Ministry of State for Environmental Affairs
Egyptian Environmental Affairs Agency
Nature Conservation Sector

Action Plan for Implementing the Convention on Biological Diversity's Programme of Work on Protected Areas

Arab Republic of Egypt

Submitted to the Secretariat of the Convention on Biological Diversity

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By

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Executive summary:

New areas continue to be added, with three new PAs covering over 1,200 km^2 created in 2010-2012, including the recent PA in the system, Gabal Kamel PA. A system plan adopted by the EEAA in 1998 calls for a total of 40 PAs covering about 20% of the country's area. Two of the country's PAs, St. Katherine and Wadi El Rayan, encompass UNESCO World Heritage Sites, while two others, El Omayed and Allaqi, are Biosphere Reserves. Although there are no comprehensive assessments of species representation within the system yet, most biodiversity hotspots are well covered, with the exception of three gaps identified in the Mediterranean coastal desert, southern Naser Lake and northeast Sinai.

Unfortunately, in recent years many of the better qualified and more experienced rangers have left NCS for better paying jobs in the Gulf; this exemplifies the difficulty NCS is facing in terms of retaining qualified staff, an issue that is largely associated with the incentive system and career development opportunities. To date, NCS has produced 13 management plans, which delineate management zones and provide guidelines to direct activities inside these areas.

There are some major obstacles in implementing the Convention on Biological Diversity in Egypt: inadequate effective public participation; limited capacity in defining the true economic value of biodiversity; lack of systematic approach in national policies; lack of proper law enforcement in protected areas; lack of sustainable finance mechanisms; absence of linkages between research institutes, policy makers and national implementation agencies; absence of country data, networking system and information exchange; lack of database for EIA, and for penalties and violations; and limited training and capacity building programmes.

Regarding the current status of key actions of the Programme of Work on Protected Areas (PoWPA), the followings are summary of the existing situation in Egypt:

- Egypt has completed an ecological gap assessment that identifies important priorities to expand the existing protected area network and improve the overall representativeness. It has declared three more PAs within the past few years, and has added many major buffer zones around other protected areas.
- Egypt's investment map prepared in 1997 and updated in 2000, in order to integrate the protected areas network in the nation's development. The result was the issuance of the Presidential Decree (154/2001) for the land-use map of Egypt.
- Some efforts done in 2004 with technical assistance from UNESCO, and Collone University in Germany to establish Gebel Uweinat as a first TBPA in Middle East between three countries, Egypt, Libya and Sudan. Also NCS established marine PAs in Salum as preliminary step for declaration a transboundary PA with Tubruq (Libya) under the auspices of IUCN. All these activities are halted since 25th January Revolution in Egypt and 14th February Revolution in Libya.
- Egypt prepared and implemented management plans for 13 protected areas: El-Burulus, El-Zaranik, El-Omayed, Wadi El-Gemal, Wadi-El-Rayan, Nabq, Elba Mountain, Saint Katherine, Qaroun, White Desert, Degla, Taba, and Petrified Forest. Also all protected areas in Egypt have unified standard and site specific annual work plans.
- In 2007, Egypt has completed a comprehensive assessment of detailed threats assessment. This assessment indicated that presence of many threats that affecting both biodiversity and protected

areas system in Egypt: habitat destruction for developmental purposes; conversion of natural land cover along coastal areas; pollution; invasive alien species; and climate change. But Egypt implemented many activities related to restoration of destroyed habitats and threatened species: restoration of range lands in El-Omayed; restoration programs for marine turtles in some Red Sea islands and Mediterranean Sea; Mangroves rehabilitation programme in Nabq and Wadi El-Gemal; restoration of sooty falcon population in Wadi El-Gemal Island; restoration of Acacia trees in St. Katherine, Zaranik, Al-Omayed and Wadi Al-Allaqi; restoration and management program of natural medicinal plants in St. Katherine; restoration of both Sinai baton blue butterfly and its specific habitat Sinai Thyme in St. Katherine; and some restoration activities related to gazelle's populations in Elba National Park.

- In 2007, Egypt has issued a Ministerial Decree No. (5) for formation of a scientific legal committee representing various organizations in order to review of all national and international legislation on regulating access to genetic resources and associated traditional knowledge and the equitable sharing of benefits arising from utilization, and how to achieve access for the sharing of benefits arising from the sustainable use. This committee also prepared national ABS law in extensive consultation with different stakeholders and ministries. The law now is under revision from Ministry of Justice.
- Egypt's conducted an assessment for its policy environment (in 2007) where Seventeen cross-cutting capacity constraints were found to occur in two or more of the thematic areas: limited integrated approach in national policies; limited integration between Rio conventions at the national scale; limited tools and practices for proper law enforcement in protected areas; limited law enforcement and need for further environmental protection measures; limited sustainable finance mechanisms for mobilizing funds; limited long-term awareness programs for education; mechanisms for enhancing citizen participation in community decision making need to be enhanced; weak capacity among local communities; linkages between research institutes, policy makers and national implementation agencies progress slowly; dispersed and fragmented research programs; country data, networking system and information exchange should be available for researchers; and Training and capacity building progressing slowly. Until now there is some economic valuation exercise of protected areas has been undertaken.
- Capacity need assessment for PAs system has been conducted on 2007. The assessment results indicated that the current situation of NCS and PA’s management skills and tools are not in place for effective use of existing planning resources.
- Financial need assessment indicated that the existing system and level of PA financing is wholly inadequate to the task of supporting required NCS activities. While NCS currently lacks funds to undertake its critical management and protection tasks, it would likely fail in meeting its conservation goals, even if adequate funding were available, due to its limited capacities, and lack of systems to effectively prioritize, plan, manage and monitor. A lack of administrative independence prevents the NCS from establishing priorities based on sound technical reasoning.
- NCS prepared and implement a Strategy of Communication, Education and Public Awareness that dealing with common issues among important sectors and focusing upon the importance of taking necessary procedures to conserve biological diversity.
- Egypt conducted management effectiveness evaluation for 11 protected areas since 2007 until now, which means Egypt conducted management effectiveness evaluation for 39% of its current protected areas

Introduction:

The biodiversity of Egypt reflects several important facts: habitats mostly desert; strategic position among three contents (Europe, Africa, Asia); and diverse climate. The uniqueness of the River Nile as a conduit from tropical Africa contributes greatly in enhancing the biodiversity where there exist exceptional habitats of freshwater and wetlands of international importance for migratory and resident birds. Egypt is bounded on the north and east by two largely enclosed seas, the Red sea and the Mediterranean Sea, which is connected through Suez Canal, leading to improvement of coastal and marine biodiversity, especially those that migrated from the Red Sea, through Suez Canal, and has settled in the eastern Mediterranean.

Egypt hosts a sizeable number of endangered species recognized by IUCN as needing conservation management. At least 143 species of threatened animals are to be found in the country, including the highly endangered Slender Horned Gazelle (*Gazella leptoceros*) and the Egyptian Tortoise (*Testudo kleinmanni*). The flora includes 82 threatened species. Finally, Egypt represents a vital artery for bird migration, including 39 threatened species, and serves as a major flyway for migrating soaring birds and an important wintering ground for waterbirds. Thirty four Important Bird Areas have been listed to date by BirdLife International.

Egypt is considered one of the leading developing countries in the field of biodiversity conservation. It joined all the international agreements that promote that aim, with the conservation on biological diversity on the top in 1992. Egypt was also one of the first countries that prepared biodiversity strategy and action plan (1997-2017) with governmental, local and national participation. The promulgation of law no 102 of 1983 on protected areas was in tandem with the declaration of Ras Mohamed, the first national park in Egypt, in south Sinai, followed by establishment of 30 protectorates all over Egypt covering 15% of Egypt's total area by 2012.

The programme of work on protected areas (PoWPA) has been developed in response to the CBD's particular emphasis on the important role PAs play in the maintenance of the global biodiversity and the sustainable use of these resources, and as part of Egypt's commitment to the CBD's directions and resolutions. NCS has developed this action plan for its PA network to correspond with the CBD programme of work on Protected Areas as a practical and logical step to coordinate the Egyptian efforts to manage its Protected Areas, and to ensure their compliance with global trends and benefit from lessons learnt elsewhere.

The first part of this action plan concentrated on the present situation and future vision for the PAs system, the PAs coverage, the different types of PA governance, main threats that affecting PAs and barriers for effective implementation of the PoWPA in Egypt. While the second part is highlighting on the status of key actions of the Programme of Work on Protected Areas including: assessing gaps in the protected area network; assessing protected area integration; establishing transboundary protected areas and regional networks; developing site-level management plans; assessing threats and opportunities for restoration; assessing equitable sharing of benefits; assessing the participation of indigenous and local communities in key protected area decisions; assessing the values of protected areas; assessing protected area capacity needs; assessing the appropriate technology needs; assessing protected area sustainable finance needs; developing best practices and minimum standards; assessing management effectiveness; establishing an effective PA monitoring system; developing a research program for protected areas; assessing opportunities for marine protection; incorporating climate change aspects into protected areas.

Protected area information:

PoWPA Focal Point:

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Lead implementing agency:

In Egypt, the primary party responsible for managing biodiversity is the Ministry of State for the Environment, Egyptian Environmental Affairs Agency (EEAA). As part of the structuring of the EEAA in 1992, the Nature Conservation Sector (NCS) was created as the government body responsible for nature conservation undertaking the necessary policies, programs, studies and other actions to protect the nation's natural heritage. The organization is entrusted with overseeing compliance of habitat and species protection legislation and commitments to international conventions for the conservation of nature. The mandate of the NCS is: "To protect, manage and develop Egypt's wild resources on behalf of its people, by conserving the nation's biological diversity, preserving representative samples of the country's natural landscape, and ensuring that the management and use of all wild resources are sustainable and economically productive".

Multi-stakeholder committee:

The Board of Directors of the Egyptian Environmental Affairs Agency is chaired by the Minister in charge of Environmental Affairs and composed of the following members:

- The CEO of the Agency, who shall be the deputy chairman of the Board.
- A representative from each of six ministries selected by the Prime Minister from the ministries concerned with the environment provided the representative of each ministry shall be a high-ranking official selected by the competent minister.
- Two experts in the field of environmental affairs selected by the Minister in charge of Environmental Affairs.
- Three representatives from non-governmental organizations concerned with the environment selected in agreement with the Minister in charge of Environmental Affairs.
- A high-ranking employee of the Environmental Affairs Agency selected by the Minister in charge of Environmental Affairs on the basis of a proposal by the CEO of the Agency.
- The head of the Legal Opinions Department at the Council of State.
- Three representatives from the public business sector selected by the Minister in charge of Environmental Affairs.

- Two representatives from universities and scientific research centres selected by the Minister in charge of Environmental Affairs.
- Representatives of the ministries concerned shall be invited whenever subjects related to the sectors under their supervision are discussed by the Board.

The Board may solicit the assistance of experts having no counted vote in the deliberations when considering specific issues. The Board of Directors may form advisory committees of experts to study certain subjects and may entrust one or more of its members with a specific task.

Description of protected area system

National Targets and Vision for Protected Areas

New areas continue to be added, with three new PAs covering over 1,200 km^2 created in 2010-2012, including the recent PA in the system, Gabal Kamel PA. A system plan adopted by the EEAA in 1998 calls for a total of 40 PAs covering about 20% of the country's area. Two of the country's PAs, St. Katherine and Wadi El Rayan, encompass UNESCO World Heritage Sites, while two others, El Omayed and Allaqi, are Biosphere Reserves.

Existing PAs cover an important and largely representative portion of Egypt's biologically significant terrestrial and marine habitats. The network hosts pockets of incredibly diverse and fragile ecosystems, such as the coral reefs of the Red Sea, the mountains of South Sinai, and the Gebel Elba region. It includes several important stop over, bottleneck and wintering sites for internationally significant numbers of threatened bird species. Although there are no comprehensive assessments of species representation within the system yet, most biodiversity hotspots are well covered, with the exception of three gaps identified in the Mediterranean coastal desert, southern Naser Lake and northeast Sinai. Each protected area is led by a manager. Environmental researchers with various kinds of technical training and experience are hired to staff the protected areas and are afforded the ranking of senior and junior rangers depending upon their qualifications and level of experience. Unfortunately, in recent years many of the better qualified and more experienced rangers have left NCS for better paying jobs in the Gulf; this exemplifies the difficulty NCS is facing in terms of retaining qualified staff, an issue that is largely associated with the incentive system and career development opportunities.

To date, NCS has produced 13 management plans, which delineate management zones and provide guidelines to direct activities inside these areas. One of NCS' long-term goals is to produce and effectively implement management plans for all of Egypt's PAs to ensure the sustainability of the PA network. However, there is a need for much greater resources, both material and in human capacity, than are currently available before this goal can be achieved. Harmonization of the management planning process, its link with business planning and adaptation to incorporate results of monitoring and evaluation of ecosystem integrity, all need to be strengthened as well.

Future vision of protected areas system in Egypt is "To preserve the natural character of the Egyptian environment for future generations, while using it innovatively to enhance sustainable local productivity and alleviate poverty". This vision is accompanied with some specific future targets:

The development of protected areas system in Egypt would have wide national benefits:

- The value of protected areas as premium tourism destinations will be maintained and enhanced along with Egypt's competitive market advantages

- The protected area estate would be mainly funded from entrance and user fees, largely paid by foreign visitors, so reducing the burden on the Egyptian taxpayer.
- Well managed protected areas help underpin the nation's sustainable development, they generate significant investment and rural employment opportunities and help counter the drift to urban areas.
- The nation's biodiversity heritage would be better secured to provide future options in the face of climate change and biotechnology challenges.

