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TERMINAL EVALUATION
Conservation and Sustainable Use of Medicinal Plants
in Arid and Semi-Arid Ecosystems
PROJECT ID: 972-00012347 – 00012348

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LIST OF ACRONYMS

ABS	Access and Benefit Sharing
CBA	Cost Benefit Analysis
CBD	Convention for Biological Diversity
CBNRM	Community Based Natural Resource Management
EEAA	Egyptian Environmental Affairs Agency
EU	European Union
GEF	Global Environment Facility
GIS	Geographical Information System
GSMAP	Globally Significant Medicinal and Aromatic Plant
GTZ	Gesellschaft für Technische Zusammenarbeit (German cooperation agency)
IPR	Intellectual Property Rights
IUCN	International Union for Conservation of Nature
KGG	Katherine Green Gold Association
LF	Logical Framework
MAP	Medicinal and Aromatic Plants
MP	Medicinal Plants
MPA	Medicinal Plant Association
MPCP	Medicinal Plant Conservation Project
MSEA	Ministry of State for Environmental Affairs
MTE	Mid-Term Evaluation
NBSAP	National Biodiversity Strategy and Action Plan
NCS	Nature Conservation Sector
NGO	Non-Governmental Organization
NODCAR	National Organization for Drug Control and Research
NRC	National Research Centre
OU DA	Operational Unit for Development Assistance
PDF	Project Document Facility
PIR	Project Implementation Report
RBM	Result-Based Management
RF	Revolving Fund
SK	Saint Katherine
SKP	Saint Katherine Protectorate
SMART	Specific, Measurable, Applicable and Accountable, Relevant and Realistic, Time-bound, Tractable and Targeted
SP	Strategic Priority
TE	Terminal Evaluation
TK	Traditional Knowledge
UNDP	United Nations Development Program
UNESCO	United Nations Education, Science, and Culture Organization
WB	World Bank
WTO	World Tourism Organization
WWF	World Wildlife Fund for Nature

SUMMARY

The Project for the Conservation and Sustainable Use of Medicinal Plants in Arid and Semi-Arid Ecosystems (PIMS 972 – 00012347 – 00012348, under the project document EGY/00/G31/A/1G/99), referred to as the Medicinal Plants Conservation Project, was supported by the United Nations Development Program (UNDP) and the Global Environment Facility (GEF) over 8 years, from end 2002 to 2011. This report provides the findings of the terminal evaluation for this project. The project executing agency was the Egyptian Environmental Affairs Agency under the Ministry of State for Environmental Affairs.

The overall **development objective** of the project is to conserve globally significant and endangered medicinal plants and their unique habitats. The **immediate objective** is to remove root causes of biodiversity loss and the specific threats to the conservation and sustainable use of globally significant medicinal plants and their habitats in arid and semi-arid areas of Egypt.

Following the recommendations of the midterm evaluation, the project underwent significant modifications and the following five intended outcomes were adopted:

1. Conservation management of SKP MAP resources strengthened
2. MAP products market value chain strengthened and sustained
3. Pressure on target resources reduced by use of alternatives
4. MAP conservation and management enabling environment strengthened
5. Learning, evaluation, and adaptive management increased

The project intervention zone is located within the Saint Katherine Protectorate in the South Sinai governorate. The approach adopted by the project is consistent with the SKP management objectives as one of the primary goals of the management plan is to integrate the protectorate into the local development process in order to assist sustainable local rural development. The project has dealt with approximately 4,000 people (46% of SK population)¹, notably through MPA activities, thus reaching most households who are therefore likely to be under the influence of the project impacts, positive or negative. Local communities in St. Katherine are actively involved in every component of the project. Furthermore, a large portion of the project results provide nation-wide benefits, such as the Medicinal Plant Strategy and Action Plan, the Access and Benefit Sharing Law related to biodiversity, increased awareness and the knowledge shared through the website, magazines and newspapers, the virtual herbarium, the database on MAPs, the beautiful documentary about the project and all pilot activities that can enhance the design and implementation of future projects.

The approach focused on the conservation of globally significant wild medicinal plants while improving the livelihoods of local communities.

Progress achieved

The progress achieved towards the intended outcomes includes the following achievements:

Outcome 1.

In situ conservation. Rehabilitation of sites was achieved a) through setting up enclosures where native vegetation was allowed to return naturally as main disturbances were removed, and b) by reintroducing native plants by planting grown plants (seedlings produced in greenhouses). Results of the enclosure monitoring in 2004 and 2005 have shown that this approach was effective at increasing MAP density and cover inside as compared to outside enclosures for most species and that some species were only recorded inside enclosures. However, the total number of plant species recorded inside enclosures (Table 6) is appreciably lower in 2005 than in 2004, despite the fact that the winter of 2005 was rainy, as reported in the 2005 survey. MPCP achieved the propagation of 12 GSMAP species (the project had identified 16 target species but some species could not be propagated for different reasons such as complexity of reproducing the microhabitat (ex. a crevice) or the critically

¹ SK population was estimated at 8500 at the time of the field visit (Mr Tarek Ragab Sokarya, MPA's Executive Manager – pers. comm.)

endangered status of the species prevented any seed collection or any removal of vegetative material. 10 GSMAP species were successfully reintroduced in 7 sites.

Ex situ conservation. SKP endangered target species are safeguarded in a seed bank and through living collections: 518 accessions representing 160 species including all target endangered species and their associated species were transferred to the National Gene Bank. 11 GSMAP species and their associated species, including 7 target endangered species, are successfully preserved in greenhouses, gardens and restoration sites. The botanical garden in El Salam Park (Sharm El Sheikh) includes 37 endangered species from the South Sinai of which 4 are endemic to SK.

Creation of KGG for sustainable use and livelihood (CBNRM). A CBNRM group is registered as a NGO with its constitution, the Katherine Green Gold Association, to operate as a local legal union to organize the sustainable collection and fair trade of wild MAPs. One management area has been delimited within the Gebaleya tribal land in agreement with the community. The Agreement, signed by 17 families of the Gebalaya tribe, is now under revision by the department of legal affairs of EEAA and awaiting the signature of EEAA/NCS. The signature is planned before the project closure. In the meantime, this delay has prevented collectors to sell their MAP harvests. Sustainable harvest rates are not yet determined as this relies on long-term monitoring of plant growth and recovery in relation to climate and recently adopted 'best' collection practices. The project has set up a system, but a longer support would have been necessary to get it to function on its own. The sustainability of these valuable results is not ensured, as the benefits due to the CBNRM component are not yet perceived by the local communities that bear the opportunity costs related to adapting and limiting their use of the MAP resources to meet the requirements of sustainability and conservation.

Awareness and environmental education.

Over 2500 people were involved in the Green School Program, the CBNRM program, MPA education and awareness activities, including government authorities. The Green school program was implemented with 20 schools from the St. Katherine area and the children drawing contest increased children's awareness of the importance of MAPs and brought the project values into St. Katherine's households. 8 schools established cultivation gardens where children learned how to care the medicinal plants.

The project has contributed to change local communities' perceptions and attitudes towards MAPs. One of the risks identified from the beginning was the Bedouins' perception that MAP were of low economic value and thus not worth managing. This statement highlights the importance of the project contribution to create sustainable benefits and increased income associated with MAPs through MPA and eventually through KGG. The benefits must be spread widely among the community. If only a few people benefit there will be little incentive for the others to comply with the restrictive conditions of the agreement or to invest in the alternatives that contribute to reduce threats on MAPs.

Although specific aspects still require some support, a lot of progress has been achieved regarding the challenging question of the balance of cultivation versus sustainable use for an optimal effective and cost-efficient conservation of globally significant medicinal plants which parallels the question of the balance between conservation of globally significant biodiversity versus the development of sustainable livelihoods based on secured wild collection of MAP resources. These questions are in the forefront of MAP conservation efforts as testified by recently published research and guidance documents, such as ISSC-MAP (2007) and FairWild standards (version 2: 2010), and the project is making significant and tangible contributions to their advancement.

Outcome 2

Cultivation of MAPs. Cultivated MAPs are harvested, dried, cleaned, screened and stored to meet organic certification standards. Trainings specific to each part of the process enabled beneficiaries to carry out all procedures independently. Approaches, procedures, methods, specifications, requirements are recorded clearly and in detail in technical reports that can serve as a reference for further training and for replication. Detailed technical information on propagation, organic cultivation, fertilization, harvesting and drying processes are provided for the MAP species cultivated by MPCP in SKP.

MAP value chain in SK. The development of value chains involving the production, processing and marketing of organic MAP products offers encouraging perspectives, in terms of sustainable job

development, compensation for local communities for the opportunity costs related to a restricted access to resources, and in terms of guarantee of the integration of environmental and biodiversity conservation concerns in cultivation practices, since their added value is dependent on it.

The price of cultivated plants was estimated on the basis of a market study, taking into account production costs and the willingness of buyers to pay for a niche product sold on site in St. Katherine. However, the project has not yet made a separate study for the pricing of wild medicinal plants.

Marketing capacity. The market analysis concluded to target the local market in SK and to raise the value of MAP products. New MAP products were developed to maximise the added value of by-products resulting from the sorting of dried plants. Training was provided for KGG and MPA on post-harvesting techniques, packaging and labeling, and best practices to meet EU standards. As a result, labeling and packaging of MAP products developed through the MPA have been improved. The MPA operates 6 greenhouses for the production of seedlings and 2 drying tunnels. The MPA independently managed the inspection process to get an international organic certification for the whole process (cultivation, harvest, storage, and processing of MAPs) which ensures the quality of the product and its processing. The MPA obtained a license/certification issued by the City Council for packaged herbs, honey and handicraft – which is a first. KGG marketing capacity could not be assessed as they have not started their commercial operations.

Outcome 3

Threat reduction. Threat reduction interventions were based on a threat analysis and assessment which identified the following threats in decreasing order of importance: feral donkeys, destructive harvesting techniques and overharvesting, overgrazing, tourist misbehaviour (trekkers trespassing beyond trails and wood collection for camping), and scientific collection. Approximately 60 feral donkeys were removed. Firewood is available for campers through the MPA. MPA distributed butane cylinders and butane ovens to households in SK, as a result women do not need to spend time and energy collecting firewood from the surrounding areas and wood collection has almost completely stopped. Traditional community management rules (*hiff*) are enforced on a continuous basis, which ensures that certain areas are set aside from grazing during certain times of the year to allow flora to recover. The threat reduction index has shown a steady decrease of threat importance since its first measurement in 2007. This improvement is mostly due to the reduction of threats from feral donkeys and from destructive harvest.

MPA. The MPA was established as a registered NGO in November 2003 to work in the fields of environmental protection and services through educational and training activities on environment and MAPs, the management of a micro-finance facility to contribute to the adoption of measures to reduce threats to MAPs, and marketing of honey, handicraft and products derived from medicinal plants. MPA membership is now 298, including 203 men and 95 women, and 90% of members are from the local community, mostly from the Gebalaya tribe.

RF. The project granted 18,000 US\$ as seed money to the MPA to establish a revolving fund to provide micro-credits to local residents of St. Katherine. The MPA developed the management of the RF including lending policy and procedures. More than 700 families of St. Katherine have benefited from this microfinance program to support 7 alternative resource uses which contribute to alleviate pressures on MAPs:

- development of MAP farms,
- firewood from the Nile delta is available at MPA outlets for hikers and campers,
- through facilitating the acquisition of butane ovens and cylinders to more than 700 households, the RF has contributed to reduce threats related to the use of fuel wood for household heating and cooking, and for the bakery (providing homes and tourists) and contributed to alleviate women's daily chores;
- loans were made to purchase beehives to produce honey as an alternative income-generating activity for 6 families – honey is marketed through the MPA;
- 6 solar heaters were installed in public places as demonstration to reduce the need for firewood,
- loans were made to purchase fodder (from the Nile valley) to reduce overgrazing,
- a loan was made for a MAP outlet,
- a loan has allowed the opening of a pharmacy in SK allowing the population to no longer rely solely on MAPs - the decision to allocate the loan was made following a large workshop.

The majority of borrowers respect deadlines, especially women, and timely pay-back ratio is nearing 100%. MPA benefited a lot of trainings and now has the capacity to act as a partner to the MPCP and to SKP for the continued implementation of the threat reduction and conservation interventions in relation with SK local community.

