Syrian Arab Republic **GEF** **UNDP**
Ministry of State for
Environmental Affairs
Directorate of Biodiversity and
PAs

The Fourth national report

on Biodiversity in the Syrian Arab Republic

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Executive Summary

Syria, ever since is considered a cradle for many civilizations. Man inhabited this fertile land since old periods and utilized its resources. However, such utilization has led to change in vegetation and degradation of wildlife throughout the country, in coastal areas, inland, mountains, and steppe land.

Plant domestication and growing began more than 10.000 (ten thousands) years ago in West Asia. Since then tens of economic plant species were discovered and used by man and its domesticated animals.

Syria also is considered one of the main centers rich in its agro-Biodiversity (food, forage crops, and fruit trees) like: Wheat, Barley, Lentils, Chickpeas, Lathyrus, and Olives, Almonds, Pear, Plums, Medic, Clover, Ornamental, Medicinal, and Aromatic plants. Such plants are main stocks and heritage for farming in the country and the world.

Syria has signed the CBD on May 3rd, 1993 and ratified it on Dec, 10th, 1995. Therefore, the country became a party signatory, conducting integrated measures in all related sectors aim to stop Biodiversity loss in all related systems in the country.

CBD requires all parties to follow up applying all commitments i.e. preparation of the national study , national strategy and plan, a preparation of national reports, which reflect the progress being made in applying CBD and follow up objectives in Biodiversity conservation. Reduction of Biodiversity loss, and conservation of eco-system, that allows planning to conserve Biodiversity as well as in duding it in national development plan.

Achievement of sustainable utilization of bio-resources, through introducing Biodiversity safety criterion in adoption criteria of development projects (agricultural, urban, and industrial).

Syria has made some acceptable steps of projects activities in different aspects mainly:

1- Reference studies, (practical, taxonomical):

- National Country Study of Biodiversity.

- National Strategy and National Action Plan of Biodiversity.

- National Biodiversity Atlas (part 1).

- Field Guide Book for Birds in Syria.

- Tens of MS, PhD theses concerning Biodiversity components.

- Preparation the three national or country reports to CBD secretariat.

2- Issuing and updating some legislations:

- Law 50: (Environmental Law: 50)2002.

- PAs requirements and conditions 2003.

- Updating forestry law 2007.

- Issuing of the water legislation 2003.

- Updating of the Steppe (Semi – Arid zone) Law 2006.

- Preparation of the draft of national framework on Bio-safety.

- Preparation of the draft national law on the implementation of CITES.

- Preparation of the draft law on Plant Genetic Resources exchange.

3- Declaration of 27 natural protected areas, 64 pastoral (rangeland) protected areas with multi eco systems covering more than 60%. of national Biodiversity components.

4- Rehabilitation of some species and developing PAs infrastructures.

5- Accomplishment of many public awareness campaigns and increase knowledge (seminars, publication, and press media). One of the main activities was introduction of Biodiversity concepts in different sectors, especially education (school curricula) and information.

6- More focus on deepening local communities and CBOs, NGOs roles in natural resources management, especially Biodiversity components inside and outside PAs.

-Sustainable use and management of genetic resources through carrying out many field projects (Agro- Biodiversity project, Biodiversity Conservation and Protected Areas Management Project SYR/05/010.

- Integrated development of Syrian Steppe land, various PAs projects (AL-Talila, Mar Mousa, Jebel Abdul Aziz, Abu Qubies, Al-Fouronloq).

7- International Biodiversity considerations in all studies concerning the environmental impact assessment of national development projects (public, and private sectors) are taken into account.

8- In capacity building, many training programs and courses were achieved aiming at rehabilitation of well qualified staff to carry out various activities ranging from PAs management, application of laws, and legislations (Forestry law, Environmental law, hunting law, control of border checkpoints……), and knowledge transfer and capacity building of coming generations.

9- A national committee (Annex 5) was established to prepare the 4th national report, and includes all concerned parties; University (Biology, and Agriculture Faculties), Ministries, Research centers, Public organizations, Syndicates, CBOs , and NGOs. In this effort the national committee has held four meetings with the following:

1- Presentation and discussion of CBD instructions and guidelines relating to 4th national report preparation.

2- Reviewing achievements and trends of each concerned national party and underway achievements relating to Biodiversity conservation.

The objective is to carry out what belongs to each concerned party according to its specialty and work in order to achieve conservation of Biodiversity components, and its sustainable use in line with national strategy of Biodiversity's main topics as:

-Sustainable socio-economic development.

-Conservation of wildlife Biodiversity.

-Conservation of freshwater and marine Biodiversity.

-Set up national network of PAs.

-Propagation of plants, economic wildlife, and rehabilitation of endangered species.

-Conservation of farming systems and rangeland in steppe land, forests, afforestation areas, and local plant, and animal genetic resources.

-Updating legislations and required frameworks for Biodiversity management.

-Support scientific research, control of biotechnology, and safeguarding Bio-safety.

-Deepening, strengthening education, and environmental knowledge especially Biodiversity conservation.

-Support pan-Arab, regional, and international collaboration in Biodiversity conservation aspects, in addition to hold bilateral meetings with other national parties, local communities, and NGOs.

Chapter 1:

General review of Biodiversity status, trends, and threats

1. General status of national Biodiversity:

Even though Syria is not a big country but it's one of relatively rich countries in plant, and animal Biodiversity. Such richness is attributed to topographic and climatic diversity (highest mountain like Mount Hermon peak 2814m, Valleys like Al-Himma-300m below sea level).

Precipitation ranges from above 1000 mm in the western parts to below 120mm in the eastern parts of country. Within these two parts lie beaches, coastal mountains, Forests, hills, agricultural plains, and steppe land, where rivers flow, fresh water lakes, and saline water lakes.

The country is also characterized by a variety of soils, ecological systems, which form typical habitats for plants and animals in a temperate summers and relatively cold winters. Meanwhile inland plains and hills are dry, where desert species survive, as well as vascular and non vascular plants evolution history has an important impact on this Biodiversity in addition to various eco systems.

Studies and inscriptions in historical ruins and pillars of ancient cities show that Biodiversity was more flourished and abundant. Studies done by Arab researchers and foreign travelers in 18, 19 centuries till the beginning of 20 century showed that huge numbers of plant and animal species, which are now extinct, like (Syrian brown bear, deer and Gazella, Wild Syrian Ass).

Locals and researchers testified that Syrian tiger and leopards existed in the past since their survival depends on abundance of Syrian deer, Wild Ass, which were their main preys and source of survival.

Biodiversity, especially during the two last centuries suffered a lot of threats and factors that led to its degradation.

Table (1):

Main biological groups, numbers compared with their numbers in the world (national study of Biodiversity 1998).

Per cent	No. of Species in the World	No. of Recorded Species	Main biological groups	No
1.4%	46,983	641	Fungi	1
1.5%	26,900	55	Bacteria	2
2.4%	30,600	754	Algae	3
1.3%	750	100	Gymnosperms	4
1.4%	220,000	0033	Angiosperms	5
0.1%	751,000	1449	Insects	6
2.4%	19,056	452	Fishes	7
0.4%	4184	16	Amphibians	8
2.0%	6300	127	Reptiles	9
4.4%	9040	394	Birds[1]	10
3.1%	4000	125	Mammals	11

1.Birds of Syria (Field Guide Book2008): publication of the Syrian Society for Conservation of Wildlife and Birdlife International.

1.1: Terrestrial Biodiversity

1.1.1: Flora:

1.1.1.1 Introduction:

- Studies refer that Syria has the following phyto-geographic regions:

Irano-Turanian region, Mediterranean region, Saharan- Arabian region, in addition to Euro-Siberian region element and other elements of other phyto-geographic regions. Studies of phyto-geographic surveys recorded more than (2300) flora species (botanical encyclopedia, international references) these numbers from 75% of the flora in the country.

The major part of Syrian flora is Mediterranean or Irano- Turanian (If the two regions were taken independently) such species form more than 50% of Syrian flora. If species belonging to the two above mentioned regions (Mediterranean, Irano- Turanian) it will reach 80% of the Syrian flora. Euro-Siberian species are very few, as well as the tropical-African region species. Consequently, the major part of Syrian flora belongs to Mediterranean region, or continental Asian originally Turkey, Iraq, and Iran.

1.1.1.2 Elements of Syrian Flora:

Syrian flora includes more than 3000 species (3300 species) classified into about (900) genera and (130) families. The genus coefficient is 3, 5 (one genus against every three species). One family against seven genera and 23 species, diversity in area unit is (0,718) family, and (4, 97) genus, and (16,6) species in each (1000) km2 of the country's total area.

Main facts of the Syrian vascular plants are as follows:

Pteridophytes Flora:

The Syrian pteridophytes includes about 22 species mostly are endangered
Most of these species are rare and of limited geographical distribution.

Table (2): The Pteridophytes Flora:

Group name	No. Families	No. Genera	No. Species	No. endangered species
Lycopodiophyta	2	3	3	2
Equisetophyta	1	1	2	2
Polypodiophyta	6	15	17	15

Gymnosperms:

Gymnosperms include around 12 species distributed as follows: Table (3)

Group name	No families	No genera	No species	No endangered species
Gymnosperms	**3**	**7**	**12**	**10**

Angiosperms Flora:

It is considered one of the most groups being surveyed and recorded.

According to studies the No. species of Gymnosperms around 3288 species.

Table 4: Shows names of 30 families including more than 80% of all flowering plant species in Syria.

Family Scientific name	No. Genera	No. Species
Fabaceae	50	402
Compositae	106	331
Graminae	104	222
Cruciferae	71	189
Labiatae	31	191
Umbelliferae	74	164
Liliaceae	24	149
Scrophulariaceae	15	115
Boraginaceae	29	101
Ranunculaceae	12	77
Chenopodiaceae	30	71
Rubiaceae	11	55
Euphorbiaceae	5	51
Rosaceae	19	44
Iridaceae	5	41

Polygonaceae	8	36
Papaveraceae	8	34
Cyperaceae	10	33
Orchidaceae	11	32
Malvaceae	7	25
Crassulaceae	5	25
Campanulaceae	5	24
Convulvolaceae	4	21
Caryophyllaceae	11	21
Solanaceae	10	17
Cistaceae	5	16
Amaryllidaceae	5	9
Primulacea	7	7
Oleaceae	5	7

It is noticed that one of the main plant families widely distributed in Syria is *Fabaceae* (Legume family), which have a significant importance since it includes food, forage and biological Nitrogen fixating plants.

1.1.1.3 Forests status:

The millennium report statistics confirm the increase of land covered with forests from 2, 22% in 1995 to 2, 53% in 2004 (MAAR statistics). Such percentage has slightly increased due to reduction in green areas between 2000 – 2002 due to urban pressure, climate change, decreasing rainfalls, and increasing temperatures in dry seasons, which the region suffered in the last seven years. As well as increasing wildfires.

1.1.1.4 Distribution of endemic species in the country:

No. of endemic species in Syria reached 243 species according to studies of last centuries (Mutierd survey).

For comparison purposes all endemic species in Syria and Lebanon (common characteristics for flora) reached 330 species, that means around 8% of the total flora of the two countries is endemic.

