years or payment of a fine not less than JD (10.000), or by both penalties.

**(B)**

Any who commits, any of the violations provided for in para (A) of this Article, shall be obliged to remove the violation within the time specified by the Court. In case of failure on his part, the Minister or any body authorized by same, shall carryout its removal at the expense of the person in violation, plus (25%) of the removal expenses, as administrative expenses. The steamer, ship or boat shall be seized with all its contents, until the amounts incurred are paid.

**Article (10)**

Any who plucks out the corals and shells, gets them out of the sea, trade in them or causes their damage in any way, shall be punished by imprisonment for a period not exceeding one year, or by paying fine not less than JD(10.000) and not exceeding JD(250.000), or by both penalties.

**Article (11)(A)(1)**

Its is prohibited to dump any substances, which harm the safety of the environment, discharging or collecting them, whether these substances are solid, liquid, gaseous, radio-active or thermal, in the water sources.



<b>108. Has your country put in place any measures to prevent damage to biological diversity?</b>	
a) No	
b) No, but some measures are being developed	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 in place to prevent damage to biological diversity.	
<p>There some measures taken mainly regarding protection of forests areas and establishment of protected areas. Until know there is no clear and definite measures taken to prevent damage, but there are some laws or by laws and some procedures stressed the importance of conservation and protection of ecosystem in general.</p>	

<b>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)</b>	
a) No	
b) No, but cooperation is under consideration	X
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.	
<p>The Government of Jordan has signed bilateral agreements with some Arab countries regarding the issues above.</p>	

**Box LIII.**

<p>Please elaborate below on the implementation of this article and associated decisions specifically focusing on:</p> <ul style="list-style-type: none"> <li>a) outcomes and impacts of actions taken;</li> <li>b) contribution to the achievement of the goals of the Strategic Plan of the Convention;</li> <li>c) contribution to progress towards the 2010 target;</li> <li>d) progress in implementing national biodiversity strategies and action plans;</li> <li>e) contribution to the achievement of the Millennium Development Goals;</li> <li>f) constraints encountered in implementation.</li> </ul>
<p>The presence of an EIA by law being implemented and the establishment of natural reserves are considered as the main tools for conserving biodiversity in Jordan which contributes in achieving the goals of the strategic plan, 2010 target and MDGs.</p> <p>Although a national bylaw on Environmental Impact Assessment has been developed in Jordan, there are no detailed EIA directives for Biodiversity Impact Assessment. Some capacity development programmes and initiatives can be invested for developing the directives and applying them</p>

## Article 15 - Access to genetic resources

<b>110. ?</b> 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)	X
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.	
<p>NCARTT has an agreement with the KEW GARDEN (ENGLAND) for cooperation in collection identification and preservation of seeds and herbarium specimen.</p> <p>ICARDA-NCARTT- in the last ten years we have by lateral agreement between plant Genetic Resource Unit (ICARDA) and Biodiversity and Genetic Resource program (NCARTT) in Joint venture Collection and training our staff in ICARDA headquarter in collection, documentation preservation and data base.</p>	

<b>111. ?</b> 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	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 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.	
<p>The agreement with the KEW GARDEN (ENGLAND) for cooperation in collection identification and preservation of seeds and herbarium specimen) commitments to the obligations in accordance with Article 15(6).</p> <p>Concerning collecting flora specimens for any purpose you need the approval of the Minister of Agriculture (see items 31, 34 and 35 of the agricultural law number 44)</p>	

<b>112. ?</b> 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	x
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.	
Measures will be taken according to the obligations of the PGRFA treaty and SMTA which should be assigned by the Governing body of the PGRFA treaty on the next meeting may be on 2006.	

<b>113. ?</b> 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.	
Jordan has assigned the Inter National Treaty On Plant Genetic Resources for Food and Agriculture (PGRFA ) in 2001. Also representative from Jordan participated in final Drafting of The Standard Material Transfer Agreement (SMTA ) arising from (PGRFA ) .	
The issue of benefits sharing and access to genetic resources is not adequately regulated through a package of re-enforcing modern policies and legislations to ensure smooth access and balancing right to access and intellectual property rights. This issue needs also technical capacity development and institutional networking.	

<b>114.</b> 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)	X
c) Yes (please provide details below)	
Please provide details and specify successes and constraints in the implementation of the Bonn Guidelines.	
Lack of a clear policy, legislative and institutional enabling environment for regulating access to genetic resources and benefits sharing:	
<ol style="list-style-type: none"> <li>1. National genetic resource committee was Established 2001.</li> <li>2. Jordan need to establish National bylaw in plant genetic resources and should be in consistence with PGRFA and SMTA.</li> </ol>	

**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.

Concerning collecting fauna for researches it falls under paragraph 6 of section A of Item 57 of Agriculture law, which states that the Minister of Agriculture has to specify regulations for experimental animals and all related matters in their use for scientific purposes. Regulations were developed as mentioned in this paragraph, but they are not approved by the Minister till now.

Concerning collecting flora specimens for any purpose, the approval of the Minister of Agriculture is needed as mentioned in articles 31, 34 and 35 of the agricultural law number 44). The Law for Protection of New Plant Species for the year 2000 gives property rights to those who create new and original plant species. In Theme 5 of the NBSAP 2003, it is suggested to develop bylaws and regulations on biodiversity-related issues, including intellectual property rights, which until now do not address the issue of new plant species.

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

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

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.

The main law governing environmental management in Jordan is the Environmental protection Law No. 1 for 2003 which has indeed established the Ministry of Environment in Jordan. The law considers the Ministry of Environment to be the competent authority for the protection of environment in the Kingdom, and the official and national authorities shall be bound to implement the instructions and resolutions issued under the provisions of this law which gives the Ministry all the juridical powers it requires implementing the law.

Lack of a clear policy, legislative and institutional enabling environment for regulating access to genetic resources and benefits sharing is considered as a constrain in the implementation:

The issue of benefits sharing and access to genetic resources is not adequately regulated through a package of re-enforcing modern policies and legislations to ensure smooth access and balancing right to access and intellectual property rights. This issue needs also technical capacity development and institutional networking.

## 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.

Some efforts in technology transfer have been developed in Jordan, but mainly in relation to industrial processes and cleaner production systems. There are no distinctive technology transfer systems for biodiversity outside the activities of NCARTT.

Jordan lacks an effective mechanism for developing and maintaining regional and inter-national partnerships for technology transfer and technical cooperation in Biodiversity related issues

**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	
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	X

<b>119. ?</b> 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	
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	X
Further information on the measures taken.	
None	

**Box LV.**

Please elaborate below on the implementation of this article specifically focusing on:
<ul style="list-style-type: none"> <li>a) outcomes and impacts of actions taken;</li> <li>b) contribution to the achievement of the goals of the Strategic Plan of the Convention;</li> <li>c) contribution to progress towards the 2010 target;</li> <li>d) progress in implementing national biodiversity strategies and action plans;</li> <li>e) contribution to the achievement of the Millennium Development Goals;</li> <li>f) constraints encountered in implementation.</li> </ul>
No comment

**Programme of Work on transfer of technology and technology cooperation**

<b>120.</b> 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.	

**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	x
b) No, but some measures being considered	
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.

Apart from linkages developed on project-basis between national institutions and regional and international organizations and initiatives working on biodiversity conservation, Jordan lacks an effective mechanism for developing and maintaining regional and international partnerships for technology transfer and technical cooperation in Biodiversity related issues.

**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.

There are some initiatives like the one NCARTT is developing.

**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	X
b) No, but assessments are under way	
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.

None

<b>124.</b> 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	X
b) No, but some programmes are under development	
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.	
None	

<b>125.</b> 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	
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.	
Jordan has a developed its bio-safety by-law.	

**Box LVI.**

<p>Please elaborate below on the implementation of this article and associated decisions specifically focusing on:</p> <ul style="list-style-type: none"> <li>a) outcomes and impacts of actions taken;</li> <li>b) contribution to the achievement of the goals of the Strategic Plan of the Convention;</li> <li>c) contribution to progress towards the 2010 target;</li> <li>d) progress in implementing national biodiversity strategies and action plans;</li> <li>e) contribution to the achievement of the Millennium Development Goals;</li> <li>f) constraints encountered in implementation.</li> </ul>



## Article 17 - Exchange of information

<b>126. ?</b> 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***

<b>127. ?</b> 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 .**

<p>Please elaborate below on the implementation of this article and associated decisions specifically focusing on:</p> <ul style="list-style-type: none"> <li>a) outcomes and impacts of actions taken;</li> <li>b) contribution to the achievement of the goals of the Strategic Plan of the Convention;</li> <li>c) contribution to progress towards the 2010 target;</li> <li>d) progress in implementing national biodiversity strategies and action plans;</li> <li>e) contribution to the achievement of the Millennium Development Goals;</li> <li>f) constraints encountered in implementation.</li> </ul>

## Article 18 - Technical and scientific cooperation

<b>128. ?</b> 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.	
<p>In the National Biodiversity Strategy and Action Plan, Theme 5, Operational Objectives include the promotion and participation in the establishment of lines of cooperation and coordination with neighboring countries.</p> <p>In 2005, Ministers of Agriculture in Jordan, Syria and Lebanon assigned bilateral cooperation agreement in conservation of agro-biodiversity this agreement include exchange of information, technology transfer, training and other issues relevant to the implementation of the CBD.</p> <p>The Government of Jordan has signed several bilateral agreements with Arab countries regarding environmental conservation issues. Biodiversity conservation was highlighted in all of these agreements. The agreements include:</p> <ol style="list-style-type: none"> <li>1. Cooperation agreement between the Hashemite Kingdom of Jordan and the Tunisian Government in 1997: The Second item of this agreement relates to Protected Areas and National Parks and includes the following:             <ol style="list-style-type: none"> <li>a. Technical information sharing in the field of designing and preparing gardens, protected areas and parks</li> <li>b. Providing technical support in the field of preparing and managing protected areas</li> <li>c. Studying the possibility of benefiting from specialized technical elements in the countries in the field of wildlife, parks and protected areas</li> </ol> </li> <li>2. Cooperation agreement between the Hashemite Kingdom of Jordan and the Popular Democratic Republic of Algeria in 2002: Article 8 of this agreement includes:             <ol style="list-style-type: none"> <li>a. Coordination and cooperation in the field of plant and animal biodiversity, exchange of strategies and cooperation in preparing policies relevant to environmental balance</li> <li>b. Cooperation in the field of protecting and increasing the populations of endangered species as well as benefiting from service centers in both countries with the aim of protecting the environment</li> <li>c. Cooperation and coordination in the field of nature reserves and their establishment, urban parks and gardens and exchange of rare animals and plants between the countries for the benefit of the environment</li> <li>d. Exchange of studies and research on plant and animal biodiversity for the benefit of the environment in both countries</li> </ol> </li> <li>3. Cooperation agreement between the Hashemite Kingdom of Jordan and the Government of Kuwait in 2004: Article 2 of this agreement states that the fields of cooperation between the two countries include management of nature reserves and the management of coastal and marine areas. Article 5 states that the two countries will exchange experts in accordance with a designated work plan.</li> <li>4. Cooperation agreement between the Hashemite Kingdom of Jordan and the Government of Syria in 2001: Article 11 of this agreement includes the same points a, b, c, and d of Cooperation agreement between the Hashemite Kingdom of Jordan and the Popular Democratic Republic of Algeria, in addition to the following points:             <ol style="list-style-type: none"> <li>e. Cooperation in establishing transboundary natural reserves between the two countries.</li> <li>f. Cooperation in monitoring trading with wild plants and animals especially endangered ones</li> </ol> </li> </ol>	

according to the prepared lists of the two countries.

g. Cooperation and coordination in the field of eco-tourism.

5. Cooperation agreement between the Hashemite Kingdom of Jordan and Iraq in 2005: Article 11 of this agreement includes the same points; a, b, c, d, and e mentioned in the cooperation agreement between the Hashemite Kingdom of Jordan and the Government of Syria.

6. Also, a memorandum of understanding with the government of Egypt was prepared and included cooperation in conserving biodiversity as one of its items.