Increased awareness. MPA's activities including the services to the population enabled through the RF have drawn a lot of attention around medicinal plants and the association itself. MPA's enhanced visibility gave it the leverage to be granted 16,000 EGP from the Egyptian South Sinai development program, 12,000 EGP support from the Mayor who also promised a 5 feddan land area to cultivate MAPs and build a visitor centre. The MPA was also given access to a new building.

Outcome 4.

Revision of SKP management plan. The SKP management plan was revised in September 2008 to update some parts and integrate components of the MPCP related to the CBNRM component. Comments are presented below. A total of 19 trainees from the project were recruited in EEAA and the Minister of MSEA approved the appointment of 6 additional trainees from the project.

ABS law. The new Law on ABS complies with the Nagoya Protocol and provides a strong basis for greater legal certainty and transparency for providers and users of genetic resources. The Law on ABS is not restricted to medicinal plants but covers all components of biodiversity, and is not focused on a specific use. The Protocol includes provisions on access to TK held by local communities when it is associated with genetic resources to strengthen their ability to benefit from the use of their knowledge and practices. The final version of the Law integrates comments received from all relevant agencies / ministries and was submitted to the Ministry of Justice for legal editing.

National registry of TK on MAPs. The law establishes a national register for genetic resources and traditional knowledge and recognizes the participation of indigenous and local communities in access procedures and in benefit sharing agreements, but does not interfere with traditional and customary practices within the community that does not have a frank commercial purpose.

Bedouin traditional medicine school. The MPCP also contributes to the preservation of traditional knowledge on MAPs in SKP through providing a small financial contribution to the Bedouin traditional medicine school. This School was established in 2007 by the traditional healer with the support of the EU to contribute to the preservation and transmission of the traditional Bedouin knowledge of natural medicine and of medicinal plants to younger generations.

National MAP Strategy and Action Plan. The National MAP Strategy and Action Plan applies the CBD and CITES provisions, strategies, actions plans and programs and builds upon knowledge available at the national and community levels. It relies on *in situ* and *ex situ* conservation and restoration as primary approaches. The implementation of the strategy will be coordinated by the MSEA and financed under the MSEA budget, and executed by the relevant ministries. In July 2011, all stakeholders gathered in a national workshop for a final validation of the strategy to be submitted by the Minister of Environment to Cabinet of Ministers for approval and allocation of a budget line.

Outcome 5

A communication strategy was developed in 2008, based on various media (radio, television, journals, events, websites) and targeting various groups with specific messages. 245 articles have been published in 40 journals and magazines including the most important ones on the national level and 23 television programs were broadcasted on MAP issues. Events were held for local communities (fairs, contests, environment day) and radio programs broadcasted through the 4 stations in St. Catherine to reach distant communities.

Documents produced as project outputs were copied onto 6 CDs to constitute the project institutional memory, which were transmitted to the Ministry of Environment. 15 position papers presented in an attractive and practical format document the innovative approaches adopted by the project. An encyclopedia in 2 volumes published in 2005 and 2006 is collating scientific monographs on 11 among the important plants used in traditional medicine in Egypt. A beautiful documentary and a catalogue of biodiversity products from SKP are available on the MPCP website. The virtual herbarium displays over 800 digitized plant specimen from SKP. A comprehensive and searchable database contains data on 56 MAP species, including taxonomy, distribution, status, traditional uses, habitat, and traditional

knowledge. The database is available online from the MPCP website and has been transferred to the Biodiversity Unit of NCS.

The effective integration of biodiversity conservation in the SKP landscape rests on the unequivocal demonstration of the relationship between the preservation of MAPs and their habitats and the benefits that communities can get from it, and the association of environmental preservation to benefit-generating activities, such as the development of activities which benefits depend on the preservation of the natural environment integrity, such as organic trade and ecotourism. Currently, benefits are mostly perceived by the people involved with MPA activities but not by the women collectors as the KGG agreement has not been signed yet, which apparently prevents them from selling their MAP harvest.

An overall assessment of the design and implementation of the project according to the GEF criteria and of the level of achievement of the project objective and results is summarized in the following table:

Summary of assessment of progress achieved by the project

GEF Criteria	Assessment
Project design	MS
Potential for replication	HS
Implementation approach	S
Monitoring and evaluation	MS
Stakeholder participation	S
Result level	
Objective	S
Revised outcome 1	S
Revised outcome 2	S
Revised outcome 3	HS
Revised outcome 4	S
Revised outcome 5	HS
Overall Project Assessment	S

Recommendations

R1: When reports are not available in English, it would be useful to provide a short summary of the main decisions or main issues addressed in English.

R2: The use of indicators would be facilitated and improved through the preparation of a table presenting the definition of each indicator, unit of measurement, source of information, method for data collection or calculation, frequency and schedule of data collection; and individuals responsible for ensuring data availability.

R3: Restoration interventions must take into account plant population genetics or ecotypes as genetic variation within plant species (among populations) can influence their adaptation to local environmental conditions and hence their long-term chances of survival and growth. Moving plants of one ecotype to an area with different environmental conditions, such as different soil composition or soil moisture content, could result in poor growth or failure. Another concern is the opposite situation where the establishment of an introduced ecotype is so successful that it displaces the local ecotype. When information is not available on the plant intraspecific genetic variation, a precautionary approach is to use plant material of local genetic source whenever possible.

R4: Enclosures should be monitored regularly for MAP floristic diversity and abundance, compared with reference areas outside enclosures, and results must be interpreted in the light of micro-climatic data to understand the long term effect of this conservation measure and dissociate the effect of climate variation. To capture inter-seasonal variation of plant species occurrence, monitoring could be conducted twice yearly if financial resources allow it; otherwise, it could be carried out once yearly but

in alternate seasons from one year to another, as long as corresponding climatic variation is carefully recorded.

R5: Standardize sampling and methodology to allow valid comparisons and effective assessment of conservation measures impact.

R6: In the monitoring of enclosures, it would be useful to calculate a diversity index such as Shannon's or Simpson's which take into account species occurrence evenness, since one of the purposes of these enclosures is to increase species diversity. Diversity indices take the relative abundances of different species into account and provide more information about community composition than species richness.

R7: The identification of SKP MAP value chain partners was done before the development of the constitution of the KGG Association. Since the constitution of the KGG Association imposes restrictions on the retailer members and on wild collection, it would be useful to conduct separate stakeholder analyses for the value chains based on wild collected MAPs and on cultivated MAPs. Some of the common goals that were identified as well as the action plan are now likely to differ between the two value chains, notably for all aspects related to the production of MAPs.

A revision of the value chain analysis to take into account the 2 processes – wild MAP collection and MAP cultivation – would be a good opportunity to identify all potential areas for collaboration between the 2 associations, notably for the strengthening the capacities of the value chain actors.

R8: MAP sales should be monitored in relation to outlet or client trading capacity to avoid overproduction or overcollection.

R9: Support the traditional school in developing its capacity to identify and secure adequate funding beyond project support to procure the equipment needed for specific trainings and to provide accommodation for students. This type of support might include lists of relevant potential donors, contacts, tips /advice to formulate and submit proposals.

CBNRM

R10: The role of community organizations (user groups) in medicinal plant resource management will require a sustained support to ensure that the purpose of adopting sustainable use practices is well understood by all users, that sustainable use levels are determined for harvested species and acknowledged by users, that harvested plants are adequately monitored in the field according to a preestablished and agreed protocol, and that the benefits provided by the sustainable harvest of wild MAPs are such that they constitute an adequate incentive for the user group to maintain sustainable practices and to respect the agreement.

R11: Before replicating the CBNRM pilot experience, the concept of co-management of renewable natural resources that builds upon the traditional knowledge and practices of local people, and its implications in terms of governance, rights, responsibilities and conditions, must get wide recognition among all relevant stakeholders at the national level, including an unequivocal acceptance that this co-management may include natural resource use for commercial purposes.

R12: A renewable co-management agreement between the local community entity (KGG) and the protectorate management authority (SKP/NCS) should include, in addition to the annexes to the agreement between NCS and KGG:

- the role, responsibilities and rights of each party in the agreement;
- a simplified management plan for the area delimited by the agreement – where the following areas will be mapped: closed areas, areas for sustainable collection of MAPs, areas where collection of firewood is allowed, areas dedicated for restoration, open access areas for household use, grazing areas as agreed according to the traditional management system, monitoring sites and enclosures – the simplified management plan will also indicate which species can be collected, each species collection period and maximum allowed collection quantities for each species;
- in addition to the traders record of collected MAPs, a monitoring system of the condition of harvested resources in relation to climate data, to assess the impact of collection on wild MAPs and eventually to determine specific sustainable harvest rates;
- the imposition of annual collection quotas for MAP species which collection is allowed, first determined according to a precautionary approach and literature review, later based on the specific sustainable harvest rates once determined through a monitoring of the exploited resources;

- the requirements for the agreement to be renewed.

R13: Scientific oversight should contribute to the examination of the monitoring results, at least annually, to monitoring the condition of MAPs in the area used by KGG, in areas closed and open to collection, in restored sites, and in other zones where different uses would be allowed.

R14: It is recommended that NCS centralize oversight of wild medicinal plant management and data collection to allow national authorities and scientists to evaluate the national economic and ecological impacts of wild medicinal plant collection and to assess and revise policies and regulations supporting sustainable use of wild medicinal plant resources.

R15: The SKP management is the representative of EEAA/NCS in the agreement for the co-management of medicinal plants in SKP which is a first experience in Egypt. Its role in the agreement was outlined in the project, but will necessarily require adjustments according to the results of this first experience and as policies regarding the co-management of natural resources in Egypt will take shape – which may require resorting to external expertise. In addition, it is recommended in this report (R12) to assign an important role to SKP for monitoring plants subject to collection in order to determine sustainable harvest levels, with the collaboration of collectors. The level of effort required for the collection of field data, training and supervision of collectors for their participation in the monitoring, analysis of results and formulation of recommendations regarding the optimal collection of medicinal plants, important and also, will likely require external expertise.

Adequate support must be provided to SKP management as the representative of EEAA/NCS in the co-management agreement and adequate human and financial resources must be available to implement MAP conservation related tasks - those integrated in the revised SKP management plan and those that may be added as required to ensure the sustainability of wild MAPs collection. Further support to NCS and SKP management will be necessary since hiring additional staff, as qualified they may be, will not be sufficient to increase the institutions' capacity to address the new challenges brought by natural resources co-management.

R16: The adoption of the FairWild Standard Performance Indicators would be particularly useful and appropriate for a self-assessment of the ecological and socioeconomic sustainability of collection operations even if there is no intention to obtain the FairWild certification. Main principles and key elements are presented in Annex 5. Reference is given in Section 8.

Lessons learned

L: Threat analysis. The revised project strategy rightfully recognized that changes in rainfall patterns and the life cycles of many of MAPs are poorly understood, as is their response to grazing and harvesting pressure. It questioned the assumption that grazing pressure was threatening the plants considering the recent declines in the number of livestock kept by Bedouin. It further stated that the unsustainable use of the MAP resources for grazing, fuel wood or medicinal and aromatic purposes had not been adequately demonstrated. The threat analysis later conducted by the project allowed documenting and assessing each potential threat and its root causes on the basis of the knowledge collected through literature reviews, field visits and surveys, and interviews with local stakeholders, and identifying the most relevant interventions. It would be most appropriate to conduct a threat analysis or this type of assessment during the preparatory phase of a project to lead further planning.

L: Communication. Building a trusting relationship with the local communities is a key factor of success in the development of processes which require their adherence at various levels. This is accomplished by maintaining a presence, a genuine communication, by involving them in the planning and decision-making, and making tangible demonstrations that the project purpose is their benefit.

L: Participatory decision-making is a real challenge, especially when addressing new issues, when reconsidering traditional or usual ways of doing things, it takes time, and is facilitated by the involvement of community leaders.

L: Ownership + innovation. As required by donors, development projects must be innovative – therefore, the selection of a project manager for a conservation project must seek people who are open to innovation, on the leading edge of the conservationist debate, and who have the capacity to turn knowledge into action for development. However, strong backing, ownership and leadership by

the institution responsible for project execution were critical to get things moving in the direction of the project objectives.