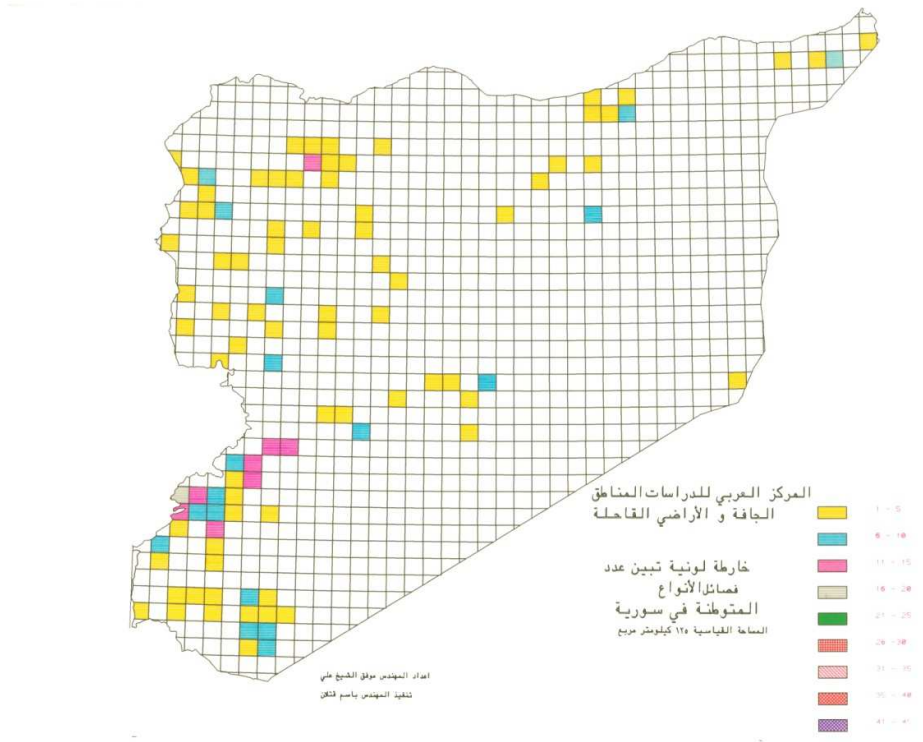
Table (5): Shows the first 15 endemic families and endemism percentage of families' species.

Percentage of endemism	Endemic species	Total of genera and species		**endemism percentage of families' species**
		G	S	
Fabaceae	52	50	402	13
Compositae	29	106	332	8
Labiatae	27	31	180	15
Liliaceae	25	24	142	17
Iridaceae	16	4	41	39
Umbelliferae	12	24	154	7.8
Scrophulariaceae	10	15	108	9
Caryophyllaceae	7	11	21	33
Cruciferae	7	21	184	3.8
Ranunculaceae	6	12	25	8
Euphorbiaceae	5	5	51	9.8
Boraginaceae	4	29	90	4
Campanulaceae	4	5	227	1.7
Malvaceae	3	7	25	12

Table (6): Shows the first 9 genera and their species and endemism percentage

Ranking according to No. species	Families	Genera	No. Total Species	No. endemic Species	Percent %
1	*Iridaceae*	*Iris*	23	12	38
2	*Fabaceae*	*Astragalus*	110	31	28
3	*Compositae*	*Centaurea*	45	10	26.6
4	*Liliaceae*	*Allium*	46	12	26
5	*Scrophullariaceae*	*Vebrascum*	36	8	22
6	*Labiatae*	*Salvia*	30	4	13
7	*Fabaceae*	*Trifolium*	53	7	13
8	*Fabaceae*	*Vicia*	35	4	11
9	*Euphorbiaceae*	*Euphorbia*	45	5	11

Map(1): Showed the concentration of endemic families in Syria



1.1.2-Fauna:

The National Country Study of Biodiversity and students Ms, PH.D referred to more than 3300 animal species in land and in aquatic habitats in Syria

1.1.2.1 Insects:

Around 1456 species recorded and belong to 16(orders) ranks of veterinarian and hyiegenic insects of which are economic like Honey bees (*Apis Mellifera*). Most of insects' species are decreasing due to application of insecticides and pollution, which caused not only their absence but also their biological enemies of those insects. For conservation purposes for wild species of insects, a natural protected area for Syrian Bees was gazetted in (2009). No exotic bee races were introduced into the protected area only after exact scientific studies new species of bees can be introduced.

1.1.2.2 Amphibians:

16 species were recorded; one of the important species is *Salamandra Salamandra*).

Figure 1: Salamandra salamandra

1.1.2.3 Reptiles:

127 species were recorded (9 species turtles,70 s lizards species,48 snake species) some are regionally endemic like turtle (*Rafetus enphraticus*), and some of globally significant marine turtle (C*aretta caretta*), which is globally endangered. During the last four years many field studies were conducted to monitor this specie and its nesting and reproduction sites on the Syrian sandy beaches. Monitoring of migration by remote sensing techniques (via satellites) also is done.

Table (7): Recorded species, endangered species of amphibian, and reptiles.

Group name	No. species	No. Endangered species
Amphibia	16	3
Turtles	9	2
Lizards	70	19
Snakes	48	10

1.1.2.4 Birds:

The Field Guide Book (Birds of Syria) (2008) published by the Syrian Society for Conservation of Wildlife in collaboration with Bird-Life International, and other organizations referred to 394 species of which are migratory, passing setters, visitors in summer or winter .In addition to wandering species or forced to change migration corridors or courses and resort to Syrian land in sometimes due to climatic changes. In the last years some new species of national Avi-Fauna were recorded.

Figure (2): Flamingo (*Phoenicopterus rubber*) in Al Jabboul Lake PA.

Figure (3): Endangered bald Ibis (*Geronticus eremite)*

No. of locally and globally endangered bird species, which visit Syria are 17 species according to Bird life International and CITES appendices of (1,2-2005), as shown in table (8):

Scientific name
Aegypius monachus
Serinus syriacus
Aquila chysaetos homeyeri
Chlamydotis undulate
Pelecanus onocrotalus
Pelecanus crispus
Egretta alba
Platalea leucorodia
Phoenicopterus rubber
Anas angustirostris
Aquila helica
Geronticus eremite
Falco peregrines
Vanellus gregarious
Porphyrio porphyrio
Vanellus spinosus
Larus genei

1.1.2. 5 Mammals:

124 mammals species were recorded; 24 Carnivores, 7 Insectivores, 25 Bats, or winged hands, 42 Rodents, 21 Artiodactyla,4 Monodactyl, and 1 Lagomorphs.

Figure(4): Rehabilitation of Arabian Oryx in Al-Talila PA.

Wild mammals have been subjected to many risks, mainly hunting and habitat destruction till many of them became extinct at least at national level. That led to work on rehabilitation of some of these species like (Arabian Oryx) in Al- Talila PA.

1.1.3 Aquatic Biodiversity.

1.1.3.1 Marine Biodiversity

Syria is located on the eastern Mediterranean coast (The Syrian coast is 183 km) and characterized with 3 main coastal zones (national Country study on Biodiversity).

- **Zone 1:** From Lebanese border in the south to Tartous city in the north, mostly sandy, the continental platform (till 200m deep) is around 16 km wide in the southern part.
- **Zone 2:** From Tartous city in the south to Lattakia city in the north of sandy and rocky nature, the continental platform (shelf) ranges from 6-8 km wide.
- **Zone 3:** From Lattakia city in the south to the border of Alexandretta region in the north. Beaches are of rocky nature, the continental platform (shelf) no more than 2 km.

Figure 5 : Ras - Samra (proposed PA)


25. 4. 2004 17:15

1.1.3.1.1 Marine Flora:

Bacteria: Available data of bacteria is only based on a single field study near the beach, and classified.22 species, belonging to 12 genera, also belonging to 5 families.

Algae: Algae represent main form of marine life forms from biological and physiological perspective and one of the main components of marine environmental.

Reference surveys showed 660 algae species belong to the seven following groups:

- Red Algae	**Rhodophyta**	**220 species**
- Golden Algae	**Chrysophta**	**181 species.**
- Green algae	**Chlorophyta**	**127 species**
- Blue algae	**Cyanophyta**	**66 species**
- Igneos algae	**Pyrrhophyta**	**32 species**
- Brown algae	**Phaeophyta**	**27 species**
- Brown algae	**Euglenophyta**	**3 species**

Spermatophyta:

Studies referred to 4 species belonging to Angiosperm group and monocotyledon class.

- *Zostera marine*: was common now endangered.

- *Cymodocea nodosa*: originally rare, perhaps entirely disappeared (since 1985 never recorded or found – Ibrahim 2008)

- *Halophila stipulacea*: still common.

1.1.3.1.2 Marine Fauna:

Despite quantitatively poor in organisms, the Syrian water shows richness in animal species (1027species).

Sponges:

Studies recorded 15 species: some of them had economic role in the past like ***Hipposongia communis***. During the last five decades sponges suffered a huge quantitative and qualitative degradation .Yet in the few last years, they flourished (Ibrahim et al 2008)

Forminifera: Studies recorded 100 species belonging to 29 families

Cnidaria (stingers): Studies recorded 40 species.

Ctenophora: Only one species **(*Beroe forskali*)** recorded and in few numbers.

Nematoda: 34 species were recorded

Annelida: 10 species were recorded.

Arthropoda: Studies recorded 166 species; most of them belong to *Crustaceae*.

Mollusca: Studies recorded 315 species belong to *Gastropoda*, *Bivaliva* ,*Cephalopoda*, *Amphineura*, and *Scaphopoda.*

Chaetognatha: Studies recorded 7 species of the genus Sagitta.

Echinodermata: 12 species were recorded.

Tunicata: 13 species were recorded.

Fish:

Chondrichthyes: 49 species were recorded

Ostechthyes: Studies recorded 246 species

It should be referred to the documentation of other 98 species in the territorial marine waters of neighboring countries, which require more research up to confirm their existence or some of them in the Syrian

territorial marine waters. The classification index for Mediterranean Fish considered their presence in the Syrian waters by comparative approach.

Studies recorded migration of 69 species from the Red Sea and 11 species from the western Mediterranean.

Table (9): Shows some of migratory Red Sea species to east Mediterranean during the last 25 years.

Species	Family
Apogon taeniatus -Apogon thrustoni	Apogonidae
Callionymus filamentosus	Callidnymidae
Cynoglossus sinus –arabici	Cynoglossidae
Hemiramphus far	Hemiramphidae
Silhouettea aegyptia - Oxyurichthys papuensis	Gobiidae
Sargocentron rubrum	Holocentridae
Leiognathus klunzingeri	Leiognathidae
Stephanolepis diaspros	Monacanthidae

Table (10): Shows some migratory species (from west Mediterranean to east Mediterranean basin during the last 25 years).

Species	Family
Epigonus telescopes	Apogonidae
Argentina sphyraena Glassanodon leioglossus -	Argentinidae
Brama brama	Bramidae
Capros asper (=Aper)	Caproidae
Lepadogaster candollei - lepadogaster Lepadogaster	Gobiesociae
Micrmesistius poutassou -Gadiculus argenteus Phycis phycis	Gadidae

Marine Reptiles:

Turtles (Chelonians):

Three species of turtles were recorded in the Syrian marine waters, Green turtle (*Chelonia Mydas*) , Loggerhead turtle (*Caretta caretta*), and Leather back sea turtle which exists in relatively few numbers.

Mammals:

* Pinnipedia

The Mediterranean Monk Seal (*Monachus monachus*) belongs to Pinnipedia, and still visits the Syrian beaches (Ibrahim, and Jouni–2006). No confirmation for its reproduction on the Syrian beaches, There are a new proposal project in the preparation phase for monitoring and protect this species and rehabilitate it in the future if there are no new recorded during the new project.

* Cetaceans:

No. Whales' species in the Mediterranean reach 21species, resident and visitors. Upon execution of the ACCOBAMS at the national level, the national survey teams recorded 14 cases of stranded of the Whales (Ibrahim 2008) from 2003 -2008. Due to increasing cases of stranded of the Whales to Syrian beaches and execution of ACCOBAM, a national monitoring network for monitoring Whales strand was established. Also after many workshop on importance and identification of Whales, and training of some specialists on dealing with Whales strand cases.