Coverage

In Egypt, there are 30 protected areas covering 15% of the terrestrial area, while over 9% of the coastal and near shore environment is protected.

Description and background

The establishment of a modern, representative system of protected areas in Egypt has been a relatively recent activity with the declaration of Ras Mohamed National Park in 1983. Since that time Egypt has made significant progress and today Egypt has almost 15% of its territory designated by a system of 30 conservation areas, and plans to increase the area under conservation management by 2017. The establishment of protected areas in Egypt has been in response to the importance of managing the use of natural resources to sustain development and reverse their degradation. The Egyptian Government regards protected areas as one of the most effective measures to conserve the nation's natural heritage, particularly in view of emerging threats to biodiversity. The National Biodiversity Strategy and Action Plan developed in 1998 gives the highest priority to the "development of a national network of protected areas representing the principal ecosystem types with scientific importance or biodiversity importance that may be threatened".

Egypt has made great strides in implementing the CBD Programme of Work on Protected Areas – it has recently completed an ecological gap assessment that identifies important priorities to expand the existing protected area network and improve the overall representativeness. It has declared three more PAs within the past few years, and has added many major buffer zones around other protected areas. The country recently completed a comprehensive assessment of the management effectiveness of existing protected areas as well as a detailed threats assessment. New connectivity corridors have been crated between Elba and Wadi El-Gemal areas to conserve gazelle migration. More than half of all protected areas have recent management plans, well above the global average of 25%. Recent efforts are ongoing to create transboundary protected areas with Libya, and Egypt declared El-Filf El-Kebir National Park as a step towards declaring the area of Gabal Uweinat as a transboundary protected area withing Egypt, Libya and Sudan.

Governance types

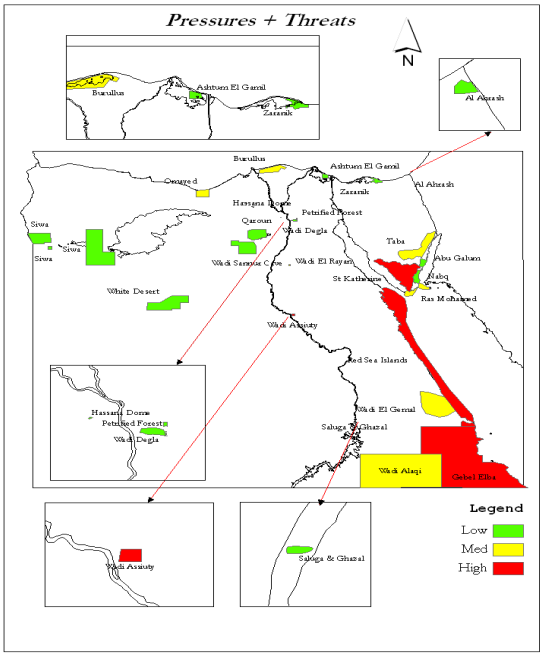
All protected areas in Egypt have only governmental governance.

Key threats

There are numerous main threats to biodiversity and protected areas system in Egypt:

1. Habitat destruction: One of the major threats is habitat destruction for developmental purposes. There is tremendous human development pressure on those areas that are most important for biodiversity, resulting in high degrees of habitat destruction, conversion and degradation.
2. Coastal conversion and development: On the marine side, the conversion of natural land cover along coastal areas has had a large impact on marine and coastal species and habitats.
3. Hunting: Excessive hunting is endangering the very existence of several species of resident and migratory birds and a number of hoofed animals (e.g. gazelles, antelopes).
4. Pollution: Pollution continues to be a major threat to protected areas. There are numerous sources of pollution in Egypt, as in other countries. However, the formation and levels of dust, small particles and soot are more characteristic in Egypt than presently found in industrialized countries. Some of the sources for these pollutants, such as industries, open-air waste burning and transportation, were also well known problems in most countries only 10 to 20 years ago. These are having adverse impacts on terrestrial biodiversity, while water pollution in the Nile and its tributaries are having major impacts on aquatic biodiversity.
5. Invasive species: Egypt, like nearly all countries, faces numerous threats to biodiversity from invasive alien species, including from rats, birds, insects and the American cotton worm.
6. Climate Change: Climate change is increasingly becoming a threat to biodiversity in Egypt. In particular, hydrological stresses from extreme heat events and drought are stressing aquatic species. Some studies show that by 2020, there will be 15% less precipitation, requiring resilience and adaptation measures to be put in place as soon as possible to cope with the strain on human and natural communities alike. In addition to drought-related impacts, Egypt will also experience sea-level rise, increasing salinity along coasts, flooding of some low-lying parts of the northern Delta and some coastal zones, increasing rates of coastal erosion, penetration of salt water in soil, intrusion of seawater into groundwater, reduced agricultural productivity, impacts on fish production, increased desertification, and high impacts on grazing.

Geographical distribution of the cumulative scores of Pressures and Threats identified for the Egyptian system of Protected Areas



Barriers for effective implementation

Some of the major obstacles in implementing the Convention on Biological Diversity in Egypt include:

a) Adequate means of ensuring effective public participation – a challenge that has become increasing critical for success in biodiversity planning Egypt;

b) The limited presence of instrumental processes to evaluate the economic value of biodiversity and the true costs of land degradation;

c) Limited integrated approach in national policies;

d) Limited integration between biodiversity, climate change and desertification conventions on the national scale;

e) Limited tools and practices for proper law enforcement in protected areas;

f) Limited law enforcement and need for further environmental protection measures;

g) Limited sustainable finance mechanisms for mobilizing funds;

h) Limited long-term awareness programs for education;

i) Mechanisms for enhancing citizen participation in community decision making need to be enhanced;

j) Weak capacity among local communities;

k) Linkages between research institutes, policy makers and national implementation agencies progress slowly;

l) Dispersed and fragmented research programs;

m) Country data, networking system and information exchange that facilitate the acquisition, processing and dissemination of technical knowledge legislations formulation and enforcement, and monitoring and evaluation, need to be integrated;

n) Database for EIA, and for penalties and violations should be available for researchers; and

o) Training and capacity building progressing slowly.

Status, priority and timeline for key actions of the Programme of Work on Protected Areas

Status of key actions of the Programme of Work on Protected Areas

Status of key actions of the Programme of Work on Protected Areas	Status
• Progress on assessing **gaps in the protected area network** (1.1)	Status = 4 (completed) Egypt did gap analysis for its PAs system in 1998. The results of this analysis showed in annexes (1&2). There are some other habitats not well represented like desert oasis in Sinai and Lake Naser. Also there is a need to provide some protection for other IBAs (e.g. Sokhna, Gabal El-Zyeit). Egypt plan to implement more advanced gap analysis during 2012 as supportive activity to the NBSAP updating process.
• Progress in assessing protected area integration (1.2)	Status = 2 (partially completed) A comprehensive environmental survey was conducted for all Egypt during 1997/98 to explore the significant areas that need immediate interventions and to assist in building the national network of protected areas. The output of this survey was discussed among concerned parties. Accordingly, several areas were identified as future natural protected areas by the year 2017. Egypt's investment map, prepared in 1997 and updated in 2000 in collaboration with the MSEA and other ministries such as Ministry of Agriculture, Industry, Tourism, Housing, and Culture, has integrated the natural protectorates in the nation's development. The result was the issuance of the Presidential Decree (154/2001) for the land-use map of Egypt.
• Progress in establishing transboundary protected areas and regional networks (1.3)	Status = 1 (just started) Some efforts done in 2004 in workshop held in Traboli, Libya with technical assistance from UNESCO, and Collone University in Germany to establish Gebel Uweinat as a first TBPA in Middle East between three countries, Egypt, Libya and Sudan. The area visited by expertise from three countries to evaluate the important of it from natural and cultural resources. Egypt was declared the Gilf El-Kabir PA (2007) which included the portion of Gebel Uweinat. The NCS started a process of developing a comprehensive negotiation for the establishment of Marine PAs in Salum (Egypt) and Tubruq (Libya) under the auspices of IUCN. All these activities are halted since 25th January Revolution.
• Progress in developing site-level management plans (1.4)	Status = 2 (partially completed) Egypt prepared and implemented management plans for 13 protected areas: El-Burulus, El-Zaranik, El-Omayed, Wadi El-Gemal, Wadi-El-Rayan, Nabq, Elba Mountain, Saint Katherine, Qaroun, White Desert, Degla, Taba, and Petrified Forest. The NCS efforts toward developing more management plans for the other protected areas are negatively affected by the unstable political situation now in Egypt after 25th January revolution. But, Nature conservation Sector replaced a standard form for protected area annual work plan (AWP) with management plans (temporarily) that is implemented on all protected areas in Egypt. These annual work plans help the NCS and PAs managers to develop their own annual activities until the circumstance getting better so more management plans can be prepared. Regarding to the present situation, this is considered as a major achievement to NCS that all PAs in Egypt have their own annual work plans.
• Progress in assessing	Status = 3 (nearly complete)

threats and opportunities for restoration (1.5)	Biodiversity in Egypt is facing many threats including population growth pressure, removal of wild flora particularly medicinal plants, cut of trees in many important habitats, globalization and its negative impacts on extraction of biological resources, limited human and financial resources, habitat deterioration due to pollution, agricultural and industrial activities, habitat fragmentation due to large projects. In addition, too many species of plants and animals were introduced into Egypt over the last two centuries; some of them with economic importance such as cotton, fruits, fishes, chickens, and cattles. This has led to many Egyptian species became so scarce and are about to disappear (agriculture genetic resources). Some species were introduced intentionally (to increase agriculture, animal and fish production) or unintentionally (Suez Canal, bird migration). This has led to spreading of many invasive species which have been affected negatively on the agriculture (pests such as Red Palm Weevil), and aquatic (water hycance, freshwater lobster) habitats. Consequently, biodiversity suffers greatly from the introduction of invasive species in Egypt. Based on the above, it can be said that all ecosystems, habitats, and species are no longer in ecological balance, where all habitats of Egypt whether wetlands, inland, agricultural, deserts or even mountains as well as deep habitats in the Mediterranean Sea have been impacted by human interventions. The exemption of that is about 15%of Egypt where protected areas exist, and activities are executed to limit habitat deterioration and biodiversity loss. <u>Opportunities for restoration:</u> • El-Omayed PA takes successful steps toward restoration of range lands where effective management measures are undertaken with the local communities. • There are some restoration programs for marine turtles along the Red Sea islands as well as the Mediterranean Sea. • Existence of more than 1000 moorings around the diving sites in the Red Sea, help the restoration efforts of coral reefs in the Red Sea. • Mangroves rehabilitation programme, lead to plantation of about 50 Acres of mangroves trees over the last two years. • There are some activities related to restoration of sooty falcon population in Wadi El-Gemal Island where exist the largest breeding colony in the world. • Another programme is successful efforts in planting more than 60 000 Acacia trees in St. Katherine, Zaranik, Al-Omayed and Wadi Al-Allaqi. • Implementing restoration and management program of natural medicinal plants in cooperation with local communities where training programs for Bedouins on methods of plantation and cultivating medicinal plants, post harvesting techniques and how to extract aromatic oils are implemented. • NCS has continuous efforts to restore the Sinai baton blue (pseudophilotes) which is one of the smallest butterflies in the world. It is endemic to St. Katherine Mountains and cannot be found in any place in the world except in this area. The restoration efforts not only concentrated on the Sinai baton blue butterfly but also on its habitats, where its larva feed on buds of Sinai Thyme (*Thymus decussates*), while adult butterflies feeds on nectar of its flowers. This is because Sinai Mountains are the only place in the world where Sinai Thyme can be found, as it is an endemic plant species. • Some restoration activities have been implemented to restore gazelle's populations in Elba National Park.
• Progress in assessing equitable sharing of benefits (2.1) • Progress in assessing protected area governance (2.1)	Status = 2 (partially completed) In order to achieve this objective, the Ministerial Decree No. (5) of 2007 dated 01/13/2007 has been issued for formation of a scientific legal committee representing various organization related to access of genetic resources and traditional knowledge and the equitable sharing of the benefits of the management thereof, since then twenty seven committee meetings have been held, where were the following: A. Reviewing of all national and international legislation on regulating access to genetic