L: Stepwise approach. On the basis of their experience with the MPCP, the project team in SK identified the following steps as the most successful approach for site rehabilitation: *i)* conduct scientific studies and literature review on target species to identify species habitat requirements; *ii)* increase local communities awareness on the project purpose – their full agreement and their cooperation are absolute requisites before moving forward with the field work; *iii)* clearly determine tasks for the community and for the scientists; *iv)* implement activities and closely monitor plant growth; *v)* the search for solution to any problem must be participatory and, if needed, involve community leaders; *vi)* establish a close collaboration with the land owner or farmer from the very beginning and transfer the responsibility of the site step by step.

L: Voluntary agreements. The project sought the voluntary adhesion from collectors and through the signing of a voluntary agreement. This had the benefit of allowing discussion, the expression of needs, constraints, and concerns from communities and other owners, and the understanding of the subsequent steps in which they will be involved. This step is of particular importance in this co-management system which rests on developing a sense of accountability among communities regarding the conservation and sustainable management stakes.

L: Support to local communities. Small support to the benefit of local communities (such as contributions for the herbalist school, school and family gardens, facilitating access to gas ovens and cylinders, opening of a pharmacy in SK, supporting job creation and product development and marketing (handicraft, honey) through a revolving fund managed by the MPA) – that may sometimes appear less directly related to the project objectives – result in favorable attitude changes and trust development with local authorities and populations. As local people understand that the project is in their interest, they are more inclined to listen to the project team's proposals about innovative proposals aiming at improving their livelihood while preserving natural resources.

1 INTRODUCTION

1.1 Purpose of the terminal evaluation

The project started in October 2002 (1st disbursement) and was implemented over more than 8 years. A midterm evaluation took place in 2006 and made substantial recommendations to realign the project towards its objectives as stated in the project document.

In conformity with GEF-UNDP policies and procedures related to monitoring and evaluation, all medium and full size projects must be subjected to an independent terminal evaluation (TE) upon completion.

The objective of this evaluation is to assess the relevance, performance and success of the project in regard to the objectives endorsed by the GEF, UNDP and the Government of Egypt, including any changes in the intended results, as agreed during project implementation. And most importantly, this TE is a learning exercise and an integral part of the project cycle. Monitoring and evaluation supports accountability, informed decision-making, and learning from experience.

The first indications of potential impacts and the sustainability of outcomes are examined as well as the contribution to capacity development and global environmental goals. The evaluation identifies lessons learned and makes recommendations that may help improve the selection, design and implementation of future projects. The results of this evaluation also contribute to the GEF Evaluation Office database to report on the effectiveness of GEF operations in achieving global environmental benefits.

GEF support responds to the biodiversity conservation focal area and to the strategic priorities #1 which is to catalyze sustainability of protected areas, and #2 which is to mainstream biodiversity into production sectors and landscapes.

1.2 Methodology of the evaluation

The TE analyzes the project achievements and progress towards its objectives and intended results as stated in the project document, or as revised during project implementation while considering the factors which might have facilitated or hampered the attainment of objectives and expected results. This is done on the basis of the indicators revised according to the midterm evaluation recommendations.

The evaluation examines the implementation approach, the country ownership, stakeholder's participation and accrued benefits, sustainability, replication approach, financial planning, cost effectiveness and the monitoring-evaluation system, following the comments and recommendations made through the midterm evaluation.

An appraisal score is attributed to each result and relevant aspects of the project development and implementation depending on the level of achievement and according to the following scale: highly satisfactory, satisfactory, marginally satisfactory, marginally unsatisfactory, unsatisfactory and highly unsatisfactory.

Based on findings, the assessment presents recommendations to foster the sustainability of the project achievements, as well as lessons learnt to guide future interventions in similar contexts.

The assessment was based on the information acquired throughout the following tasks:

- Project document review, including the progress and technical reports produced by the project, as well as relevant scientific literature and guidance documents that build upon the experience gained through projects implemented in various parts of the world – the list of consulted documents is provided in Section 8;
- Interviews with the project team for collecting required information and explanations to appraise the project achievements;
- Interviews with institutional partners in Cairo for collecting their appraisal on the project implementation; the list of people met is provided in Annex 3;

- A 5-day visit to the project intervention sites, to meet local project team and beneficiaries within the local community, as well as for seeing tangible achievements and project impacts. When needed, translation was kindly performed by the project staff. The field visit itinerary is given in Annex 4.

The mission lasted 11 days between 17 and 27 of July. The assessment was performed by an independent international consultant, Dr Dominique Roby.

1.3 Structure of the evaluation

The evaluation presents the project and the context that led to its development (Section 2), and the findings related to the project formulation (Section 3), to its implementation (Section 4) and to the results (Section 5). Lessons learned and recommendations are presented in the sections 6 and 7. Detailed information to document or complement different aspects of the evaluation is given in the annexes.

2 THE PROJECT AND ITS DEVELOPMENT CONTEXT

2.1 Project start and its duration

The project started in October 2002 (1st disbursement) and although its expected duration was originally 60 months, it was implemented over more than 8 years. The project start-up was rather slow and activities actually got under way in April 2004. The project was first planned to close in February 2007, but was extended twice and should close before end of 2011.

2.2 Context and issues addressed by the project

Global trends in MAPs. The number of plant species used worldwide for medicinal purposes is estimated at over 70,000; of these some 3,000 are traded internationally. Plant sources are harvested in increasing volumes and largely from wild populations to satisfy expanding local, regional and international markets. At the same time, supplies of wild plants are increasingly limited by land conversion, habitat loss and unsustainable harvesting practices. As a result of these pressures, about 15,000 medicinal plant species may be threatened to some degree. Realizing this, a number of agencies recommended that wild species be brought under cultivation systems. However, cultivation has its costs, a number of challenges, and may have environmental and genetic negative impacts. In 2006, the number of MAP species in cultivation for commercial production was assumed to be less than 1% of the total number of medicinal plants used, although many more are cultivated on a small scale in home gardens.² Conservation of threatened medicinal plants has gained increasing attention from international conservation organizations over the last 20 years.

MAPs in Egypt. Egyptian archeology testifies that medicinal plants were widely used as a source of remedies since ancient times. Their use is still widespread among the Egyptians. Egypt is characterized by an abundant production of medicinal and aromatic plants that are exported all over the world and MAP production and processing by the private sector is expanding. According to the COMTRADE database, Egypt is the African country that exports on average most pharmaceutical plants to the world's market. Between 1991 and 2003, Egypt exported on average 11,800 t annually, of a value of 13.5 million US\$, destined to at least 66 countries.³ Due to the growing global demand, MAP production is considered as one of the most important sectors that can be relied upon to increase the volume of Egyptian exports⁴.

The St. Katherine Protectorate. The project takes place in the St. Katherine Protectorate (SKP) which encompasses an area of 4250 Km² in the Governorate of South Sinai. The SKP was declared in 1988 in the framework of Law 102 of 1983 by the Prime Ministerial Decree 613 of 1988, later amended by the Decree 940 of 1996. In 2002, an area of 641 km² within the protectorate core was listed as World Heritage Site by UNESCO. This area comprises the Monastery of St. Catherine, St. Katherine urban area, Mount Sinai and Gebel Katherine. Most of the project activities are implemented

² Schippman *et al.* 2002, Schippman *et al.* 2006

³ Lange, 2006.

⁴ Abdel-Azim *et al.* 2011

inside this special management area. The SKP management plan was later developed in 2003 with the financial support of the EU.

Prominent features give this protected area a unique character. The arid landscape of SKP has an exceptional awe-inspiring natural beauty as it encloses most of the mountainous area of the central South Sinai, including the country's highest mountain, Gebel Katharina (2,641 m above sea level). The fortified Monastery of St. Catherine, founded in the 6th century and operational since, makes it the oldest monastery in the world and a world renowned tourism attraction.

This area is of high ecological, social, cultural and economic spiritual importance, especially to the local Bedouin communities living in SKP. At least 47% of the plants found in SKP have medicinal, aromatic, cosmetic or culinary uses in addition to their value as fodder or fuel and the Bedouin communities have developed an extensive knowledge of these species. Six main Bedouin tribes live in Southern Sinai. The Gebelaya tribe which presence dates back to the foundation of the St. Catherine's Monastery lives in the centre and north of the South Sinai area and is the most important one in the project intervention zone.

Economic activity in Southern Sinai is dominated by tourism. In 1999, tourism was the major source of income for 53% of families interviewed in SKP and 10% of families reported that collection of medicinal plants either for Hakim or other trading activities were the most important source of family income. Development programmes include the expansion of ecotourism which reinforces the importance of nature conservation as a basis for this development.

Global and local importance of MAPs in the St. Katherine Protectorate. The ecogeographic variability of this high mountain region provides a wide range of habitats where floral elements of different plant associations from 2 continents can coexist: the Saharo-Arabian and Sudanian associations at lower altitudes, the Irano-Turanian associations at higher altitudes, and some representation of the Mediterranean zone at lower altitude. The South Sinai Mountains support mainly the high Irano-Turanian steppe vegetation.

Surveys conducted prior to the project highlighted the rich and unique biodiversity sheltered by this arid mountain ecosystem, including endangered wild flora and fauna. The area is characterized by a remarkably high concentration of endemic species of plants and animals, as well as a wealth of medicinal and poisonous plants. It harbours 316 plant species, of which at least 37 are known to be endemic to Egypt, including 4 endemic to the Sinai Peninsula, representing 44% of the country's floral endemism. Nearly half of these endemic species are vulnerable, rare, endangered, or extremely endangered. Of all plant species in SKP, 10 are extremely endangered, 53 are endangered, and 37 are vulnerable according to the IUCN red list.⁵ Besides their global importance, it was found that 102 species had medicinal, aromatic, cosmetic or culinary values for the local Bedouin communities. Globally significant medicinal and aromatic plant rich areas are concentrated around the city of St. Catherine, especially in the high mountains of Jabal Katherine and Jabl Mousa, which are subject to many human induced disturbances.

In addition, 27 mammal species have been recorded as well as 46 reptile species of which 15 are endemic to this site. At least 2 endangered reptiles, one endangered gazelle and 5 resident birds inhabit the SKP.

Threats/challenges. The SKP is one of the most amazing areas in the Southern Sinai for its natural, spiritual and historical heritage, but also for its medicinal plant diversity. However, on the basis of previous plant inventories, it is suspected that the area is undergoing a dramatic loss of plant biodiversity.

The project document points out that medicinal plants and habitats in SKP are subject to strong pressures from a number of threats, of which some are likely to get worse in the near future:

- Unsustainable collection practices and overharvesting of medicinal plants for household uses, traditional healers and medicinal plant trade; large quantities of plant material are sold unprocessed at low cost;
- Bedouins perception that MAP are of low economic value and thus, not worth managing;

⁵ Project document

- Bedouin's adoption of a sedentary lifestyle in St. Katherine and discontinuation of traditional environmental and herding management practices leading to local overgrazing and soil compaction/erosion around settlements;
- Fuelwood collection for household use due to the restricted availability of butane gas, and for growing tourist trekking, camping and safari activities (despite SKP regulations);
- Foreseen population increase due to tourism expansion according to the government development plan for south Sinai which may lead to increased demand for MAPs, increased pressures from urban development, increased need for fuelwood for household use, the highest concentration of Bedouin communities being in the areas with the highest concentration of floral diversity and endemism.

In the absence of the project intervention, it was estimated that there would be no incentive for the Bedouins to actively manage the use of the resource base. Tourism expected development would depend more on the culture and history of St. Katherine's than on natural resources. Families would continue to graze their animals, collect medicinal plants and fuel. And endemic, endangered and vulnerable medicinal plants would continue to rarify in SKP.

2.3 Project objectives and intended outcomes

The project was designed to address the unsustainable use of medicinal plants in the St. Katherine Protectorate (SKP), promote the sustainable use of medicinal plants and protect the indigenous knowledge of local Bedouins who use the medicinal plants on a regular basis.

Project development objective (as set in the project document)

The overall development objective of the project is to conserve globally significant and endangered medicinal plants and their unique habitats.