1.1.3.2 Freshwater Biodiversity

1.1.3.2.1 Freshwater Flora:

Bacteria: Studies recorded 33 species.

Fungi: Studies recorded 176 species.

Algae: Fresh-water Algae mainly were studied in artificial lakes (rivers dams' lakes) in the coastal region.

Table (11): Shows referral survey results of the freshwater Algae.

No. of Species	No. of Genera	No. of Families	No.of orders	Division (phylum)
40	40	8	4	Chrysophytes
30	30	7	3	Chlorophyta
16	16	5	3	Cyanophyta
3	3	1	1	Euglenophyta
5	5	2	1	Pyrrhophyta
94	94	23	12	Total

Bryophyta: Studies recorded 27 species.

Pteridophyta: Studies recorded 13 species.

Spermatophyta: That includes two classes:

*** Monocotyledonae:** 137 species were recorded.

*** Dicotyledonae:** 161 species were recorded.

1.1.3.2.2 Fresh-Water Fauna

Arthropoda: Studies recorded 20 species (4 species of Crustaceace, 16 species insect.

Mollusca: Studies recorded 44 species-2 species of Bivalve, 32 species of Gastropoda.

Fishes: The referral survey process of related studies showed that there are 157 species. It should be noted that some of these species were introduced for production purposes or for biological, environmental roles like.

Table (12):

Purpose	Name
Aquatic fish-culture	*Cyprinus carpio*
Aquatic fish-culture	*Oreochromis niloticus*
Aquatic fish-culture	*Oncorhynchus mykiss*
To increase productivity of fish culture farms	*Ctenopharyngodon idella*
To increase productivity of fish culture farms	*Hypophthalmichthys molitrix*

Threats on Biodiversity in Syria:

It is known that the main source of Biodiversity and natural resources threats is human activities which increase as population numbers increase.

Recent census showed that population number in Syria is about 22 million (statistics 2007), with a growing annual increase percentage 2.58 %(NEE-2001). Therefore, more depending on natural resources and Biodiversity elements is the main risk.

Such dependence of two types:

- **Direct dependence:** aiming at improving human nutrition situation or what relates to wood cutting, furniture and medicinal plants.
- **Indirect dependence :** aiming at improving individuals or family economic situation ,through dealing and trading with Biodiversity elements mainly:

1- Agricultural and Urban expansion: often, into various natural eco-systems. Syria has carried out ambitious plans for increasing agricultural production to meet increasing demands for food due to population growing. Other part of Biodiversity elements was affected by these development plans.
2- The negative impact of climatic changes especially drought, which directly affected many eco system and their geographic distribution especially sensitive ones.
3- Overgrazing, wood cutting and irregular collection of plants in forests, marginal land, and the steppe.
4- Illegal marine fishery and hunting.
5- Internal and international trade of bio-species and their products.

6- Introduction of exotic and invasive species to the majority of country's ecosystems, especially Forests and a forestation area.

7- Wildfires are considered one of the destructive risks for forests.

8- Replacing landraces by improved and genetically modified varieties.

9- Over use of the Pesticides and Fertilizers.

Risks were categorized according to their impact on:

Ecosystems, then the main national trends to remove or at least mitigate these threats to an extent that allows achievement of 2010 objectives; in reducing the loss in species and ecosystems.

Table (13): Forests, and a forestation areas risks:

Risks	National response trends
1- Wild fires	Develop required Facilities, local community participation, and awareness increase.
2- Agricultural ,and urban expansion	Reconsidering land use planning by ministries of MAAR,MSEA ,and other national concerned parties
3- Non organized grazing	Setting planned grazing policies and control according to carrying capacities of Forests and a forestation areas.
4- Wood cutting for heating puposes	Support providing alternative source for heating through alternative energies and more control for forests
5-Charcoal making	Support income generating projects around Forests and a forestation areas gradually.
6-Forests partitioning	Stop encroachment and unplanned practices on Forests land ,as well as increase areas of PAs
7- Introduced and invasive species	Stop using introduced and exotic varieties of trees and bushes in a forestation or on streets, gardens, and to grow native ,wild ones

Table (14): Steppe land and Marginal land risks:

Risks	National Response Trends
1- Plan cover degradation ,soil erosion due to overgrazing	Organizing grazing areas and increase in protected areas Planting degraded areas, local community Participation in development process, providing feed alternatives like use of Farming wastes in forage production and benefit sharing with locals
2- Collection of grasses and bushes as a fuel	-Availability of alternative energy resources
3- Non organized crossing of vehicles	-Availability of paved roads and stop constructing new roads as well as stop heavy vehicles use.
4- Water resource depletion	-Limitation of wells drilling, uses water harvesting techniques, and renovates Roman canals.

5- Agricultural expansion	-Increase Production Per acreage to reduce expansion-stop plowing in steppe land(Badia)

Table (15): Risks of Aquatic Biodiversity

Risks	National Response Trends
1-Non organized Fishing	Strict instructions and execution of fishing
2- pollution	Restriction as possible of pollution resources, establishment of wastewater treatment stations, before discharge to rivers and wetlands, control of ships wastes and prohibit oil wastes throwing as well as application of environment, impact assessment to all industrial projects
3- Habitats destruction	Prohibit removing beaches sands and rivers banks, and stop urban expansion into aquatic habitats
4-Over consumption of water resources	Application of law and instructions concerning wells drilling in water aquifers.

Table (16): wildlife risks:

Risks	National Response Trends
1-Non organized hunting	Strict execution of hunting instructions and rules to protect animals' habitats and organize hunting seasons and limits. Increase coordination among concerned authorities in applying laws and increase raising endangered species and releasing them in their habitats may help establish hunting clubs.
2- Non organized grazing, cutting, and collection	Application of rangeland management in the steppe land. organize grazing seasons(grazing calendar)according to carrying capacity, restrict brushes cutting, and provide an alternatives for heating and cooking
3- Climate change, mainly drought	Work on drought impact mitigation
4-pollution	Apply integrated control method, and more of manure
5-National and International trade	Prepare necessary laws to organize internal trade, and execute CITES
6-Non organized tourism	Promote sustainable tourism, especially eco-tourism. Restrict impact of non organized hunting activities and avoid car races in Fragile Areas

7-Wood cutting for different purposes	Availability of alternative energy resources, and organize charcoal making activities

Table (17): Socio-economic threats:

Risks	National Response Trends
1- Poverty	Alternative livelihood for youth, more training opportunities. Provide small capitals to start small projects, and approach locals on possibilities of benefiting better from available resources. Promote income generating activities
2- immigration from rural areas to urban areas (cities)	Provide income resources for local communities, through extending loans or credits to start small projects that ensure their stability and settlement.
3- population increase	Family planning/Mandatory compulsory education for girls
4-Illiteracy	Establish schools in remote regions and mandatory education, and support Illiteracy erasing campaigns

Main constraints relating to CBD execution:

The preparation of a national strategy and following studies has effectively contributed to identify and expose Biodiversity threats in the beginning of this decade. Syria has worked to remove these risks and reduce their effects. However, such big efforts need good experience and teams, adequate budget, and then we can say Syria has begun to lay foundations of protection and conservation in-situ and ex-situ.

Syria has benefited from "**Self Assessment of National Capacity Building Needs in Syria to Manage Global Environmental Agreements and Conventions (NCSA/SYR/05/012) projec**t. Which was closed more than one year ago? Project one of main objectives was to define constraints of national capacity building on Biodiversity management aiming at helping concerned parties to develop national strategy and plan for capacity building. Also define work priorities. The final national workshop outlined results of many workshops conducted in country's provinces, and has determined main constraints of applying the CBD As follows:

1- No integrated coordination among concerned national parties.

2- Administrative and technical difficulties at national and international levels may occur in sometimes.
3- No conformity in administrative and financial procedures between international donors and national executing agencies during execution of projects that are internationally financed.
4- Shortage in studies related to economic value of Biodiversity.
5- Unavailability of adequate national budgets allocated to Biodiversity elements management according to recent international standards.
6- Shortages in specialized scientific and technical frameworks.
7- Shortages in specialized staff to carry out environmental impact assessment studies for development projects on Biodiversity and its elements.
8- Inadequate legislations concerning species, especially endemic and threatened ones, in addition to poor application of conservation Legislations.
9- Shortages in animal and plant Biodiversity elements (landraces, especially wild species) research and studies. No availability of a national herbarium, and animal and plant encyclopedias.
10- The need for updating the national strategy and action plan of biodiversity conservation.
11- Lack of national legislations concerning Biodiversity,

National Priorities of execution of CBD:

Define national priorities was the important output of "Self Assessment of National Capacity Building Needs in Syria to Manage Global Environmental Agreements and Conventions(NCSA/SYR/05/012) project, where specialized working groups of the national workshops held by the project, technical committees meetings, activities analysis reports of executive agencies, and the discussions of these working groups aimed to meet the commitments of the CBD as well as realize typical or best investment of available opportunities. From perspective of importance, these priorities are equal and execution priority is to:

1- Strengthen capacity of local communities in sustainable and integrated management of Biodiversity.

2- Strengthen capability to provide financial resources for Biodiversity Conservation.
3- Incorporate conservation and sustainability of Biodiversity concept in national development policies.
4- Develop a strategic mechanism for coordination among parties concerned in Biodiversity conservation and national resources management.
5- Develop a national system for data, and knowledge of Biodiversity especially in monitoring and evaluation system.
6- Develop national standards of PAs management.
7- Strengthen institutional and legislative framework to organize accessibility to genetic resources and exchange their benefits.
8- Develop an institutional mechanism to assess impacts of regional and international economic, agricultural agreements on Biodiversity.
9- Develop guidance standards to assess environmental impact of development projects on Biodiversity.
10- Develop national conservation capacity in nature outside PAs.
11-Develop linkages between scientific research and policies making concerning Biodiversity, as well as national policies on biotechnology' transfer at regional and international levels.
12-Develop long-term awareness programs on Biodiversity concepts.
13-Develop economic incentives system, and economic evaluation of Biodiversity.

Chapter 2

The current status of National Strategy and Action Plans of Biodiversity

Syria signed the CBD on May, 3rd, 1993 and ratified it on Dec, 10th 1995 and became a full a member, that should adopt and take integrated measures in all sectors.

With the aim to stop Biodiversity loss in all ecosystems, therefore, a national strategy and action plan for Biodiversity should be prepared. Such strategy and action plan were finalized in 2002 and approved by the Higher Council of Environment Protection.

Then the strategy and the plan were distributed to all national concerned parties to start applying according to each party capacities and capabilities.

The national strategy included the following articles and sections:

Section A: Biodiversity in Syria

1- Biodiversity conventions and their obligations
2- Situation of National Biodiversity.
3- General principles for Biodiversity conservation.
4- National capacity on Biodiversity management.
5- Socio- economic development and Biodiversity.

Section B: Strategy for natural Biodiversity conservation

1- Conservation of terrestrial wild Biodiversity.
2- Conservation of fresh water Biodiversity.
3- Conservation of marine Biodiversity.
4- Establishment of national network for PAs.
5- Conservation, increase, and utilization of economic wild animals and plants.

Section C: Strategy for Agro-Biodiversity conservation.

1- The current status of Agro-Biodiversity.
2- Conservation of steppe rangeland.
3- Conservation of forests and a forestation area.
4- Conservation of animals and plants genetic resources.

Section D: Legislation, scientific research, biotechnology education and cooperation

1- Biodiversity legislation and structure.
2- Scientific researches and Biodiversity conservation.
3- Bio- safety and biotechnology use.
4- Education and Awareness
5- Pan-Arab regional, and international, cooperation.