Other cooperation programs and activities include:

1. Cooperation with the kingdom of Saudi Arabia, United Arab Emirates and Oman in the field of Oryx captive breeding and reintroduction;
2. Training on wetlands management, management of protected areas, ecotourism, public awareness and education, and birds ringing. These programs were delivered at the regional level by the RSCN Training Unit and in cooperation with reputable national and international scientists;
3. Cooperation in conservation and research programs concerning the marine environment and biodiversity with regional countries of the Red Sea and the Gulf of Aden (PERSGA project) which involves 8 countries among of which is Jordan.
4. Jordan and Israel have continuous regional meetings for certain specific issues. There are at early stages of development and measurable targets in the field of algae, fish, and coral. There is also coordination in the field of zooplankton and phytoplankton;
5. The GEF project "Promoting Best Practices for the Conservation and Sustainability of Biodiversity of Global Significance in Arid and Semi-Arid Zones";
6. In the field of genetic resources activities including collection, documentation and conservation, NCARTT cooperates with the International Center for Agriculture Resources in Dry Areas (ICARDA), International Plant Genetic Resources Institute (IPGRI) and Kew Gardens. NCARTT has signed an agreement to carry out yearly joint collection for wild plants in all Jordan. Kew Gardens in this aspect provides some financial support to cover the collection activities;
7. At the academic level there is some cooperation at the international and regional level; and Cooperation with Syrian government targeting the conservation of the Bold Ibis.

Jordan has strong relations mainly (NCARTT) with some of the international centers and institutions: FAO, ICARDA, IPGRI, AOAD, Kew Garden, TWNSO.

Jordan is host to the regional offices of both IUCN and Bird Life International

**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	
b) No, but relevant methods are under development	
c) Yes, methods are in place	X

<b>130. ?</b> 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.	
1- Jordan – ICARDA - joint research and training programmes and joint ventures. Through different bilateral agreements or regional projects for the development of technologies relevant to the objectives of the Convention.	

<b>131.</b> 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***

<b>132.</b> 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.	

<b>133.</b> 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	
c) Yes (please provide details below)	
Further comments on development of relevant initiatives.	

<b>134.</b> 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	
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.	

**Box LVIII.**

Please elaborate below on the implementation of this article and associated decisions specifically focusing on:	
<ul style="list-style-type: none"> <li>a) outcomes and impacts of actions taken;</li> <li>b) contribution to the achievement of the goals of the Strategic Plan of the Convention;</li> <li>c) contribution to progress towards the 2010 target;</li> <li>d) progress in implementing national biodiversity strategies and action plans;</li> <li>e) contribution to the achievement of the Millennium Development Goals;</li> <li>f) constraints encountered in implementation.</li> </ul>	

**Article 19 - Handling of biotechnology and distribution of its benefits**

<b>135. ?</b> 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	x
b) No, but potential measures are under review	
c) Yes, some measures are in place	
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	
-----------------------------------------------------------------------	--

<b>136. ?</b> 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	X
b) No, but potential measures are under review	
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.

Until now there is no cooperation in this area arising from biotechnologies based upon genetic resources provided by those Parties, otherwise this issue will be effectively implemented after the assigning the Material Transfer Agreement (MTA).

Otherwise, Jordan has a good infrastructure in Biotechnology labs and scientists at the Universities and in the National Center for Agricultural Research and Technology Transfer (NCARTT).

## 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	The Government of Jordan allocate in its annual budget a relatively low amount of money to support the running cost of the activities of Ministries which are involved in the CBD implementation. Mainly MOE, MOA , NCARTT .  The government also allocates in its annual budget a specific amount of money to support NGO's working indifferent fields including biodiversity conservation. Mainly to RSCN has to be clarified that the amount allocated covers less than 10% of the annual budget of RSCN provided given all the allocated amount of money..
b) Extra-budgetary resources (identified by donor agencies)	Early in 2002, the Ministries of Finance and Planning after consultation with USAID agreed in principal to allocate additional funds from the local currency transfer program to bring the total of the Fund towards the 5 million JD.

	Most of RSCN's projects are funded at the first stages of establishment, on the other hand the Jordan Fund for Nature will provide income security for RSCN over the long-term
c) Bilateral channels (identified by donor agencies)	GEF, the Small Grants Programme -SGP The SGP in Jordan was initiated in 1992 by the United Nations Development Programme (UNDP). To date, the Programme has supported a total of 101 projects; 12 during the Pilot Phase, 20 during the First Operational Phase, and 69 projects have been supported as part of the current Second Operational Phase. (4%) of the supported projects are planning grants.  Funded Projects in Jordan by GEF since the Inception Single Country Projects (Jordan) - 6 Projects
d) Regional channels (identified by donor agencies)	Funded Projects in Jordan by GEF since the Inception Regional and Global Projects - 6 Projects
e) Multilateral channels (identified by donor agencies)	
f) Private sources (identified by donor agencies)	
g) Resources generated through financial instruments, such as charges for use of biodiversity	The RSCN has developed a sustainable nature trust fund that supports the core activities of RSCN

**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.

Integrated Ecosystem Management in the Jordan Rift Valley-----6.350 U\$M  
 Conservation of the Dana and Azraq Protected Areas----- 6.300 U\$M  
 Final Consolidation and Conservation of Azraq Wetlands and Dana Wildlands by RSCN to Address New Pressures-----1.949 U\$M  
 Assessment of Capacity Building Needs and Country/Authority Specific Priorities in Biodiversity (Additional Financing) -----0.088 U\$M  
 Conservation of Medicinal and Herbal Plants-----5.350 U\$M  
 Conservation and Sustainable Use of Biodiversity in Dibeen Nature Reserve -----1.000 U\$M

<b>137. ?</b> 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)	
c) Yes, financial support only	
d) Yes, financial support and incentives (please provide details below)	X
Further comments on financial support and incentives provided.	
The Government of Jordan Support Ministries, NGOs that are working to achieve one or more of the objectives of the CBD. Also the government of Jordan support national and regional projects.	

**The next question (138) is for DEVELOPED COUNTRIES**

<b>138. ?</b> 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**

<b>139. ?</b> 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	

<b>140. ?</b> 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.	

<b>141. ?</b> 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.	
Nevertheless, all Funded projects by GEF or other regional and international agencies are tax exempted in Jordan to encourage financial support to biodiversity.	



**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	x
b) No, but review is under way	
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	
c) Yes, in some initiatives and plans (please provide details below)	X
d) Yes, in major initiatives and plans (please provide details below)	X
Further comments on review and integration of biodiversity considerations in relevant initiatives, policies and plans.	
The issue of biodiversity conservation is mentioned in Jordan's National Agenda and NBSAP.	

**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 Jordanian National Biodiversity Strategy and Action Plan (2003) is a response to the obligations of CBD and have been developed as a guide to the implementation of the biodiversity convention in the country. The Ministry of Environment (MoEnv.) carries the responsibility of following up the CBD on behalf of the Government of Jordan. The Ministry of Environment has established in 2003 a directorate which is responsible for follow up the convention implementation. This division is called Nature Protection Directorate.

The RSCN is the biggest NGO in Jordan which is dedicated to the conservation of biodiversity in Jordan through the following tools;

1. Establishment of a national network of protected area representing key habitats and ecosystems.
2. Enforcement of hunting regulation and the CITES convention.

3. Enhance people's awareness about environmental issues.

**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.

A r e a s	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	x	
c) Priority actions to implement the Global Taxonomy Initiative (decision V/9)		x	
d) <i>In-situ</i> conservation (decision V/16)	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	x	
g) Projects that promote measures for implementing Article 13 (Education and Public Awareness) (decision VI/19)	x		
h) Preparation of national reports (decisions III/9, V/19 and VI/25)	x		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)	x		
k) Implementation of the Cartagena Protocol on Biosafety (decision VI/26)	x		
l) Implementation of the Global Taxonomy Initiative		x	
m) Implementation of the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity	x		
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.

**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	1	3	2	2	2	2
(b) Limited public participation and stakeholder involvement	3	3	3	3	2	2
(c) Lack of mainstreaming and integration of biodiversity issues into other sectors	3	2	3	3	2	2
(d) Lack of precautionary and proactive measures	2	2	3	3	2	2
(e) Inadequate capacity to act, caused by institutional weakness	3	3	2	2	2	3
(f) Lack of transfer of technology and expertise	2	3	3	2	2	2

Challenges	Programme of Work					
	Agricultural	Forest	Marine and coastal	Inland water ecosystem	Dry and subhumid lands	Mountain
(g) Loss of traditional knowledge	3	3	3	3	2	2
(h) Lack of adequate scientific research capacities to support all the objectives	2	3	2	2	2	2
(i) Lack of accessible knowledge and information	1	1	2	1	2	2
(j) Lack of public education and awareness at all levels	2	2	2	2	2	2
(k) Existing scientific and traditional knowledge not fully utilized	3	3	3	3	2	2
(l) Loss of biodiversity and the corresponding goods and services it provides not properly understood and documented	2	2	2	3	2	2
(m) Lack of financial, human, technical resources	2	3	3	3	2	3
(n) Lack of economic incentive measures	3	3	3	3	2	3
(o) Lack of benefit-sharing	3	3	3	3	2	3
(p) Lack of synergies at national and international levels	2	3	2	2	2	2
(q) Lack of horizontal cooperation among stakeholders	3	3	3	2	3	3
(r) Lack of effective partnerships	3	3	2	2	3	3
(s) Lack of engagement of scientific community	1	2	2	3	2	2
(t) Lack of appropriate policies and laws	2	2	3	2	2	2
(u) Poverty	3	3	3	3	3	2
(v) Population pressure	3	3	3	3	2	3
(w) Unsustainable consumption and production patterns	3	2	3	3	3	3
(x) Lack of capacities for local communities	2	2	3	3	2	2

Challenges	Programme of Work					
	Agricultural	Forest	Marine and coastal	Inland water ecosystem	Dry and subhumid lands	Mountain
(y) Lack of knowledge and practice of ecosystem-based approaches to management	2	3	3	3	3/3	3/3
(z) Weak law enforcement capacity	2	3	2	2	3/3	3/3
(aa) Natural disasters and environmental change	2	3	3	3	3	2
(bb) Others (please specify)						

### 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				
<p>Wetland types found in Jordan include salt marshes, coastal, estuaries, permanent small water bodies, man-made water reservoirs and sewage treatment plants. Any water body in such semi arid areas is of significant importance for the survival of migrating waterfowl. However, all water bodies in Jordan are looked upon as a source of exploitation for urban, agricultural or industrial uses. Many water bodies are affected by increasing salinity, pollution and eutrophication due to intensive agricultural practices. Many aquatic species are at the edge of extinction if not already so. Seasonal marshes in Disi and Jafr areas are deteriorating due to seasonal cultivation of barely and wheat. The above mentioned areas are also divided into different wetland types varying from man made water reservoirs to natural small ponds and permanent or seasonal springs in wadies.</p> <p>Apart from the famous Azraq Oasis (Ramsar site), there are no major large wetlands in Jordan.</p>				

Nevertheless, there are smaller wetland areas that are important for the migrating or over wintering waterfowl. These occur in five main areas, which are: 1) North Jordan Valley, 2) Middle Jordan Valley, 3) South Jordan Valley, 4) Seasonal marshes and mud flats of the eastern desert such as Disi area, Qaa Khana, Burqu qaa (permanent pond) and Jafer, and 5) Gulf of Aqaba.

The conservation of inland wetlands in Jordan is limited to the wetlands located within protected areas, however, the objectives and activities of the programme of work have been incorporated into the National Biodiversity Strategy and Action Plan (2003). In Theme 4 of the NBSAP regarding water resource development, one of the proposed actions to rehabilitate damaged springs and wetlands in order to protect species at risk. It is mentioned in the NBSAP that Jordan has 27 Important Bird Areas (IBAs), significant portions of which are protected since these portions are located in established protected areas, many (un protected) IBAs are located in proposed protected areas and expected to be protected in the future.. Also, 13 Important wetlands are identifies according to the Directory of Wetlands including one Ramsar Site: Azraq wetland.

One of the objectives of Agenda 21 for 2001 is the maintenance of aquatic ecosystem integrity, according to the management principle of preserving aquatic ecosystems, including living resources and of effectively protecting them from any form of degradation, on a drainage basin basis. Activities proposed by the agenda include adopting an integrated approach to environmentally sustainable management of water resources, including the protection of aquatic ecosystems and living freshwater resources through:

- Rehabilitation of polluted and degraded water bodies to restore aquatic habitats and ecosystems.
- Control of noxious aquatic species that may destroy certain other species.
- Conservation and protection of wetlands.