Project immediate objective (as set in the project document)

The immediate objective is to remove root causes of biodiversity loss and the specific threats to the conservation and sustainable use of globally significant medicinal plants and their habitats in arid and semi-arid areas of Egypt.

Intended outputs (as set in the project document)

1. Critically endangered medicinal plant species protected;
2. Over-used and vulnerable medicinal plants cultivated;
3. Best practices for wild medicinal plant collection introduced and collection levels regulated;
4. Alternative energy sources promoted;
5. Grazing management plans designed and implemented;
6. Community intellectual property rights (IPR) related to medicinal plants protected;
7. Best practices to protect medicinal plants promoted to other sites.

In 2006, the Midterm Evaluation made a recommendation to reorganize again the project intended results:

Revised outcomes (according to midterm recommendations)

1. Conservation management of SKP MAP resources strengthened
2. MAP products market value chain strengthened and sustained
3. Pressure on target resources reduced by use of alternatives
4. MAP conservation and management enabling environment strengthened
5. Learning, evaluation, and adaptive management increased

2.4 Main stakeholders (partners)

Local communities, mostly from the Gebelaya Bedouin tribe, are the primary beneficiaries and first actors of the project. The project intervenes with approximately 7,000 people. They play an essential role in the *in situ* conservation component of the project including cultivation and rehabilitation program in particular to experiment and apply MAP farming and processing techniques, develop income-generating activities, the establishment of two NGOs, the Medicinal Plant Association (MAP) and the KGG Association for the collection and trade of wild MAPs, the development of the medicinal plants value chain and the reduction of threats on medicinal plants.

Women's involvement in the project is a decisive factor notably for the results on community-based natural resource management and for the establishment of a registry on MAP-related traditional knowledge as they represent the vast majority of MAP collectors.

MSEA/EEAA/NCS. The Ministry of State for Environmental Affairs (MSEA) is the ministry in charge of the project since its mandate is to define environmental policies, set priorities and implement initiatives within a context of sustainable development. The ministry commissioned the realization of the project to the Egyptian Environmental Affairs Agency (EEAA) which represents the executive arm of the Ministry.

The principal functions of the EEAA include namely formulating environmental policies, preparing draft legislation and decrees related to the fulfillment of its objectives, planning environmental development projects, implementing pilot projects for the preservation of natural resources, following up their implementation, periodically collecting national and international data on the actual state of the environment and managing and supervising the natural reserves of Specially Protected Areas.

The Nature Conservation Sector (NCS) is part of the EEAA, and is the government body responsible for nature conservation in Egypt. The NCS is entrusted with overseeing compliance of habitat and species protection legislation and commitments to international conventions for the conservation of nature. Its mandate 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". The NCS is structured in two departments, Biodiversity and Nature Protection. The main task of the latter is the management of the National Protected Area Network which, as of July 2011, is composed of 29 Protected Areas, representing 15% of the total area of Egypt.

Saint Katherine Protectorate (SKP) Management and staff, under the NCS, are major partners and beneficiaries of this project since the sustainability of most project impacts relies on the integration of the scheme developed for the conservation and sustainable use of medicinal plants in the protectorate management plan, and the development of the staff technical capacities through on-the-job trainings and specific trainings provided by the project.

Research institutions conducting research on medicinal plants in Egypt: To implement this project, partnerships were established with scientists from the National Research Centre (NRC), Desert Research Centre and Mubarak Science Academy. The NRC is taking a major part in research and experimentation on medicinal plants in Egypt.

Academic institutions. Scientists from Biological and Botany Departments from the Egyptian Universities of Tanta, Alexandria, Ain Shams, South Valley, Assiut, Cairo and Al-Azhar and from the Desert Research Centre carried out inventories of the flora in 2004 and 2010 and contributed to the monitoring of the flora in enclosures in 2004 and 2005. These scientists were involved on contractual basis with the project.

Private sector. Sekem is a private sector corporation established since the early '80s dealing with the conservation and production of medicinal plants for oil extracts and other products. They have established more than 150 medicinal plant farms in various places in Egypt, in partnership with farmers. Sekem contributed to co-finance the preparation of the project document (PDF-B).

3 PROJECT FORMULATION

3.1 Project Design MS

3.1.1 Appropriateness of the intervention strategy

The original project design, as set in the project document, was 1) to protect endangered species through enclosure agreements, ex-situ conservation in seed banks and living collections, and reintroduce endangered endemic species in suitable habitats; and 3) to ensure a sustainable use of wild medicinal plants through improving collection practices and increasing MAP market value and the benefit share of local communities. Following results intended to reduce threats to MAPs through 2) reducing collection pressure on vulnerable MAP species through promoting their cultivation and marketing; 4) promoting alternative energy sources and 5) addressing grazing management. Other intended results concerned 6) the protection of traditional knowledge and 7) the replication of best practices to other areas to expand the project benefits.

This original design was consistent with the strategic approach of the logical framework where each development result which contribution is essential to meet the overall development objective, is clearly formulated and guides the identification of activities that will lead to its achievement.

Wild harvest, cultivation and preservation. This design underlines the complementarity of sustainable wild harvest, cultivation and preservation of MAPs which is consistent with the latest recommendations of international scientists groups involved in MAP conservation⁶. Rare, threatened and endangered species and habitats that are likely to be affected by collection should be identified and protected. For other MAP species, the fact that resilience to collection pressure varies among species must be taken into account. It was found that species most susceptible to over-harvest are habitat-specific, slow-growing and destructively harvested for their bark, roots or the whole plant. Cultivation is an appropriate conservation option for such species as it will relieve pressure on the wild populations, provided that species can be marketed at a high enough price to make cultivation profitable. For other species, sustainable harvest from wild populations should be the priority conservation option as it provides an incentive for local collectors to preserve their habitat and adopt a precautionary approach to their use. In this case again, profitability and equitability are essential conditions to the feasibility of the option.

One of the challenges of this project is that it is implemented within a protected area. Therefore, all interventions and innovations must comply with the protected area legislative and regulatory framework, which is committed to respect the traditional way of life of the Bedouin local communities.

GEF The project was approved by the GEF under the intervention domain related to biodiversity, and corresponds to the strategic priority #2 relative to mainstreaming biodiversity conservation into productive landscapes. The project has contributed to the development of policies and regulations so as to include measures to conserve biodiversity in the production sectors of tourism, agriculture and trade. The project is also in line with the objectives of the Operational Program relative to endemic biodiversity conservation and sustainable use of natural resources of mountain ecosystems. Through the strengthening of the management of a protected area, the project is also contributing to the strategic priority #1 which is to catalyse sustainability of protected area systems at national levels.

Rearrangement of the project intended results. The project document was formulated to remove the root causes of biodiversity loss and the specific threats to the conservation and sustainable use of globally significant medicinal plants in the SKP and the original logical framework reflected this goal. During the inception phase, a different set of intended results was adopted, focusing on protection, development of a national policy and outputs such as encyclopedia and database, while putting aside the results related to *in situ* conservation and sustainable use (see Table 1). The replication of project successes in Egypt (Project Document Output 7) was partially addressed through the development of a National Strategy and Action Plan for the conservation and sustainable use of useful plants (Revised Target 3). In this design, the link with local populations and field interventions was limited to the establishment of a MPA, grazing management, alternative energy

⁶ FairWild Foundation 2010, Medicinal Plant Specialist Group, 2007, Schippmann, Leaman and Cunningham 2006 and 2002.

sources and the protection of endangered species, which somewhat reduced its relevance to the development and immediate objectives.

The project design was revised again according to the recommendations of the midterm evaluation which had highlighted the deviation of the project from its original objectives and the shift in focus from outcomes to outputs. All components related to conservation management were combined into one super outcome (Outcome 1) which includes *in situ* and *ex situ* conservation and awareness interventions.

Whether grouping components of sustainable use, *ex situ* conservation, rehabilitation/restoration, MAP threat reduction, and environmental education/awareness into one outcome was helpful or not is debatable. Appropriate indicators must be identified to allow measuring the specific contribution of each approach as they are complementary components of the conservation of medicinal plants in SKP where many species are rare and endangered. It may have been useful to differentiate the contribution of the component on sustainable use in a distinct outcome which would have included the establishment of the NGO, capacity building, determination of sustainable harvest rates and identification of best practices for collection and processing of wild MAPs, and the establishment of a specific value chain for wild MAP products.

A specific outcome (2nd outcome) was added on MAP products value chain and includes the cultivation of MAPs. This addition has the benefit of emphasizing the critical contribution of equitable profitability of MAP products to the sustainability of the development objective.

The 3rd outcome relates to the reduction of threats and includes the microfinance program supporting local communities. It could be argued that reducing threats is also part of conservation management.

The 4th outcome was identified to ensure an adequate enabling environment for the conservation of MAPs and associated traditional knowledge. It includes the MAP strategy and action plan, the new Law on ABS and the registry of TK on MAPs, and the integration of MAP conservation in the protectorate management plan to ensure the continued implementation of these measures. Supporting the development of a national policy is a cost-efficient approach to meet development objectives as it enables and provides guidance to replicate and expand successful results that would otherwise have a limited scope and impact. However, the relevance and applicability of environmental policies depend on the evaluation and integration of best practices and lessons learned through the practical implementation of innovative practices in the framework of development projects. The integration of this component on policy and legislation development within the field-based MPCP to capture and replicate the achievements of the project is therefore highly appropriate.

A 5th outcome was added to ensure that the project would be implemented following an adaptive management approach. The identification of this 5th outcome was not appropriate as this does not fit the UNDP definition of a development result. The importance of implementing adaptive management for the success of a project is undeniable, as communication is (for example), as well as the need to ensure that adequate resources and time are earmarked for monitoring, evaluation and revision. However, this is a transversal management component and not a development result.

To improve the coherence and complementarity of the project result chain, this outcome could have introduced a knowledge component which could be formulated as 'Relevant and updated information on target resources, habitats, resource uses and benefits is available to all concerned stakeholders to allow sound decision-making for planning, management, assessment and ultimately conservation of MAP resources in SKP'. Sound knowledge is the basis for any conservation or sustainable use management, to support relevant policy development and awareness activities aiming at changing perceptions. Relevant and timely information is also the basis for a fair value chain. In the MPCP, knowledge products include the database, the virtual herbarium, the production and sharing of technical reports, encyclopedia and position papers. Valuable new knowledge has been produced through the project interventions, worth sharing with the international scientific community involved in the conservation of medicinal and aromatic plants.

Table 1. Rearrangement of the project intended results at project inception and after the midterm evaluation.

<i>Outputs⁷</i> as per project document	Revised <i>targets</i> – inception phase	Revised <i>outcomes</i> after MTE recommendations
1. Critically endangered medicinal plant species protected	1. Critically Endangered Medicinal Plants (MP) Species Protected	1. Conservation management of SKP MAP resources strengthened
3. Best practices for wild medicinal plant collection introduced and collection levels regulated	⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒⇒	
5. Grazing management plans designed and implemented	2. Medicinal Plant center in SK established and An association of MP established (including grazing management, alternative energy sources and other community related activites)	
2. Over-used and vulnerable medicinal plants cultivated		2. MAP products market value chain strengthened and sustained
4. Alternative energy sources promoted		3. Pressure on target resources reduced by use of alternatives
6. Community intellectual property rights (IPR) related to medicinal plants protected	6. Community intellectual property rights (IPR) related to medicinal plants in Egypt protected.	4. MAP conservation and management enabling environment strengthened
---	3. National strategy and action plan for conservation and sustainable use of useful plants designed	
7. Best practices to protect medicinal plants promoted to other sites	---	---
---	4. Information center (database) on MP of Egypt established	5. Learning, evaluation, and adaptive management increased
	5. Encyclopedia of wild plants (wealth of Egypt) published	---

3.1.2 Definition of appropriate indicators

The definition of indicators for guiding implementation and measurement of achievement paralleled the rearrangements of the intended results. However, comments will focus on the latest set of indicators adopted by the project and are presented in section 4.3.

3.2 Country ownership

The project concept was developed in accordance with national environmental and development interests, and its results are still consistent with current national priorities.