	resources and associated traditional knowledge and the equitable sharing of benefits arising from utilization, and how to achieve access for the sharing of benefits arising from the sustainable use. B. Four different international related legislations were discussed (Ethiopia, India, Namibia & South Africa) to identify themes and key elements against these laws formulated. A comparative study of these legislations was prepared and reviewed. C. A national conference was held with knowledge owners, Ashabin, healers, Hakims and relevant expert s to monitor their opinions in the patterns of law available in the national or international studies. 50 members participated in the conference, ten members of the Committee of Intellectual Property Rights and fifteen of the relevant expert and fifteen of the owners of knowledge heritage, Ashabin, wise and the Attarin from different throughout Egypt and ten of the local Leadership of St. Katherine and representatives of the media. The conference came out with a number of recommendations and outputs which have been considered in the drafting of the national legislation for Access and Benefit Sharing. D. The first draft of the national ABS law was prepared and has been discussed in a national conference with the different stakeholders and ministries involved where participants reviewed draft articles and put their proposals and comments which have been taken into account when drafting the Second draft. E. The second draft of the national ABS law was prepared and sent to the Minister of Environment to circulate it to all the stakeholders and ministries involved to get their opinion in this draft, in order to put the final draft of the national ABS law and present it to the Ministry of Justice for review.
• Progress in assessing the participation of indigenous and local communities in key protected area decisions (2.2)	Status= 3 (nearly complete) Many incentive programmes have been implemented to improve the livelihood of local communities in the protected areas, and at the same time to conserve biodiversity resources. Participatory and precautionary approaches have been applied. Information on incentive measures has been collected and the following are examples of what have been done. Fish hatcheries were established to increase fish stocks in PAs that have lakes like Qarun and Wadi El –Rayan. Assistance was given to young graduates to start small enterprise like cage culture and establish fish farms, in collaboration with the Social Development Fund and Banks. Rangeland programmes at Al-Omayed involved many activities where Roman wells cisterns were cleared, well maintained to store water for grazing animals. Local communities in and around the protected areas were allowed to graze their animals to decrease the pressure on vegetation, based on the carrying capacity studies. Meanwhile, alternatives were provided when vegetation cover decreased. Examples included supporting local communities with animal feed for several months, till vegetation cover came back to its natural conditions. Other alternative was to assist local communities is small agricultural practices like plantation of olive and Acacia trees. Local communities were encouraged to establish their own NGOs and assistance was given to them like: training on management, in obtaining funds (e.g. small grants from GEF programmes). They were also involved in many activities within the Protected Areas. Examples included assisting in reed control at Lake Brullus. Water passes in Lake Brullus and Zaranik were cleared, with assistance given by the Ministry of Water Resources and General Authority for Development of Fish Resources. This resulted in more marine fishes entered the lakes. In addition, fishermen were given assistance including covering a percentage of fish gear cost (fish nets and boat engines). Thus, fishermen were able to catch the sustainable fish stocks. It was noticed that local communities used to collect wood to be used either as fuel or for barbecue purposes where tourists enjoy having a meal in the desert. These activities resulted in reducing greatly number of trees that provide many services in the dry lands. Therefore, efforts were made to buy boutagas ovens for each family to reduce pressure on trees. Meanwhile, wood were brought from Nile Delta to local communities in South Sinai, and be used in desert safari activities.

	In the Red Sea, many activities were undertaken by rangers to assist local communities. These included maintaining water springs to attract wild animals, establish landfill for solid waste, engage local communities in building trials within the protected areas, train Bedouins to work as tourist guide and provide catering activities. These activities resulted in providing job opportunities to local communities. Health care was, and still, provided to local communities in many protected areas. Satellite stations were established, where medical doctors visit such remote area regularly to provide health service. These satellite stations were also used by veterinarists who provided health care to domesticated and wild animals. Furthermore, they are used to teach children and implement public awareness programmes to local communities. St. Catherine PA is the best example where incentive programmes resulted in improving standard of living for local communities. First, assistance was given to women to improve quality of handicraft which became now as a fashion. A company was established of 350 women, where their income is about 500 LE monthly. Local communities helped in establishing the visitor center of the PA; and the ecolodge which is now being managed by local communities. Small dams and roads were built by local communities, assisted by EU funded projects. Health care was given to children, women and all local communities. The medicinal plant project has also provided valuable assistance to local communities, in the form of establishing NGO for medicinal plants, engage local communities in cultivating medicinal plants, and establish small enterprises such as: honey bee (honey produced in St. Catherine has a very good reputation.) In Nabq PA, a young deaf girl, was found to have a talent for painting. Assistance was given to her to improve her talent for painting.. Her paintings were and still exhibited, sold to visitors, and many post-cards of her paintings are sold everywhere in Egypt. She won a reward from mangrove society for her paintings. The whole local community, where this young girl belongs, work for her as they benefit from tourists visiting her studio, by providing food and other services. Many members of local communities are working with NCS either as community guards or rangers. In some protected areas like St. Katherine and Elba, the work force from local communities exceeds 70% of the total staff. In addition, many activities are being carried out by local communities in PA, resulted in providing job opportunities for them. Thus, by providing livelihood and improving standard of living for local communities, they assist in protecting and conserving biodiversity resources in PAs.
• Progress in assessing the policy environment for establishing and managing protected areas (3.1)	Status= 3 (nearly complete) Egypt's conducted an assessment for its policy environment. Seventeen cross-cutting capacity constraints were found to occur in two or more of the thematic areas. These were further grouped into twelve cross-thematic synergies, as follows: 1. <u>National Plans, Programs and Institutional Capabilities</u>: Ignoring the integrated approach in national policies, capacity development tools and programs. The lack of adequate skills in planning, issuance of legislations, risk impact assessment and economics comes as a major barrier for strengthening the national capacity to undertake full assessment in each of the three thematic areas. 2. <u>Legislations Formulation and Enforcement:</u> Absence of proper enforcement for legislations already adapted and needs for further legislations to protect the environment. The absence of adequate and coherent policies and legislative measures constitutes one of the main constraints to implement the goals of the conventions. The absence of explicit policies and legislations or existence of conflicting policies and laws in Egypt, for the three thematic areas, acts as major limitations to implementing the goals of the convention. 3. <u>Scientific Research Capabilities</u>: Lack of scientific research capabilities to support all goals of the conventions and absence of proper link between research institutes, universities and the national implementing agencies. Scientific research should focus on cumulative and synergistic impact assessment of the linkages between

	biodiversity losses; desertification and climate change and produce information decisions on integrated responses and mitigation plans. 4. Technology Transfer and Cooperation: Absence of networking with sub-regional, regional and international organizations and lack of clear national policy for regional and international technology transfer. Mutually supportive technologies will be of value to address the common elements and synergies from a technological perspective 5. Monitoring and Evaluation Systems: Absence of a national indicator system for evaluating and monitoring programs and activities. There is an essential need to develop and implement national programs for monitoring and evaluating programs and activities for desertification, biodiversity, and climatic change based on sound integrated systems of indicators. 6. Public Participation: Lack of awareness of the community, particularly in rural population, and lack of mechanisms for enhancing citizen's participation in community decision making and for fostering and institutionalizing local resource generation. The capacities of the local communities to address issues of biodiversity, desertification and climate change should be developed in a sound technical way, keeping close attention to the linkages with sustainable development. 7. Public Education: Relevant educational and training programs pertaining to national resources, management and conservation are actually absent or undeveloped, and lack of long term programs for awareness and education. The existing educational system in environmental sciences and natural sciences in general does not adequately address scientific and practical linkages between themes of biodiversity, desertification and climate change, and the natural environment. 8. Training Programmes: Training courses and programs dealing with the concepts of the Rio conventions are generally missing. Environmental and technical training pack ages developed by and for the national institutions should begin to focus on linkage s and synergies between the conventions. 9. Financial Mechanisms: Lack of sustainable financial mechanisms for mobilizing funds whether domestic or international. Apart from some exceptions, one of the major constraints facing accomplishing the targets of the three Rio conventions is that most institutions lack the technical and practical knowledge for financial and technical mobilization in order to implement projects and programs tackling synergies between the three themes. No permanent financial resource has been ensured for the concerned areas although it is the key for achieving sustainable development. 10. Economic Evaluation: Limited presence of instrumental processes to evaluate the national economic value of biodiversity and desertification. There is limited presence of instrumental processes to evaluate the national economic value of biodiversity and desertification or the cost of their degradation. Moreover, feasibility studies and cost-effectiveness of sustainable management and options to provide a rationale for continued environmental management, and allow for priority setting of environmental actions on the national level are still missing. 11. Integration between Conventions: Lack of clear and systematic integration of the cross-cutting concepts in the nation al policy formulation process. The main cross-cutting concepts advocated by the conventions are not well reflected in the current national development and sect oral policies in a clear and integrated manner. Linkages between the Rio conventions and poverty eradication should be emphasized to ensure the credibility of integrating the themes into development policies. 12. Information Exchange: Absence of country data, networking system and

• Progress in assessing the values of protected areas (3.1)	information exchange that facilitate the acquisition, processing and dissemination of technical knowledge. • Status= 3 (nearly complete) Until now there is, no serious, system-level economic valuation exercise of protected areas has been undertaken. As a result, NCS does not have an economic case to prove current benefits of PAs to Egyptian society, nor does it have an assessment of tangible and intangible ecosystem services provided by the PA system. The lack of such information prevents NCS from building a strong case to elevate PAs' profile in public and private spheres. This information problem is tied to a lack of national capacities in environmental economic valuation methodologies. So NCS does not have yet an economic case to prove the current benefits of PA's system to the Egyptian society, and ecosystem services provided by PA's. However, preliminary studies on some PA's in Egypt were made, and have shown immense values. For example, Lake Brullus PA (typical of wetlands) produces goods and services (capture fisheries, aquaculture, agriculture and animal husbandry) worth of more than $ 300 million annually. At the species level, individual shark value was estimated at $ 200 000, dolphin at $ 500. 000 and dugong more than $ one million annually. These estimates were based on only one factor, tourist travel cost. Economic recreation value of coral reefs at Ras Mohamed National Park varied between $ 141 to 190 million, depending on individual nationalities. Mangrove ecosystem services, also at Ras Moahmed, were estimated at $ 200 000/ha/yr. In a recent study during the preparatory phase of this project, it was shown that investing one $ at Wadi Gemal National Park will contribute to the national local economy by more than $ 50/yr. Such information will enable NCS to build a strong case to elevate PA's profile in public and private spheres.
• Progress in assessing protected area capacity needs (3.2)	Status = 4 (completed) Capacity need assessment for PAs system has been conducted on 2007. The assessment results indicated that the current situation of NCS and PA's management skills and tools are not in place for effective use of existing planning resources. The PA system has limited human capital in general with especial lack of staff has economics, business, and financial planning background. Because of this lack of specialization and professional of such background revenues of PA expenditure is affected by the un-functional specific unit (environmental, economics and sustainable finance) within NCS system that ensures integrated approaches towards financial sustainability. Also the assessment indicated that there are very limited incentives are in place to attract and retain quality profiles that complement existing capacities and competencies at central and site levels.
• Progress in assessing the appropriate technology needs (3.3)	Status = 2 (partially completed) Egyptian protected areas using modern technology and potentials to improve communication network, develop information systems of natural protectorates and biological diversity, in addition to modern techniques of monitoring (GIS – database – assessment of species status – landuse planning – prediction model – camera trap – mooring system – GPS – boats). In addition encouraging transfer low-cost appropriate technology (e.g. biocriteria model for water quality assessment, low-cost sewage treatment technology, improve recycling of industrial waste water); create curricula for children on water biodiversity; local communities involvement; establish interpretive and information centers.
• Progress in assessing protected area sustainable finance needs (3.4)	Status = 1 (just started) Summary of financial sustainability possibilities for PAs in Egypt: • The current total investment in the Egyptian protected Areas system is almost $5 million annually (40% Governmental and 60% as donor funds) which indicates that

	the average invested money per km^2/annum is $45. According to IUCN report to CBD, the average investment per km^2 in developed countries reaches $ 1300 while in developing countries is around $160. The real financial needs of PAs in Egypt would be around $ 30 million a year. • The gab in financial resources has led to irregular expenditure and concentration on some PAs that are supported by donor projects and neglecting other PAs which are turned as paper parks. The second side of the problem is that the protected areas visited by millions of tourists require large expenditures on the expense of others. • The revenues system needs to be developed and PAs should be managed by the business approach based in the real economic benefits to individuals and society in large in order to meet their costs of sustainability. • Giving the great dependence of tourist related revenues, it is important to mention that entrance fees for foreigners in Egypt might be among the lowest in the world for the kind of resources and uniqueness of natural values they provide. • Financial shortfalls have severe impacts on the level of PA management effectiveness, resulting in biodiversity losses and moreover a structural incapacity to take full advantage of PA resources to generate economic development, employment and poverty alleviation. • However financial shortfalls are just one part of the problem. It seems clear that even existing resources are not being deployed and managed effectively. In fact, capacity limitations and barriers in the areas of financial management and financial systems, and PA management effectiveness are closely related. • At the same time, the lack of an enabling environment and capacity constraints are limiting PA system and site manager's abilities to design and implement new approaches to improve its financial situation. Together, the issues of mobilizing and managing financial resources frame the challenge of sustainable protected area finance and, ultimately, are key determinants of PA conservation effectiveness.
• Progress in conducting public awareness campaigns (3.5)	Status = 2 (partially completed) NCS prepared and implement a Strategy of Communication, Education and Public Awareness that dealing with common issues among important sectors and focusing upon the importance of taking necessary procedures to conserve biological diversity; enhancing education concerning biological diversity; allocating suitable materials in the field of education , communication and defining targeted groups; mainstreaming biological diversity in education strategies; establishing an effective method for communication and exchange of information; developing data bases and establishing websites ; publishing books, reports ,CD's, films, videos; holding workshops, TV and radio interviews, delivering lectures for targeted groups. This strategy has achieved success in raising public awareness among public that can be manifested through the increasing numbers of protected areas visitors, and the increasing numbers of electronic mails reporting about violations in protected areas by local inhabitants, public and foreign tourists. Within the next years, there will be more concentration on raising awareness among decision-makers and private sector operators in Egypt about the importance of sustainable financing, revenue generation and associated environmental economic concepts.
• Progress in developing best practices and minimum standards (4.1)	Status = 3 (nearly complete) There is an effective system of monitoring evaluation that feeds into management of PAs will be prepared, although there are specific monitoring activities are being implemented in the protected areas. These are: • Large mammals monitoring using camera traps. These are implemented at St. Catherine, Wadi El-Gemal, Elba and Siwa. • Gazelle monitoring are being implemented at Elba, Wadi El-Gemal, Siwa, Wadi Al Assuti, St. Catherine, Nabq and Wadi Al-Allaqi.