Recently the government of Jordan and in partnership with the RSCN submitted request for fund from the GEF for the integrated ecosystem management project in the Jordan Rift Valley. The main objective of this extremely important project is to secure the ecological integrity of the Jordan Rift Valley, as a globally important ecological corridor and migratory flyway. The project proposed the establishment of new protected areas some of which are considered as IBAs.

**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	
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	X

Further comments on the adoption of outcome oriented targets and priorities for activities, including providing a list of targets (if developed).

Jordan identified comprehensive outcome oriented targets and priority activities to wetlands in the National Biodiversity Strategy and Action Plan (2003). Full management plan detailing to a time based and outcome oriented targets was developed for Azraq Wetland Reserve, and priority activities were put in place to protect and conserve other wetlands as part of the proposed protected areas. According to the RSCN work plans, some of these wetlands located in the Jordan Valley will be subject to the intended Ecosystem Management Activities in the near future where a detailed EIA study is aiming at assessing the environmental and social impacts of the intended activities.

**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)	
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)	X
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.

Jordan deposited its instrument of accession to the Ramsar Convention with the Director General of UNESCO on 10 January 1977. At that time a single wetland - Azraq Oasis - was designated for the 'List of Wetlands of International Importance' The designation documents indicate that the site is composed of Azraq Waterfowl Reserve (1245ha) and Azraq Mudflat (6127ha). The convention came into force for Jordan in May 10, 1977. Currently, Azraq yet the only Jordanian wetland designated as a Ramsar site, with a surface area of 73.72 km<sup>2</sup>.

Synergies between this programme of work and related activities under the Ramsar Convention have been taken into account while preparing the Azraq Wetland Reserve Management Plan, where this work plan formulated conservation activities within the Rasmar site in compliance with the Ramsar and the CBD requirements.

Other wetland sites are not listed into the Ramsar Sites List, however, the conservation activities designed and being implemented within the protected locations complies with both the CBD and the Ramsar requirements to the extent possible.

**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.

In addition to the Country Study on Biological Diversity of Jordan, the National Biodiversity and Action Plan, and the Azraq Wetland Management Plan, many research and data gathering activities



have been carried out, solely by the RSCN and some graduate students and professors. These data are reported on in several publications by the RSCN and the researches in the form of books, scientific papers, reports, etc.

The RSCN also established a data base for important ecological sites and include information on species diversity. This data base requires additional efforts to ensure at least the most important ecological information documented.

**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.

**The following sections present the status of Jordan wetlands.**

**1) NORTH JORDAN VALLEY**

**Yarmouk River basin including Arais Pool.** A steep -sided valley running along the Jordan - Syrian border within the north Jordan Valley (32 44' N 35 44' E) extending over an area of about 3,000 ha. The river banks are characterized by *Phragmites communis*, *Nerium oleander*, *Juncus maritimus* and other plants typical of wetlands and river areas in the Middle East. Typical bird species are *Ketupa zeylonensis* (rare) , *Fulica atra* (breeding), *Gallinula chloropus*, *Anas crecca*, *Ardea cinerea* , *Ardea purpurea*, *Bubulcus ibis*, *Vanellus vanellus*, *Alcedo atthis*, *Larus ridibundus*, *L. melanchocephalus*, *Gallinago gallinago*, *Tringa totanus*, *T. nebularia*, and *Actitis hypoleucos*. The *Lutra lutra*, *Felis chaus*, *Procavia capensis*, *Tillapia spp.*, *Rana ridibunda* are some other species reputed to inhabit the area. Occasional hunting occurs. There is intensive cultivation of fruits and vegetables in the North Jordan Valley.

**Wadi El Arab.** This wadi is located within the north Jordan Valley area (32 35 N 35 40 E) extending over an area of about 267 km<sup>2</sup>. The area is inhabited by marsh plants such as *Phragmites communis*, *Nerium oleander*, *Tamarix aphylla*. Waterfowl known to occur are: *Fulica atra* , *Anas crecca*, *Bubulcus ibis*, *Egretta garzetta*, *Ceryle rudis*, *Alcedo atthis*, *Halcyon smyrnensis*, *Larus ridibundus*, *Ardea cinerea*, *Egretta alba*, *Tringa stagnatilis*, *T. nebularia*, *T. totanus* and others. *Rana ridibunda*, *Tillapia zilli*, *Claris lazera* are also part of its hydrofauna. A dam was constructed on wadi El Arab in 1987, with a total capacity of 20 MCM to collect flood water and base flows for use in irrigation in the Jordan Valley area .Since its completion the dam was filled by waters originating within its catchment only in the very wet

year of 1991/1992. In the other years, water was pumped from King Abdallah Canal during floods to increase the stored amount of water in the dam for use during the dry season. The catchment area is under agriculture, but Irbid city is expanding westward into the catchment which may put increasing pressure on the quality of the water collected in the dam.

**Wadi Ziglab.** The wadi basin is inhabited mainly by plant species typical of semi arid conditions such as *Nerium oleander*, *Phragmites communis*, *Retama reatam*, and *Tamarix aphylla*. Typical fauna includes *Rana ridibunda*, *Hyla arborea*, *Agama spp.*, *Geko spp*, *Alectoris chukar*. Visiting waterfowl recorded include *Ardea cinarea*, *Nycticorax nycticorax*, *Ixobrychus minutus*, *Egretta garzetta* and others. Various springs issue along the Wadi Ziglab with a total discharge of some 5 MCM/ year. In addition, Wadi Ziglab drains another 5MCM/year of floodwater. A dam was constructed in Wadi Ziglab with a total capacity of 4.3 MCM in 1966 and an aim of using its water for irrigation in the Jordan Valley area. The catchment area is agrarian with natural forests and very little population. Therefore, the water collected in the dam is of high quality and can be used for different purposes.

## 2) MIDDLE JORDAN VALLEY

**Zerqa River basin ( King Talal Dam, Khirbet Al-samra ).** The main important areas for waterfowl within the Zerqa Basin are respectively King Talal Dam (KTD) and Khirbet Al- Samra Sewage plant treatment station, both of which are visited by migrating waterfowl such as *Ardea cinerea* (Breeds), *Egretta garzetta*, *Bubulcus ibis*, *Ixobrychus minutus*, *Fulica atra*, *Anas crecca*, *Anas platyrhynchos*, *Alcedo atthis* (Breeds), *Tringa ochropus*, *Vanellus spinosus*, and *Ciconia ciconia*. The area of KTD is famous for sustaining big stocks of fish, indigenous and introduced species, *Tilapia spp*, *Claris lazera*, *Noemacheilus damascena*, and *Aphanius spp*. Adjacent to the dam still exists natural pine forests where the Persian red squirrel still inhabits the area. In 1987, the river otter *Lutra lutra* was recorded in one of the streams near Zerqa River. Unfortunately both sites are among the most contaminated in Jordan due to the poor capacity planning of the sewage plant and lack of control of inputs.

**Wadi Damia, Kibed Pool, Kafraïn Dam, Shuneih Dam, Swaimeh-Pool.** Vegetation becomes less common and scarce in the middle Jordan Valley areas due to the site elevation (200 ASL). The dominant vegetation cover is phragmites and Tamarix. Some areas are inhabited by *Populus euphratica*. The main water bodies are inhabited by many crustaceans such as *Gammarus spp*, *Crabs*, *Barbus canis*, *Barbus longiceps*, *Gara rufa*, *Tilapia spp*, and *Aphanius spp*. Observed waterfowl are: *Gallinula chloropus* (Breeds), *Rallus aquaticus*, *Prozana prozana*, *Himantopus himantopus* (Breeds), *Recurvirostra avosetta*, *Calidris minuta*, *Caladris alpina*, *Ardea goliath*, *Tadorna tadorna*, *T. ferruginea*, *Pluvialis squatarola*, *Anas penelope*, *Tringa hypoleucos*, *Tringa nebularia*, *Ardea cinarea* (Breeds), *Egretta garzetta*, *Nycticorax nycticorax*, *Vanellus vanellus*, *Vanellus spinosa*, *Tringa ochropus*, *Ceryle rudis* (Breeds), *Halcyon smyrnensis* (Breeds), *Acrocephalus scirpaceus* (Breeds), *Charadrius dubius*, *Francolinus francolinus*, *Anas crecca*, *Anas querquedula*, *Larus ridibundus*, *Alcedo atthis* (Breeds), *Ciconia dconia*, *Fulica atra*, *Bubulcus ibis*, and *Chlidonias leucopterus*. All sites mentioned above are surrounded by cultivated land and are exposed to over- pumping, pollution, hunting and unplanned urban expansion. Kibed Pool is distinguished with high water salinity.

## 3) SOUTH JORDAN VALLEY

**Wadi Mujeb.** Elevation ranges from 1,100m ASL to 400m BSL. The rocks forming the catchments area consist of fractured limestone, dolomites, shales, sandstone and shert beds. The wadi is inhabited by beds of *Phragmites spp*, *Juncus maritimus* and scattered *Phoenix dactylifera*. Main indigenous animals are: *Barbus spp.*, *Capoeta damascena*, *Gara spp.*, *Hemigrammacopoeta nana*, *Aphanius spp.*, *Crabs*, *Rana ridibunda*, *Hyla arborea*, *Agama spp.*, *Capra ibex nubiana*, *Procavia capensis*, *Caracal caracal lynx*, *Canis lupus*, *Vulpes vulpes*, *Hystrix indica*. The waterfowl observed include *Ciconia ciconia*, which occurs in large numbers during migration season, *Ardea cinerea*, *Charadrius hiaticula*, *Egretta garzetta*, *Himantopus himantopus*, *Haemtopus ostralegus*, *Phoenicopterus ruber*, *Ciconia nigra*, *Platalea leucorodia*, *Plegadis falcinellus* and *Bubulcus ibis*. Wadi Mujeb is vulnerable to the effect of over-pumping and increasing salinity. Recently (1993) pumping projects have started on some of its main streams. A highway is being built nowadays which will link Middle Jordan Valley with Aqaba, and this will create additional pressure on the Avifauna of the area.

## Seasonal Marshes and Wadis in the Eastern Desert

**Burqu.** Natural pond, with Hammada ecotype with scattered populations of *Artemisia spp.*, *Anabasis*

*spp.*, *Gazella spp.*, *Canis lupus*, and *Vulpes vulpes*. Very little information is available on the birds that occur at the pond at migrating periods. However, it was reputed that *Anas spp.*, *Ciconia ciconia*, *Circus aeruginosus* were observed there. A survey for the area is proposed by RSCN to assess the suitability of Burqu as a potential Biosphere Reserve for Jordan.

**Qa'a Khana.** Seasonal salty marches and mud flats with very few plant communities consisting mainly of halophytes. In some wadis scattered beds of *Phragmites communis* and *Juncus maritimus*, *Tamarix jordanis* and *Retama raetam* exist. Very soon after the rain the mud flats are filled with halophilic crustaceans such as *Cyclops spp.*, *Triops Canserformes*, and *Daphnia spp.*, most probably transferred by waterfowl. Migrating birds observed include: *Tadorna tadorna*, *Anas crecca*, *A. querquedula*, *A. acuta*, *A. clypeata*, *Aythya fuligula*, *Charadrius alexandrinus*, *Vanellus vanellus*, *V. spinosa*, *Tringa nebularia*, *Philomachus pugnax*, *Ardea purpurea*, *Ciconia ciconia*, and *Grus grus*.

**Qa'a Jafr.** Mainly saline seasonal marshes which attract waterfowl. Very little is known about its fauna and flora. Some observations of birds were recorded lately and these include: *Bubulcus ibis*, *Himantopus himantopus*, *Anas acuta*, *Charadrius leschenaultii*, *Charadrius dubius*, *Charadrius alexandrinus* (Breeds), *Caladris alpina*, *Tringa hypoleucos*, *T. ochropus*, and *Calidris minuta*. Due to over-pumping from the basin, water salinity has increased. Very little cultivation is practiced.

**Qa'a Disi.** Disi is a rich fossil water aquifer which has lately been extracted heavily for agricultural irrigation and urban consumption. The Qa'a consists of salty mud flats filled from rain water in good seasons. Those attract waterfowl such as *Bubulcus ibis*, *Himantopus*, *Tringa nebularia*, *T. hypoleucos*, *T. ochropus*, *Vanellus spinosus*.