⁷ Note the terminology changes. According to UNDP's application of Result-Based Management (RBM) approach (RBM in UNDP: Technical Note), 'Outputs' are tangible products and services that emerge from processing inputs through activities and relate to the completion of activities (ex. People trained) – 'Outcomes' are intended changes in development conditions that UNDP is supporting and describe a change in development conditions between the completion of outputs and the achievement of impact (ex. Increased income).

At the time of project development, there was strong donor support to assist the EEAA in setting up centralized and regional structures for fulfill its mandate related to the conservation of natural resources and a national biodiversity unit was established under the NCS of EEAA to oversee compliance with the provisions of the Convention for Biological Diversity (CBD).

The National Biodiversity Strategy and Action Plan (NBSAP) of Egypt, developed in 1998, recognized the importance of medicinal plants for desert inhabitants and the fact that over collection was a cause of deterioration of the vegetation and the loss of species.

Although the NBSAP does not specifically target medicinal and aromatic plants, the project is consistent with its overall approach which includes ensuring the best use of biodiversity elements, maintaining ecological balances in productive ecosystems, and protecting biodiversity resources against deterioration or loss to maintain them for future generations. Priorities for conservation programmes include endemics, rare and endangered species, and plants with high industrial value, namely medicinal plants.

The project has contributed directly to implement one of the important issues underlined in the NBSAP and related to biodiversity conservation, sustainable development and rational use of natural resources, that is the protection of indigenous knowledge and the right to share equitably the benefits of developing and utilizing indigenous biodiversity materials. The NBSAP recommended that Egypt should enact a national law to ensure the protection of national property rights related to native biodiversity resources.

The 2nd national report submitted to the CBD in 2002 asserts the involvement of local communities in conservation efforts and respecting their local knowledge and traditions of prime importance. Increased attention is also given to promoting the sustainable use of biodiversity resources. Both aspects are highlighted in most protected area management plans.

The MPCP project also succeeded in increasing job opportunities for marginalized populations which is consistent with government's current development priorities to alleviate poverty in the South Sinai region.

Regulation and policy framework

The project has contributed to the development of a national framework Law on ABS. The process involved the active participation of the Ministry of Foreign Affairs and other ministries concerned by trade and intellectual property rights. This legal framework will provide an enabling environment to ensure adequate benefits for the local communities involved in the sustainable management and use of wild MAPs.

The project also supported the development of the National MAP Strategy and Action Plan which applies the CBD and CITES provisions, strategies, actions plans and programs to MAP conservation in Egypt and builds upon knowledge available at the national and community levels. The National Workshop for Medicinal and Aromatic Plants Strategy of Egypt has taken place on July 25, 2011 in Cairo under the aegis of the Minister of Environment. The workshop presented, discussed and approved the final version of the National Strategy of the Medicinal and Aromatic Plants of Egypt.

The Egyptian Government involvement in the development of a new Law on Access and Benefit Sharing and of a National Strategy and Action Plan for Medicinal Plants is a demonstration of its support to this project's development objectives and its will to further the cause for the protection of traditional knowledge and conservation of medicinal and aromatic plants. The development of a national policy on MAPs and of a national legislation on ABS including a registry of MAP-related TK allow the integration of best practices and lessons learned through the implementation of the project and create the opportunity to expand its positive impacts at the national level.

Government's financial commitments

Until June 2011, the Egyptian Government's in-kind contribution amounted to US\$ 2,557,000. This amount had been mainly allocated to the construction of a medicinal plant center in St. Katherine, 2 project offices (Cairo and SK) and operational costs, equipment maintenance over 5 years, supporting the development of the medicinal plant strategy and action plan (committees), and development of infrastructure for the sustainable development of the Sinai peninsula. In total, these contributions

represent 85% of the contribution planned in the project document and are a demonstration of the government support to this project.

3.3 Stakeholder participation in design stages

The Project Brief reports on the really close involvement of the main stakeholders, the Bedouins, from the very beginning of the project development, following a very participatory approach in designing the specific components to which they will participate. This included the Bedouins who live in the St. Katherine Protectorate, the Hakim who prescribes medicinal plants, and the local private sector, which involvement was planned in various project activities.

3.4 Potential for replication HS

Most components of this project were designed with the intention of being replicated. The project tackled a number of technically difficult challenges and innovated in the fields of MAP propagation, cultivation, sustainable use and community-based management, in linking conservation efforts and sustainable use to improve livelihoods, in assessing and reducing threats, in developing a market value chain for cultivated and wild MAPs, including analyses and use of assessment tools (threat analysis and reduction assessment, cost-benefit analyses for cultivation of medicinal plants and control of an invasive species, etc.). Although some results are site-specific, the approaches developed and refined through practical experience will surely allow the replication and extension of the global benefits provided by the project.

The project adopted an approach based on sound knowledge, assessments, and understanding of situations or issues through a judicious use of various tools and analyses such as gap analyses for the living and seed collections, cost-benefit analyses applied to MAP cultivation and feral donkey control, threat analysis and reduction assessment to allow a reliable identification and prioritization of man-related threats for MAPs, market assessment and plan. The information provided by these tools helped the project to identify priority activities that could better contribute to the achievement of its intended results. This approach led to a stepwise development of the project components, namely the rehabilitation program or the sustainable MAP value chain in SKP, which allowed sound decision-making and lead the project and its partners towards options that had better chances of success. This way of approaching problems and identifying best solutions is worth replicating.

Every pilot experience is documented, through project technical documents and a series of 'position papers' that summarize the approach and key steps taken to implement each project component and main results. Background documents and practical guides were prepared for all trainings provided by the project. The presentation of these documents reaches high quality standards for a development project and will facilitate the adaptation to other sites of the practical knowledge and experience accumulated throughout this project.

3.5 UNDP comparative advantage as Implementing Agency

UNDP's comparative advantage in implementing this type of project – where environmental conservation and global benefits are linked to local socioeconomic benefits through the development of sustainable livelihoods – is that it fits precisely UNDP's niche. 'Environment and Sustainable Human Development' is one of UNDP's four areas of work and this priority is based on the recognition that the natural environment is the foundation on which poverty reduction efforts and sustainable development must be built. A global issue such as loss of biodiversity cannot be addressed by countries acting alone. The objective of UNDP's biodiversity work is maintaining and enhancing the beneficial services provided by natural ecosystems in order, notably, to secure livelihoods, food, water and health security, and reduce vulnerability to climate change. UNDP helps countries strengthen their capacity to address these challenges at global, national and community levels.

UNDP's comparative advantage for the GEF as an implementing agency lies in its global network of country offices, its experience in integrated policy development, human resources development, institutional strengthening, and non-governmental and community participation.

A study conducted by the GEF Evaluation Office⁸ based on the review of over a hundred case studies aimed at addressing causal links between local and global effects highlighted the fact that local and environmental benefits were interlinked. It was also found that local support for improved environmental management is built upon the achievement of benefits at the community level, which can offset locally incurred costs and generate sustainable support.

In this perspective, the increased emphasis on sustainable use of MAPs to the benefit of the local community which took place through the learning acquired throughout the implementation of the project, as well as following the MTE through the introduction of the CBNRM component, was all the more opportune by bringing together the objectives of this project with those of UNDP.

3.6 Linkages between the project and other interventions in the sector

The project was designed to ensure its objectives would complement the SKP management plan which was, at the time, being finalized with the support of EU funding. Conservation measures for medicinal plants have been implemented since 1998 in SKP, through the establishment of 37 permanent enclosures with surface areas from 7 m² to 264 m². The conservation action results indicated that this system is very suitable and effective for such areas and plants, especially against grazing impacts.

This project also builds on the science conducted by scientific institutions in Egypt. The numerous research projects on medicinal and aromatic plants use, cultivation, analysis of active constituents and biological properties that were carried out by national research institutions as reported in the project document reflect the great interest generated by MAPs in Egypt.

3.7 Management arrangements at the design stage

Clear management arrangements had been defined at the design stage and, overall, seemed appropriate with the exception that the EU project was completed when the project started moving and the presence of EU project representatives on PSC and technical advisory committee was no longer relevant.

- The project was entrusted to EEAA under UNDP NEX arrangements.
- A project management unit composed of a full time Project Manager, two full time national experts for participatory planning and biodiversity conservation, and support staff would be based in SK and have the overall responsibility of the implementation of the project. The Project Manager would be appointed by GEF-UNDP and EEAA.
- National and international consultants would have provided expertise in participatory planning with Bedouins, medicinal plant conservation, range management, and to develop the IPR and National Action Plan. All others activities would have been sub-contracted to academic institutions and NGOs.
- A part-time National Scientific Advisor and an Assistant Project Manager would be based in Cairo to see to the implementation of project activities related to the protection of community IPR related to MPs and to the development of the National Strategy and Action Plan, and to act as liaison officer with EEAA, Steering committee members, OUDA, and the technical advisory committee.
- The project steering committee (PSC) included representatives from EEAA, UNDP, and the EU project. The steering committee was responsible for meeting quarterly and approving work plans, progress reports, expenditures and budget revisions.
- A technical advisory committee composed of representative ministries, academic institutions, MPA, NGOs, EU and PSC members was planned to meet on a yearly basis to advise on the technical aspects of the project work plans.
- The project would establish the MPA to act as a focal institution for training and extension and for marketing of medicinal plants.

⁸ Dr Bayoumi, pers. comm, GEF Evaluation Office, 2006

4 PROJECT IMPLEMENTATION

4.1 Implementation approach **S**

4.1.1 Use of the logical framework as a management tool during implementation

During its inception and first phases (until the midterm evaluation), the project apparently did not make use of the logical framework (LF) that had been suggested in the project document, as suggested by the fact that new targets had been formulated that were not necessarily reflecting the implementation approach of the original project document (see Table 1). As a result, the implementation went astray from the intended results. Although some progress had been achieved, the conservation actions were spatially restricted, and others were related to developing the legislation on ABS and TK. The project lacked an effective *in situ* implementation that could directly benefit the target MAP species.

Following the MTE recommendations (2006), a new LF was developed based on yet another rearrangement of the intended results (see Table 1), closer to the original project approach, though putting an emphasis on *in situ* conservation of MAPs through their sustainable harvest and based on a self regulation system where 'professional' harvesters grouped into a legal association have the exclusive right and responsibility to manage and make a commercial use the MAP resources over a given territory. From then on, the same LF was used to monitor the progress of project realizations.

4.1.2 Adaptive management reflected in work plan development

Following the MTE recommendations, the project refocused on *in situ* conservation and claimed to adopt an adaptive management approach. The workplan was revised according to the new LF and, from 2007 to 2010, no further change was made in the formulation of activities other than removing activities that had been completed. Therefore, besides the decision regarding the RF that followed the recommendation of a consultant's assessment of the instrument, there is little evidence that the annual monitoring of the project interventions results has led to adaptive changes in the planning of activities or in the intended results to achieve planned outcomes. Still, some changes may have been made without being necessarily reflected in the workplans. For example, the project started establishing household gardens for small scale cultivation and no further effort was invested in MAP farms on the basis that household gardens were more effective and would increase the benefits to a larger number of people.

The workplan for 2011 added an activity to replicate the CBNRM component and the data collection for the national TK registry in one or two other PAs. However, this decision was a specific request from the newly appointed NPD rather than the result of adaptive management.

It must be noted that, although adaptive management may be highly relevant in the context of a development project that has a certain level of autonomy, it may be less applicable for a governmental institution that has to abide by complex procedural requirements which prevents making swift changes. This should be taken into consideration when transferring the MPCP work plans to the NCS and SKP management as these institutions have neither the ability nor the agility to make changes on short notice.

4.2 Monitoring and evaluation **MS**

Project steering committee. A steering committee gathering prominent national MAP experts was meeting regularly before the MTE. During the project inception phase, the national consultants recommended modifications to the project LF to enhance the relevance of the project to Egypt priorities related to MAPs, which delayed the initiation of the project activities. Additional deliverables were added in the revised LF but no output was removed from the original document.

After the MTE, the composition of the steering committee was revised to ensure a smooth implementation of the newly designed LF and all parties committed not to make any further modification to it. The steering committee held frequent meetings in 2008 (March, June, August) and

in 2009 (January and June). The minutes of the meetings are not available in English; it is therefore not possible to comment on the guidance provided by the project steering committee to support the project implementation.