	• Monitoring of breeding sea bird populations are being implemented at islands, mangroves, shores of the Red Sea, Zaranik, Brullus, and Al-Omayed. • Marine Turtles are being implemented along the Red Sea coast and its islands as well as on the Mediterranean coast. • Acicia monitoring are being implemented primarily at St. Catherine and Wadi Allaqi. • Egyptian tortoise monitoring are being implemented at Zaranik and Omayed protected areas as well as Sharm El-Sheikh. (private sector). • Sharks and marine mammals monitoring are being implemented in the Red Sea. • Invasive species monitoring is being implemented at Elba protected areas. • Carrying capacity of diving sites monitoring is being implemented at the Ras Mohammed. • Grazing monitoring is being implemented at St. Catherine and Al-Omayed.
• Progress in assessing management effectiveness (4.2)	NCS had developed and adopted appropriate methods, standards, criteria and indicators to evaluate the management effectiveness of protected areas under the umbrella of the World Commission of protected areas (WCPA) within the International Union for Conservation of Nature (IUCN). Starting from 2009, NCS started to use new method for evaluating the management effectiveness of protected area (management effectiveness tracking tool-METT) as an easier and suitable method to the current situation. The results of this new method are used to support the findings of the other management effectiveness evaluation method (site level management effectiveness evaluation method). NCS conducted 7 evaluations using the METT method for 7 protected areas (Wadi Degla – St. Katherine – Nabq – Ras Mohammed – Northern Islands of the Red Sea – Wadi El-Gemal – White desert protected areas). This means that Egypt conducted management effectiveness evaluation for 11 protected areas since 2007 until now, which means Egypt conducted management effectiveness evaluation for 39% of its current protected areas and this percentage goes far beyond the percentage approved by the Secretariat of the Convention on Biological Diversity during COPs where stated that parties should conducted management effectiveness evaluation for at least 30 percent of their protected areas by the year 2010. In 2010, it was planned to conduct management effectiveness evaluation for other 12 protected areas using METT method in addition to site level management effectiveness evaluation for 2 protected (El-Ahrash - Zaranik), but due to lack of funds as well as changes in directors of NCS the implementation of those activities are postponed to 2011.
• Progress in establishing an effective PA monitoring system (4.3)	Status = 2 (partially completed) First, the program of monitoring and follow-up coral cover was the completion of the continuation of the monitoring program and follow-up of coral reefs for the year 2009 / 2010 for the ninth consecutive disease in 2001, using the same method which is filming the boxes fixed Photo Permanent Quadrates)) that rely on imaging the squares of each site each year and analyzed using software (Image Pro Express 4.0). It was during this year, re-monitoring sites that have been installed in the 2001 - 2003 were re-shooting, 35-box in the Hurghada area 8 sites (or Jmar Island - Coral Carlos - Alphenadir - Coral lantern - the small island of Giftun - Sabina coral - coral cream - Abu Ramada piece) as well as No. 36 in box 9 locations in the south of Safaga, even the area of Wadi Beauty (coral Shahr - Panorama Reef - Alphenston - Samadaa - Ncara - a piece of cream - Ras Baghdadi - House Reeve Shams Alam - Rocky Island). The percentage of coral cover varied between sites, 31-100%, which is high compared to sites in the northern Red Sea, which indicates the density of coral cover in the southern region which is supported by many studies and research that has been on the Red Sea these studies have shown that there is an increase in density of coral cover in the southern part of the Red Sea than in the northern part, due to the lack of negative human influences, the southern region, which calls for the need to preserve the natural resources located in the south of the Red Sea. About 120 species of plants have been monitored in Burullus Protected Area (plants of the islands coast, plants, sand trapped between the Mediterranean and the lake and the

	road which passes by the Bank) where monitoring program were conducted from November 2009 until May 2010 due to rainfall and the appearance of perennial plants. Also plants of Wadi El Rayan Protected Areas were monitored (the springs – Rayan Lakes) which did not result in a significant change in the status of species due to lack of evidence of the fall weather and a large amount of rain which has been monitoring the 56 plant species. During December 2010, heavy rain were fall in a large amount for long period where the plant will be monitored at the beginning of spring 2011 in order to establish a scheme of change in the state of plant within the PA. Monitor plants within the northern region protected areas (areas of wetlands) show the following: • 7 monitoring processes of the natural vegetation were conducted where 50 types of plants belonging to 41 genus and 24 families, of the 77 species total number of registered plants in Ashtoom El-Gamil. • 11 monitoring processes of the natural plants have been registered 114 species of plants of the total 196 type of plants registered in Burullus protected area. By monitoring of birds within the northern region (wetland areas) show the following: • 12 monitoring processes of birds during which 53 species of birds were recorded representing 37 genus and 22 families, and are water birds including 39 species by 73% and the birds land 15 species by 27% of the total of 118 type registered in Ashtoom El-Gamil out of 223 type references different. • 11 monitoring of protected area for birds in Burullus resulted in record 95 types of the total 117 species. Monitoring of the biodiversity in the wetlands protected areas were continued (Zaranik - in Ashtoom El-Gamil - Burullus - Qarun - Wadi El-Rayan - Siwa - Saluga and Ghazal – Wadi El-Allaqi) where the number of birds that were monitored in 2009 in Zaranik protected area reached to 126.000, while in in Ashtoom El-Gamil number of birds has reached to 34,000 birds, in Qaroun protected area 30,000 birds were recorded, in Burullus protected area 28,036 birds, in the Wadi El-Rayan protected area number of 11,000 birds were recorded. From the previous data, it is cleared that Zaranik is the place where the largest number of birds pass through it because it is located in the heart of the next line of immigration from Asia and North Europe. Change in numbers of migratory birds that have been monitored in a protected Zaranik over the years from 2005 to 2009 has shown a steady increase in numbers of birds from 2005 to 2008 due to several factors such as accuracy in monitoring and stopping fishing birds since 2006 until now and the steady increase in some migratory species. While in 2009 we find that the number of birds decreased for the year 2008, the small numbers of bird's governance (especially the white stork) because of the sirocco blowing through Chehraeril as usual The following table shows the types and numbers of birds in Zaranik 2010. During the year 2009/2010 to complete the numbering of marine turtles Egyptian coast of the Red Sea where they were this year numbered 47 the number of green turtles on the island of peridot in addition to monitoring the 3 turtles were numbered in 2006, bringing the number of turtles that have been renumbered to 121 green turtle Island Aquamarine, has been through the process of scanning for different regions this year's record number of 1960 and 1347 nest is nest modern island of peridot is considered one of the most important nesting areas at all of the green sea turtle Green Turtle, Cheloniamedas on the Egyptian coast. Have also been monitoring the number 4 hatch turtles on the hawkish beak Hawksbil Giftun Small Island and the 30 turtles on the island of Aquamarine. And less than these numbers on the coast, where coastal tourism activities increased and reduced nesting turtles in Ras Umm Hnkurab Alabs and Kulaan significantly over the past years. Plan was implemented to monitor sharks in the Red Sea through the use of questionnaires that are distributed on the dive centers and boats safari to cover most of the diving in the Red Sea were distributed 294 questionnaire Balkaroh been received the number of 201 questionnaire were recorded hits them for 6 species of sharks that important in the Red Sea in Islands and parts of two brothers, Abu cobs and Rocky, coral reefs and Alphenston Sharm, which are areas with an international reputation for the presence of sharks. According to the international efforts to monitor the whale shark, the NCS and

	researchers in the Red Sea protected areas conducted studies to monitor whale shark and conducted more 190 questionnaires on its distribution which was recorded by divers and swimmers. NCS received 92 questionnaires indicated all of them that there are thirty five whale shark were watched from 2003 until February 2008 in Dahab, Sharm Elshikh, Ras Mohamed, Hurghada, Quseiur, Marsa Alam, Port Ghaleb, Elswany Islands, Elsayal, Elsokor, and Elafiston. The highest record was during spring time (12 whales) and at the end of summer (9 whales). This indicates that whale shark migrates from one place to another.
• Progress in developing a research program for protected areas (4.4)	Status = 3 (nearly complete) PhD and Ms (staff) — weak point: socio-economics – governance – ecosystem approach and management – multidisciplinary approach There are ongoing research programmes which include: upgrading biodiversity databases, evaluation of eco-geographical areas ecosystems, critical ecosystems, threatened species, habitats mapping, rehabilitation and restoration research programs and biodiversity indicators. Also there is a good connection with university and institute researchers on some researches on combating bird flu, protecting sensitive habitats, determining gaps in some habitats, rare species and completion of some reference groups of biodiversity. In addition to documenting the cultural heritage in PAs in Egypt, several important studies have been made either by PAs rangers and senior staff of NCS or by university researches (Egyptians and foreigners) as well funded projects.
• Progress in assessing opportunities for marine protection	Status = 3 (nearly complete) Egypt is one of the leading country in the region regarding protection of marine environment where more than 150 staff and 22 boats working on daily patrolling to enforce the law within the marine resources within the different PAs. The following is an examples of the national efforts for marine protection: • Coral reefs status in Egypt has been monitored since 2001 until 2011in more than 120 sites in the Red Sea and Gulf of Aquba, using environmental indicators (living/nonliving coral reefs –numbers of species, other indicators such as fish and vertebrates). • Carrying capacity of coral reefs was evaluated, especially in diving areas through studying their annual and monthly patterns of entertainment activities in more than 60 diving sites. • In Samadi area, south of Marsa Alam city, in the Red Sea where a large and young dolphins occur at the site. Divers, snorkelers, and vessels have increased dramatically in this area. This has led to unacceptable behavior by individuals such as chasing dolphins, making noise in the water, and in some cases, vessels were set on fire, resulted in dolphins deserted Samadi for about two weeks. Red Sea protected area in coordination with the Red Sea governorate interfered to solve this problem. They developed a management plan for the area and a team work was established to study dolphins. After one year of implementing the management plan, dolphins have been increased from 32 to 78 dolphins daily. The monitoring programme has shown remarkable increase in coral reefs growth. Number of visitors does not exceed over 200 daily. This has led to protecting dolphins in this area that reached 120 dolphins daily during summer. • Studies conducted by remote sensing proved that total area of mangrove trees has been increased to 700 hectare by the end of 2007, compared with 525 hectare in 2002. This is because of limiting animal grazing, protecting the sites, as well as implementing transplantation programme for mangrove trees. In addition, biological study was conducted on mangrove trees (height, volume, density fruit production, flowering period). • Also, because of the existence of specialists in this field for more than 7 years. Four species of marine turtles have been recorded (green, loggerhead, hawsbill

	and leathar back) in 15 sites on the beach and islands. They have been monitored; with high percentage of nesting in El-Zabargad Island (5336 nests were found in 2007 in comparison with 438 in 2001). • Once the whale shark was reported in the Red Sea, researchers in the Red Sea and Gulf of Aqba protected areas conducted studies to monitor whale shark and conducted questionnaire on its distribution which was recorded by divers and swimmers.
• Progress in incorporating climate change aspects into protected areas	Status = 2 (partially completed) Climate changes impacts on biological diversity have been recorded by monitoring for the first time coral bleaching in 2007, decrease in the spread and distribution of Ombet trees, *Medemia argum* on elevated areas of Elba mountain, and many of medicinal plants in St. Katherine mountain, in addition to the small Sinai baton blue (Pseudophilotes) the smallest butterfly in the world which is endemic to Sinai and its home range doesn't exceed 5 km^2, feeding on Sinai Thyme (*Thymus decussates*) a plant species endemic to St. Katherine. Many species of Egyptian fauna and flora occur in habitats with very limited areas, and due to dry climate, biological diversity faces many dangers resulting from pressure of population growth, inequitable outrage hunting of animals, removal of many plants especially medicinal plants, cutting trees, globalization and its negative impacts on extraction of biological materials, limited financial and human resources, environmental deterioration due to different types of pollution, habitat fragmentation because of huge projects. Additionally, the intrusion of many plants and animals to Egypt, along the last two centuries which gain great economic importance especially cotton and fruits in agricultural field, livestock species including fish and poultry, all lead to the neglecting of Egyptian strains. Accordingly, some of them begin to deteriorate or about to extinct (agricultural genetic resources). From the other side many invasive species invade Egypt with their negative impacts on agriculture (agricultural pests), aquatic environment (Nile flower), and human being health (bird flu).

Status: 0 = no work, 1 = just started, 2 = partially complete, 3 = nearly complete, 4 = complete
(Insert notes as appropriate)

Priority actions for fully implementing the Programme of Work on Protected Areas:

The proposed long-term solution for biodiversity conservation of Egypt's protected areas is an effective and sustainable PA system operated by an autonomous NCS that has the financial wherewithal and management capacities needed for effective management. A PA system which is effective in conserving biodiversity, run on a solid economic basis, well-marketed and seen as playing a positive role in the future economic development of Egypt, will be able to secure substantial political and public support and leverage. The foundation financing system resting on the following three pillars: (i) Legal, regulatory and institutional frameworks that support sustainable PA financing; (ii) Tools and practices for revenue generation and mobilization; and (iii) Business planning and other tools for cost-effective management.