**Azraq Oasis.** Azraq Oasis; is one of very few such sites in the Saharo-Arabian region and it is recognized locally, nationally and internationally as an important wetland. Such recognition is primarily based on the site ecological, physical, hydrological, historical, cultural, and recreational characteristics. The ecological characteristics of the oasis were found to fulfill the criteria of many internationally reputable organizations, conventions and programs including The United Nations' List of Biologically Interesting Places (1962); the Convention on Wetlands of International Importance (often known as Ramsar Convention following the place of adopting it in Iran in 1971); the Criteria of the Birdlife International Important Bird Areas; and the criteria of the Global Raptor Watch (GRWS) Sites. Azraq is the only Jordanian wetland recognized internationally as a Ramsar site (a wetland site designated under the Convention on Wetlands as internationally significant based on a variety of criteria including ecological, biological and hydrological functions and values). Jordan became a Contracting Party to the Ramsar convention in 1976, where Azraq was declared as the first, and yet the only Ramsar site in 1977. The recognition of Azraq Oasis by the above mentioned international conventions and programs perform a major role in promoting wise use and adequate conservation of such sensitive ecosystem. The Ramsar convention came into force for Jordan in May 10, 1977. Currently, Azraq is the only site designated as a Wetland of International Importance, with a surface area of 73.72 km<sup>2</sup>.

Although the wildlife diversity of the above-mentioned wetland areas is not thoroughly surveyed yet, the occurrence of certain plant and animal key species has been documented. Plant species such as *Phragmites communis*, *Juncus maritimus*, and *Nerium oleander*, and wetland fauna species such as *Rana ridibunda*, *Hyla arborea*, *Lutra lutra*, *Tilapia spp.*, *Natrix tessellata*, *Barbus spp.*, *Aphanius spp.*, *Gara rufa*, and *Claris lazera* are known to inhabit these areas.

### **Environmental Challenges**

Wetlands far and wide in the world are facing several environmental challenges with respect to their ecological features, and their physical values and functions. Azraq Oasis was not away from facing such challenges, where up to date developments within the Azraq basin, including the over pumping of the ground water, wetland conservation and management programs, in addition to other human activities that posed tangible changes in the district and in status of this unique ecosystem. As a result of these challenges the oasis lost a significant portion of its ecological characteristics for which it is recognized as an internationally important wetland.

Wetlands in Jordan are subject to deleterious ecological changes due to several environmental challenges they witness, having the water scarcity challenge and the ever increasing demand on water as the most important. The impacts are not yet quantitatively assessed, however; these impacts include:

1. Changes in wetland area
2. Changes in water regime
3. Changes in water quality
4. Changes in wetland products exploitation
5. Introduction of alien species
6. Management, neglect and restoration
7. Impacts on the local and national socio-economic conditions

### Conservation progress and achievements

The establishment of protected areas encompassing wetlands, and the implementation of the Azraq restoration programs are the main achievements. Significant proportions of four deteriorated habitats within Azraq Wetland Reserve-out of the allusion five habitats- have been restored to semi-natural conditions.

Limited progress is mainly due to three main reasons; scarcity of water resources, limited financial resources, and limited management capacities.

### 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	X
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)	X
d) Instituting improved integrated marine and coastal area management (including catchments management) in order to reduce sediment and nutrient loads into the marine environment	X
e) Protection of areas important for reproduction, such as spawning and nursery areas	
f) Improving sewage and other waste treatment	X
g) Controlling excessive fishing and destructive fishing practices	X
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	
Please elaborate on the above activities and list any other priority actions relating to conservation and sustainable use of marine and coastal biodiversity.	
The National Biodiversity Strategy and Action Plan in theme two " Sustainable Use of	

Biological Resources " under Marine Life and Fisheries section considered the conservation of marine and coastal life and the sustainable harvesting of commercial fish as a strategic objective and the following as operational ones:

1. Promote the use of environmentally sound fishing techniques.
2. Ensure the protection of coral reefs and coastal zones in general.
3. Monitor the status of marine species and habitats and the negative impacts threatening their survival.

The following points are considered as priority actions under the NBSAP:

1. Establishing fisheries and Marine Life Institute.
2. Improvement of commercial and artisanal fisheries.
3. Fish farming development

The National Agenda 21 in Chapter Two " Integrated Management for Environmental Protection" suggested activities for the integrated coastal zone management and monitoring in Gulf of Aqaba and suggested strengthening the capacity of the Department of Environment at ASEZA to prosecute violators.

The structure of Aqaba Special Economic Zone involved Environmental Department to supervise all the environmental issues in Aqaba. The main role that ASEZA practices in the implementation of the CBD is the protection of the coral reef in Aqaba. This department is collaborating with other countries and entities such as the European Union (EU) for the purpose of capacity building and improvement of management of marine and coastal resources through training and directed courses held in other more advanced countries. One example of capacity building is the establishment of specialized environmental laboratory equipped with the most advanced equipments. Other tasks of training are also coordinated with the Marine Science Station in the City of Aqaba.

The following are the relevant regulations to the protection of the marine environment:

**Regulation for the Protection of the Environment in the Aqaba Special Economic Zone No. (21) for the year 2001:** The regulation obliged all projects in Aqaba zone to conduct an Environmental Assessment before starting. So each Project Owner shall submit to the Authority an application for acquiring environmental clearance to establish his Project in the Zone. Such an application shall be accompanied with necessary information, data, maps, designs and specifications.

**Regulation for the Aqaba Marine Park No. 22 for the Year 2001:** The regulation established a marine park in Aqaba aimed at preserving the environment and protecting the natural resources in the park area, improving the aestheticism of the park's shores and waters, and implementing, updating and monitoring scientific research programs to rehabilitate coral reefs and other natural resources which are damaged by various activities within the park area.

A Master Development Plan was developed few years ago, this plan integrates the protection of the marine environment in all made decisions.

The aim of ASEZA with respect to the Aqaba Marine Park is to:

- Preserve the environment and protect natural resources within the Park.
- Improve aesthetics of the Park's coasts and waters
- Maintain public safety
- Define and implement procedures to safeguard developments, scientific, tourist, recreational, navigational and commercial activities (Public and private).
- Implement and update scientific research programs to rehabilitate coral reefs and other natural resources.
- Contain existing damage and prevent further environmental degradation of Aqaba Gulf's coast, coral reef, and marine ecosystems through active management.
- To maintain the health, resilience and integrity of the marine environment and to balance it with the requirements of needed economic development.

### 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	X
c) Advanced stages of development	
d) Arrangements in place (please provide details below)	
e) Not applicable	

Further comments on the current status of implementation of integrated marine and coastal area management.

Coastal Zone Management Plan has been prepared by the local authority in the city of Aqaba (Aqaba Special Economic Zone Authority, ASEZA) about two years ago. This plan is still under improvement and needs more revision. It is not yet applied although parts of it are already included in legislations of ASEZA. Further studies are being done on a comprehensive plan for the Jordanian coast.

- Aqaba Special Economic Zone Authority (ASEZA):** The main role that ASEZA practices in the implementation of the CBD is the protection of the coral reef in Aqaba. The main tool for the coral reef protection is the management of the Aqaba Marine Park. ASEZA staff are relatively qualified to deal with current challenges that faces the coral reef at this stage. However, its capacity need to be improved to be capable to overcome negative impacts which might result from the intensive development.
- Aqaba Special Economic Zone Law No. (32) for the year 2000:** According to this law, articles (9-2) and (10-B-5), Aqaba Authority has the duty to protect the environment, natural resource, water resources, and biodiversity. Also the Authority of Aqaba will be responsible for applying environmental Law No. (1), 2003, which replaces Law No. 12 for the year 1995. For the purpose of protecting the environment and according to the Law No. (32) of 2000, with articles No. (56) and (52), two regulations were issued; the EIA regulation, and the marine protected areas regulation.
- The Royal Marine Conservation Society of Jordan (JREDS):** Which is a non governmental organization dedicated to conserving the biodiversity of the marine resources. JREDS has 9 programs which focus on the well-being of the marine life and concentrate on the sustainable development of the marine environment.

**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	X
c) Advanced stages of development	
d) Arrangements in place (please provide details below)	
e) Not applicable	

Further comments on the current status of application of the ecosystem to management of marine and coastal resources.

Some management procedures are applied and other plans are under preparation for future. For example, all projects which are related to the sea have to implement an EIA before the start of building and operation processes. The southern part of the Jordanian coast of the Gulf of Aqaba is now under major development process and all environmental guidelines and legislations are being reviewed to accommodate various types of activities. Furthermore, a comprehensive EIA and Rapid Assessment specially made for the different types of projects in the sea and in land are being

prepared by specialized experts. In this regard, the hot spots in terms of marine environment are identified and being considered in the planning process.

The main tool for the coral reef protection is the management of the Aqaba Marine Park. For Aqaba Special Economic Zone Authority (ASEZA), there is a problem of its lack of experience in the conservation of terrestrial species like birds. So it will be important for ASEZA to develop partnership with other institutions which are capable of providing this kind of expertise.

### 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)	X
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	

Further comments on the current status of assessment, monitoring and research relating to marine and coastal ecosystems, as well as key threats to them

Jordan, a middle-eastern developing country with an area of 89,287 sq. km. At present the country is divided into twelve governorates. Aqaba is the southern-most zone of Jordan and the only sea-gate for this semi-arid country, opening the inland to the Gulf of Aqaba; the north-most sea-flooded part of the Great Rift System.

The 26.5-kilometre-long Jordanian coastline of the Gulf of Aqaba provides the only access to the sea for Jordan for ship transport, fishing, and industrial development that requires large amount of cooling water. The Gulf of Aqaba is a narrow (mean width=16 km), deep (max. depth=1,829 m) basin, separated from the Red Sea by a relatively shallow submarine sill at the Straits of Tiran (Morcos 1970). Surrounding the Gulf are narrow shelves of desert land bounded by steep mountains. The physical and climatological features of the Gulf of Aqaba coincide to produce a unique underwater ecosystem.

Aqaba is characterized by a hot summer and warm to cold winter. The mean monthly air temperature ranges from 15°C in January to 35°C in August. The mean daily maximum temperature ranges from 20° C in January to 37°C in July/August. Rainfall is low in Aqaba averaging 35 mm /year. The rainfall period is usually short, occurring between November and May.

Evaporation is high and can reach up to 4 m/year, while humidity is less than 20% during the summer, but can go up to 59% in the port area. The prevailing wind is from north to south (from land to sea). Major wind directions in Aqaba are northerly winds and north – north-easterly winds, representing 35% and 46% respectively from the measured prevailing wind direction in Aqaba with reported wind velocities at the Marine Science Station of 0.28-7.8 m/s during the late fall and winter months. Average (1966-1980) wind velocities recorded at the Aqaba airport range from 3.7 to 5.4 m/s and the prevailing winds occasionally act as a transport mechanism for windblown particulates originating in Wadi Araba.

The connection to the Red Sea and the bathymetry of the Gulf's basin has a strong influence on the physical oceanographic features of the Gulf of Aqaba. Currents vary seasonally and with depth in the Gulf. Evaporation in the Gulf of Aqaba results in surface flow of warmer and less saline waters northward through the Straits of Tiran from the Red Sea, while at depth, the cooler, saltier waters of the Gulf flow southward into the Red Sea (Genin and Paldor 1998). At the northern end of the Gulf, surface waters generally flow southward along the coast for most of the year, with the prevailing

winds (Genin and Paldor 1998). Water temperatures range from a monthly mean of 22°C in the winter to a summertime monthly mean temperature of 27°C (Morcos, 1970).

The Gulf of Aqaba is renowned for its excellent diving in waters that are particularly clear. The optical clarity (i.e., low turbidity) of the water is a result of the very low input of terrestrial sediments in this area, which receives very little rainfall. The lack of suspended terrestrial sediment particulates and low phytoplankton growth allows light to penetrate to the area of corals.

Regionally, the geological succession for the Aqaba area consists of the Precambrian basement complex represented by, the oldest igneous and metamorphic rocks of the Nubian-Arabian shield. Geophysically, Gulf of Aqaba and the Red Sea are characterized by being a seismological activate seismic areas. Between 1994 and 1999, there were 15 earthquakes recorded in the Aqaba area. The highest magnitude occurred in 1995. No serious damages were reported in Aqaba area due to these earthquakes.

The Gulf of Aqaba is one of the world's north most coral reef ecosystems due to the exceptional tropical climate of the area. The Jordanian sector of the reef in the Gulf of Aqaba is of extreme environmental importance, since it is the most diverse within the Northern Hemisphere.