R: When reports are not available in English, it would be useful to provide a short summary of the main decisions or main issues addressed in English.

MTE. The mid-term evaluation was held in September 2006 and recommendations gave the project a serious push and set the cap on its original goals and on *in situ* conservation actions.

Quarterly progress reports. Technical progress reports and financial reports were submitted to UNDP on a quarterly basis. Combined technical and financial reports following a different format were prepared in Arabic and submitted to EEAA on a quarterly basis.

Annual monitoring and reporting. The project implementation was monitored on a yearly basis for the preparation of the project annual reports. The monitoring was based on the indicators included in the LF.

Project implementation reports. The reports were produced on an annual basis from 2004, following the ever increasingly complex and rigid format provided by the GEF. Although these reports give a rather good account of the project achievements, the latest format (2010) makes their use and consultation rather tedious.

Annual audits. The project should have been audited every year but no information was available for the period before 2007. In 2007 and 2008, the project was audited. In 2007, comments were related to the low disbursement rate, and no comment was made in 2008. In October 2009, the MPCP was granted a certificate of recognition for its diligence in contributing to UNDP's excellent national implementation (NIM) audit rating. The project was not audited the following year because the level of expenditures was too low to be included in the audit annual audit process. In 2010, the project could not be audited because all original documents that were kept with OUDA had been destroyed during the political turmoil at the beginning of the year 2011.

4.3 Indicators

The project document had proposed a logical framework which included result indicators that met SMART standards⁹ for the most part though some were rather operational indicators of activities. As the project intended results were reformulated, the indicators have also been revised. The formulation of indicators in the LF developed after the MTE was inadequate as shown by the following examples: Seed bank and living collection, Improved information flow, Revolving fund operational, SKP management plan, ABS Law, UNDP Risk Module... suggesting what the indicator should report on, or referred to the task required to measure the indicator such as 'Application of the threat Reduction Assessment tool'. These indicators were eventually reformulated in 2007 as reflected in the Project Implementation Report of the same year and were used every year to monitor the progress of the project.

R: The use of indicators would be facilitated and improved through the preparation of a table presenting the definition of each indicator, unit of measurement, source of information, method for data collection or calculation, frequency and schedule of data collection; and individuals responsible for ensuring data availability.

Specific comments are given for a few indicators.

Outcome	Indicator	Comment
1: Conservation management of SKP MAP resources strengthened	10. %age reduction of destructive wood collection practices	How can this be measured?
	12. Number of rehabilitated sites	Formulation could be more explicit, such as indicating a minimum rehabilitation success rate

⁹ SMART indicators: (S) specific, (M) measurable, (A) applicable and accountable, (R) relevant and realistic, (T) time-bound, tractable and targeted indicators

Outcome	Indicator	Comment
	14. %age increase in awareness of value of medicinal plants	How to measure increased awareness? Could be more relevant to assess behaviour change resulting from this increased awareness as increased awareness is not an end in itself but a way to bring changes in people's decisions and actions
		It would be relevant to include an indicator to reflect on the strengthening of the capacity of SKP management staff in MAP conservation management
2: MAP products market value chain strengthened and sustained		Relevant indicators could include the number of people who derive a new or increased income from their participation in the MAP value chain – some households can benefit from participation in value chains as wage labourers in production, processing or marketing – as an indicator of the contribution of the value chain to poverty reduction
	20. Marketing capacity of the MAP associations	Although this indicator has been defined under the target heading, its measurement is ambiguous – furthermore, the role of the MPA for international negotiations is less relevant than its capacity to use its revenues on the local market to implement initiatives that benefit local populations while contributing to the conservation of maps
Outcome 3: Pressure on target resources reduced by use of alternatives		No indicator provides direct information on the reduction of pressures under this outcome –the indicator 10 related to reduction of destructive wood collection is under outcome 1 There is no clear assessment of the number of remaining feral donkeys in the GSMAP-rich areas.
	23. Number of different alternative resource uses financed by RF	It would be useful to add an indicator of the RF management efficiency as this is a condition to its sustainability and hence of the services it provides – this indicator could be its rate of increase as the fund revenues that exceed the management costs should be reinvested in it
4: MAP conservation and management enabling environment strengthened	25. Establishment of a common vision among key stakeholders for a National MAP Strategy and Action Plan	Some indicators are formulated as intended results rather than as indicators.
	27. Formalization of <i>in situ</i> NRM and CBNRM mechanisms by the <u>SKP management plan</u>	This indicator is too limited as formulated to reflect on the project contribution to SKP management - the revision of the SKP management plan includes more elements than only the CBNRM component
	28. <u>ABS Law</u> enters into force	One of the SMART criteria is Accountability – the indicator must reflect a result for which the project can be accountable, i.e. that the project can be achieved by itself. For the law to enter into force, a few stages must be completed that are not under the MPCP's remit. An additional indicator could have allowed assessing the purpose and content of the Law and how this contributes to the immediate and development objectives.

Outcome	Indicator	Comment
5: Learning, evaluation, and adaptive management increased	30. Quarterly update of UNDP Risk Module	Indicators should allow the measurement of the level of achievement of an intended result. This does not.
	31. Number of position or briefing papers on MAP issues	This indicator should also integrate the aspect of distribution to relevant partners / actors – the paper in itself does not contribute much to development if left in a box...
	32. Finalization of a MPCP website and database	To be useful, the database and the website must be accessed by the public or relevant actors – adding the number of accessions to this indicator would better reflect on this (Number of visitors to the website and number of users of the database)

4.4 Stakeholder participation **S**

The participation of local resource users was a real challenge for this project. From the early stages, it was clearly identified that Bedouins, although they did not perceive any conflict between their own interests and those of environmental conservation, did not see the need to invest in preserving or managing medicinal plants.

4.4.1 Local resource users' participation in project implementation and decision making

Whether for the planning and establishment of restoration sites, the development of community-based natural resource management, the development of MAP value chains, the elaboration of the new Law on ABS, the establishment of the national registry of TK on MAPs, the development of the National Strategy and Action Plan on MAPs, and related activities, the participation of stakeholders, in particular of the local communities, is at the centre of all steps.

An illustration of the active participation of local resource users in the project implementation and decision making is the process adopted by the CBNRM component, where local resource users participated in the assessment of the situation in their community, agreed on the best scenario to adopt, agreed on common rules and committed to apply best MAP collection practices.

The active support from communities is shown by their in-kind contributions to the project implementation (see Table 2). This may have been facilitated by the fact that the project geographical scope was relatively limited which facilitated communication and the project communication approach.

Communities' active involvement may be at least partially attributable to the building of a trusting relationship between the project team and the local community, and towards project proposals. This relationship was favoured by the project team's continuous presence in St. Katherine (for the 2nd phase of the project), numerous workshops and consultations involving them, namely for the development of the ABS Law, the numerous activities with school children which brought the project values into St. Katherine's households, the demonstration that some could improve their livelihood while contributing to alleviate pressures on medicinal plant species:

- In the local communities, the project reached individuals through working closely with natural leaders actively involved in the development of their own community, the Sheikh, the traditional healer, and other active fellows who understood the genuine intention of the project to work for the benefit of the local community and could influence their people to have a more open attitude towards the project's proposals.
- Setting up an office within the intervention zone allows maintaining a permanent presence and communication with local people and the development of genuine relationships on a day by day basis with individuals in the beneficiary community and among local authorities.
- Awareness activities carried out at the local level such as environmental education in schools and support to the World Environment Day, and information provided to target groups about the purpose of the project or of specific components, contributed to open the way to local communities involvement. Although these awareness activities do not necessarily directly contribute to MAP biodiversity conservation, they create receptiveness towards the concepts of ecosystem and

biodiversity conservation, raise awareness about their importance for people's daily lives and create the conditions for a long-term impact.

L: Participatory decision-making is a real challenge, especially when addressing new issues, when reconsidering traditional or usual ways of doing things; it takes time and is facilitated by the involvement of community leaders.

4.4.2 Mechanisms for information dissemination in project implementation

The project communication strategy identified main messages and information to disseminate, target audience, and the most appropriate media to reach target groups. Target groups include the Bedouins, school students, decision makers including traditional tribe leaders, government, public and private sector, consumers, tourists, academic and research institutions, and the general public. Television and newspapers were more effective in reaching a national level audience, the EEAA and MPCP websites were more effective in reaching an international audience, and the radio stations which broadcasted in St.Katherine were the most effective media to reach local populations.

For drafting the new Law on ABS, 2 workshops were held in St. Katherine, with practitioners and with local communities, and another workshop was held with formal stakeholders, including the private sector. The resulting draft was shared among all stakeholders for a second consultation, and comments were integrated to produce a 2nd draft which was then submitted to the Ministry of Justice.

The preparation of the National MAP Strategy and Action Plan involved 45 experts including academics, private sector, administration and local community representatives to identify the main elements and a smaller committee drafted the strategy. A draft was validated through stakeholders meetings and further versions were distributed electronically to collect comments.

4.5 Financial planning, expenditure statement and efficiency

4.5.1 Financing plan and actual contributions

The total project budget is US\$ 8,882,998. Planned contributions from various partners as indicated in the project document are provided in Table 2 and compared to paid contributions as of June 30th 2011.

Table 2. Financing plan and actual contributions from partners as of June 30th 2011 (US\$)

	GEF	UNDP	Government of Egypt	Municipal government	Local communities	Private Sector	GTZ-EU	Others	TOTAL
Planned	4,117,000	500,080							4,617,080
Planned in kind			3,004,820	Not estimated	Not estimated	226,398	618,900	415,800	4,265,918
Total planned	4,117,000	500,080	3,004,820	Not estimated	Not estimated	226,398	618,900	415,800	8,882,998
Paid as of 30.06.11	3,579,334	525,080	2,557,000	10,000	206,000	26,995	35,000	5,000	6,944,409
	87%	105%	85%	--	--	12%	16%	1%	78%

Table 2 indicates that the payments made as of 30th June 2011 are lower than planned contributions as stated in the project document. The lesser contributions are somewhat compensated for by higher contributions from UNDP, Municipal Government's unplanned contributions, and local communities in-kind contributions that had not been not estimated.

Until June 30th 2011, the Government's in-kind contribution through EEAA, Sinai development programme, and South Sinai Governorate, added up to 2,557,000 USD which amounts to 85% of the

contribution pledged according to the project document. This amount was mainly allocated to the construction of a medicinal plant center in St. Katherine, 2 project offices (Cairo and SK) and operational costs, equipment maintenance over 5 years, supporting the development of the medicinal plant strategy and action plan (committees), and development of infrastructure for the sustainable development of the Sinai peninsula.

The municipal government contributed 10,000 US\$ for the national gene bank (seed collection).

The private sector includes Sekem (co-financing contribution to the PDF-B 16,995 US\$) and Environment Quality International (in-kind contribution estimated at 10,000 US\$ as their contract with the project covered only 30% of their actual contribution).

GTZ contribution includes the organisation of two meetings for the elaboration of the Law on ABS.

'Others' includes a 5000 US\$ contribution from the NRC for the development of harvesting and post harvesting techniques. In the project document, this category also included NODCAR which did not contribute to the project.

Local communities. In-kind contribution of local communities was not estimated in the project document although the achievement of many results rests on their active participation. Thus, it was decided to provide an estimation of this essential contribution in the TE report to reflect the beneficiaries investment in the project activities, without which most project results would not have been attained.

Local communities' in-kind contribution includes

- development of handmade products by Bedouin women - women's wages for these products are very low, thus products development is mostly an in-kind contribution,
- contribution for building and maintenance of greenhouses and MPA outlet and care of plants,
- community guards working at greenhouses in soil treatment, plant irrigation, and guarding of rehabilitation sites,
- and small farms maintenance.

4.5.2 Expenditure statement per outcome and cofinancing source

Table 3 presents the project expenditure statement by 30th June 2011. Ideally, this table would have presented planned contributions (cumulative budget estimates) as well but this was not possible. Because of the changes to the project outcomes, it was not possible to make a direct comparison between the original result-based budget and actual expenditures.

Table 3. Expenditure statement (in US\$) per outcome and co-financing source from October 2002 to June 2011. Percentages indicate, for each funding source, the proportion of the contribution allocated to specific outcomes.