The National Strategy has defined the principle and main topics adopted as follows:

1- Realization of sustainable socio economic development through sustainable investment of biological resources.
2- Conservation of Biodiversity in all habitats and ecosystems (forests rangeland, steppe land, marginal land, fresh- water mediums and marine habitats.
3- Rehabilitation of degraded and destroyed habitats and rehabilitation of endangered species.
4- Establishment of nation network of national PAs of multipurpose coving various ecosystems in the country.
5- Development of farming system to cope with healthy environment and sustainable investment, rehabilitation of desertified, degraded lands and integrated control methods.
6- Conservation, propagation and utilization of economic plants, and animal genetic resources.
7- Updating legislation and developing national structures relating to Biodiversity and its components.
8- Support scientific researches of Biodiversity, especially in related biotechnologies, genetic engineering, taxonomy and protection.

9- Deepening and strengthening environment education, introduction into various learning grades. Increase public awareness and culture regarding importance of Biodiversity and its sustainability.

10- Strengthening Pan-Arab, regional, and international cooperation in execution ratified Biodiversity conservations benefiting from of bilateral development and multilateral programs, and Arab and international agreements for protection of Biodiversity as a wealth to coming generations.

After Five years and through the project **((Self Assessment of National Capacity Building Needs in Syria to manage global environment Agreements and Conventions(NCSA/SYR/O5/012)**), the first review of the national strategy was achieved according to the adopted national priorities of the same importance , **the following results regarding the main items of the strategy were obtained**:

1- Development of strategic coordination mechanism among concerned parties in Biodiversity conservation and natural resources management.

Undoubtedly, there is a clear development in coordination mechanism among concerned parties, especially Ministry of State for Environment Affairs (MSEA) and Ministry of Agricultural and Agrarian Reform (MAAR), the two main national agencies responsible for Biodiversity management as well as other concerned parties. However, there is an urgent need to develop a long term coordination mechanism among various concerned parties. Weak or poor coordination mechanism is one of the most important obstacles at institutional level. To develop national capacities. Therefore national trends were:

* Development of effective coordination mechanisms among agencies working on execution of CBD, and that what the Biodiversity and protected areas directorate at MSEA is working on.

*Development of control and monitoring system and follow up applying these coordination mechanisms.

2- Development of national data, information, and specific knowledge of Biodiversity especially in assessment and monitoring.

Some national parties like researches centers of Ministries of Higher Education, Agriculture and Agrarian Reform, Environment and some NGOs have conducted various studies to monitor Biodiversity situation as well as collected some field data within their responsibilities which member limited. However, there is a need to develop an effective monitoring system including participating of all concerned parties (Ministries, research centers, Universities, public organizations, syndicates, regional and international organizations, private sectors, and NGOs). To monitor status of wildlife, which requires a package of specific indicators for Biodiversity since responsibilities and activities for Biodiversity conservation is distributed to many authorities, there is an urgent need for developing data and knowledge network among these authorities and safeguards collecting saving updating disseminating and making them available through this effective data network.

As for knowledge management level, it is necessary to develop training programs on Biodiversity based on actual practices and best experience and lessons learned especially on national conditions level. National trends for future developments can be outlined as follows:

* Survey and define training needs and gaps in Biodiversity data and information.

* Determine monitoring indicators for wildlife and confirmation of data resources.

* Establishment of data management network.
* Development of training programs effective in information systems (use, maintenance, updating)

3-Strengthening institutional, legislative, framework regarding resources, gene pool, and resulting benefits exchange:

It is worth mention to say that a draft or it should be noted that a draft for specific legislation to deal with national genetic resources was prepared and due to be issued to cope with the fair sharing of benefits program, Even through, legislations, institutional, frameworks, dealing with genetic resources their property rights, and sharing benefits still relatively in adequate.

There is an urgent need to capacity building to develop policies, legislations initiatives that can realize balance among development needs, benefits fair sharing and exchange, intellectual property rights, and country of origin rights for genetic resources. **Therefore, it is very important to adopt the following:**

* Formulation and experimenting legal choices to define suitable ones.
* Formulation and application of a low that organizes Biodiversity holding (ownership) and benefit sharing.
* Execution of a training program on Biodiversity holding (ownership) and sharing resulting benefits.

4- Development of institutional mechanism to assess impacts of economic, agricultural regional and international agreements on Biodiversity:

It is already known and obvious that there is a trend towards free market liberation and openness to international trends.

In line with this trend various economic and commercial agreements were signed regardless of environmental condition, In addition to what these agreements may contain specific impacts on Biodiversity and natural resources management. So far, no assessment mechanism is available for early assessment for these agreements and their effects on Biodiversity and natural resources before signing these agreements.

Consequently, a huge national effort should be made in capacity building for both individuals and institutions, relating to link between such agreements and Biodiversity and other eco-systems.

National trends and needs:

* Conduct analysis and deep assessment for impact of economic and commercial agreements on Biodiversity.
* Develop a national program for strategic environmental assessment.
* Conduct a national training program for strategic environmental assessment.
* Develop a sustainable institutional system for assessment of potential effects of new economic and commercial agreements.

5-**Determine national criteria for natural Protected Areas:**

There is an obvious progress in establishment of natural PAs and development of PA management. Number of declared and gazetted PAs reached 26 with an area of 261206/ha without including rangeland PAs(653363/ha). Development and preparation of effective management plans are underway through projects sponsored by specialized organizations like GEF, UNDP, and World Bank. There is a necessary need to generalize capacity building for national public and private institutions in fields of developing PA management standards to all gazetted PAs .Therefore , it is very important to meet the following national needs:

* A comprehensive review for current a administrative systems of PAs, define gaps, and that is what is being done by Biodiversity conservation, and protected area management project SYR/05/010/ .which is sponsored by GEF, UNDP, and S.A.R.
* Developing and activating PA capacity building programs.
* Preparation of PAs management plans in Syria, including uses and activities of these PAs.

P.S: The topic concerning PAs will be discussed in details in appendix (3).

6- Strengthening capabilities to providing with financial resources for PAs and activating them for Biodiversity conservation.

There is a lack in technical and institutional capacities for most of national concerned parties in CBD especially financial recourses.

One of main reasons, might be the weakness of activating the national strategy and weakness in financing, the following are the main national trend and topic to raise institutional capacities:

* Determine of international financing tools and opportunities, especially national ones for Biodiversity conservation and sustainable use.
* Develop partnership system between public and private sectors regarding financial resources.
* Conduct a training program on financial resources activation.
* Update and promote national strategy to activate such financial resources for Biodiversity.

* Develop multi resources small grants system.

7- Determine criteria and instructional specifications to assess the environmental impact of projects on Biodiversity.

Assessment procedures for the environmental impact of development projects, and activities, which have clear detailed procedures are still not complete, especially preparation of assessment studies for projects and reviewing these studies.

There is an urgent need to complete preparation of detailed specifications, and criteria, and specific instruction regarding the impact of projects on Biodiversity components. Through defining main indicators, specifications and types of impact to make all environmental impact assessment studies and can be reviewed in scientific sustainable and clear method, it is necessary to:

* Develop instructions and main trends relating to preparation of environmental impact assessment studies regarding Biodiversity to include all standards and conditions for Biodiversity.

* Conduct a training program on Biodiversity standards and environmental impact assessment studies.

* Develop and apply a system of main instructions, especially for rehabilitation of degraded regions.

8- Incorporation of CBD concepts in national development policies.

See details in Appendix 2.

9- Develop national capacity for nature conservation outside the PAs.

Despite the fact, that there are 27 PAs of various ecosystems, and 64 rangeland PAs, and rich in Biodiversity in the country. Yet cover only 6.1 % of the country's area. The current number of PAS represents only half of proposed PAs numbers we look for to reach in the national strategy, with the aim to cover completely all wildlife species. However, the current number of PAs doesn’t cope with the huge diversity in eco-geographical region in the country since Biodiversity in these regions (outside PAs) suffer degradation. This requires support

national capacities to conserve rich regions outside PAs, especially for birds (IBAs), nature tourism regions, and forests.

In addition to develop management programs for these regions. The following procedures should be taken:

* Preparation of National Country Study to define main habitats and ecosystems outside PAs.
* Define species that need protection and prepare conservation plans.
* Develop an action plan for training of local communities aiming at conservation of Biodiversity outside PAs.
* Develop and execute an action plan for management and prohibition of introducing exotic species to these regions in collaboration of local communities.
* Increase awareness and knowledge of local communities about the importance of sensitive species and their protection, and possible mechanisms for protection and sustainability.

10- Strengthen local communities' capacity.

Excluding some successful experiments in some PAs sites like

1. Deir Mar Mousa PA.
2. Al-Talila PA.
3. Al-Thawra PA.

4. Majority of projects of Jebel Abdul Aziz, Al –Fourouloq, and Abu Qubies PAs are through Biodiversity Conservation and Protected Area Management Project – SYR/05/010.

5. Integrated development project in the Syrian Steppe.

6- Small Grant Projects implemented by some NGOs in some sites at some Syrian Governorates.

In these successful experiments an acceptable level of local communities need more to generalize such involvement in sustainable management of Biodiversity competently, a national capacity building program for local communities on management of these rich region in Biodiversity should be developed . In addition to incorporate

conservation concepts and sustainable use, and access and benefit sharing in rural development aspects.

The national trends in this respect are:

* Develop documentation mechanism for traditional knowledge and its protection and introduction into local communities' development plans.

* Develop local communities' institutions, with more concentration on rural women in development process.

* Develop local training teams and conduct pilot training programs.

* Develop procedures and steps that link combating poverty and social level with Biodiversity conservation and its sustainable use.

* Develop alternative livelihood projects that have no negative impact on Biodiversity, as well as, involvement of local communities in management and benefiting from what regions rich in Biodiversity.

Figure (6): Conservation and development of traditional knowledge and traditional industries of local communities within and around PAs.

11. Development of linkages between scientific research and Biodiversity policies making and national policies of biotechnologies at regional and international level.

The fact is the relationship between Biodiversity activities, researches results and policies making is not integrated. Such results of national, pan-Arab, and international research institutes on Biodiversity are not reflected in national policies in due time. However, related scientific researches is conducted regardless of Biodiversity policies, plans priorities, which make these plans miss their developing and sustainable application roles. Therefore, mutual capacity building among concerned parties in research and policy making is very essential. It is known that technology transfer efforts are made through bilateral initiatives of national, regional, and international institutions. But not through clear national plan, that identifies technology transfer needs and integration among different concerned parties. There is a need to capacity building able to develop an integrated and sustainable mechanism for biotechnology transfer at national level regarding all Biodiversity aspects aiming at conservation of species and food security. Consequently, the national seen trends as follows:

* Develop Biodiversity researches database, and its sustainable use and easy accessible as well.

* Utilize scientific researches to increase monitoring of Biodiversity components and. Develop conservation plans for significant habitats and species.

* Carry out specific initiatives of available technologies related to Biodiversity and evaluate needs of such technologies.

* Prepare policies, laws for technology transfer based on agreement of concerned parties.

* Develop technology transfer networks (regional, and international) built upon national initiatives, and policies that cope with economic feasibility.

12- Develop long-term awareness, education, and information programs on Biodiversity concepts:

It is known that National Biodiversity Strategy included articles for awareness and knowledge increase. All projects include carrying out such articles. Various national parties and public organizations have conducted many awareness activities and campaigns. Also they have introduced Biodiversity concepts into school curricula i.e. subjects like Biology, Geography, and Arabic language and in different grades. Some extra curricula activities like lectures, Biodiversity encyclopedia within educational TV programs. In addition to hold various awareness campaigns at different press media and within schools. NGOs have participated and conducted such campaigns. Despite all of what mentioned above, it is necessary to develop independent, long-term awareness and education programs focusing on new Biodiversity concepts, especially access and benefit sharing and directions of eco-system management. As well as assessment of strategic impact on Biodiversity within the framework of incorporation such concepts in public and private university and school curricula. Therefore, national trends will be:

* To include CBD principles in awareness and education programs.