Action Plans and time frame for completing priority actions of the Programme of Work on Protected Areas

Action 1: Enabling Environment for PA Financing System:

Legislative, policy, regulatory and institutional frameworks substantially reformed to facilitate revenue generation, revenue retention, effective expenditure and other aspects of sustainable PA financing and management.

Key steps	Timeline	Responsible parties	Indicative budget ($)
Develop political and civic environment for change	2012	EEAA - UNDP	1,460,500
Develop financial sustainability plan for PA system including (1) GoE funding, (2) self-generated funds, and (3) donations.	2012 - 2013	NCS	
Develop laws, regulation, policy, and operational procedures to generate revenues and retain it in a dedicated account for sustainable PA management.	2012 - 2014	NCS	
Pilot and adapt new revenue generation and retention regulations and policies.	2013 - 2014	NCS - EEAA	
Pilot and develop new financial procedures and systems to guarantee timely and effective spending, including financial management authority and capacity at PA (cost center) and HQ level	2013 - 2014	NCS - EEAA	
Facilitate and develop of economic assessment and sustainable financing unit in PAs.	2012 - 2016	NCS - EEAA	
Develop Human Resource Management Capacity and Systems in PAs to support PA management	2012 - 2017	NCS - EEAA	
Develop Branding strategy for "Parks Egypt"	2012 - 2014	NCS - EEAA	

* NCS = Nature Conservation Sector; EEAA = Egyptian Environmental Affairs Agency

Action 2: Adequate Levels of financial resource mobilization to ensure effective conservation-orientation management of Egypt's PA system.

This includes conservation, sustainable use, capacity building, and technology transfer. Performance – based delivery means that delivery of finance is conditional upon the already executed or expected delivery of ecosystem service or biodiversity conservation. Measuring performance can be direct (actual services delivered such as tones of carbon sequestered) or indirect (based on activities that improve biodiversity conservation such as habitat restoration and success of PA policy reform.)

Key steps	Timeline	Responsible parties	Indicative budget ($)
Invest in new infrastructure / equipment on the basis of management priorities and commercial cost/benefit analysis and return on investment criteria	2012 -2017	NCS - EEAA	3,047,000
Marketing and communication strategies for revenue generation mechanisms in place.	2012 -2017	NCS	
Investigate mechanisms and partnerships to attracted higher-end operators and tourists to PAs and exclusive	2012 -2017	NCS	

Key steps	Timeline	Responsible parties	Indicative budget ($)
destinations.			
Community joint ventures and revenue/business sharing arrangements piloted in priority areas	2012 - 2017	NCS	
Concessions for extractive or use activities piloted in priority areas.	2012 - 2017	NCS	
Stakeholders participate in, and support value of, income generation and revenue retention process.	2012 - 2017	NCS	

* NCS = Nature Conservation Sector; EEAA = Egyptian Environmental Affairs Agency

Action 3: Business planning and cost-effective systems are ensuring the effective allocation and management of mobilized resources:

This will include a framework for integrating and harmonizing planning tools (e.g. Management Plans, Management Effective Assessments, Annual Operation Plans and Business Plans) will be developed and implemented at first the 3 priority PA's (Ras Mohamed, Wadi El-Rayan and Wadi El-Gemal), and later at the remaining 5, priority PA's. At the end, all the 8 priority PA's will have intercomparable planning tools which together will constitute the basis for PA's allocations of re-injected revenues for the remainder of the project. Throughout this process, the project will seek to identify opportunities for in-kind contribution from the business sector to mobilize their human resources and talents in order to generate business plans.

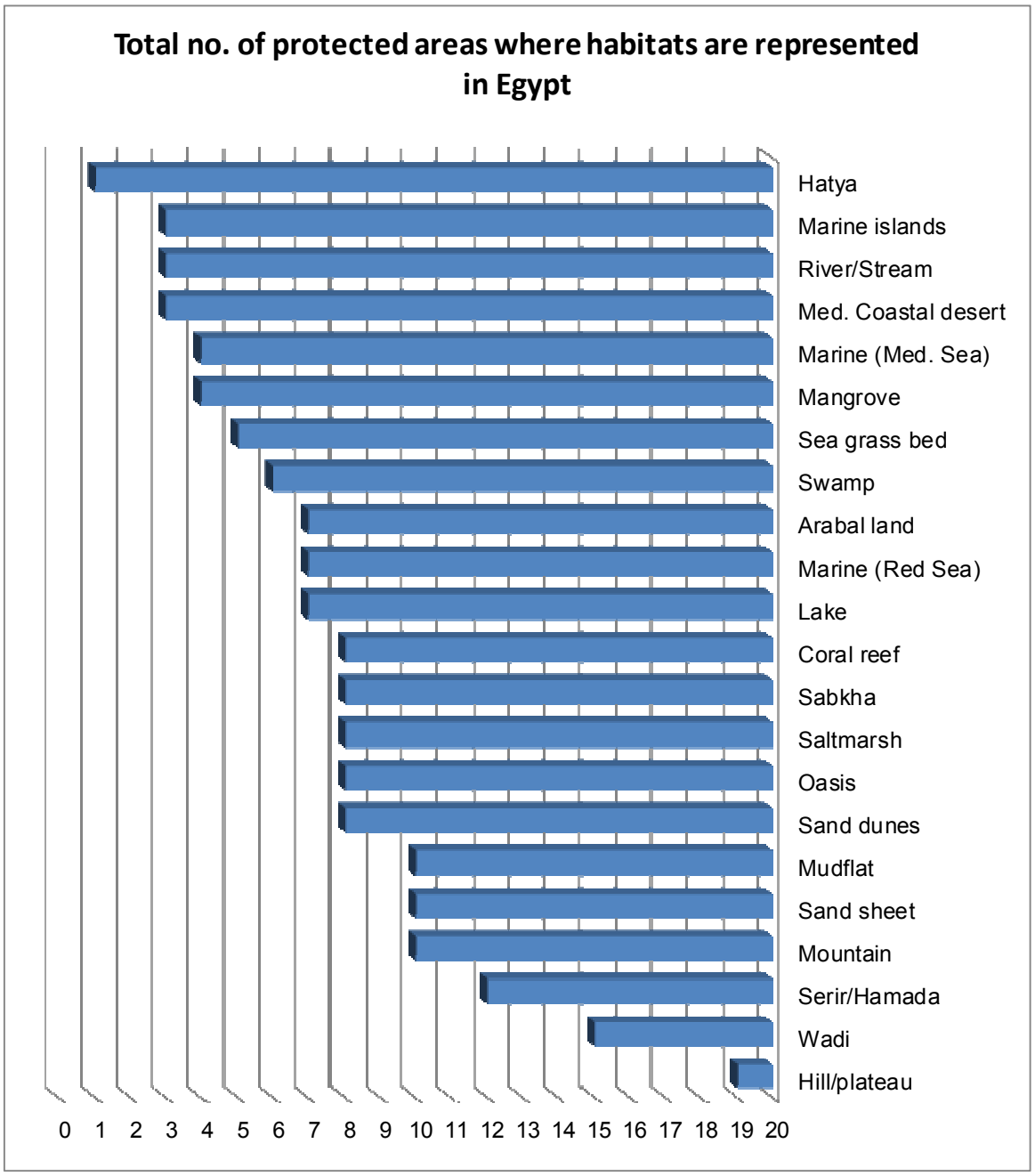
Key steps	Timeline	Responsible parties	Indicative budget ($)
Site-level planning tools at 8 priorities PA's developed and implemented.	2012 - 2017	NCS	
Develop PA staffing plan, including performance-based incentives, job description with code of conduct, and capacity development	2012 - 2016	NCS	
Develop plan for development, use, maintenance and replacement of infrastructure and equipment investment	2012 - 2017	NCS	12,454,000
Establish forums and partnerships with communities, stakeholders and government agencies.	2012 - 2017	NCS	
Implementation of system-level management plan at priority and other sites.	2012 - 2017	NCS	
Facilitate and develop Accounting, audit & reporting system in PAs.	2012 - 2017	NCS	

* NCS = Nature Conservation Sector; EEAA = Egyptian Environmental Affairs Agency

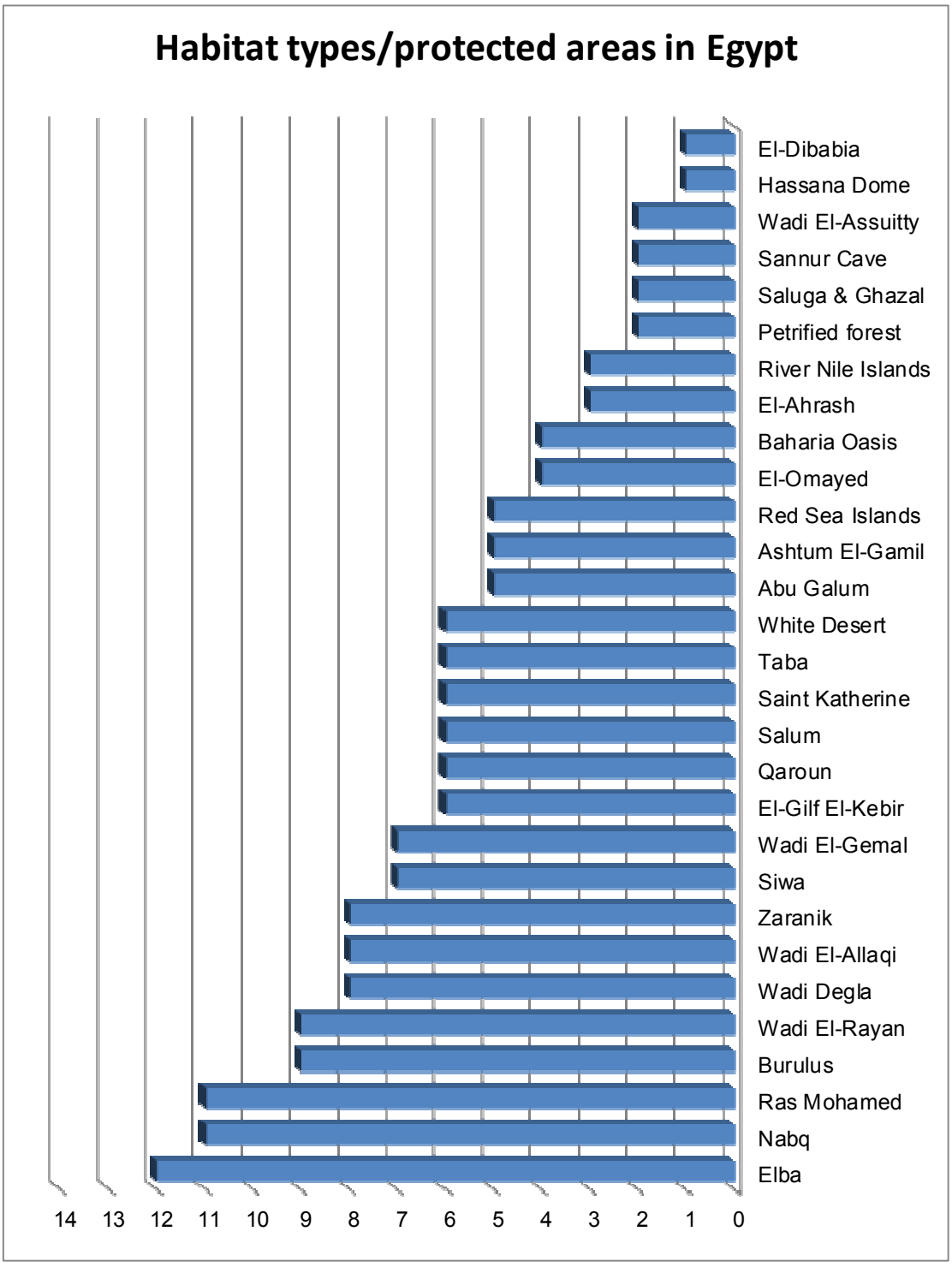
Key assessment results

Ecological gap assessment

Annex 1



Annex 2


Habitat types/protected areas in Egypt
El-Dibabia
Hassana Dome
Wadi El-Assuitty
Sannur Cave
Saluga & Ghazal
Petrified forest
River Nile Islands
El-Ahrash
Baharia Oasis
El-Omayed
Red Sea Islands
Ashtum El-Gamil
Abu Galum
White Desert
Taba
Saint Katherine
Salum
Qaroun
El-Gilf El-Kebir
Wadi El-Gemal
Siwa
Zaranik
Wadi El-Allaqi
Wadi Degla
Wadi El-Rayan
Burulus
Ras Mohamed
Nabq
Elba
14 13 12 11 10 9 8 7 6 5 4 3 2 1 0

Management effectiveness assessment

Key Findings and Recommendations

Through a two-day evaluation workshop, NCS staff examined the strengths and weaknesses of Egypt's protected areas system under five main topics: context, planning, inputs, processes and outputs. The results, as summarized in figure 1 and table 1, indicate that Egypt's PAs have various levels of management effectiveness. Good progress has been made in some areas such as establishing PAs, however, there are significant challenges in ongoing management of the estate. A number of salient points emerged from the evaluation, as follows:

From the RAPPAM graphical representation of results it is evident that Egypt's PAs have various levels of management effectiveness and the salient points that emerge from this national pattern of strengths and weaknesses are reviewed in detail in Part 2 below. When the data are considered holistically some important general issues emerge.