Outcome	GEF	UNDP	Gov.	Local Comm.	Private Sector	GTZ	Others	TOTAL
1. Conservation mngt of SKP MAP	1,140,081 (31.9%)	104,614 (19.9%)	530,000 (23.6%)	25,000 (12.1%)	0	0	10,000 (3.1%)	1,809,695 (26%)
2. MAP market value chain	190,875 (5.3%)	12,829 (2.4%)	300,000 (13.3%)	60,000 (29.1%)	26,995 (100%)	0	5,000 (1.6%)	595,699 (8.6%)
3. Pressure alleviation on target resources	272,190 (7.6%)	167,113 (31.8%)	350,000 (15.6%)	90,000 (43.7%)	0	0	307,000 (95.3%)	1,186,304 (17.1%)
4. Enabling policy and legislation	406,668 (11.4%)	14,159 (2.7%)	220,000 (9.8%)	1,000 (0.49%)	0	35,000 (100%)	0	676,827 (9.7%)
5. Learning, evaluation and adaptive mngt	312,699 (8.7%)	3,280 (0.6%)	150,000 (6.7%)	10,000 (4.9%)	0	0	0	475,978 (6.9%)
6. Project mngt, Logistics/admin. support (OUDA)	1,256,821 (35.1%)	223,085 (42.5%)	700,000 (31.1%)	20,000 (9.7%)	0	0	0	2,199,906 (31.7%)
Total	3,579,334 (100%)	525,080 (100%)	2,250,000 (100%)	206,000 (100%)	26,995 (100%)	35,000 (100%)	322,000 (100%)	6,944,409 (100%)

The cost for project management, logistics and administrative support through OUDA represents a third of the whole project, which is within the norm. Besides administrative costs, the GEF contribution was mostly allocated for the conservation outcome which is consistent with its policy. UNDP's funds were used mostly (43%) to cover administrative costs and for alleviating pressures on MAPs through

the microfinance program and capacity building of the Medicinal Plant Association (32%). While the project document had estimated that domestic benefits would be covered by co-financing equal to 52.6% of the total project costs, the actual co-financing covers 40.9% of the project costs and GEF / UNDP contribution pays for 59.1% of the whole project. The Government contribution was allocated to every category of result, including administrative costs. Local communities' contribution was mostly related to the 3rd outcome and is most likely reflecting the voluntary work of the MPA members.

Table 4. Cost (US\$) per outcome.

Expected outcome	Achievements	Actual cost (US\$)
Outcome 1	Community Based Natural Resource Management (CBNRM) Program	1 809 695 (26%)
	Seed preservation Collection Program	
	Propagation by seeds or green cuttings	
	MAP Rehabilitation and Restoration Program	
	MAP Threat reduction & Control	
	Public awareness on MAP conservation	
Outcome 2	Developing and strengthening MAP Value Chain	595 698 (8,6%)
	MAP Marketing	
	MPA marketing capacity	
	Cultivation of MAPs Program	
Outcome 3	The Microfinance Program (Revolving Fund)	1 186 304 (17,1%)
	MPA capacity building	
Outcome 4	National MAP Strategy and Action Plan	676 827 (9,7%)
	Updating SKP Management Plan & SKP staff capacity building	
	ABS Law	
	MAP Traditional Knowledge documentation	
Outcome 5	MAP database	475 978 (6,9%)
	Virtual Herbarium	
	MPCP website	
	GIS unit	
Logistic and administrative support	Project operational expenses + Equipment & Furniture + supplies + cars + project management team + communication expenses + premises rental + miscellaneous expenses	2 199 906 (31,7%)
Total		6 944 409

The table 4 details the achievements under each outcome and was prepared with a view to assess the project efficiency. However, the fact that each outcome combines many different components, notably outcome 1, limits this assessment and the usefulness of these data as a reference for replicating specific components of the project.

Nevertheless, the cost-benefit analyses (CBA) conducted by the project for the cultivation of medicinal plants and for the control of feral donkeys in SKP give estimates of the benefits provided by these achievements in relation to their costs. CBA showed that MAP cultivation is profitable provided that the product is processed, packaged, and sold on site at St. Katherine following a marketing strategy rather than sold in bulk and this, despite the high cost of water. Cultivation generates benefits to farmers, to other value chain actors and to the local community through the MPA.

Another CBA was conducted to assess the costs of environmental degradation in MAP ecosystems caused by feral donkeys which represent the most dangerous threat to the MP ecosystem in SKP and compare them with the costs of the Feral Donkey Control Program. The CBA shows that the benefits of the control program are 25 times higher than its costs.

4.6 Planning for sustainability

4.6.1 Development of a sustainability strategy

The MPCP sustainability plan was developed in October 2010 and its implementation started in March 2011. The plan includes an estimation of the required budget and the identification of the funding source, mostly from the budgets of SKP/NCS, MPA and KGG.

Main elements of the plan include the following:

Main components of the MPCP related to in situ and ex situ conservation, rehabilitation and sustainable use are transferred to the SKP and integrated into its management plan. The continuation of the project activities is also ensured through the strengthening of SKP management in terms of staffing and capacity. SKP staff, which included eight environmental researchers and nine community guards, have accompanied the project throughout its implementation and thus have gained relevant knowledge and skills to carry on with the activities initiated through the MPCP. A number of technical staff and engineers who had been hired by the project will be hired by the NCS to join the staff of the SKP while others may join other protected areas.

Knowledge components such as the database, the virtual herbarium and the project website are to be transferred to the biodiversity unit of the NCS. Most documentation on the pilot experiments of the project will be transferred to the MPA and to SKP.

Procedures are adapted to get approval from the EEAA and not from the MPCP.

To carry on propagation (in greenhouses) and rehabilitation activities, a cooperation protocol was developed between the MPA, SKP/NCS and the Medicinal Plant Department of the Desert Research Centre (under the Ministry of Agriculture) to agree on:

- use of facilities and soil (under SKP authority),
- recruitment of local communities to work in the greenhouses (SKP and MPA),
- scientific supervision and technical support to be provided by the Desert Research Centre.

Before this protocol was established, all work was achieved by the project staff, sometimes with the support of the research centre, but without any institutional agreement.

Regarding the CBNRM activities, the sustainability plan recommends appointing one person to establish a CBNRM unit under the NCS to carry on with activities in the SKP and adapt the approach to other sites in Egypt. This proposal may be timely as the NCS is currently undergoing a restructuration.

4.7 Execution and implementation modalities

Implementation issues. The MPCP implementation was planned over a period of five years and should have been completed in 2007. On the recommendations of UNDP CO and GEF Regional Technical Adviser, two extensions were approved to add a total of three years to the project duration, however without extra funding, with the exception of an additional 25,000 USD contribution from UNDP in the last year. Thanks to these extensions, the project was able to achieve most of its intended results and to assist the MPA to its autonomous operation.

The MPCP experienced a slow start and delays due to repeated PM changes and deviated somewhat from its course during the first period. The first PM was a scientist and left after one year. The 2nd PM was a medicinal plants expert, and remained with the project until 2007. People who have been involved in the early stages of the project reported that the first two project managers were not sufficiently open to innovation and that the project had adopted a top-down approach during that period. Reports show that it had moved away from its initial objectives and from the reality in the field, including that of local communities. As a result, the implementation was not sufficiently participatory and SKP management and the local community - who should have been at the center of the implementation - were not sufficiently involved. This type of project was a new experience in Egypt and, despite mitigated annual evaluations, the PSC apparently failed to rectify the situation.

The MTE took place in 2006, which coincided with the appointment of a new CEO of EEAA. There had been valuable achievements before the MTE, notably the floral surveys in 2004 and 2005, the establishment of new enclosures, reinstating the traditional rule on grazing, the *hiff*, the propagation and cultivation of endangered endemic medicinal plants in the greenhouses. However, cultivation

costs were high and, due to water scarcity, no mass production was possible. A better approach was to increase the added value by improving the quality of the products and adopting the marketing strategy to sell medicinal plants products in SK rather than export them – and to focus on securing sustainable benefits for local people based on sustainable use of natural resources to ensure its conservation.

In March 2007, a new logframe was developed in SKP during a workshop involving all stakeholders. During the second quarter of 2007, the project had fulfilled all of the MTE recommendations necessary to be granted an extension for two years to enable the implementation of the new strategy.

For the third project manager, despite the resistance of EEAA officials, the NPD took the risk to appoint a young '*non scientist*' manager but who had a clear vision of where the project should go. This younger and more dynamic PM was appointed in February 2008. He had been involved in the project since 2004 as a technical officer and had an in-depth understanding of the issues and, within 6 months, the project experienced a complete turnover. The increased field presence and interaction with the SKP management and local communities allowed harmonizing the project implementation with its main stakeholders. As the new PM was more open to innovation, he also ensured a more effective use of consultancies. The Bedouins started to pay attention to the project and to have confidence that the purpose of the project was their interests and benefits.

The 3rd PM left in May 2010 and a fourth project manager was appointed in June 2010. He also had been involved in the project as a technical officer and as deputy manager, which ensured a smooth transition as he had a good understanding of all aspects of the project. The project had made significant progress and another extension was agreed to allow the project to meet its objectives.

If the project was unsatisfactory until the MTE, the new management certainly gave a positive change of course in the right direction, judging from the quality and quantity of achievement, quality of planning interventions making the best use of existing knowledge, the quality of implementation, and dissemination of knowledge. The MTE has certainly provided relevant recommendations and guidance but from discussions with the project staff, it seems that the rather unusual combination of a young and dynamic project manager and team guided, advised and fully backed by a wise scientist in the role of the NPD was the determining factor for the most prolific period of the project.

L: As required by donors, development projects must be innovative – therefore, the selection of a project manager for a conservation project must seek people who are open to innovation, on the leading edge of the conservationist debate, and who have the capacity to turn knowledge into action for development. However, strong backing, ownership and leadership by the institution responsible for project execution are critical to get things moving in the direction of the project objectives.

Financial management. The project requests advances to UNDP on the basis of the quarterly work plan. Advances are paid to OUDA in a specific account for the project and OUDA manages the payment of individual salaries. Operational expenses are paid from a petty cash and settlements are sent to OUDA for replenishment. For special expenses and events, OUDA submits a tender including 3 offers to the project where it is evaluated by 3 people and the selected supplier is paid by OUDA. Every quarter, the project prepares a financial report presenting the expenditures made from the previous advance and a request for the next advance. The report is validated by OUDA and submitted to UNDP. The advance is paid within 5 working days, or even less in case of an urgent situation.

From this, it is clear that OUDA, as an interface between UNDP and the project, has increased considerably the efficiency of disbursement procedures, especially for procurement, and that OUDA and UNDP have been very supportive.

5 RESULTS

Results achieved by the project are presented and evaluated with regard to the development objective and expected results, on the basis of the indicators used in the PIR after the MTE. The baseline therefore corresponds to the year 2007. To highlight progress made in the final phase of the project, the results achieved in 2009 and 2010 are presented next to the results achieved until June 2011.