* To survey gaps and inadequacies in current school curricula and training programs.

* To develop and apply recent and appropriate education and training programs and bridge gaps.

* To develop awareness and information programs and initiate continuous awareness campaigns that cover all aspects of Biodiversity activities by all concerned parties including local communities.

13- Develop economic incentives systems and economic evaluation of Biodiversity values:

Poor and weak economic evaluation of Biodiversity components, in addition to absence of legislations for economic incentives to promote Biodiversity conservation are main weakness points in Biodiversity and natural resources management. One of the main needs for capacity building is to develop economic tools that can achieve an assessment for Biodiversity resources and mechanism for incentives also the economic benefits of alternative projects of those projects of negative impact on Biodiversity and its sustainable use.

National trends will be:

* Determine and apply appropriate incentives to Biodiversity and natural resources.

* Develop and execute a training program on economic incentives and tools of estimation of economic value.

* Prepare a plan to develop economic projects built upon Biodiversity utilization among public, private sectors and local communities.

Chapter 3

Integration and generalization of Biodiversity considerations in sectors or among sectors:

The CBD includes a lot of concepts, considerations, and programs aim to reach sustainable use of Biodiversity components, and fair benefits sharing of such components. This can be achieved through incorporating these concepts in development policies of different agricultural, industrial, touristic, and social sectors. Syria has made many steps in this regards, which come within this objective. The presidential legislative decree regulating the Environmental Law No.50 (2002) including mechanisms of carrying out studies of environmental impacts assessment to all development projects (industrial, agricultural, and touristic …..etc). Such studies should contain impacts on Biodiversity. Some projects were seriously taken, especially those planned to be contracted in places close to some rich sites in Biodiversity. Therefore, such projects were cancelled or their construction locations were changed.

Many of Biodiversity considerations were incorporated in a lot of

national policies, legislations, national strategy, criteria and standards

of environment impact assessment, partially in agricultural development strategy' articles. And the new forestry law: No.25 (2007). We should admit that incorporation process has made good steps,

But not completed yet in all national legislations and laws. However,

environmental impact assessment studies being conducted partly cover

integration process. Moving from the stage of integration of

these considerations in policies, legislations, and laws into application stage may require a long time and efforts. Moreover, there is availability

of supporting factors (technical and financial) to achieve this movement process.

Despite all of that, it should be referred to some difficulties facing the comprehensive application of this objective and can be outlined:

1- Weak application of main topics of integrated eco-system approach in Biodiversity management.

2- Economic, social, and financial difficulties encountering local communities.

3- Technical, administrative, and financial difficulties encountering national parties responsible for achieving this important more in implementing objectives of CBD.

Thus, national trends (directions) were:

* prepare and execute a national plan for specialized capacity building for introduction and incorporation of Biodiversity concepts in national policies and legislations.

* Develop a legal framework to link Biodiversity with policies of poverty control, focusing on common factors between poverty control and sustainable use of Biodiversity.

* Setting and applying the main lines of integrated eco-system approach in Biodiversity management.

Chapter 4

Progress towards 2010 objective and execution of the national strategy

The Syrian Arab Republic before and after preparation of the national strategy and action plan (2002) has taken many steps, procedures, activities, and projects to protect and manage Biodiversity elements. Therefore, on track to achieve main objective of 2010 .which is reduction of Biodiversity loss monotony .some of these procedures are in the following respects:

- Studies and legislations:

1- Accomplishment of National Country Study of Biodiversity in 1998 in Arabic by Ministry of State for Environmental Affairs and with participation of all national concerned parties.

2- Preparation of National Strategy and Action Plan of Biodiversity, then adopted by the Higher Council of Environment Protection in 2002. Other national concerned parties have adopted the strategy and action plan, and started executing objectives as mentioned in the executive summary. The following were accomplished.

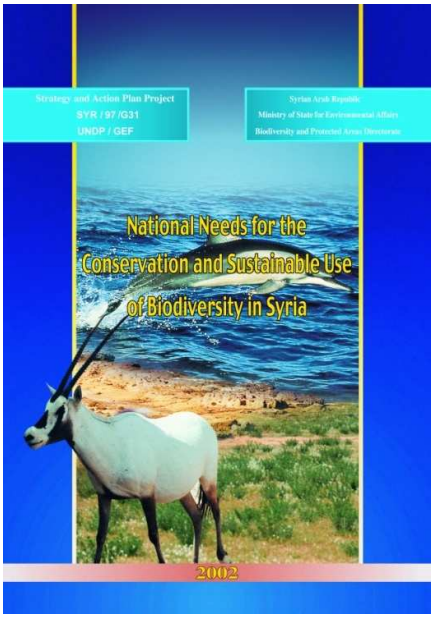
- Categories, conditions for establishment of PAs, and their management according to environmental law No.50.Such conditions were prepared based on standards defined by IUCN and national legislations. They were adopted by the Higher Council of Environment Protection in 2003, and distributed to concerned parties for adoption and application upon declaration of PAs.

This document has defined types of PAs as follows:

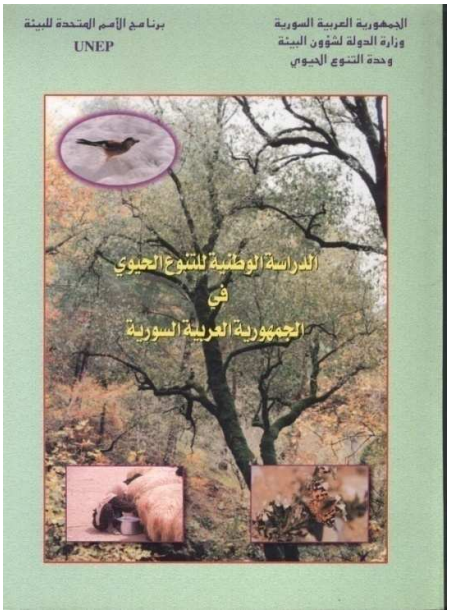
-Strict Scientific.
-Wildlife.
-Man and Biosphere Reserve.
-National Park.
-Marine and Coastal.

-Buffer.
-International Natural Heritage.
-Special importance.

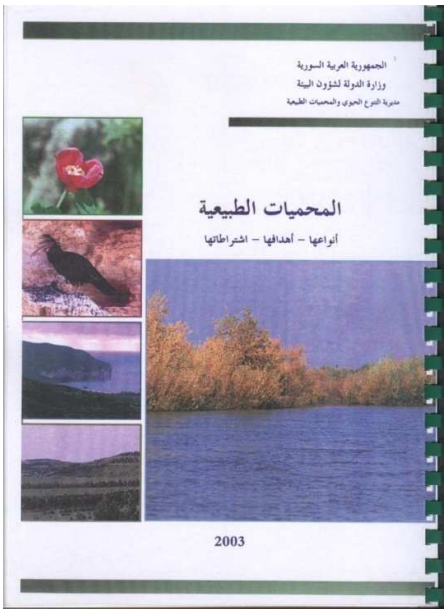
Determine Biodiversity conservation needs.



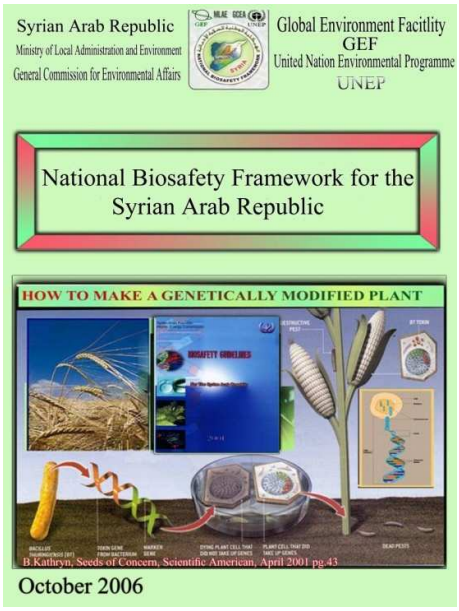
National Country Study



PAs Conditions



National Bio-safety Framework



Birds of Syria (Field Guide)

B

3- Updating Hunting law: A national committee was established to update hunting law. A draft of updated law was prepared and expected to be issued in 2009-2010. Many decisions that prohibit

hunting for 17 years starting in 1994 were issued at intervals of 5 years each, also one interval for two years.

4- Preparation of a draft law on bio- safety through a project financed by UNDP.

5- Updating the law of aquatic organisms' conservation. The updated law draft is accomplished and waiting to adopted.

6- A draft law of plant genetic resources exchange.

7-Preparation of the national framework of Bio-safety and was adopted by concerned parties.

8- Preparation of a draft law for controlling international trade of endangered species of plants and animals by a national committee and was sent to CITES secretariat for discussion and comments. It is planned to be issued during 2009-2010.

9- Updating Forests law and issued under No.25 in 2007.

10- preparation of National Strategy and Action Plan for Marine Biodiversity conservation –SAP-BIO 2002-2003.

Four Action Plans resulted:

1- National plan for the establishment and development of marine and coastal PAs.
2- National plan for studying impact of invasive marine species and control for their effects.
3- National plan for protection of sea turtles and their habitats on the Syrian coast.
4- National plan for determining standards and specification of marine waters, and establishment of database for them.

On the way to accomplish these plans, many activities and projects were carried out aiming at establishment of a network of marine coastal PAs as well as carrying out some related studies.

-As for selection, establishment, and management of PAs of special importance, Syria was a part of the regional project for developing

marine coastal PAs in Mediterranean region (Med-MPA) .The selection site was Om Al-Toyour .

Main achieved activities through Med-MPA project:

-Two diving missions to make primary biological survey and geographic study of the continental shelf of Om Al-Toyour to Ras Al-Bassit site.

-Studying the suitable habitats of sea turtles along the beach between the two sites already mentioned.

-Two diving missions in Ras Ben Hani PA site and the surroundings of Arwad Island.

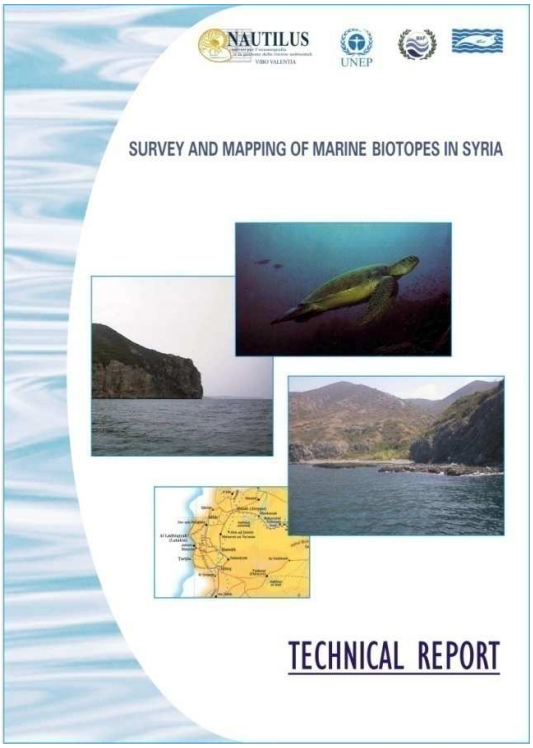
The following images for the above mentioned missions:

Enchelycore anatine

Hypselodoris tricolor

Hermodice caruncul

Marine panorama



Protection of Sea Turtles reproduction sites

11- A lot of scientific studies concerning species or families of land and marine Biodiversity as a result of Ms. and Ph.D thesis prepared by higher studies in the Syrian Universities or studies accomplished by projects or specialized research units.

- **Institutional aspect:**

1- Formation of Biodiversity and PAs departments at MAAR.