1. There is a significant data management problem in the NCS. It proved to be impossible to extract current and consistently accurate data on PAs and their management status (e.g., PA size, staffing and budgets). There is no single authoritative source for this type of data.

2. There is a marked disparity between the allocation of staff and budgets to PAs, and their needs and national priorities in regard to size or biodiversity value.

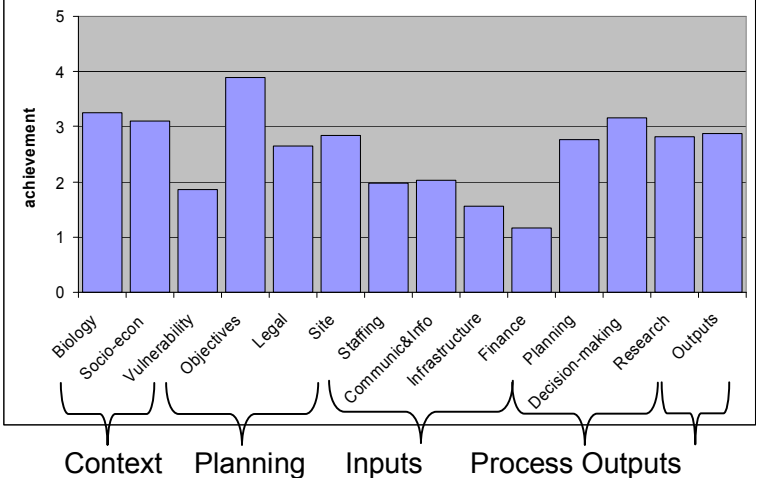
3. Larger PAs tend to have more infrastructure (staff, budget, etc), to have been established for longer, and to have greater degrees of pressures and threats; in addition, more generally, they are in a better condition in all aspects investigated by RAPPAM.

4. Large PAs are harder to manage effectively because even though they have greater inputs, this does not compensate for their greater size, and therefore they have lower outputs.

5. The impact of management input on the longer-established PAs is detectable in reduced levels of pressures and threats.

6. Greater planning by managers occurs in the more vulnerable PAs, but these coexist with weaknesses in the decision-

Figure 1: Summary of RAPPAM findings, showing mean values for the different sections



making processes.
The more specific findings and recommendations of the assessment are described below.

Table 1. ***Snapshot of Relative Strengths and Weaknesses reported by NCS staff for Egypt's Protected Area System***

Context and Policies	PA Design and Planning	Inputs	Management Processes	Management Outputs*
Strengths	**Strengths**	**Strengths**	**Strengths**	**Strengths**
The PA System has high biological importance and representation. It is socio-economically important but many benefits are unrealised.	The PAs generally are meeting their conservation objectives. The PAs are well configured and zoned to meet their objectives. The PAs have binding legal security	Staff technical skills and performance are generally good Communication and educational programmes are satisfactory	Management planning capacity is generally good Decision-making is collaborative and transparent with partners	Threat detection to the system is good Visitor and tourist activities are managed Staff monitoring, supervision and evaluation occurs
Weaknesses	**Weaknesses**	**Weaknesses**	**Weaknesses**	**Weaknesses**
Serious pressures and threats from land use changes and recreation The system is vulnerable to illegal activities and low law enforcement The system suffers from an inadequate policy framework	Many PAs have land ownership disputes Legal enforcement is poor. Local communities are not very supportive EIAs are poorly enforced and buffer zones are not adequately regulated.	Unacceptably low level of funding is the most serious weakness Staff levels are too low Training opportunities are inadequate PA equipment resources and infrastructure are inadequate Arrangements for visitor safety are poor	Management plans are not being implemented Management actions are not informed by research and monitoring programmes.	Threats are detected, fines or other punish-ments are levied, but the law is then not applied Infrastructure development is inadequate Staff training and career development is poor

* Specific products and services accomplished by PAMU staff, and evaluated relative to threats and pressures, PA objectives and work plans.

(a) Context and Policies

The ecological and social benefits offered by Egypt's PA system are high. The system seems to have almost equal importance for the conservation of most aspects of Egypt's biodiversity (i.e., representativeness, important species, biodiversity, full range of diversity, significant populations etc.), and the system is considered to offer a full range of social and economic benefits. The two protectorates that contain the highest levels of terrestrial biodiversity in Egypt (Gebal Elba and St. Katherine) appear to face the most serious combined pressures and threats.

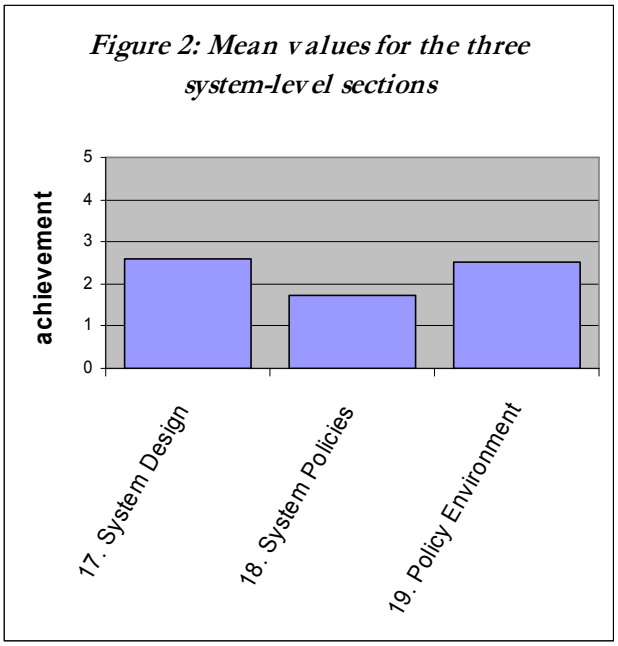


Figure 2: Mean values for the three system-level sections

The conversion of land use, recreational use and hunting or over-collecting are considered to be the greatest pressures operating on the PA system, and they will continue to threaten the system until coordinated national strategies address these issues. In this regard the PA system suffers from the lack of an appropriate policy framework that would go some way to addressing these issues.

Figure 2 shows the average scores for the three sections answered by policy makers. The scores are relatively low, indicating some problems in the system design and policy structure. The lowest scores among the individual questions of each section indicate a belief that the PA system does not adequately maintain natural processes at the landscape level (section 17), there is no assessment of the historical range of variation of ecosystem types (section 18) and the level of funding is too low (section 19).

Recommendations

Policy Issues. The NCS as a matter of urgency should institute formal policies for nature conservation and for protected areas, with options for community-based conservation initiatives, to place the NCS in a proactive rather than a reactive stance. Policy guidelines should be comprehensive and address the following: human and financial resource management, systems planning, research, inventory, monitoring and assessment, planning, EIA, communications, marketing, interpretation, community relations and poverty alleviation, and collaborative management.

Relations with the military and security authorities. It cannot be right for a PA to be inaccessible to visitors or even scientific research or NCS employees. The NCS should enter into negotiations with the military so as to enable permits to be issued for visits to Wadi Allaqi and Gebel Elba PAs quickly and without problems, preferably by the NCS itself. The NCS could explore the idea of using military personnel in the cause of conservation.

Furthermore, a 'tourism-friendly' policy is needed for the Tourism Police to enable and encourage freer movements by tourists.

(b) PA Design & Planning

The system as a whole is considered to have good long-term legal protection, but the PAs are individually vulnerable as a result of poor law enforcement, overexploitation of resources, lack of resources and excessive pressure on managers to accommodate unsustainable demands. Furthermore environmental impact assessment (EIA) compliance procedures are considered inadequate: this validates the initiation of the Legal and Institutional Framework Project (LIFP) which, among other things, will address this issue.

Recommendation

Buffer Zone management. In line with the CBD plan of work for PAs and in view of Egypt's arid nature, a more integrated landscape approach for conservation should be instituted to sustain ecosystem processes that operate on larger scales than the individual PAs, and also to lessen the direct impact of activities adjacent to PAs.

This will involve more effective buffer-zone management, mainly through better cooperation with other Government agencies, and the establishment of corridors and transition zones. NCS should work with the Ministry of Planning, local district councils and others to develop long-term land-use plans for areas outside the PAs. These plans should identify low-impact buffer/transition zones adjacent to PAs, and low-impact corridors that connect PAs. Associated policies should be established to determine the nature of compatible development and uses within buffer and corridor zones, and public participation mechanisms to establish and amend the land-use plans. There is an opportunity to establish category V (protected landscape) and category VI (resource use) PAs where buffer and corridor protection is needed. All parties need to be reminded of their obligations under the National Biodiversity Strategy & Action Plan of 1998.

(c) Inputs

Though staff technical capacity is scored relatively highly, management inputs to the system are generally inadequate from all aspects. The main limitations to effective management are the very low levels of Government funding, the low staff levels, lack of training opportunities, inadequate management resources (especially transport) and poor infrastructure facilities.

The fact that the PAs are chronically under-resourced has critical implications for management effectiveness, since internationally it has been shown that a PA's budget correlates closely with management effectiveness: typically, the higher the budget, the better the performance. In Egypt the total expenditure on PAs (including staff costs) averages 108 LE ($19) per km^2 per year, which is only 11% of the average for developing countries and 9% of the minimum for other African countries.

Furthermore the Egyptian PA system is seriously under-staffed with less than 20% of the average staff levels for developing countries. Egypt is seriously out of line with all international norms, and even those of its regional neighbours. The lack of clarity with regard to management

structure and responsibility is also an issue, particularly with regard to the Red Sea and Gulf of Aqaba, where budgets and staff numbers are conflated.

Recommendations

Funding. There is an urgent need to communicate the extent of under funding of Egypt's PA system, and to ensure that it is addressed by the GoE in a sustained, long term manner. Without this, no conservation or management measures are likely to be effective, and Egypt cannot fulfill its own National Biodiversity Strategy & Action Plan, to which all national stakeholders have agreed and signed.

Sustainable funding. In addition to establishing a sustained, long term source of Egyptian funds, alternative financial mechanisms should be established that allow the retention, by the NCS, of revenues generated by protected areas. Other countries have had good success with approaches such as 'special purpose accounts', non-profit 'Friends of Parks', corporate sponsorships and private donations. These can assist in reducing core funding needs from government and dependencies on donor projects.

Business Planning. There is a pressing need to engender a 'business approach' to PA management to support sustainable conservation operations. This includes different levels of activity from instituting a facilitating policy and securing appropriate fee structures, to the preparation of site-level Business Plans.

Internal Communications. The PA system is in dire need of clear internal communications, at several levels, such as:

- The work of staff would be facilitated through the development of policies (what will be done), procedures (steps and responsibilities) and guidelines (technical how to). This will require training for NCS to develop these, and a review process to engage site staff.
- A 'NCS Best Practice Annual Report' should be prepared to highlight the best examples of good protection and management from across the nation. This would encourage PA staff to take pride and develop their programmes. The report should focus on all and any topics related to management effectiveness, and as such, can be a principal method for encouraging and profiling effective management.
- Staff at the managerial and ranger levels should be engaged in task force working groups. This will broaden their perspectives beyond their own PA, support the development of national initiatives, and promote internal communications and information sharing.

External Communications. A national NCS-level external-communications plan is needed to coordinate efforts. A working group comprising representatives from several PAs and NCS staff should be appointed.

Community relations. In line with the proposed national policy guidelines, the NCS should institute community outreach programmes in all PAs to ensure that local stakeholders benefit from, support and participate in, the PA's management. As a first step the NCS should invest

in the development of a collaborative management model for the White Desert to demonstrate the mutual benefits of community outreach initiatives.

PA Data. The PA data are scattered and inconsistent and there is an urgent need to invest in a comprehensive, accessible and consistent PA information collection and management system. This should be part of a comprehensive and freely accessible database.

System Staff Audit. A comprehensive staff audit should be undertaken in the near future to review the disposition of staff in the PA system. This audit should be undertaken in parallel with the institutional review scheduled under the NCSCB project. This should lead to the development of human resource policies concerning hiring practices (fair competitive processes), rotation and transfers, training, etc.

(d) Management Processes

Site management planning is generally poor with few areas having management plans or definitive work plans. This is a major concern as the absence of planning documents makes it problematic to track effectiveness and or to develop business plans. Furthermore, though research was scored relatively highly, the results of research and monitoring do not generally inform the management of PAs, and as a result, the adaptive management approach is weak. However, there are encouraging signs that management effectiveness increases over time: older PAs seem to perform better, and this suggests that positive management feedbacks may be operating.

Recommendations

Management planning. At a minimum, every PA should develop an outline management plan, using the standard format, within the next two years. The Planning Technical Unit should focus support on those PAs with the greatest need or at the greatest risk. The NCS should ensure that management plans are formally approved and implemented, and are widely understood and supported by stakeholders and other partners. The PA staff should also be trained and then encouraged to practice adaptive management linked to monitoring programmes, and thereby ensure that existing plans are updated as needed.