The Gulf is also a host to more than 1,000 species of fish, 110 species of hard coral, 120 species of soft coral in addition to sponges, snails, crabs and sea turtles. Twenty percent of mollusks and echinodermata as well as several species of algae occurring in the Gulf may be endemic. Of between 300-350 species of fish, which have been recorded in Aqaba, 7 are recognized as endemic.

These marine creatures live in a complex ecosystem where a very fragile equilibrium maintains all these animals in a necessary co-existence, as part of the chain, which creates the coral reefs and their surroundings.

The Jordanian shoreline is highly variable. The coast can be classified (with respect to its morphology) into 3 distinct zones, which differ considerably in their morphology, sand budget and their surrounding topography. The zones were classified (according to several authors) as: the northern sandy coast, the northern eastern coast cliffs, and the southern crenulated coast.

A national comprehensive monitoring program that runs all year round is being applied since 1996. A number of research projects that are directed towards studying the effects of various anthropogenic activities on the coral reef ecosystem are applied at several environmental levels.

Being the only sea-gate to Jordan, it has attracted several economic activities of industrial and touristic nature. These developments created environmental stresses on such sensitive ecosystem. This includes direct damage caused by construction activities and pollution potential by all development phases. Fishing is currently limited to the southern parts of the gulf and environmentally unsound fishing activities in some occasions results in damaging corals.

**Aqaba Special Economic Zone Authority (ASEZA):** The main role that ASEZA practices in the implementation of the CBD is the protection of the coral reef in Aqaba. The main tool for the coral reef protection is the management of the Aqaba Marine Park. The park includes 7km of shoreline and its perimeters extend from the north at the Marine Science Station to the south at the Public Security Officer's Club. ASEZA also evaluate existing damage and prevents further environmental degradation of Aqaba Gulf's coast, coral reef, and marine ecosystems through active management.



**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.

<b>Activities</b>	<b>Not implemented nor a priority</b>	<b>Not implemented but a priority</b>	<b>Currently implemented</b>	<b>Not applicable</b>
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.

Artificial reefs have been applied and being planned for in future plans. Coral transplantation is being developed whenever needed.

### 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)	X
b) Management plans for these marine and coastal protected areas have been developed with involvement of all stakeholders	X
c) Effective management with enforcement and monitoring has been put in place	X
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	X
g) The national system of marine and coastal protected areas includes areas which exclude extractive uses	X
h) The national system of marine and coastal protected areas is surrounded by sustainable management practices over the wider marine and coastal environment.	X
i) Other (please describe below)	
j) Not applicable	

Further comments on the current status of marine and coastal protected areas.

One Marine Park (reserve) was established in the Jordanian coast of the Gulf of Aqaba in 1997 and extends to about 7Km out of 27Km total coast area. The MPA is located about 12Km south to the city of Aqaba. It was selected in accordance with the distribution of the major coral reefs in the Gulf of Aqaba. An MPA authority manages the area and rangers are touring the area all the time to secure implementation of the MPA regulations. The marine park still needs an effective management plan and adequate law enforcement implementation; also there is a need for a comprehensive outreach and awareness program to be included in the operational program for the marine park.

**The Royal Marine Conservation Society of Jordan (JREDS):** JREDS began with a group of divers in 1994 with a mission to protect Aqaba's marine line from further degradation. JREDS' objective is to prevent destruction of the Gulf of Aqaba by promoting sustainable management of natural marine resources, raising public awareness, encouraging community participation and conducting environmental monitoring.

**The Marine Science Station (MSS):** The MSS was founded in mid 1970s. The main objectives of establishing the MSS are:

- To create a marine research facility for scientist and postgraduate students of the two Jordanian Universities that existed at that time; the University of Jordan and Yarmouk University.
- To provide a haven for international scientists interested in studying the tropical-subtropical marine ecosystem. The Gulf of Aqaba with its unique characteristics provides an ideal oceanic model for such studies.

## Mariculture

<b>159.</b> 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	X
b) Development and application of effective site selection methods in the framework of integrated marine and coastal area management	X
c) Development of effective methods for effluent and waste control	X
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.	
<p>There is no commercial mariculture in the Jordanian Gulf of Aqaba. Only a research facility at the Marine Science Station, where Giant Clams are cultured in a closed system facility. The first 3 points are generally considered as conditions whenever any type of project is going to be established at the Jordanian coasts of the Gulf of Aqaba.</p> <p>The Marine Science Station (MSS) has focused on ecosystem studies, particularly the coral reef ecosystem, to provide an integrated understanding of the ecosystem functioning that enables adopting suitable management schemes to optimize the benefits of the scarce Jordanian coastal resources and yet preserve them for the future generations as part of our valuable human heritage.</p> <p>In the capacity of the (MSS) as a research facility, it has lead and participated in several research projects funded by national and international sources. One of the most important research projects was the International Red Sea Program (RSP) in 1995-2000 and which was funded by the German Government and joined by Egypt, Israel, Palestine and Jordan.</p>	

### Alien Species and Genotypes

<b>160.</b> 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	X
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	
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.	
<p>Aquaculture is not found in the city of Aqaba, where strict rules at ASEZA Environment Department prevent this activity whenever it is associated with the sea. Furthermore, a zero discharge policy has been adopted by ASEZA long time ago with which eutrophication caused by an open system aquaculture is prohibited based on this policy. Special legislations that control import of a life alien species also exists as a backup procedure.</p> <p>Jordan does not have a specific law that prohibits the introduction of alien species or controls invading species on ecological grounds. Jordan also has no studies and strategies pertinent to the topic. Jordan has identified some invasive fish species in Jordan River. Also roadside plantation program introduced some alien species imported from abroad. For example, legumes to ornament the side of roads have caused some allergy to Jordanians.</p> <p>Human destruction to natural ecosystems and plants through wrong practices such as plowing land for tenure ship destroyed the primary vegetation and introduced weeds and alien species some of which act as hosts for rodents which act as secondary host for the leishmania disease.</p> <p>Some of the marine fish species that have been identified by the Marine Science Station are <b><i>Sparus aurata</i></b> and <b><i>Dicentrucs labrax</i></b>, which is a Mediterranean introduced fish species to the Gulf of Aqaba coming mainly from the mari-culture facility in Israel.</p>	

#### Box LXIV.

Please elaborate below on the implementation of this programme of work and associated decisions specifically focusing on:
<ul style="list-style-type: none"> <li>a) outcomes and impacts of actions taken;</li> <li>b) contribution to the achievement of the goals of the Strategic Plan of the Convention;</li> <li>c) contribution to progress towards the 2010 target;</li> <li>d) progress in implementing national biodiversity strategies and action plans;</li> <li>e) contribution to the achievement of the Millennium Development Goals;</li> <li>f) constraints encountered in implementation.</li> </ul>

Dose not relate to the question!  
 Human destruction to natural ecosystems and plants through wrong practices such as plowing land for tenure ship destroyed the primary vegetation and introduced weeds and alien species some of which

act as hosts for rodents which act as secondary host for the leishmania disease.

### 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)	
d) Yes, comprehensive strategies, programmes and plans are in place (please provide details below)	X

Further comments on agrobiodiversity components in national strategies, programmes and plans.

The main strategic goals Of the NBSAP are:

1. Conserve biodiversity and use biological resources in a sustainable manner by protecting the various species of animals, plants and micro-organisms in their different agricultural environments.
2. Conserve productivity of environmental systems, especially wildlife habitat, forests, grazing land and agricultural land within a balanced environmental order.
3. Improve our understanding of ecosystems, increase our resource management capability, and promote an understanding of the need to conserve biodiversity by using biological resources in a sustainable manner.
4. Manage natural resources and distribute roles among institutions in a way that conserves the basic natural resources which are necessary for human growth and survival, such as soil, water, plant cover and climate as well as developing these elements and using them appropriately in a sustainable manner.
5. Maintain or develop incentives and legislations that support the conservation of biodiversity and the sustainable use of biological resources.
6. Work with other countries to conserve biodiversity, use biological resources in a sustainable manner and share equitably the benefits that arise from the utilization of genetic resources.

**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.

Conservation and Sustainable Use of Dryland Agro-biodiversity in Jordan aims to promote conservation and sustainable use of important genetic agricultural resources with community-driven in-situ conservation techniques. More specific objectives of this project include:

- Understand the causes of agro-biodiversity degradation at project sites;

- Promote modified and alternative land-use practices;
- Promote the sustainable use and conservation of the agro-biodiversity of the wild and land races of project target crops;
- Increase national capacity to deliver project training needs, for conservation and sustainable use of agro-biodiversity; and
- Reform agricultural policies and related policies to promote agro-biodiversity in project target areas.

### **Annex to decision V/5 - Programme of work on agricultural biodiversity**

<b>Programme element 1 – Assessment</b>	
<b>163.</b> 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)	<b>X</b>
c) Yes, assessments completed (please specify components and results of assessments below)	
Further comments on specific assessments of components of agricultural biodiversity.	
<p>The agro-biodiversity project which started in 2000 and ended in 2005 was a part of a regional project including Syria, Lebanon and the Palestinian Authority. This region is characterized by important food crops and pasture species, and is one of the few nuclear centers where numerous species of temperate-zone agriculture (notably wheat, barley, lentil, pea and vetch) originated 10,000 years ago, and where their wild relatives and landraces of enormous genetic diversity are still found.</p> <p>This project is concerned with agricultural biodiversity, referring to biological resources of actual or potential agricultural value, and the diversity of these species within agroecosystems, and with the conservation and sustainable use of biodiversity within agricultural systems.</p> <p>This project aims to promote conservation and sustainable use of important genetic agricultural resources with community-driven in-situ conservation techniques. More specific objectives of this project include:</p> <ul style="list-style-type: none"> <li>• Understand the causes of agro-biodiversity degradation at project sites;</li> <li>• Promote modified and alternative land-use practices;</li> <li>• Promote the sustainable use and conservation of the agro-biodiversity of the wild and land races of project target crops;</li> <li>• Increase national capacity to deliver project training needs, for conservation and sustainable use of agro-biodiversity;</li> <li>• Reform agricultural policies and related policies to promote agro-biodiversity in project target areas</li> </ul> <p>National Center for Agriculture Research and Technology Transfer (NCARTT):  The NCARTT was established in 1985 with financial assistance from the US government and is charged with both research and technology transfer function. The center coordinates the work of a series of six Regional Agricultural Services Centers (RASCs) which have been located to provide research facilities in each of the major agro-climatic zones of Jordan. The objectives are:</p> <ul style="list-style-type: none"> <li>- Improve and enhance agriculture production.</li> <li>- Conserve the agricultural resources.</li> <li>- Support agricultural development activities.</li> <li>- Promote farming systems on environmental sound basis.</li> </ul> <p>NCARTT maintains close collaboration with international research centers, in particular (ICARDA) and (ACSAD) the collaboration is in the form of jointly planned programs of research, the participation of Jordan in regional and international variety trials and participation in specialized training</p>	

opportunities offered by the international and regional centers.

The NCARTT established Genetic Resource Unit (GRU) in 1993. The main objective of this unit is conserving of plant genetic resources (in-situ and ex-situ) from extinction and deterioration, as well as making the available to user. In addition, establishing a Program of Biodiversity, Genetic Resources and Medicinal Plants, the objective of this program is to sum up diverse efforts, experts and activities concerning conservation and sustainable use of plant biodiversity.

**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	
b) Yes, assessments are under way	
c) Yes, some assessments completed (please provide details below)	<b>?X</b>
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).

The Integrated Ecosystem management in the Jordan Rift Valley project is expected to conduct such an assessment.

**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	
b) Yes, assessment is under way	<b>X</b>
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.

The main activities were carried out through Conservation and Sustainable Use of Dryland Agrobiodiversity in Jordan 2000- 2005:

Socio-economic survey and public awareness campaign has been conducted. Fellowships agreement between project and Jordanian Universities were formulated and signed. 11 persons started their studies. Agreements with the University of Jordan and Jordan University for Science and Technology were developed to implement project activities such as GIS, land use, taxonomy, policy and legal issues. Water harvesting infrastructure were established and maintained in two sites (Ajloun & Mouaqqar). Field gene banks were identified and established. Alternative sources of income for farmers were introduced. Traditional products were promoted in biodiversity fairs. Crop rotating and seed treatment experiments were prepared.