2- Formation of Biodiversity and PAs sections at environment directorates in the Syrian governorates.

3- Accession of environmental impact assessment for various development projects.

Awareness and knowledge aspect:

1- Various awareness and information campaigns and by all available means, with more concentration on local communities in the last years.

2- Introduction of Biodiversity concepts in different school curricula and in training courses for teachers, especially biology teachers up to secondary schools level …….

- In–Situ conservation:

1- Declaration of 27 PAs of different ecosystem, and many rangeland PAs (appendix 3). Al –Lajat PA was declared as Man and Biosphere reserve and adopted by the scientific committee of UNESCO- Feb-2009.

2- Syria has joined small grants program since 2003, 30 Small Grants projects were carried out with value of 1500000 $.

-Most of these S.G. projects aim to conserve Biodiversity either directly or indirectly, through developing various capacities of local communities to obtain income generating projects and alternatives to human activities of negative impact on Biodiversity elements.

Environmental garden project in Deir Azzor city(SGP).

Development of fish wealth at Dalha Lake in al-Raqqa(SGP).

3- Carrying out many field projects aiming at developing infrastructures and human capacity building for many PAs. Some of them are:

-Fir and Cedar PA project (Financed by GEF-WB)

- Al-Talila PA project (Financed by FAO)

- Biodiversity conservation and protected area management SYR/05/010 (financed by GEF/UNDP).

- Bald Ibis protection project (Financed by Bird Life International – RSBP-IUCN-Ministry of Environment in Italy)

- Project on developing the national Framework for Bio-safety financed by UNEP.

International cooperation aspect:

Syria has joined most regional and international agreements concerning Biodiversity where Syria is a country in mandate of these agreements.

Table (18) Shows Conventions and Agreements which Syria joined

Convention Name	The year Syria joined
CBD	1996
AEWA	2002
ACCOBAMS	2001
CITES	2003
CMS	2003
Bio-safety	2004
Protocol of Mediterranean Biodiversity conservation and establishment of special marine and coastal PAs	1993
Amendments on the Protocol of marine Biodiversity conservation and establishment of special marine and coastal PAs	1995
RAMSAR	1998
Desertification combating	1997

Syria has joined many conventions, agreements and protocols (regional, and international) which serve conservation of Biodiversity elements directly and indirectly .yet under different titles like climate change convention, Barcelona convention for Mediterranean protection and it various protocols such protection of Mediterranean from pollution resulted of land resources.

-Human capacity building aspect:

In this report we present an example of efforts being made during the last two years, where tens of training courses or workshops conducted for national cadres in the following aspects:

* PAs management for:

- Marine and Coastal zone.

-Terrestrial PAs.

* Ecotourism.

* Execution of CITES

* Prepare Projects documents and Execution mechanism.

* Training of trainers (TOT)

* Tens of internal and external training courses contributed in various ways Biodiversity conservation.

* Wild Fires control.

* Veterinary for animals

* Forest protection.

* Training on management of Electronic sites (Web Sites) relation to database of bio-safety.

* Dealing with GMOs (genetically modified organisms).

Training and capacity building

Dialogue with local community

Appendix 1

Information concerning the party which will prepare the 4th National Report.

The contracting party: Syrian Arab Republic

National Focal Point:

Full name of the authority: General Commission for Environment Affairs – GCEA, Ministry of State for Environment Affairs

Name of the Focal Point, and position: Dr. Akram Al-Khouri- the Director General of GCEA.

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Tel/Fax: +963 11

E-mail: env-min@net.sy

Focal Point for the National Report (If it were different address of the above mentioned address).

Full name of authority: The General Commission for Environment Affairs –GCEA, Ministry of State for Environment Affairs.

Name of the Focal Point, and position: Dr. Akram Eissa Darwich

Director of Biodiversity and Protected Areas

Mail address: Damascus- Salehia – P.O.Box:3773, Ministry of State for Environment Affairs

Tel/Fax: +963 11

E-mail: akramisa@aloola.sy / akram.eissa@gmail.com

Submission of the report:

Signature of responsible of submitting the national report:

Dr. Akram Eissa Darwich, **Submission date:** June 2009

Appendix 2

Progress being made towards achieving goal of global strategy for plant conservation

The Syrian Arab Republic has carried out many activities, which eventually aims to achieve goals of global strategy for plant conservation:

* Declaration of many PAs which cover 70% of Biodiversity elements in Syria ,and not less than 60% of Syrian flora . Some of these PAs cover endangered species at least at national and regional level, some examples:

1- Juniperus PA: To protect the main element in it endangered *Juniperus excelsa*. In addition 15% of the PA flora is endemic species at national and regional level.

2-Jebel Abdul Aziz PA: Main component is endangered *Pistacia Atlantica* tree.

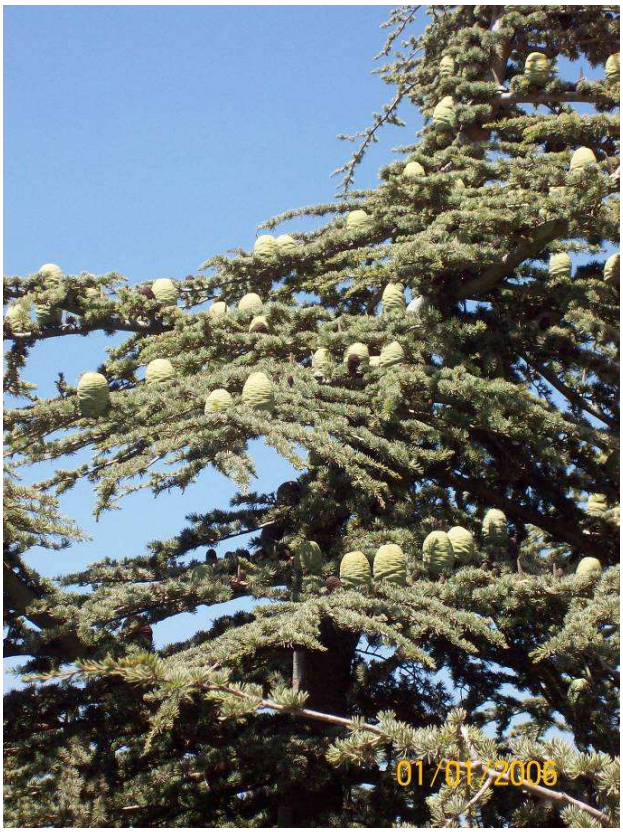
3- Fir and Cedar PA: two endangered trees *Cedrus Libani* and *Abies cilicica*.In addition to endangered plant *paeonia* sp.

4-Al-Frounloq PA: which includes endangered tree: *Quercus cerris pseudoceris*?

Euphrates river islands: which include the endemic endangered tree: *Populous euphratica*.

Paeonia sp.

Cedar tree (*Cedrus libani*)



These endangered species are accompanied by a lot of species that many included in threat range. If they are not protected from different risks due to human activities. It should be noted that national PAs with their regions and ecosystem cover more than 60% of Biodiversity including wild flora, plant genetic resources, especially endangered ones.

The following institutions:

-The General Commission for Scientific Agricultural Researches at Ministry of Agriculture and Agrarian Reform (MAAR).

-The Arab Center for the Studies of Arid Zone and Dry Lands (ACSAD)

-The International Center for Agricultural Research in the Dry Areas (ICARDA)

Supervise many gene banks, which store most genetic resources of (stone fruits, apples, figs, grapes, and cereals genetic

resources…ect).

It can be said that 70% of genetic diversity of crops and plants of economic and social value, and conserve what relates to traditional knowledge, consequently, the objective No.9 of the global strategy for plant protection is achieved.

Table (19): As an example: number of accession during 2006-2008 in the gene bank of the General Commission for Scientific Agricultural Researches as follows:

Total of samples	Name of crop
85	Wheat
1258	Aegilops sp (wild wheat)
239	Hordeum sp. (wild barley)
1540	Wheat land races
1035	Barley land races
1835	Food, forage, and wild legumes
1817	Cultivated food legumes
403	Cultivated forage legumes
437	Maize species
600	Vegetable oil crops
44	Various crops
2209	Wild relatives and cultivated vegetables
110	Range land species
11612	Total

These samples included many species of:

Vegetables-legumes-cereals and their wild relatives –range land plants- oil crops- ornamental and medicinal plants- and fruit trees.

-Syria has prepared a draft law of plant genetic resources exchange in, and out .Syria also is participating in preparation of international law draft for Access and Benefit Sharing supervised by the CBD.

- Syrian joined the CITES and began executing it. Also monitoring plant species trading with the aim to strengthen that, Syria has prepared the national law draft for execution of CITES.

- As conservation of Biodiversity efforts are growing also execution of CBD .The national trends during the last decade to get local communities involved .Conserve their traditional knowledge and practices, which represent best methods to reach sustainable livelihood and food security, which appears in their dealing with their genetic resources.

As an example is the following:

-The Conservation and Sustainable Use of Dry Land Agro-Biodiversity with its two target areas:

1- Al-Haffe (Slenfeh- Lattkia): Rich region in Forages wild relatives (vetch, lathyrns, and clover) Wild relatives of fruit trees (pear, plum, pistachia, and almond).

2-Sweida: Rich region in land races and wild relatives of food and forage legumes, cereals. Also wild relatives of onions, medic, clover, oats……etc, in addition to wild relative and land races of fruit trees (olives, almond, pistachio, and pear).

The main objectives of the project are:

1- Coordination at regional level for national activities to ensure more maintenance and conservation of Biodiversity.

2- Integration between conservation, maintenance, and sustainable use of Agro-Biodiversity in current agricultural practices in a certain region through capacities development and training.

Figure(15): Some activities of Agro-Biodiversity project in Sweida target area

***Biodiversity conservation and protected area management project SYR/05/010, which works on three PA sites:**

- Jebel Abdul Aziz (Hassakeh)

- Al-Frounloq (Lattakia)

- Abu Qubies (Hama)

Through this project conservation of many genetic resources of fruit trees, cereals, and forests will be achieved.

Figure(16):

Appendix (3)

Progress being made towards; Achieving objectives of the global strategy on action program concerning Protected Areas.

History of PAs evolution:

-It is well known that protection concept and Hema system was one of the oldest systems developed by tribal communities in the Arab peninsula. Over the years and passing of time concepts were changed and developed, in Syria as concerned ministries established after independence.

Some of sites were declared as buffer zones (Abu Rajmain site, Belaas mountain site) in 1965 with a total area 15000/ha each. The word protect area emerged and were written on formal papers … decision in late eighties and early nineties, where fir and cedar PA was gazette. Meanwhile, PAs declaration decisions according to modern standards began in the beginning of 2002 when Abu Rajmain PA was declared and gazetted.