Research and Monitoring. NCS should establish a policy and guidelines on research, inventory, monitoring and assessment. Each PA should use the guideline to prepare its own programme, with the review of NCS and other external experts. Each PA should have a concise description of its abiotic, biotic and cultural resources. NCS should introduce a standard template for each PA to complete, and be reviewed by national experts. Such information should be made available on the internet and used for staff training.

Permissions for scientific study. The whole process of permissions for scientific study is far, far too slow, and should be reviewed and speeded up considerably. There should be clear unambiguous guidelines which, if the proposal adheres to them, should imply *automatic* acceptance and issuance of permits. If in retrospect the guidelines were breached, then a blacklist can be maintained, and future applications can be very closely monitored to ensure compliance, or refused.

(e) Management Outputs

This part of the evaluation is problematic because the scoring is at variance with the scoring for some other questions that contribute to the outputs, such as planning. For example, staff supervision and evaluation are considered as output strengths while training and staff development are weaknesses. Though community outreach and education are scored relatively highly as an output, responses elsewhere indicate little outreach to local communities, and the management of relations with people seems to be an endemic problem, with both tourists and local people. The analysis suggests that the value of establishing good relations with local communities and partners is widely recognized but this aspect is not being properly addressed. A major issue raised by many PAs is the fact that they can detect violations, but then the law is not applied, because they have to rely on the police and the judiciary to carry it through.

Recommendations

Training. National and site-level training programmes are needed. The principles of PA management should be developed as an 'in-service' programme for all new staff.

Applying the law. The NCS should take an active role in discussions and agreements with the police and judiciary at local and national levels to ensure that once violations are detected, the law is then applied, and people can then see that all contraventions will be punished in accordance with the law without fear or favour, including Government officials. It is the experience of the authors of this report that often local people feel victimized in this respect.

Interpretive/Eduational Programmes. A national effort to encourage and develop interpretive programmes is generally missing in Egypt's PA's. There is an opportunity to develop interesting programmes, which is a key ingredient of the eco-tourism product.

(f) Outcomes and Evaluations

This assessment did not examine outcomes or evaluations in the assessment cycle. Therefore, an assumption is made that the initial components of management effectiveness examined during the national workshop (i.e., context, PA design and planning, inputs, management processes, outputs), if implemented, will lead to positive outcomes.

Recommendations

National System Level Evaluation. A Management Effectiveness Evaluation should be conducted tri-annually at the system level.

PAs Action Plans. All PA managers should review the results of the national RAPPAM with their rangers and develop an action plan to address the key issues and challenges facing their protected area. This action plan should be integrated into management plans and annual work plans, where they exist. Indeed, an annual RAPPAM review and action plan could serve as the basis for the annual work plan.

Site level Evaluations. Site level evaluations should also be conducted to assess local circumstances in greater detail and to confirm if the planned actions are being implemented, and if so, whether they are having an impact. This would need to be considered against goals and objectives set forth for the PA in the management plan (where it exists), or against national system-level goals and objectives. A methodology for site-specific MEE exercises should be developed as a priority to support planning and adaptive management, and then this should be conducted annually by each park, with the assistance of an independent facilitator.

Sustainable finance assessment

A. Financial Analysis of the Egyptian Protected Areas System:

Protected Areas (PAs) in developing countries receive only a small and non-stable fraction of needed funds. In many cases funding is underestimated due to the lack of appropriate mechanisms and planning tools to address the real costs of managing and maintaining natural resources. Therefore protected areas are sending the wrong message to decision makers while managing to survive with the minimum resources available. As a consequence, operating costs as well as urgent investments are often neglected, while many PAs receive no funding at all constituting what is recognized as "paper parks". The achievement by 2010 of a significant reduction in the current rate of loss of biological diversity will require the provision of new and additional financial and technical resources to developing countries. Table 1 presents expenditures and revenues for Egypt´s PA System over the past five years. Even considering a 100% reinvestment of self-generated revenues the financial gap to reach a reasonable level of PA management would still be around 75% according to the regional assessment prepared for Mediterranean countries. Donors have helped to cover some of the financial shortfalls; however their contribution should not be supplementary to governmental allocations but complementary. Both international cooperation and governmental funding do not seem to meet the core characteristic of PA financial sustainability, which should be stable and long term funding.

Table 1: Expenditures of protected Areas over last 5 years ($ 1000)

Year / Source of funding	2004	2005	2006	2006	2008	Total
Government	1903	1672	2992	1278	3002	10847
Donors	2412	4341	4844	4380	4194	17800
After detuct. 25% TA	1809	3256	3633	3285	3147	15129
Total fund (T)	3712	4928	6625	4563	6149	25977
Revenues (R)	2937	3795	2812	3623	4698	17865
(R/T)	0.79	0.77	0.42	0.79	0.76	
Protected area (1000 km^2)	100	100	100	150	150	--
Expenditures per km2/year ($)	37	49	66	30	41	Average 45

Table 2 reflects the financial projection for the future five years plan for the national program of nature conservation including actions in-situ and ex-situ funded by the government and encouraged co financing.

Table 2: The financial needs of 5 year national program for nature conservation (PAs and Biodiversity)

Components and key activities	Total budget
1. Information, monitoring and assessment of biodiversity	
• Survey, monitoring and evaluation of resources.	6
• Survey and assessment of endangered species.	4
• Geographic information maps system of biodiversity.	3
• Actions against bird flu, invasive species and biosafety.	10
Total	23
2. Development of PAs network	
• Declaration and managing of new PAs.	15
• Improving the infrastructure of PAs.	25
• Providing PAs with technical and administrative facilities.	10
• Increasing PAs capacity to support economic and social development.	6
• Initiate the Egyptian Natural Museum.	10
• Enhance the program of captive breeding	10
• Implementing the strategy of medicinal plants.	8
Total	84
3. Support enabling environment for PAs and biodiversity	
• Institutional reform and capacity building of nature conservation.	10
• Partnership with stakeholders, local community and NGOs.	5
• Ensure sustainability of donor's projects.	10
• Communication, media, marketing and awareness for ecotourism in PAs.	3
• Undertake necessary measures to satisfy international conservation commitments.	10
Total	38
Grand total	**145**

B. Conclusions:

1. The current total investment in the Egyptian protected Areas system is almost $5 million annually (40% Governmental and 60% as donor funds) which indicates that the average invested money per km^2/annum is $45. According to IUCN report to CBD, the average investment per km^2 in developed countries reaches $ 1300 while in developing countries is around $160. The real financial needs of PAs in Egypt would be around $ 30 million a year.
2. The gab in financial resources has led to irregular expenditure and concentration on some PAs that are supported by donor projects and neglecting other PAs which are turned as paper parks. The second side of the problem is that the protected areas visited by millions of tourists require large expenditures on the expense of others.
3. The generated revenues should reflect the value of protected area and have positive relation to its needs. The revenues system needs to be developed and PAs should be managed by the business approach based in the real economic benefits to individuals and society in large in order to meet their costs of sustainability.
4. Giving the great dependence of tourist related revenues, it is important to mention that entrance fees for foreigners in Egypt might be among the lowest in the world for the kind of resources and uniqueness of natural values they provide.
5. Financial shortfalls have severe impacts on the level of PA management effectiveness, resulting in biodiversity losses and moreover a structural incapacity to take full advantage of PA resources to generate economic development, employment and poverty alleviation.

6. However financial shortfalls are just one part of the problem. It seems clear that even existing resources are not being deployed and managed effectively. In fact, capacity limitations and barriers in the areas of financial management and financial systems, and PA management effectiveness are closely related.
7. At the same time, the lack of an enabling environment and capacity constraints are limiting PA system and site manager's abilities to design and implement new approaches to improve its financial situation. Together, the issues of mobilizing and managing financial resources frame the challenge of sustainable protected area finance and, ultimately, are key determinants of PA conservation effectiveness.

Capacity needs assessment (Insert summary findings if available)

Results of capacity assessment scorecard

Strategic Areas of Support	Total Possible Score (TPS)		
	Systemic	Institutional	Individual
1. Capacity to conceptualize and formulate policies, legislations, strategies and programme	6	3	-
2. Capacity to implement policies, legislation, strategies and programmes	9	27	12
3. Capacity to engage and build consensus among all stakeholders	6	6	3
4. Capacity to mobilize information and knowledge: Technical skills related specifically to the requirements of the SPs and associated Conventions	3	3	3
5. Capacity to monitor, evaluate and report and learn at the sector and project levels	6	6	3
Total	**30**	**45**	**21**

Strategic Areas of Support	Baseline Scores		
	Systemic	Institutional	Individual
1. Capacity to conceptualize and formulate policies, legislations, strategies and programme	4	2	-
2. Capacity to implement policies, legislation, strategies and programmes	6	13	6
3. Capacity to engage and build consensus among all stakeholders	3	2	1
4. Capacity to mobilize information and knowledge: Technical skills related specifically to the requirements of the SPs and associated Conventions	2	2	2
5. Capacity to monitor, evaluate and report and learn at the sector and project levels	2	2	1
Total	**17**	**21**	**10**

Strategic Areas of Support	Baseline score as % of TPS (Average)		
	Systemic	Institutional	Individual
1. Capacity to conceptualize and formulate policies, legislations, strategies and programme	67	67	-
2. Capacity to implement policies, legislation, strategies and programmes	67	48	50
3. Capacity to engage and build consensus among all stakeholders	50	33	33

4. Capacity to mobilize information and knowledge: Technical skills related specifically to the requirements of the SPs and associated Conventions	67	67	67
5. Capacity to monitor, evaluate and report and learn at the sector and project levels	33	33	33
Total	**57**	**51**	**48**

Strategic Areas of Support	Target score as % of TPS (Average)		
	Systemic	Institutional	Individual
1. Capacity to conceptualize and formulate policies, legislations, strategies and programme	83	100	-
2. Capacity to implement policies, legislation, strategies and programmes	88	81	83
3. Capacity to engage and build consensus among all stakeholders	83	83	67
4. Capacity to mobilize information and knowledge: Technical skills related specifically to the requirements of the SPs and associated Conventions	100	100	100
5. Capacity to monitor, evaluate and report and learn at the sector and project levels	83	83	67
Total	**87**	**84**	**81**

Strategic Area of Support	Capacity Level	Outcome	Outcome Indicators (Scorecard)			
			Worst State (Score 0)	Marginal State (Score 1)	Satisfactory State (Score 2)	Best State (Score 3)
1. Capacity to conceptualize and formulate policies, legislations, strategies and programmes	Systemic	The protected area agenda is being effectively championed / driven forward		1		
1. Capacity to conceptualize and formulate policies, legislations, strategies and programmes	Systemic	There is a strong and clear legal mandate for the establishment and management of protected areas				3
1. Capacity to conceptualize and formulate policies, legislations, strategies and programmes	Institutional	There is an institution responsible for protected areas able to strategize and plan			2	

Strategic Area of Support	Capacity Level	Outcome	Outcome Indicators (Scorecard)			
			Worst State (Score 0)	Marginal State (Score 1)	Satisfactory State (Score 2)	Best State (Score 3)
2. Capacity to implement policies, legislation, strategies and programmes	Systemic	There are adequate skills for protected area planning and management			2	
2. Capacity to implement policies, legislation, strategies and programmes	Systemic	There are protected area systems			2	
2. Capacity to implement policies, legislation, strategies and programmes	Systemic	There is a fully transparent oversight authority for the protected areas institutions			2	
2. Capacity to implement policies, legislation, strategies and programmes	Institutional	Protected area institutions are effectively led			2	
2. Capacity to implement policies, legislation, strategies and programmes	Institutional	Protected areas have regularly updated, participatorially prepared, comprehensive management plans		1		
2. Capacity to implement policies, legislation, strategies and programmes	Institutional	Human resources are well qualified and motivated		1		
2. Capacity to implement policies, legislation, strategies and programmes	Institutional	Management plans are implemented in a timely manner effectively achieving their objectives		1		
2. Capacity to implement policies, legislation, strategies and programmes	Institutional	Protected area institutions are able to adequately mobilize sufficient quantity of funding, human and material resources to effectively implement their mandate		1		
2. Capacity to implement policies, legislation, strategies and programmes	Institutional	Protected area institutions are effectively managed, efficiently deploying their human, financial and other resources to the best effect		1		
2. Capacity to implement policies, legislation, strategies and programmes	Institutional	Protected area institutions are highly transparent, fully audited, and publicly accountable			2	

Strategic Area of Support	Capacity Level	Outcome	Outcome Indicators (Scorecard)			
			Worst State (Score 0)	Marginal State (Score 1)	Satisfactory State (Score 2)	Best State (Score 3)
2. Capacity to implement policies, legislation, strategies and programmes	Institutional	There are legally designated protected area institutions with the authority to carry out their mandate			2	
2. Capacity to implement policies, legislation, strategies and programmes	Institutional	Protected areas are effectively protected			2	
2. Capacity to implement policies, legislation, strategies and programmes	Individual	Individuals are able to advance and develop professionally		1		
2. Capacity to implement policies, legislation, strategies and programmes	Individual	Individuals are appropriately skilled for their jobs			2	
2. Capacity to implement policies, legislation, strategies and programmes	Individual	Individuals are highly motivated			2	
2. Capacity to implement policies, legislation, strategies and programmes	Individual	There are appropriate systems of training, mentoring, and learning in place to maintain a continuous flow of new staff		1		
3. Capacity to engage and build consensus among all stakeholders	Systemic	Protected areas have the political commitment they require		1		
3. Capacity to engage and build consensus among all stakeholders	Systemic	Protected areas have the public support they require			2	
3. Capacity to engage and build consensus among all stakeholders	Institutional	Protected area institutions are mission oriented		1		
3. Capacity to engage and build consensus among all stakeholders	Institutional	Protected area institutions can establish the partnerships needed to achieve their objectives		1		
3. Capacity to engage and build consensus among all	Individual	Individuals carry appropriate values, integrity and attitudes		1		