Indigenous knowledge of farmers assessed .

Innovative farmers were trained and used as trainees for local communities in the following areas

A-food processing

B- fruit trees propagation

D- Bee- keeping

Alternative sources of income for farmers were introduced. Traditional products were promoted in biodiversity fairs. Crop rotating and seed treatment experiments were prepared.

**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	
b) Yes, no change found (status quo)	
c) Yes, overall degradation found (please provide details below)	<b>X</b>
d) Yes, overall restoration or rehabilitation observed (please provide details below)	

Further comments on observations.

The conservation of biodiversity was among the first priorities of the agenda of many governmental and non-governmental institutions, and since the research and the information are among the most important pre-requisites for effective and successful programs of conservations. Many institutions and initiatives were involved in research and data acquisition in addition to educational and awareness programs that have been designed and directed toward conservation and sustainable utilization of biodiversity components.

**Badia Research and Development Center (BRDC):** BRDC has implemented an important applied research project in the zone <200 mm rainfall. Particular significance was the research relating to the conservation of biodiversity, range land, soils, socio-economic and anthropological research relating to the range land users (living in the Badia). The program was executed jointly between Royal Society for the Conservation of Nature (RSCN), University of Jordan, Jordan University of Science and Technology and Durham University in UK. In 1995, the BRDC implemented a major Biological Diversity survey in Jordan, supported financially by the Higher Council for Science and Technology, over a period of five years. The following fields of research was planned:

- Plant biodiversity
- Animal biodiversity
- Microorganism biodiversity

This survey resulted in a major document.

In addition, in cooperation with Cue Gardens, Jordan University surveyed vegetation in the northern Badia region and established a herbarium in the Safawi Field Center.

- Use of nature plants and water harvesting at MHAREB area for rehabilitation
- Deferred grazing experiment in mountain rehabilitation

### 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)	<b>X</b>
d) Yes, comprehensive practices, technologies and policies identified (please provide details below)	

Further comments on identified management practices, technologies and policies.

The National Center for Agricultural Research and Technology Transfer has a program to conserve



agro biodiversity apart from the regional program. This program was established as part of the national 5-year plan of Jordan. The overall goal is to conserve, develop, and utilize the national plant biodiversity resources. The program is comprised of three units: the plant biodiversity, the plant genetic resources, and the medicinal and aromatic plants. The project was able to collect, characterize, and plant resources such as the local Okra and Pistachio at the DNA level. Moreover, the project was able to multiply the endangered plant species among of which is the wild crocus. Utilize the tested practices to up-scale and out- scale to the other sites , some recommendations for planting some edible wild or medicinal plant species.

### 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	
b) Yes (please specify area/component and target groups with increased capacity)	<b>X</b>

Further comments on increased capacities of farmers, indigenous and local communities, and their organizations and other stakeholders.

Queen Rania Al-Abdullah Centre for Environmental Science & Technology (QRACEST) at the Jordan University of Science and Technology was established in May 1996 to build closer relationships between Jordan University of Science and Technology (JUST) and the public and private sectors.

The center's mandate is to participate in the national and international efforts towards achieving sustainable development by preserving the environment and its natural resources against improper use/overuse and pollution in an integrated manner that takes into consideration economic growth and other factors through education, research and services.

The agro-biodiversity project conducted several training workshops at the national and regional level to increase the capacity of the local communities in Ajloun and Muwaqqar to manage agricultural diversity and trained some of the local communities in Ajloun through the Ministry of Agriculture on establishing nurseries for the local plant varieties.

**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	
b) No, but potential mechanisms being identified	
c) No, but mechanisms are under development	<b>X</b>
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	
c) No, but measures and arrangements are under development	<b>X</b>
d) Yes, measures and arrangements are being implemented	

(please specify below)	
Further comments on the measures taken to improve the policy environment.	
<p>The Jordan Government is already committed to a long-term programme of poverty alleviation through its social development and investment policies and is supportive of NGO initiatives to expand nature-based businesses. The protected area programmes are particularly apposite because they focus on remote rural communities that have yet to benefit from the government's overall economic reforms. It is also recognized that there is still a long way to go before biodiversity conservation becomes an integral part of all national development strategies.</p> <p>The conservation of biodiversity was among the first priorities of the agenda of many governmental and non-governmental institutions, and since the research and the information are among the most important pre-requisites for effective and successful programs of conservations. Many institutions and initiatives were involved in research and data acquisition in addition to educational and awareness programs that have been designed and directed toward conservation and sustainable utilization of biodiversity components.</p>	

Programme element 4 – Mainstreaming	
<b>171.</b> 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	
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)	<b>X</b>
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.	
<p><b>The National Strategy for Agricultural Development:</b> The recently prepared National Strategy for Agricultural Development (The Consultative Economic Council, 2002) for the decade 2000-2010 stressed on sustainable agriculture and protection of natural and biological resources.</p> <p><b>National Agenda 21:</b> Jordan has prepared its National Agenda 21 document under the patronage of the General Corporation for Environment Protection (now Ministry of Environment) and UNDP assistance. Agenda 21 identified the need to ensure effective integration of biodiversity and habitat protection into sustainable development. This can be achieved by having biodiversity conservation objectives integrated into the policies which drive the major sectors of the economy, such as agriculture, forestry, fisheries, transportation, regional development, energy, land use, recreation and tourism.</p>	

**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	<b>X</b>
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 Agenda 21 demonstrates an umbrella document that identifies combating desertification as a national priority and promotes its integration into the national policy and calls for the involvement of all stakeholders in the implementation of proposed programmes and actions. These include:

1. Rangeland resources
2. Desertification
3. Forest resources
4. Irrigation water
5. Science and technology for sustainable agriculture
6. Data gathering, managing and networking
7. Land use policy and legislation and enforcement

**173.** In the case of centers of origin in your country, is your country promoting activities for the conservation, on farm, *In-situ*, and *Ex-situ*, of the variability of genetic resources for food and agriculture, including their wild relatives?

a) No	
b) Yes (please provide details below)	<b>X</b>

Further comments on of the conservation of the variability of genetic resources for food and agriculture in their center of origin.

Ex-situ - Gene bank was established 1994 at NCARTT. It included:

- Establishment of data base for Gene bank and Herbarium.
- Adopt measures for the recovery and rehabilitation of threatened species and for their reintroduction into their natural habitats under appropriate conditions.
- Regulate and manage collection of biological resources from natural habitats for ex-situ conservation purposes so as not to threaten ecosystems.

In-Situ - The conservation of the variability of genetic resources is implemented through conserving the wild habitats and ecosystems such as what is happening in the already established protected areas such as Dibeen, Ajloun and Dana natural reserves in addition to the grazing reserves. Many species are identified as important genetic resources. In addition, there are initiatives taking place in different parts of the country aiming at conserving the wild relatives of some species such as the Agro-biodiversity project and the Herbal & Medicinal plant project

**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.

**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.

The government has recently developed guide lines for environmental impact assessment through National Agenda 21 and other initiatives. Also, the government of Jordan has issued and updated new legislations and regulations related directly to environment and biodiversity. The legislations most pertaining to the environment and biodiversity were the Environmental Law No. (1) for the year 2003, the Agriculture Law No. (44) for the year 2002, and Aqaba Special Economic Zone Law No. (32) for the year 2000.

The Government of Jordan has recently issued a Bylaw for Environmental Impact Assessment (Bylaw No. 37 for 2005), which requires that any development project that may have an impact on the environment, including biodiversity, to undergo an EIA process in order to minimize these impacts.

Regulation for the Protection of the Environment in the Aqaba Special Economic Zone No. 21 for 2001, Annex 5, states that "a project will normally have a significant effect on the environment if it will significantly affect a rare or endangered species of animal or plant or the habitat of the species". This would require the agency responsible for project implementation to conduct a full Environmental Impact Assessment in order to mitigate and minimize these effects.

## 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	

The National Biodiversity Strategy proposed a series of priority objectives and actions that are presented according to themes involving most sectors of society. The strategy incorporated relevant parts of the convention work programme under the second theme

which addresses sustainable use of biological resources. Jordan strategic objective presented in the NBSAP concerning forests is to recognize the social, economic and ecological values of forests and ensure their conservation and sustainable management.

The operational objectives designed to achieve the strategic target include:

1. Promote afforestation in forestland and reforestation of open natural forest.
2. Enforce the prohibition of illegal cutting.
3. Prevent forest fires and increase readiness for forest fire fighting measures.
4. Promote environmentally friendly forestry practices.
5. Improve the quality and quantity of forest seedlings production with the aim of increasing their survival rate in afforestation projects.
6. Monitor the status and trend of natural forest and afforestation activities.

The priority actions formulated in the NBSAP to include:

1. Forest inventory in Southern Jordan.
2. Study of the survival rate and performance of afforested areas.
3. Development of tree nurseries.
4. Development of forest fire protection.
5. Establishment of a green belt to combat desertification.

Also, other actions were suggested:

1. Promotion of environmentally friendly forestry practices.
2. Forest vegetation survey and assessment of the current status of desertification.
3. Setting up a National strategy for conservation and management of forest ecosystems.
4. Developing efficient and effective techniques for reclaiming denuded and degraded areas with drought resistant forest species.
5. Evaluating the effect of newly afforested areas in relation to environmental in different sites including groundwater recharge, watersheds, wadi banks, desertification control and biodiversity.
6. Improving management and conservation of forest resources.
7. Assessment of forest and windbreaks values in regard to their environmental functions such as pollution control, air filtering, and removal of particulate and noise abatement, temperature amelioration in the cities.
8. Updating forest conservation regulations and bylaws.
9. Capacity building of scientists and forest department staff on issues relevant to the conservation and management of soil and forest resources.
10. Assessment of the medicinal values of different plant species in natural forests.
11. Initiating research to develop silvo-pastoral systems in certain sites within natural forests.
12. Increasing sustainable production from forest and agroforestry systems through species selection improvement of the genetic stock and new breeding and propagation techniques.
13. Regulating the use of forestland to ensure their rehabilitation and perpetual use. (Impose strict penalties on tree cutting, and introduce subsidies supporting the protection of forests.)
14. Develop participatory land management and watershed protection.
15. Promotion of existing traditional conservation systems.
16. Integrating the biodiversity action plan and the national action plan to combat desertification.

The National Environment Strategy (NES) identified several recommendations related to the wildlife and habitat. The recommendations regarding forest areas include:

1. Provide more protection for forests, especially against over grazing, cutting and fires.
2. Provide of natural breeding for plants.
3. Expand afforestation to include privately owned lands unfit or fruit tree cultivation.
4. Decrease the danger of fires.

Expand afforestation by making green belt along the east side of the national railroad network to prevent desertification.

#### 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.

The current policy of the forest administration is to protect and improve existing forest and cover bare forest lands through afforestation in order to improve the semiarid conditions, achieve soil conservation, and green the landscape. Afforestation has been one of the main programs of the Forestry Department in Jordan. Most of the plantations are intended for protective and environmental purposes rather than for productive and economic outputs. Native and exotic plant species are used with a preference for *Pinus halepensis*. The quality and survival rates of such plantations are variable and should be closely evaluated at the country level. Afforestation activities on degraded land have sometimes caused serious conflicts with local people who previously used such areas as free grazing land.

Forests have been addressed in:

**National Biodiversity Strategy and Action Plan (NBSAP):** The Jordanian National Biodiversity Strategy is a response to the obligations of CBD and has been developed as a guide to the implementation of the biodiversity convention in the country.

The Ministry of agriculture provides services and formulates policies and implement projects and programs, aimed at the development of Agriculture sustainability.

**Artic Agriculture Law No. (44):**

Artical (27): Forests and Pastures are organized by this article. The Minister shall issue the regulations that rule the management of the governmental and forest lands as well as the methods to develop, and improve such lands as well as their protection and the conditions of grazing at those areas. In coordination with the concerned parties, the Minister shall set the requirements related to the following.

#### 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.

Because of their limited commercial value, the forests in Jordan are mostly valued for their contribution to soil conservation, watershed management, aesthetic purposes, biodiversity conservation and limited supply of firewood and animal feed. The ecological and social functions of forest are thus of great importance in Jordan and take precedence over wood production and other products. Forest environment provide a habitat for a great diversity of plant and animal species and represent the largest single store of biodiversity.

The rights of indigenous people and local communities are reserved by several laws. Local communities participate in the management of the established forest reserves and national parks since most of the management staff are from these local communities. Also, those people participate are involved in decision making though public consultation and communication programs carried out by the management authorities.