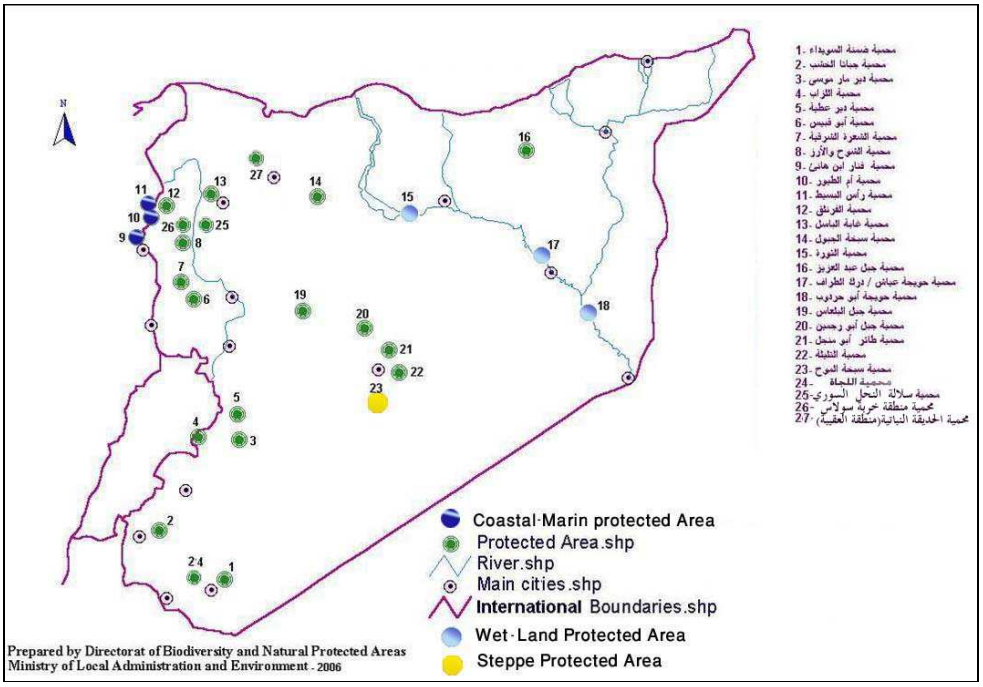
The national institutions concerned in establishment and management of Biodiversity elements and based on certain belief in the important role of protected areas. Such protected areas are considered places of big social and economic value, which form a resource for local and support for conservation of rivers basins, coastal regions and regions rich in Biodiversity against degradation and reduction. Importance of protected areas as a shelter for this natural wealth of genetic resources, and support development and prosperity of tourism, and needs of science and scientific research are known.

The national concerned parties are continuing work on establishment of more PAs for different purposes within the execution of the national strategic plan towards reaching 10% of the national country area as protected areas till 2015 in accordance with the adopted percentage in the CBD signed by all parties.

-The percentage of Biodiversity conservation protected areas of the total country area reach 0.14% in 1995 and grew to 1.2% in 2004.In middle of 2005 the number of PAs reach 19 forests and marine, coastal PAs.

By the end of 2007 the number increased till 24 PAs (forests and various wetland PAs). By the early 2009 the number of PAs in Syria reached 27 with a total area 261206/ha (1.4% of country area), in addition to rangeland PA with 853363/ha (4.6% of country's total area). Consequently, the total area of PAs in the country is 1114569/ha (6.1% of country's total area) and harbor 70% of living species of various ecosystems (forests, fresh and saline wetland, beaches, and off shore)

Map(2): Distribution of PAs in Syria



The Directorate of Biodiversity and PAs has supervised preparation of PAs types in Syria. Main conditions for PAs management through a national committee consisting of specialists from concerned national parties, based on the international standards of IUCN, Man and Biosphere PAs, and national legislations. The above mentioned effort came within the execution of the CBD, national strategy and national action plan, national law No.50 of Biodiversity conservation, and development of mechanism of PAs declaration and management.

The following is PAs types according to the above mentioned PAs conditions:

-Strict (Scientific) PA.
-Wildlife PA.
-Man and Biosphere Reserve.
-National Park PA.
-Marine and Coastal PA.
-Buffer PA.
-Natural World Heritage PA.
-Special significance PA (botanical gardens and PA for certain specie……..).

Table (20): Shows officially gazette PAs in Syria.

Year	Area (hectares)	Main Biodiversity Biomes	Location (Governorate)	Name of the Protected Area
2001	653	Degraded Quercus Forest	AlSweida	Damnet Al-Souida
2005	133	Forest	AlQunaitera	Jubbat Al-khashab
2004	600	Heritage site	Rural Damascus	Dair Mar Mousa
2006	19,000	Degraded Pisticia Forest	Homs/Rural Damascus	Allazab
2005	17500	Degraded lands	Rural Damascus	Deir Atiya
1999	11,000	Evergreen	Hama	Abou Kobeis

		Forest		
1998	1000	Evergreen Forest	Tartous	Al Sha'ara East
1996	1350	Cedar Abies Forest	Lattakia	Cedar- Fir
2000	1000	Marine Ecosystem	Lattakia	Ra`as Ibn Hani
1999	1000	Pine Forest +Marine	Lattakia	Um AlToyour
1999	3000	Brutia Pine Forest	Lattakia	Ras AlBassit
1999	1500	Oak Pine Forest	Lattakia	Fronluk
2005	2000	Forest	Edleb	AlBassel Forest
1996	10,000	Wetland	Aleppo	Sabkhat Al-Jabboul *1
1994	590	Wetland	Rakka	AlThawra Island
2002	49,000	Degraded Pistacia atlantica Forest	Deir Elzzor	Jabal Abdul Aziz
2005	530	Forest and wetlands	Deir Elzzor	Huwaijet Ayaash
2005	450	Forest and wetlands	Deir Elzzor	Huwaijet Abu Hardoub
2008	34,365	Degraded Pistacia atlantica Forest	Hama	JabalAl–Bala'as
2006	60,000	Pisticia /Mountain	Homs	Jabal Abou Rojmen
	2000	Wetlands	Homs	AlMouh lake
2006	2000	Degraded lands	Alsouida	Allajat * *
2009	500	Plants Garden	Aleppo	Alokaiba
2009	7760	Forest	Lattakia	Kherbt Solas
1970	6075	Buffer site	Reef Damascus	Hesya
2005	200	Plant garden	Darrah	National ASSAD Garden

AL- Jabboul Lake PA:

Located in southeast of Aleppo. Wetland PA of regional and international significance, as stop station for migratory birds' corridor .It is approved by RAMSAR of global significance for migratory birds.

Biodiversity conservation project is being conducted their, through ecotourism activities in the lake. The project is conducted by the Syrian Society for Conservation of Wildlife in cooperation with Aleppo Governorate and the Swiss Agency for International Cooperation.

Al - Jabboul Lake PA (RAMSAR site):

Al-Lajat PA: Located in Sweida Governorate, recently declared as Man and Biosphere PA by the Technical International Committee of UNESCO meeting in mid –Feb 2009

AL-Lajat (Man and Biosphere PA):

As for Trans-boundary PAs, there were endeavors to establish PA on the border with Lebanon at the site of *Junperus excelsa*, which characterized with unique Biodiversity richness and good endemic percentage about 15% of Flora species, Endeavors are on going to establish the PA there, In addition to these PA there are 64 PAs in the Syrian steppe land (Badia) with an area 853363/ha

3PAs with pure environment purposes aiming at conservation of Biodiversity and its elements, and focusing on rehabilitation of some endangered species as follows;

Year	Area Hectares	Main Biodiversity Biomes	Location (Governorate)	Name of the Protected Area
2003	**3000**	**Special Protected Area–Reproductive habitat**	**Homs**	**Bald Ibis**
1991	**22000**	**Desert habitat**	**Homs**	**AlTalila**
1996	**3000**	**Biodiversity and rehabilitation**	**Aleppo**	**Al Odamah**

The rest gazetted rangeland PAs with a species like *Salsola vermiculata* , and *Artemisia alba* are rehabilitated. Grazing organization is also conducted according to plant cover situation, and climatic factors, therefore, some of these PAs are opened to grazing during drought seasons (Table 21):

The declared PAs cover all ecosystems in Syria, and form the basis for establishment of national network in tenth (5^{th} year plan) to increase numbers of PAs in all country's governorates according to the study for conservation of endangered living beings.

-Main constraints facing the achievement of integrated management for all PAs:

Despite all efforts being made to establish PAs and equipping them with well qualified management team, technical human capacity aiming at sustainable PA management.

There are many constraints need serious work to remove them, or at least reduce them to such extent that prohibit their direct and clear impact on Biodiversity elements, and outlined as follows:

1- Non completion, new legislations and suitable management plans according to modern international standards for each PA site.
2- The weak role of local communities in PAs management, poor certainty in direct benefit of PA establishment, management, and sustainable use of natural resources.

3- PAs financing shortage.

4-There is a shortage in PA staff that is capable of PAs management in sustainable way, which allows alternative benefits for locals.

5-Unavailability of required infrastructure for executing suitable management plans.

Main national trends are there to overcome difficulties facing establishment and management of PAs.

-Allocate independent budgets for PAs, and independent management for each PAs, and independent management for each PA with involvement of local communities.

-Develop a mechanism that ensures complete and effective involvement of local communities, with full responsibilities and rights supported by a national law for that. Also through achieving participatory approach, where local communities are represent PA ad hoc committees. Locals can participate in preparing PA planning, monitoring, and execution of PA plans at PA site level .then raise suggestion to decision makers for adoption

-Update decisions concerning declared PAs according to modern standards and strengthening the role of local communities.

-Support establishment of NGOs concerned in environment issues and protection of wild life. And give these NGOs required role in management of some PA sites. Syria has achieved the first stages in introduction of plural conception PA management. Some of the PAs sites are supervised by local committees that all concerned national parties including NGOs concerned with environment and wildlife protection are represented.

-Start working with local communities on developing their development project, which in the sometimes contribute to reduce pressure on

Biodiversity. Projects of small grants program (SGP) and some other projects financed by GEF and UNDP have helped in this endeavor.

-It should be noted that principal standards already taken to reduce the negative impacts of protection on local communities are:

-Creation of alternative livelihoods for locals that can provide better incomes to compensate them for current livelihood which in turn negatively affect Biodiversity. However, the legal and political structure for setting up integrated framework for fair sharing of costs and benefit according to modern concept still in its early stages. Yet, there is a group of means were used in forestry and forest areas management. Such means need updating, and this what is going on in some PAs, where preparations are ongoing to be managed with effective and proper techniques.

As for human capacity building, it is going in two directions:

- Capacity building within certain projects for certain PAs

-Training courses in concerned in situations ministries and commissions.

Appendix (4)

Success story:

Rangeland regeneration and establishment of AL-Talila PA for wildlife and rehabilitation some endangered species:

Due to the big degradation in the Syrian steppe land (Badia) and in its natural resources including Biodiversity because of the negative exploitation of man , especially in the last decades of the past century , It was necessary to stop such degradation and rehabilitate as much as possible extinct species (Arabian Oryx , Deer, Ostrich, and Syrian ASS). These negative conditions were the reasons to prepare and conduct this project.

In 1991, the Ministry of Agriculture and Agrarian Reform (MAAR)

Declared Al –Talila site as a wildlife PA in the Syrian steppe land (Badia) with an objective of rehabilitation of some wild animal species in their native habitats. Therefore, the Ministry in collaboration with FAO conducted the mentioned project.

Historical glance of Al- Talila site:

Till the last century Al –Talila was a place, where Bedouin tribes often frequented and ranged to spend winter time, because of its sandy nature and many pastoral plants where their flocks can graze.

In Al-Talila huge flocks and herds of desert deer thrived, 50 years ago desert deer herds outnumbered current sheep Flocks there.

Why Al –Talila is PA?

The main objective of establishment is degrading ecosystems in the Syria steppe through protection of plant and animal species. As well as increase environmental awareness of locals there through the following steps:

1-Restoration of wildlife to the site, mainly Desert Deer, Arabian Oryx, It was done in the beginning of the late 1996.

2-Rehabilitation of plant cover, through direct sowing and seeds dressing of some important species like *Salsola*, *Atriplex*, in addition to conservation of other plant species from extinction.

3-Working towards stability of environment components situation, and maintain natural productivity. As well as increase more Biodiversity through conservation.

4-Availability of the site for students and specialists to benefit from the site possibilities in scientific research (research on existing plants and animals), which in turn increase better understanding of nature and its conservation.

5-Actual contribution in environmental awareness especially for locals through participation in decision making and sharing of project resulted benefits because of importance for project success and sustainability.

6-Contribution to provide new work opportunities through ecotourism

Al-Talila site Location:

The project of Al –Talila PA is located to the east of Palmyra, 30Km – Latitude 34.5 north longitude 38.5 east

Project site area:

129000/ha distributed as follows:

-Al –Talila wildlife PA area (22000/ha).