Strategic Area of Support	Capacity Level	Outcome	Outcome Indicators (Scorecard)			
			Worst State (Score 0)	Marginal State (Score 1)	Satisfactory State (Score 2)	Best State (Score 3)
stakeholders						
4. Capacity to mobilize information and knowledge	Systemic	Protected area institutions have the information they need to develop and monitor strategies and action plans for the management of the protected area system			2	
4. Capacity to mobilize information and knowledge	Institutional	Protected area institutions have the information needed to do their work			2	
4. Capacity to mobilize information and knowledge	Individual	Individuals working with protected areas work effectively together as a team			2	
5. Capacity to monitor, evaluate, report and learn	Systemic	Protected area policy is continually reviewed and updated		1		
5. Capacity to monitor, evaluate, report and learn	Systemic	Society monitors the state of protected areas		1		
5. Capacity to monitor, evaluate, report and learn	Institutional	Institutions are highly adaptive, responding effectively and immediately to change		1		
5. Capacity to monitor, evaluate, report and learn	Institutional	Institutions have effective internal mechanisms for monitoring, evaluation, reporting and learning		1		
5. Capacity to monitor, evaluate, report and learn	Individual	Individuals are adaptive and continue to learn		1		

Policy environment assessment (Insert summary findings if available)

The review of Egypt's Framework for policy environment assessment highlighted the environmental objectives specified under its three dimensions: (i) economic development and increase of resources; (ii) protection of natural and environmental resources and environmental conservation; and (iii) social justice in resource distribution, education, services, and social integration. Seventeen cross-cutting capacity constraints were found to occur in two or more of the thematic areas. These were further grouped into twelve cross-thematic synergies, as follows:

13. National Plans, Programs and Institutional Capabilities: Ignoring the integrated approach in national policies, capacity development tools and programs. The lack of adequate skills in planning, issuance of legislations, risk impact assessment and economics comes as a major barrier for strengthening the national capacity to undertake full assessment in each of the three thematic areas. Development and implementation of strategies and central action plans encompassing national and regional obligations for the conventions is missing. Furthermore, enhancing national capacity to formulate and implement systemic policies and laws, as well as strengthening national reporting to the respective conference of parties is not adequate.

14. Legislations Formulation and Enforcement: Absence of proper enforcement for legislations already adapted and needs for further legislations to protect the environment. The absence of adequate and coherent policies and legislative measures constitutes one of the main constraints to implement the goals of the conventions. The absence of explicit policies and legislations or existence of conflicting policies and laws in Egypt, for the three thematic areas, acts as major limitations to implementing the goals of the convention.

15. Scientific Research Capabilities: Lack of scientific research capabilities to support all goals of the conventions and absence of proper link between research institutes, universities and the national implementing agencies. An important capacity development priority concerning the three conventions is creating an enabling system for linking scientific research to policy making. Scientific research should focus on cumulative and synergistic impact assessment of the linkages between biodiversity losses; desertification and climate change and produce information decisions on integrated responses and mitigation plans.

16. Technology Transfer and Cooperation: Absence of networking with sub-regional, regional and international organizations and lack of clear national policy for regional and international technology transfer. The Rio conventions emphasize the importance of technology co-operation and transfer in achieving their respective goals. Mutually supportive technologies will be of value to address the common elements and synergies from a technological perspective

17. Monitoring and Evaluation Systems: Absence of a national indicator system for evaluating and monitoring programs and activities for implementation of the three conventions. There is an essential need to develop and implement national programs for monitoring and evaluating programs and activities for desertification, biodiversity, and climatic change based on sound integrated systems of indicators. These systems should be linked to national programs for knowledge management on the three thematic areas that are accessible to all stakeholders.

18. Public Participation: Lack of awareness of the community, particularly in rural population, and lack of mechanisms for enhancing citizen's participation in community decision making and for fostering and institutionalizing local resource generation. The capacities of the local communities to address issues of biodiversity, desertification and climate change should be developed in a sound technical way, keeping close attention to the linkages with sustainable development. This can be done through capacity development for local institutions (municipalities, NGO's, etc.) to enable them to develop their own initiatives for implementing global environmental thinking within the local context.

19. Public Education: Relevant educational and training programs pertaining to national resources, management and conservation are actually absent or undeveloped, and lack of long term programs for awareness and education. The existing educational system in environmental sciences and natural sciences in general does not adequately address scientific and practical linkages between themes of biodiversity, desertification and climate change, and the natural environment. Education on global environment issues can promote the development of an increased awareness and understanding of the impact of the local actions that degrade the environment. Subjects related to the conventions should be integrated in educational programs and curricula to ensure a sustainable flow of education packages for environmental management and linkages between the three themes.

20. Training Programmes: Training courses and programs dealing with the concepts of the Rio conventions are generally missing. Environmental and technical training pack ages developed by and for the national institutions should begin to focus on linkage s and synergies between the conventions. Programs must be developed to utilize existing national and regional specialized centers to provide courses in technical areas relevant to the three conventions.

21. Financial Mechanisms: Lack of sustainable financial mechanisms for mobilizing funds whether domestic or international. Apart from some exceptions, one of the major constraints facing accomplishing the targets of the three Rio conventions is that most institutions lack the technical and practical knowledge for financial and technical mobilization in order to implement projects and programs tackling synergies between the three themes. No permanent financial resource has been ensured for the concerned areas although it is the key for achieving sustainable development.

22. Economic Evaluation: Limited presence of instrumental processes to evaluate the national economic value of biodiversity and desertification. There is limited presence of instrumental processes to evaluate the national economic value of biodiversity and desertification or the cost of their degradation. Moreover, feasibility studies and cost-effectiveness of sustainable management and options to provide a rationale for continue d environmental management, and allow for priority setting of environmental actions on the national level are still missing.

23. Integration between Conventions: Lack of clear and systematic integration of the cross-cutting concepts in the nation al policy formulation process. The main cross-cutting concepts advocated by the conventions are not well reflected in the current national development and sect oral policies in a clear and integrated manner. Linkages between the Rio conventions and poverty eradication should be emphasized to ensure the credibility of integrating the themes into development policies.

24. Information Exchange: Absence of country data, networking system and information exchange that facilitate the acquisition, processing and dissemination of technical knowledge.

Protected area integration and mainstreaming assessment (Insert summary findings if available)

1. Strategic objective of the environmental policy in Egypt is to introduce and integrate environmental concerns relevant to protecting human health and mainstreaming managing natural resources into all national plans. In addition, it will provide support to the multilateral environment agreements to which the country is a signatory. The Prime Minister has established a national committee on Sustainable Development, formed of MSEA as a lead Ministry, with members of line Ministries, private sector and NGOs. This Committee is to coordinate Sustainable Development Plan. Therefore, it is crucial to mainstream all environmental issues into one single plan. This is being achieved through the National Environmental Action Plan (NEAP) and National Capacities Assessment (NCSA) project. The following is a brief account on what is being achieved and proposed future activities:

   - Egypt had prepared its Biodiversity Strategy and Action Plan in 1998. They were approved, based on a consultative process, and sent to the Ministries of the Planning and Financing to be included in the national plan for funding from the government and donor countries and organizations. In 2002, EEAA approved a National Environmental Action Plan (NEAP), which was also approved by the Prime Minister. NEAP dealt with many environmental issues including water, air, soil, waste, biodiversity conservation and biosafety, protection of the marine environment, desertification, global environmental problems such as climate change, economic issues such as environmental accounting, natural resources accounting and economic incentive tools, and finally social issues including minorities, youth, women and old people.
   - The NEAP has identified corrective measures to meet the challenges of biodiversity. These include issues related to compliance, strengthening institutional framework, building capacity on biodiversity (e.g. research and monitoring), and preparation of legislation on biodiversity and biotechnology.
   - To mainstream Biodiversity Conservation into the National Environmental Action Plan (NEAP), it was agreed that NEAP need to be revised according to three main issues: current status and assessment of biodiversity; corrective measures to be taken, and supportive measures for action. NCS has provided NEAP the current status of biodiversity to be integrated in NEAP. There were: biodiversity information system (database available, networks, websites, data management, assessment), surveys conducted, habitat and ecosystem assessment, endangered and threatened species, economic value of biodiversity, genetic resources, bio-prospecting, reference collections, monitoring and research programmes.
   - Corrective measures proposed include the following; improve the existing protected area network, use of modern technology in natural resources management, enhance economic studies on biodiversity to generate revenues, and hence self-financing of PAs, establish a natural history museum, establish a captive breeding center, promote a national programme on biodiversity monitoring and research, support pilot projects on sustainable use of biodiversity, NCS institutional reform, and review the existing legislation.
   - Supportive measures requested included the following: upgrade (amend) the existing legislation and issue new ones on wildlife and biosafety, implement NCS reform into an authority, partnerships with private sector, enhance implementation of regional and international agreements , provide more fundi ng for nature conservation, and continue political support to nature conservation.

2. Moreover, Egypt has the legal framework required to fulfill its commitments of achieving sustainable development, where Law 4\1994 states that EEAA is a coordinating body responsible for ma in streaming the environmental dimensions into other sectors plan. According to article 5 of this law, EEAA is the responsible entity in the country to follow up and monitor the Multilateral Environmental Agreement (MEAs) to which Egypt is a signatory. The current administrative arrangement system doe s not allow monitoring nor regular fulfillment of the commitments under the conventions. Beside coordination overload, weak monitoring and reporting system are two main constraints for fulfillment of MEAs the lack of technical and administrative capacity to monitor and report effectively on the achievements of the convention and linking national policy issues to the objectives of global conventions.
3. The early startup of the National Capacity S elf Assessment (NCSA) project in Egypt has shown the importance of MEAs as a tool to mainstream the environmental dimension into other sect oral plants. Through the orientation meetings held with different stakeholders. It was clear the need to have one unified method of tackling the MEAs as an international commitment as well as a national benefit and an opportunity that should be grasped and well utilized. One of the main challenges identified is the capacity of the state institution to manage funds with the aim to improve their utilization for the fulfillment of the national and international obligations (conventions), the capacity to coordinate with other national stakeholders for commitment of the obligation, developing a long term vision that linking these commitments with national priorities and projects, the need to have a monitoring and reporting system that would assist decision makers in assessing their situation in the convention and upon which to take appropriate action.
4. After signing\ratifying around 66 separate MEAs, the country is in the process of developing a national strategy for sustainable development and national indicator program that will take into consideration these global environmental commitments. This will require the set-up of an effective coordination mechanism and follow up system on implementation of these obligations. In support of progress towards a sustainable development strategy and mainstreaming environmental dimensions into sectoral plan s it is proposed that establishment of a long term vision for each MEAs should be a prerequisite not only to relate implications of the MEAs full implementation on the formulation of national policies, but also to ensure that associated financial resources have maximum leverage.

Protected area valuation assessment (Insert summary findings if available)

No systematic data available until now.

Climate change resilience and adaptation assessment (Insert summary findings if available)

Regarding the UNFCCC, Egypt has always been cautious to satisfy its obligations at the international level. The institutional setting of focal points required by the UNFCCC is established in the required way and at the due time to function at the international level.

<u>But, there is a need to find entities to play the role of the entrepreneur at the national level.</u> By observing the national view and activities, we will find the following:

- Weak central planning at the national level for the UNFCCC activities
- Weak mobilization of capacities at the national level for the UNFCCC activities

- Need for implementation of activities necessary for the capacity of monitoring, evaluation, reporting and learning.
- No regulations to set obligation on the local levels to send feed back regarding their activities to a central national entity to enhance national capacities for planning, management and mobilization of national resources.

In this regard, there is a need to raise a special note on the need for formulating data base centers for collecting and enhancing knowledge and information about all UNFCCC issues. The information is the basic stuff for planning, evaluation, reporting, learning, accountability, transparency and governance.

Egypt's additional Needs Regarding UNFCCC activities and other capacity dimensions

The needs may include, but are not limited to, the following proposed points:

- **Strengthening Information dissemination** between stakeholders
- **Strengthening synergy between stakeholders**
- **Establishment of national data base for the Climate Change information**
- **Measuring and improving the country national specific emission factors**
- **Technical Needs**, the UNFCCC project cycle requires intensive technical needs in all stages. These technical needs include well-trained equipment human resources.
- **Research Needs**; there is a need for formulating measures including national motivation transparent research programs. These measures should reflect the climate change project life. The measures should also enhance the capabilities of experts in all UNFCCC related activities.
- **Removal of the Financial and Economic Barriers**, there is a need for formulating a clear and stable transparent policy to enhance and attract the investors, whether foreign or local, to participate in the GHG projects.
- **Intensifying the Awareness and Training Activities to Change Peoples Habits towards GHG Projects**, a program of awareness should be organized. This program will target the concerned candidates as well as the target groups. In parallel, a training program may be organized for selecting and creating human resources specialized in UNFCCC activities. All stakeholders are invited to share in the program.

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