#### 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.

The most respective departments which serve biodiversity are Department of Forests and Department of Range. Departments of Forests and Range are involved in conserving biodiversity through their responsibility in the establishment and management of a number of reserves and protected natural habitat sites in different parts of the country.

- o Three MSc in forestry biodiversity were graduated

- Training farmers on biodiversity of forests and its conservation
- Demonstrated management plans for forest ecosystem

The RSCN has its own capacity building program for the staff and public awareness and some other programs to help the local communities around Dibein Nature Reserve, to decrease the pressure and maintain the Pine forest.

**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 Forestry Department at MOA is a member of the Far East Forestry Council.

Arab Forest Institute located in Lattakia launched a new specialty on biodiversity and Jordan is a member of this institute that serves the region.

**Expanded programme of work on forest biological diversity**

**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).

The Forestry Department has an annual forestation program where they afforest yearly 500-600 hectares. The Department also has specialized forestry nurseries, which produce annually 4-5 million seedlings where 50% are planted by the Forestry Department and the other 50% are donated to national institutions and individuals. Departments of Forests and Range are involved in conserving biodiversity through their responsibility in the establishment and managing a number of reserves and protected natural habitat sites in different parts of the country. These sites are cover all eco-systems of Jordan including steppe rangeland, desert rangeland and forest range (natural and man made forest) in highlands. Develop management plans for some hot spots of biodiversity are under taken.

The ecosystem approach is not yet implemented in Jordan; however potential measures for implementation are being under consideration.

176. Has your country undertaken measures to reduce the threats to, and mitigate its impacts on forest biodiversity?		
Options	X	Details
a) Yes	X	<p>Please specify below the major threats identified in relation to each objective of goal 2 and the measures undertaken to address priority actions</p> <p><b>The threats include:</b></p> <ol style="list-style-type: none"> <li>Forests cutting</li> <li>Fire</li> <li>Livestock grazing</li> <li>Growing agriculture and industrial activity</li> <li>Shortage in available information and limited research</li> <li>Limited financial resources</li> </ol> <p><b>Measures taken to address priority actions:</b></p> <p>Four forest natural reserves currently established or under preparation. These reserves are managed and directed through the Forestry Department and the Royal Society for the Conservation of Nature and cover an area of 107 200 ha.</p> <p>Law enforcement is being carried out by the Ministry of Agricultures (forests rangers), and the RSCN forest reserves and national parks employees and rangers. Those rangers are equipped with cars and other tools needed. Law enforcement is coordinated also with the police whom plays an important role in this regard.</p> <p>13 permanent tree nurseries distributed in the different climatic and geographical zones of Jordan. They are equipped with irrigation and watering facilities, and managed by trained personnel. The production of these nurseries is used directly in afforestation programs that are implemented and supervised by the Forestry Department or distributed to the public or to the military for their annual plantation programs. Even though the annual production of these nurseries is about 9 million seedlings, there is a need for improvement.</p> <p>The current policy of the forest administration is to protect and improve existing forest and cover bare forest lands through afforestation in order to improve the semiarid conditions, achieve soil conservation, and green the landscape. Afforestation has been one of the main programs of the Forestry Department in Jordan. Most of the plantations are intended for protective and environmental purposes rather than for productive and economic outputs. Native and exotic plant species are used with a preference for <i>Pinus halepensis</i>. The quality and survival rates of such plantations are variable and should be closely evaluated at the country level. Afforestation activities on degraded land have sometimes caused serious conflicts with local people who previously used such areas as free grazing land.</p> <p>Public awareness and education concerning the conservation of forests have been implemented by governmental and nongovernmental organizations. The RSCN is also implementing public communication and participation programs to ensure local communities participation in the management of the established protected areas and in mitigating impacts to forests.</p> <p>EIA regulations are being enforced by the Ministry of Environment to ensure intended economic activities are complying with the national environmental legislations, and to ensure the protection of forests.</p>
b) No		<p>Please provide reasons below</p>



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).

The new upgraded agricultural law of the year 2002 has made certain progresses at the level of protecting and conserving biodiversity. The law prevented the use of forestland for any purposes and for any individual as well as including the forestland for human activities or for urban planning purposes only with a prior consent of cabinet. Training on sustainable management of Forestry ecosystem in Jordan were taken

**177. Is your country undertaking any measures to protect, recover and restore forest biological diversity?**

Options	X	Details
a) Yes	X	<p>Please identify priority actions in relation to each objective of goal 3 and describe measures undertaken to address these priorities</p> <p>Managing protected areas, including the creation of new natural reserves (Wadi Rum, Dana, Burqa) and a marine national park in Aqaba, to complement the seven existing reserves; the rehabilitation of the core area of the Azraq oasis; the expansion of antiquity sites and other existing areas to include additional environmental and conservation elements.</p> <p>Departments of Forests and Range are involved in conserving biodiversity through their responsibility in the establishment and managing a number of reserves and protected natural habitat sites in different parts of the country. These sites are cover all eco-systems of Jordan including steppe rangeland, desert rangeland and forest range (natural and man made forest) in highlands.</p> <p>The total area of forest as protected areas is about 70,000 ha, (natural and man made forest) while the total area of range reserves is 84399 ha.</p> <p>The objective of this type of reserves is to conserve the vegetative cover of these sites. Biodiversity rehabilitation experiments in forest –ecosystem including reseeding and different grazing methods and time.</p>
b) No		<p>Please provide reasons below</p>

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).

The new upgraded Agricultural Law of the year 2002 has made certain progresses at the level of protecting and conserving biodiversity.

The Forestry Department has established seed center and botanical gardens which represent program for biodiversity conservation at national level. The main objective of the center is to store and maintain forest and range seeds through selection, collection, processing, certification and handling seeds. Two botanical gardens were established, one in high lands (Yajoz) comprises of 150 species, while the second one in Jordan Rift Valley (Dairalla) comprises of 70 species.

178. Is your country undertaking any measures to promote the sustainable use of forest biological diversity?		
Options	X	Details
a) Yes		<p>Please specify priority actions in relation to each objective of goal 4 and describe measures undertaken to address these priorities</p> <p>Strengthening institutions working for environmental protection and conservation including funding staff training, equipment, and outreach.  The Environment Protection Law of Jordan and the EIA bylaw established mechanisms to ensure reducing impacts to biological resources and diversity, the mechanisms include environmental licensing, EIA, and environmental management of developmental projects.  The Agricultural law number 44 for the year 2002 has several articles that governs the use of the forests to ensure there sustainability.  Besides, RSCN is responsible for giving the CITES permissions, including flora and fauna. There are 4 plant species on the CITES appendix II (one of them includes 4 subspecies). Jordan is committed to applying the convention's conditions.  Also, many institutions are working on increase the awareness of local communities living around forestry areas for there importance in conservation of ecosystem, such as the Ministry of Agriculture and the RSCN.</p>
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	<p>Please specify priority actions in relation to each objective of goal 5 and describe measures undertaken</p> <p>Concerning collecting fauna for researches it falls under paragraph 6 of section A of Item 57 of Agriculture law , which states that the Minister of Agriculture has to specify regulations for experimental animals and all related matters in their use for scientific purposes .Regulations were developed as mentioned in this paragraph, but they are not approved by the Minister till now.</p> <p>Concerning collecting flora specimens for any purpose, the approval of the Minister of Agriculture is needed as mentioned in articles 31, 34 and 35 of the agricultural law number 44). The Law for Protection of New Plant Species for the year 2000 gives property rights to those who create new and original plant species. In Theme 5 of the NBSAP 2003, it is suggested to develop bylaws and regulations on biodiversity-related issues, including intellectual property rights, which until now do not address the issue of new plant species.</p>
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		
<b>180.</b> 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	<p>Please identify priority actions in relation to each objective of Goal 1 and describe measures undertaken to address these priorities</p> <p>The Forestry Department has established seed center and botanical gardens which represent program for biodiversity conservation at national level. The main objective of the center is to store and maintain forest and range seeds through selection, collection, processing, certification and handling seeds. Any institution in the country or researcher is welcomed to get seeds and seedlings of the species they want from the department. The issue of access and benefit-sharing is still not taking enough attention at the country level.</p> <p>The NCARTT established Genetic Resource Unit (GRU) in 1993. The main objective of this unit is conserving of plant genetic resources (in-situ and ex-situ) from extinction and deterioration, as well as making them available to user.</p>
b) No		<p>Please provide reasons below</p>
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).		

<b>181.</b> 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		<p>Please identify priority actions in relation to each objective of Goal 2 and describe measures undertaken to address these priorities</p>
b) No	X	<p>Please provide reasons below</p> <p>No past experience on this issue</p>
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	<p>Please identify priority actions in relation to each objective of goal 3 and describe measures undertaken to address these priorities</p> <p>All public education, participation and awareness in general are related to biological diversity and ecosystem in general including forest biological diversity.</p> <p>Public education and awareness programmes are being implemented primarily by the RSCN. The RSCN developed its own strategy to target several target groups of the community including school students, university students, local communities living within the surroundings of the established protected areas such as Dibein and Ajloun reserves which are of forest nature. Visitors visiting the established protected areas, the hunters, the tourism operators, and many others are also targeted by these programmes.</p> <p>Public participation is being promoted by the government and the RSCN, and several activities have been carried out during the last few years.</p> <p>In 1995, the Ministry of Education in Jordan launched a long term project to integrate environmental protection within the national education curricula.</p> <p>The Agro biodiversity project with cooperation with the Jordan Environment Society, in date reviewed the matrix of biodiversity concepts in the national curricula and produced the following results:</p> <ul style="list-style-type: none"> <li>▪ Produce the reference matrix for biodiversity concepts.</li> <li>▪ Conduct a comprehensive survey for biodiversity concepts in the national curricula grades (1-11) in four subjects.</li> <li>▪ Preparation of a suggested matrix in the four studied subjects according to the identified gaps.</li> <li>▪ Produce a teacher technical guide for the new concepts.</li> </ul>
b) No		<p>Please provide reasons below</p>

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).

<b>Programme element 3 – Knowledge, assessment and monitoring</b>		
<b>183.</b> 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?		
<b>Options</b>	<b>X</b>	<b>Details</b>
a) Yes		Please identify priority actions in relation to each objective of Goal 1 and describe measures undertaken to address these priorities
b) No	<b>X</b>	Please provide reasons below  There is not sufficient expertise to conduct such an assessment and experts are scattered in different institutions.
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).		

<b>184.</b> Is your country undertaking any measures to improve knowledge on, and methods for, the assessment of the status and trends of forest biological diversity?		
<b>Options</b>	<b>X</b>	<b>Details</b>
a) Yes		Please identify priority actions in relation to each objective of goal 2 and describe measures undertaken to address these priorities
b) No	<b>X</b>	Please provide reasons below  Lack of financial resources to increase the capacity of the staff working in the Forestry Department at the Ministry of Agriculture to conduct such an assessment. Although the Ministry of Environment in its new structure established an assessment and monitoring directorate but this directorate is still not functional
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	<p>Please identify priority actions in relation to each objective of goal 3 and describe measures undertaken to address these priorities</p> <p>Jordan has developed its national environmental education, awareness and communication strategy.</p> <p>In addition to its outreach, public awareness and environmental education programs targeting the local communities living close to the protected areas, the RSCN has established 1000 nature clubs in schools all over Jordan. The RSCN develops regular activities for these clubs through well trained supervisors for these clubs supported by education materials which are produced regularly by RSCN.</p> <p>The Jordanian academic institutions are taking part in raising the public awareness about the importance of conserving biodiversity and help people understands this fact when they visit their available herbaria.</p>
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		Please identify priority actions in relation to each objective of goal 4 and describe measures undertaken to address these priorities
b) No	X	<p>Please provide reasons below</p> <p>As already mentioned, the government of Jordan due to lack in financial resources is not conducting capacity building for the staff working in the Forestry Department at the Ministry of Agriculture to conduct such an assessment and monitoring. Hence no work is being done to improve the data and information management for accurate assessment and monitoring of global forest biodiversity.</p>
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.

The government on Jordan is taking serious steps towards increasing the level of education of all target groups of the importance of biodiversity including forest biodiversity which lies within achieving the 2010 targets and help in the conservation and sustainable use of biodiversity.

No much work has been done towards establishing an effective assessment and monitoring system due to lack of financial resources.