-Rangelands of the surrounding cooperatives are 107000/ha.

Project achievements:

A- Rehabilitation of rangelands.

* Determine the precinct of the three cooperatives (Arak –Al Mubatah –Al abbassia) lands distributed as follows :

a-Arak cooperative 34000/ha

b-Al Mubatah cooperative 58000/ha

c-AL –Abbassia cooperative 15000/ha

* Flora and soil maps of the project site.

* Survey of soil and collection of plants samples and classification.

* Establishment of four fenced enclosures to monitor rangeland with 4/h area of each fenced enclosure

* Establishment of three drainage tunnels to organize torrents water in the PA.

* Employment of many locals (cooperatives members) in the PA as rangers and workers.

* Improvement of degraded rangeland around the project site, through seeding by modern seed drills. 1829/h areas were sown.

* Monitoring plant cover in project area within and around fenced zones to measure plant density and canopy for annual and perennial plants

* Conduct flora survey within animals release fences (10 KM 2).

B-Wild life:

* Establishment of 2 fences for animals' release:

- The first is 10/k.m2, the second 4/k.m2 and were equipped with shading and water resource.

* Accession 8 head of Arabian Oryx from Jordan. Now the number of heads reached 150.

* Accession of 30 heads of sand deer from Saudi Arabia, now they reached 450.

* Studies on Desert Deer behavior and nutrition also for Arabian Oryx in Al –Talila.

* Supervise camels grazing in the PA and monitoring their health condition.

* Survey all living species in the project area and surrounding eco systems like, mountain, oasis, and aquatic area – plains systems. Survey results were 22 mammals' species, 21reptile species, around 260 migratory and native bird species, in addition to many species of insects. New species of insects

was discovered and not classified. It was named Al – Talila insect. Also the Bald Ibis discovered there, which was considered extinct in the Syrian steppe

* Transfer 10 heads of Arabian Oryx to Al- oudami PA aiming at renew their reproduction.

Gazella in Al-Talila

Upupa epops

C- Extension and awareness:

1- Define the real needs of local communities and help solve these needs within project capability.

2- Involvement of local community in decision making and in all activities of project.

3- Environmental awareness increase through;

-Establishment of environment awareness center.

-Direct meetings

-Field tours to PAs in Syria

-Field days

-More concentration should be made on the important role of Biodiversity.

-Create a sense and feeling of local communities that the project eventually is to improve their income and interests.

4- Income generating activities : The project helped Bedouin with sewing, embroidery, traditional, handicrafts like perfumes, mascara, wool. Also the project helped them in training on ecotourism and alternative energies.

Al- Talila PA enjoys rich components that make ecotourism one of the main income generating resources like:

-Desert Deer, Arabian Oryx herds, and plant and animal Biodiversity.

-The Bedouin tent with all its traditional contents, in addition to activities of Bedouins like Rebaba songs, Arabian coffee, and Arabian food (manssaf).

-The botanical garden: where a lot of plants representing the steppe flora.

-Camels herds.

- Hot mineral water i.e. sulfurs water. **Guides plates**

Also Al-Talila PA site is near:

1- Moh lake: Is an important site for migratory birds during winter and spring time.

2- Bald Ibis PA: A nesting and reproduction site of the Bald Ibis before its annual migration.

3- **Wadi Al- Abiad Dam**: and its birds.

List of tables included in the report.

Appendix 5:

Decision of establishment of national committee for preparing the 4th national biodiversity report.

Syrian Arab Republic
Ministry of Local Administration and Environment
General Commission for Environmental Affairs

الجمهورية العربية السورية
وزارة الإدارة المحلية والبيئة
الهيئة العامة لشؤون البيئة

رقم.............................

تاريخ.........................

قرار رقم /٦٢٩٦/ ص

وزير الإدارة المحلية والبيئة

بناءاً على أحكام القانون الأساسي للعاملين في الدولة رقم /٥٠/لعام ٢٠٠٤

وعلى أحكام القانون رقم/٥٠/ لعام ٢٠٠٢ المعدل بالمرسوم التشريعي رقم/٧١/ لعام ٢٠٠٣ والقانون رقم /١٧/لعام ٢٠٠٤

وعلى المرسوم رقم /٥٠/ لعام ٢٠٠٦.

وعلى قرار السيد رئيس مجلس الوزراء رقم/٣٥٥٠/تاريخ ٢٠٠٤/٦/٢٤

يقرر ما يلي :

مادة١:

تشكل اللجنة التوجيهية لمشروع إعداد التقرير الوطني الرابع للتنوع الحيوي في سورية برئاسة الدكتور أكرم الخوري المدير العام للهيئة العامة لشؤون البيئة وتضم كل من السادة التالية أسماؤهم :

الدكتور أكرم درويش	مدير التنوع الحيوي والمحميات الطبيعية	نائب رئيس اللجنة
المهندسة عبير زينو	رئيس فريق البيئة والطاقة -برنامج الأمم المتحدة الإنمائي	عضواً
العميد عمر السلطي	وزارة الداخلية	عضواً
الدكتور محمد ماهر قباقيبي	معاون وزير التعليم العالي	عضواً
المهندس عمر زريق	مديرية الحراج - وزارة الزراعة	عضواً
الدكتورة كوكب الداية	الاتحاد النسائي	عضواً
المهندس موفق الشعار	الاتحاد العام للفلاحين	عضواً
الدكتور أرشيد صياصنة	اتحاد الطلبة	عضواً
السيد حسان العشي	الاتحاد العام للجمعيات الحرفية	عضواً
المهندس محمود صوان	المديرية العامة للجمارك	عضواً
الدكتور عماد القاضي	أكساد(ACSAD)	عضواً
المهندسة غادة عارفة	وزارة الري	عضواً
المهندس فريد كنج	وزارة السياحة	عضواً
ممثل عن هيئة تخطيط الدولة		عضواً
المهندس عدنان سعد	مدير مشروع حفظ التنوع الحيوي وإدارة المحميات	عضواً
المهندس محمد خير البني	الهيئة العامة للبحوث العلمية الزراعية	عضواً
السيد عبد الله المولى	المديرية العامة للجمارك	عضواً
الدكتور عبد الله محمد يعقوب	المنظمة العربية للتنمية الزراعية	عضواً
السيد محمد الصغير	جمعية أصدقاء البيئة بالرقة	عضواً

yrian Arab Republic
Ministry of Local Administration and Environment
General Commission for Environmental Affairs

جمهورية العربية السورية
وزارة الإدارة المحلية والبيئة
الهيئة العامة لشؤون البيئة

ممثل عن ايكاردا		عضواً
السيد أسامة النوري	الجمعية السورية لحماية الحياة البرية	عضواً
المهندس محمد مهند الأصفر	الجمعية السورية للبيئة والتنمية المستدامة	عضواً
السيد مروان عنحوري	جمعية أصدقاء دمشق	عضواً
الدكتور كمال الحنون	جمعية حماية الساحل السوري باللاذقية	عضواً
ممثل عن اتحاد شبيبة الثورة		عضواً
الدكتور عمر أبو عون	وزارة التربية	عضواً
الدكتور بشير الزالق	جمعية علوم الحياة	عضواً
المهندس احمد نعمان	مركز الدراسات البيئية	عضواً
المهندسة ميادة سعد	الهيئة العامة لشؤون البيئة	عضواً
المهندس بلال الحايك	الهيئة العامة لشؤون البيئة	عضواً
المهندسة بثينة جري	الهيئة العامة لشؤون البيئة	عضواً
المهندسة مي عبيدو	الهيئة العامة لشؤون البيئة	عضواً
المهندسة نهى تميم	الهيئة العامة لشؤون البيئة	عضواً
المهندسة ربى السرحان	الهيئة العامة لشؤون البيئة	عضواً ومقرراً

مادة ٢:

مهمة اللجنة: الإشراف على إعداد التقرير الوطني الرابع حول التنوع الحيوي في سورية لتقديمه لسكرتارية الاتفاقية و تجتمع بدعوة من رئيسها.

مادة٣:

يبلغ هذا القرار من يلزم لتنفيذه.

دمشق ٢٦ /١٠/ ٢٠٠٨

وزير الإدارة المحلية والبيئة

المهندس هلال الأطرش

نسخة إلى:

- م.مكتب.
- م. المدير العام.
- السادة أعضاء اللجنة.
- الديوان.

Translation of the Appendix (5)

Date: 10. 08. 2008

Decision No.: /2396/

The Minister of Local Administration and Environment draws based on provisions of the primary government employees' Law No. 50- the year 2004. And provisions of Law No. 50-year 2002, modified by legislative decree No. 71 – year 2003 and law 17 –year 2004.And decree No.50-year 2006. And the decision of Mr. Prime Minister No./3550/ date 24/06/2004.

the following:

Article 1:

Formation of a steering committee for the project preparation of the fourth national report of Biodiversity headed by Dr.Akram Al –Khouri. The Director General of the General Commission for Environmental Affairs, and include the following members:

Dr. Akram Issa Darwish	Director of Biodiversity and PAs Directorate	Committee deputy chairman
Eng. Aber Zeno-	UNDP energy and environment team leader	Member
General Omar Al-Salti	Ministry of Interior	Member
Dr. Maher Kabakibi	Deputy Minister of Higher Education	Member
Eng. Omar Zerek	Forestry Directorate –MAAR	Member
Dr. Kawkab Dayeh	Women Federation	Member
Eng. Mowafak Al-Shaar	Farmers Federation	Member

Dr. Arshid Syasheh	Students Federation	Member
Mr. Hassan Al- Ashi	Handicrafts cooperative general federation	Member
Eng. Mahmoud Sawan	General directorate of customs	Member
Dr. Imad Al-Kadi	ACSAD	Member
Eng. Ghada Arfeh	Ministry of Irrigation	Member
Eng. Farid Kanj	Ministry of Tourism	Member
Eng. Mohamed Aloush	State planning commission	Member
Eng. Adnan Saad	Director of project SYR/05/010	Member
Eng. Khair Albunni	General Commission for Agr. Researches	Member
Mr. Abdullah al–Maulla	General directorate for customs	Member
Dr. Abdullah Yakoub	Arab.org for Agro. Development	Member
Mr. Muhamad AlSagher	Enviro. Friends Society – Raqqa	Member
Dr. Ali Shahada	ICARDA	Member

Mr. Osama Al-Nouri	Syrian Society for Conservation of Wild- life	Member
Eng. Muhanad Al-Asfar	Syrian Society for envir. sustainable der.	Member
Mr. Marwan Anhouri	Damascus Friends Society	Member
Dr. Kamal Hannoun	Syrian Coast Protection Society –Lattakia	Member
Mrs. Wessam Kaddah	Youth Federation	Member
Dr. Omar Abu Oun	Ministry of education	Member
Dr. Bashir Al-Zaleq	Biology sciences society	Member
Eng. Ahmed Naasan	Enviro. Studies center	Member
Eng. Mayada Saad	General Commission for Environmental Affairs	Member
Eng. Bilal Al –Hayek	General Commission for Environmental Affairs	Member
Eng, Buthayna JRAI	General Commission for Environmental Affairs	Member
Eng. May Obeido	General Commission for Environmental Affairs	Member
Eng. Nuha Tamim	General Commission for Environmental Affairs	Member

Eng. Ruba AL- Serhan	General Commission for Environmental Affairs	Member

Article 2:

Committee assignment to super vise preparation of the 4th national report of Biodiversity to submit it to CBD secretariat .The committee will hold meetings upon call of its chairman.

Article 3: The decision will be notified to whom responsible for execution.

C.C

- Office

- Office of Director General.

- Messers committee members.

- Office records.

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