### 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.

There are some organizations working on the conservation of dry lands. The Badia Research and Development Centre (BRDC) is the main one. The BRDC helps and funds scientific researches and studies regarding biodiversity conservation, combating desertification, rangeland rehabilitation, social awareness and indigenous knowledge. Also BRDC gets fund from national and international funding agencies to conduct community-based projects. Also, the BRDC has established its own herbarium.

Through establishing a network of natural reserves, the RSCN has protected several significant dry and subhumid regions, this include Mujib Nature Reserve, Shaumari Wildlife Reserve, Wadi Rum Protected Area. NOT ESTABLISHED BY RSCN Wadi Al-Butum National Park (UNESCO Site), Perta National Park (UNESCO Site). Other significant regions are proposed to be protected in the future (Jarba, Abu Rukbah, Jebel Masuda, Aqaba, Burqu, Rajil, Bayer, Fifa, Qatar, and Jordan Valley). It is the government of Jordan vision that integrated ecosystem management approach would give the maximum possible conservation and sustainable use in these regions, thereto; this approach is in the way of implementation the Jordan Valley region.

Also the Agro-biodiversity project which is a regional project being implemented in Jordan, Syria, Palestine and Lebanon identified Al Muwaqar as a target area to implement its activities in Jordan. Al-Muwaqar area is considered as a dry land. The project identified causes of biodiversity loss and means to conserve it such as identifying alternative livelihoods. The project helped the local community in Muwaqar in implementing small income generating projects that would conserve biodiversity and facilitated their funding through the GEF's small grant program in Jordan.

<b>188.</b> 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.	
<p>BRDC has played a major role in preparing the action plan for combat desertification and biodiversity, through share the available data and participate in the preparing process. BRDC has matched its action plan and strategy with the general action plan of biodiversity and desertification.</p> <p>The NAP identified the threats facing biodiversity which contribute to desertification in Jordan. Also, the NAP identifies several programme of work one of which is restoration of degraded ecosystems of rangelands and forests. Under this programme several projects are proposed which contribute to conserving biodiversity.</p>	

<b>189.</b> 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	X
b) Yes, some linkages established (please provide details below)	
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.	
No, not till presence. The NAP of the UNCCD has been launched only recently.	

<b>Programme Part A: Assessment</b>	
<b>190.</b> 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	
b) No, but assessment is ongoing	
c) Yes, some assessments undertaken (please provide details below)	X
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.	
<p>BRDC has built good information about the biodiversity through conducting several surveys and studies. Also BRDC has lot of publications under the area of biodiversity and its problems in the North Badia of Jordan.</p> <p>Also the Agro-biodiversity project which is a regional project being implemented in Jordan, Syria, Palestine and Lebanon identified Al Muwaqar as a target area to implement its activities in Jordan. Al-</p>	



Muwaqar area is considered as a dry land. The project identified causes of biodiversity loss and means to conserve it such as identifying alternative livelihoods.

As mentioned above; Several significant dry and subhumid regions have been protected, this include, Wadi Al-Butum National Park (UNESCO Site), Perta National Park (UNESCO Site). RSCN has established Mujib Nature Reserve, Shaumari Wildlife Reserve & Wadi Rum Protected Area, in the establishment process a set of studies and monitoring programs are conducted to assess the status of the area, the knowledge gained is developed into management plans and serves the management of the sites.

### 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	
b) Yes, some measures taken (please provide details below)	<b>X</b>
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.

New significant regions are proposed to be protected in the future (Jarba, Abu Rukbah, Jebel Masuda, Aqaba, Burqu, Rajil, Bayer, Fifa, Qatar, Jordan Valley). It is the government of Jordan vision that integrated ecosystem management approach would give the maximum possible conservation and sustainable use in these regions, thereto; this approach is in the way of implementation the Jordan Valley regional effort has been made concerning this point.

The BRDC's vision is to promote the conservation of the natural resources in Jordan's Badia through the local community participation. And tries to increase the income of the local communities there through adopting small income generating projects which conserve biodiversity.

Also, currently the Jordanian Hashemite fund was established and is working on implementing projects that conserve biodiversity in the Badia and increase the income of the local communities there. Nowadays they are working in cooperation with all stake holders on developing Burqu area through creating natural and rangeland reserves and developing ecotourism plan for the area to increase the income of the people living there through creating alternative livelihoods for the local communities away from livestock trading which would lower the pressures on rangelands.

Besides, the Agro-biodiversity project when targeting Muwaqqar, conducted several public awareness and educational activities to aware the local community of the importance of biodiversity its means of conservation. The project tried to train the local community on means of identifying channeling of fund and marketing their products. The project also worked on identifying successful cases and disseminating it to the local community.

**192.** Has your country taken measures to strengthen national capacities, including local capacities, to enhance the implementation of the programme of work?

a) No	
b) Yes, some measures taken (please provide details below)	<b>X</b>
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.

The RSCN and the BRDC has been establishing different types of capacity building activities at the community level in the areas where they work.

Also, the Agro-biodiversity project in Muwaqqar conducted several training workshops for the farmers on conserving biodiversity, water harvesting techniques, means of identifying channeling of fund, and marketing their products.

**Box LXXII.**

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.

All the actions taken lie within achieving the 2010 targets and sustainable development which is goal 7 of the Millennium Development Goals.

The main constrain facing the implementation of this program is the need of creating a data base of biodiversity at the Ministry of Environment to enable the monitoring of the success achieved in implementing the program in addition to the funding resources.

**Mountain Biodiversity**

**Programme Element 1. Direct actions for conservation, sustainable use ad benefit sharing**

**193.** Has your country taken any measures to prevent and mitigate the negative impacts of key threats to mountain biodiversity?

a) No	
b) No, but relevant measures are being considered	
c) Yes, some measures taken (please provide details below)	<b>X</b>
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

Mountains are referred to in Jordan as highlands extending north to south alongside the Rift Valley and in the eastern Badia. The frosted mountains bio-type reserves are Dibeen and Ajloun reserves and the proposed ones are; Jebel Masuda and Yarmouk Natural Reserves, while the non-forest mountain bio-type is represented in the established Al Mujib Nature Reserve, Dana Biosphere Reserve, and Rum Nature Reserve.

**194.** Has your country taken any measures to protect, recover and restore mountain biodiversity?

a) No	
b) No, but some measures are being considered	
c) Yes, some measures taken (please provide details below)	<b>X</b>
d) Yes, many measures taken (please provide details below)	

Further comments on the measures taken to protect, recover and restore mountain biodiversity

As mentioned above, The Royal Society for the Conservation of Nature is managing 4 protected areas, Mujib, Ajloun, Dana and Dibeen Reserves, which are located in the mountain areas, in addition to Wadi Rum Protected area managed by ASEZA.

**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	
b) No, but some measures are being considered	
c) Yes, some measures taken (please provide details below)	<b>X</b>
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

The Agriculture Law number 44 of the year 2002 requires the provision of more protection for forests and its ecosystem, especially against over grazing, cutting and fires. Also the Agro-biodiversity project targeted Ajloun which is a forest mountain area, to conduct its building capacity activity for the sustainable use of biodiversity in general and the agro-biodiversity in specific. Also, the project tried to help the local communities in conduct alternative livelihoods that would enhance the conservation of the biodiversity in the area.

**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	
b) No, but some measures are being considered	<b>X</b>
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

The benefit from utilization of mountain genetic resources including forest areas are organized by Agriculture Law number 44 of the year 2002.

**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	
b) No, but relevant frameworks are being developed	
c) Yes, some frameworks are in place (please provide details below)	<b>X</b>
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.

The Ministry of Environment and Agriculture included the mountain areas within their strategies, mandatory policy and laws.

**198.** Has your country been involved in regional and/or Tran boundary cooperative agreements on mountain ecosystems for conservation and sustainable use of mountain biodiversity?

a) No	
b) No, but some cooperation frameworks are being considered	<b>X</b>
c) Yes (please provide details below)	

Further information on the regional and/or Tran boundary cooperative agreements on mountain ecosystems for conservation and sustainable use of mountain biodiversity

There are some initiatives with neighboring countries (projects and proposals) such as the agro-biodiversity project.

**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	
b) No, but relevant programmes are under development	
c) Yes, some measures are in place (please provide details below)	<b>X</b>
d) Yes, comprehensive measures are in place (please provide details below)	

Further comments on the measures for identification, monitoring and assessment of mountain biodiversity

In the established reserves a number of programs for studying the protected areas, assessing their status and setting the monitoring programs take place . This is applied for all the reserves in the mountainous area. This also includes Outreach and education programmes, Socio-economic programmes. Ecotourism programme and a Campsite. But there is not an effective national system for the assessment and monitoring of biodiversity. Although the Ministry of Environment in its new structure established an assessment and monitoring directorate but this directorate is still not functional

<b>200.</b> 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	
b) No, but relevant programmes are under development	
c) Yes, some measures are in place (please provide details below)	<b>X</b>
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	
<p>In 1998 RSCN has established "a Regional Training and Development Unit" to facilitate its regional development programme in the following subjects:</p> <ul style="list-style-type: none"> <li>▪ Protected area management.</li> <li>▪ Ecotourism development.</li> <li>▪ Institutional Development.</li> <li>▪ Environmental Awareness</li> </ul> <p>The NCARTT established Genetic Resource Unit (GRU) in 1993. The main objective of this unit is conserving of plant genetic resources (in-situ and ex-situ) from extinction and deterioration, as well as making them available to user. In addition, establishing a Program of Biodiversity, Genetic Resources and Medicinal Plants, the objective of this program is to sum up diverse efforts, experts and activities concerning conservation and sustainable use of plant biodiversity. The project contains a capacity building component.</p>	

<b>201.</b> Has your country taken any measures to develop, promote, validate and transfer appropriate technologies for the conservation of mountain ecosystems?	
a) No	<b>X</b>
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	

**Box LXXIII .**

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

All the efforts that the Jordanian government is doing to increase the sustainable use of mountain biodiversity lies within achieving the Millennium Development goals especially when we are talking about creating alternative livelihoods for the local communities living in the area.  
The main constrain for the implementation of this programme of work is the lack of financial resources which prevents the efficient training and public awareness programmes. In addition to the overlap of responsibilities between the Ministry of Environment and the Ministry of Agriculture.

**E. OPERATIONS OF THE CONVENTION**

**202.** Has your country actively participated in sub regional and regional activities in order to prepare for Convention meetings and enhance implementation of the Convention? (decision V/20)

a) No	<b>X</b>
b) Yes (please provide details below)	

Further comments on the regional and sub regional activities in which your country has been involved.

Lack of financial resources prevents the participation of our experts in sub regional and regional activities.

**203.** Is your country strengthening regional and sub regional cooperation, enhancing integration and promoting synergies with relevant regional and sub regional processes? (decision VI/27 B)

a) No	<b>X</b>
b) Yes (please provide details below)	

Further comments on regional and sub regional cooperation and processes.

Except through the implementation of the CITES convention

**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 sub regional networks or processes? (decision VI/27 B)

a) No	
b) No, but programmers 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 sub regional networks or processes.

<b>205.</b> 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	

<b>206.</b> 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)	
Further comments on contribution to the assessment of the regional and subregional mechanisms.	

**Box LXXIV.**

<p>Please elaborate below on the implementation of the above decisions specifically focusing on:</p> <ul style="list-style-type: none"> <li>a) outcomes and impacts of actions taken;</li> <li>b) contribution to the achievement of the goals of the Strategic Plan of the Convention;</li> <li>c) contribution to progress towards the 2010 target;</li> <li>d) progress in implementing national biodiversity strategies and action plans;</li> <li>e) contribution to the achievement of the Millennium Development Goals;</li> <li>f) constraints encountered in implementation.</li> </ul>
No comment

**F. COMMENTS ON THE FORMAT**

**Box LXXV.**

Please provide below recommendations on how to improve this reporting format.
<p>The report is so complicated and too detailed.  Some of the answers overlapped with the other answers and it was difficult to distinguish them.  This format highlighted the importance of having a national data base and process of monitoring and reporting on Biodiversity, as a result answering this report took extensive effort and time for collecting the data from the different institutions.  - The divisions used in this report had a problem ( mountainous areas include parts of the forests) , some areas in Jordan are considered to be a representative for more than one area.  Some of the questions were difficult to understand hence the redundancy in answering the questions was unavoidable.</p>

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