5.1 Achievement of the project development objective

Table 5. Project progress with regard to the development objective, and assessment of progress

Description of Indicator	Target Level	Baseline Level ¹⁰ at 30 June 2007	Level at 30 June 2010 ¹¹	Level at 30 June 2011
Project Development Objective: Conservation and sustainable use of globally significant medicinal plant biodiversity in SKP				
1. Number of globally significant MAP species populations in excess of 500 individuals present in at least 3 different microhabitats (per species) as identified in the ecogeographic survey and analysis	10 - 16	Rehabilitation conducted in 7 sites Preliminary Ecogeographic survey and analysis identified GSMAP. Species present in at least 3 different microhabitats will be used for future monitoring.	7 rehabilitation / restoration sites monitored on regular basis in which 10 GSMAP species are successfully rehabilitated (over 300 specimens). Moreover, these sites shelter 8 other critically endangered plant species.	MPCP restored 7 sites through the active reintroduction of 10 GSMAP native plants species (over 300 individual plants) which are monitored on a regular basis and successfully re-established. Furthermore, these sites shelter 8 other critically endangered plant species. <u>Floristic surveys – 2004 and 2010</u> : See results and observation below <u>Enclosure monitoring – 2004 and 2005</u> : See results and observations below.
2. Threat Reduction Assessment index	Annual threat analysis decreases against 2007 baseline.	56% (June 2007)	44.3%	42.9% A systemic assessment based on knowledge collected through literature review, field visits, and interviews with local stakeholders identified main threats and their root causes, and ranked them according to predefined criteria (area, intensity and urgency). Results were validated during a workshop gathering stakeholders' representatives. The assessment, repeated every year, allows the calculation of a synthetic index to reflect the effect of measures adopted to reduce threats. The index has shown a steady decrease of threat importance since its first measurement in 2007. This improvement is mostly due to the reduction of threats from feral donkeys and from destructive harvest.
3. GEF Tracking Tool score SP1 'Strengthening PA management'	The GEF tracking tool show a positive trend against baseline	67 (Q4 2006)	84	80 Areas for improvement are mostly in the field of inputs, more specifically available budget, and contribution of tourism to PA management
Overall assessment of objective achievement				S

*Note: The project progress is rated according to the following indices: **HS** - highly satisfactory, **S** - satisfactory, **MS** - marginally satisfactory, **MU** - marginally unsatisfactory, **U** - unsatisfactory, **HU** - highly unsatisfactory*

Rehabilitation of sites was achieved a) through setting up enclosures where native vegetation was allowed to return naturally as main disturbances were removed, and b) by reintroducing native plants by planting grown plants (seedlings produced in greenhouses). Rehabilitation interventions were carefully planned on the basis of floristic surveys, biogeographic analyses, and assessment of microhabitats supporting GSMAPs in order to match the donor and restoration site conditions to increase chances of success.

¹⁰ Baseline from the PIR of 2007, which is the first PIR to report according to the indicators developed after the midterm evaluation

¹¹ From PIR of 2010 and, if useful, 2009.

Enclosures. A total of 37 enclosures had been set up for the first time in SKP in 1998 and 1999. With the support of the MPCP, this total was expanded to 46 enclosures. The main advantage of allowing native plants to return naturally is the low cost; in addition, the related opportunity cost to resource users is also limited because of the low dimension of most enclosures. Yet, the success of this approach depends on an adequate source of native plant reproductive material on or near the site, and the rate at which the plants may return and reestablish on the site might exceed the project's timeline. Results of the enclosure monitoring in 2004 and 2005 have shown that this approach was effective at increasing MAP density, cover and richness inside as compared to outside enclosures for most species and that some species were only recorded inside enclosures. However, the total number of plant species recorded in 2005 (Table 6) is significantly lower than in 2004 despite the fact that the monitoring survey of 2005 reports that the winter of 2005 was rainy.

Active reintroduction of seedlings. Since most seeds have specific germination requirements and are subject to bird and rodent predation, active reintroduction was done with seedlings to ensure better establishment and survival. Since water is the most limiting factor due to SKP arid conditions, the project provided frequent irrigation until plants were established. MPCP achieved the propagation of 12 GSMAP species (the project had identified 16 target species but some species could not be propagated for different reasons such as complexity of reproducing the microhabitat (ex. a crevice) or the critically endangered status of the species prevented any seed collection or any removal of vegetative material. 10 GSMAP species were successfully reintroduced in 7 sites.

R: Restoration interventions must take into account plant population genetics or ecotypes as genetic variation within plant species (among populations) can influence their adaptation to local environmental conditions and hence their long-term chances of survival and growth. Moving plants of one ecotype to an area with different environmental conditions, such as different soil composition or soil moisture content, could result in poor growth or failure. Another concern is the opposite situation where the establishment of an introduced ecotype is so successful that it displaces the local ecotype. When information is not available on the plant intraspecific genetic variation, a precautionary approach is to use plant material of local genetic source whenever possible.

Table 6. Summary of the results of the floristic surveys and enclosure monitoring conducted by the MPCP

	Floristic surveys in SKP				Enclosure monitoring	
	Pre-project (PDF)	2004	2004	2010	2004	2005
Nb sites visited		38 (southern wadis)	164 (northern wadis)	25	46	46
Nb of plant species	316	305	410	134	150	124
Nb of plant genera		223	272	117	128	108
Nb of plant families		54	64	38		42
Nb of plant species endemic to Egypt	37 incl. 4 endemic to the Sinai	9 and 37 <i>confined</i> to Sinai	14	8		
Nb of extremely endangered species	10 species					
Nb of endangered species	53	6	13	6		
Nb of vulnerable species	37	16	14	10		
Nb of rare species		2	20	8		
Nb of MAP species	102	34		29		

Results of floristic surveys conducted during the PDF phase, in 2004 and in 2010 do not allow drawing valid conclusions about the evolution of the flora in the SKP. Only 134 species were inventoried in 2010, less than half the number of species recorded during the project preparatory phase and a third of the species recorded in northern wadis in 2004. However, the number of sites visited to conduct the 2010 survey is only 25. Although the number of species recorded is not necessarily directly correlated with the number of sites surveyed, it can be assumed that the number of sites visited was not enough to be representative of the flora of SKP.

Results of enclosure monitoring conducted in 2004 have shown increased density, cover and species richness inside enclosures as compared to outside enclosures. When compared with the results of the initial surveys conducted when enclosures were established in 1998/1999, the monitoring of 2004 has shown increased density and cover for most of the 37 target species. Results of the enclosure monitoring conducted in 2005 have also shown that the old enclosures (set up in 1998 and 1999 by the SKP) were effective at increasing index value inside as compared to outside enclosures for 25 of the 31 target species recorded in the enclosures, and 15 species were not recorded outside enclosures. For 3 species, the index value was significantly higher outside than inside enclosures, and for 3 other species, inside and outside situation was similar, indicating that protection may not be beneficial for all species, or that protection from grazing was not fully efficient in all enclosures, as it was noted in a rehabilitation site visited during the evaluation. The total number of species recorded inside enclosures was significantly lower in 2005 than in 2004; no explanation can be given on the basis of the information given in the survey reports which even mention that the 2005 winter season was rainy.

R: Enclosures should be monitored regularly for MAP floristic diversity and abundance, compared with reference areas outside enclosures, and results must be interpreted in the light of micro-climatic data to understand the long term effect of this conservation measure and dissociate the effect of climate variation. To capture inter-seasonal variation of plant species occurrence, monitoring could be conducted twice yearly if financial resources allow it; otherwise, it could be carried out once yearly but in alternate seasons from one year to another, as long as corresponding climatic variation is carefully recorded.

R: Standardize sampling and methodology to allow valid comparisons and effective assessment of conservation measures impact

R: For monitoring enclosures, it would be useful to calculate a diversity index such as Shannon's or Simpson's which take into account species occurrence evenness, since one of the purposes of these enclosures is to increase species diversity. Diversity indices take the relative abundances of different species into account and provide more information about community composition than species richness.

5.2 Achievement of the project intended outcomes

Table 7. Project progress with regard to the intended outcomes, and assessment of progress

*Note: The project progress is rated according to the following indices: **HS** - highly satisfactory, **S** - satisfactory, **MS** - marginally satisfactory, **MU** - marginally unsatisfactory, **U** - unsatisfactory, **HU** - highly unsatisfactory*

Description of Indicator	Target Level	Baseline Level ¹² at 30 June 2007	Level at 30 June 2010 ¹³	Level at 30 June 2011
Project Outcome 1: Conservation management of SKP MAP resources strengthened				
4. Number of functionally efficient community management units defined by agreements	At least 1 functionally efficient unit of community management is defined with community management agreements CBNRM pilot projects	None	CBNRM unit delimited in Gebaleya tribal land in agreement with community to be registered as an Association with its constitutive texts. Agreement between NCS and the Association drafted, to be signed in 2010.	<ul style="list-style-type: none"> - A CBNRM unit was registered in August 2009 as a NGO with its constitution, the Katherine Green Gold Association, to operate as a local legal union to organize the sustainable collection and fair trade of wild MAPs. One management area has been delimited within the Gebaleya tribal land in agreement with the community. The Agreement, signed by 17 families of the Gebalaya tribe, is now under revision by the department of legal affairs of EEAA and awaiting the signature of EEAA/NCS. The signature is planned before the project closure. In the meantime, this delay has prevented collectors to sell their MAP harvests. - The constitution of the KGG Association has provisions for i) inclusion/exclusion rules limiting access to MAPs based on recognized MAP-related knowledge and skills, ii) customary regulations aimed at enforcing solidarity customs within the tribe, and iii) the social organization for enforcement. All the land is government property; however, the Bedouin tribes and families have the usufruct rights on an area while the government and the other tribes do respect these rights. - Comments and recommendations on the CBNRM constitution and agreement are presented below.
5. %age of areas with community management agreements in which CBNRM pilot projects are operating	75%	None	While the agreement has not yet been signed, its principles are implemented in around 75% of the Gebaleya tribal land area	The current members of the KGG Association will be collecting MAPs in line with the provisions of the agreement and in an area representing approximately 75% of the Gebalaya tribal land.
6. Community agreed harvest rates in place in areas with community management agreements	Yes	None	An agreement between SKP and community defining which plants may be collected, managed or protected, and on sustainable harvest rates is included in CBNRM constitution. The NGO 'Katherine Green Gold	<ul style="list-style-type: none"> - Sustainable harvest rates are not yet determined as this relies on long-term monitoring of plant growth and recovery in relation to climate and recently adopted 'best' collection practices. - When the new agreement will be enabled, collection will target widely available medicinal plants to avoid the risk of unsustainable collection. The constitution's annexes include a list of MAPs classified into 3 categories on the basis of plants vulnerability: i10 plant species that are not allowed for wild collection, 13 plant

¹² Baseline from the PIR of 2007, which is the first PIR to report according to the indicators developed after the midterm evaluation

¹³ From PIR of 2010 and, if useful, 2009.

Description of Indicator	Target Level	Baseline Level ¹² at 30 June 2007	Level at 30 June 2010 ¹³	Level at 30 June 2011
			Association' (KGG) established (no. 121 of 2009 of Ministry of Social Solidarity) as local legal union to organize the sustainable collection and fair trade of wild MAPs	species that are allowed under conditions, and 11 plant species allowed for wild collection. The categories were agreed on by the SKP management and the association. Another annex indicates the months during which wild collection is allowed for the 24 species that can be harvested.
7. %age of areas with community management agreements in which agreed grazing plans are in place	75%	The 'hiff', a traditional communal grazing agreement, appears to have died out after 1973 (Socioeconomic context, project document).	50%? – Droughts and disease have reduced livestock and SKP has regulated grazing more generally	Traditional community management rules (<i>hiff</i>) are enforced on a continuous basis, which ensures that certain areas are set aside from grazing during certain times of the year to allow flora to recover. These rules are fully integrated through an agreement between SKP and tribes taking into account areas with higher density of vulnerable GSMAPs.
8. %age of areas with community management agreements that are open-access managed	75%	Not available	45%	0% There is a single area with a community management agreement requiring that all collectors must have a license from SKP. The agreement has not yet been approved. In the mean time, all collectors already conform to its rules.
9. Anthropogenic threats addressed in threat-specific hotspots by end of project	Eliminate the overgrazing effect of 25-30 percent of the existing baseline figure of the feral donkey population in the target area	Threat analysis and threat reduction assessment conducted in May 2007 evaluated the feral donkey population at 200 to 300. The implementation of the feral donkey control program in 2006 and 2007 allowed capturing 51 donkeys ¹⁴	45 feral donkeys were removed from donkeys hotspots	- Threat reduction interventions were based on a threat analysis and assessment which identified the following threats in order of importance: feral donkeys as the most important one, destructive harvesting techniques and overharvesting, overgrazing, tourist misbehaviour (trekkers trespassing beyond trails and wood collection for camping), and scientific collection. - Approximately 60 feral donkeys were removed. The project created an economic incentive to foster the removal of donkeys through the MPA. At first, the zoo took 10 to 12 donkeys and around 20 were sold to farmers in the delta who later complained about their limited usefulness. Some were taken back and sold twice which led to the marking of the captured donkeys. Efforts recently focused on removing female donkeys to restrain reproduction.
10. %age reduction of destructive wood collection practices	50%	Not available	60% (firewood available for campers, MPA distributing butane cylinders and furnaces to women, bakery's improved efficiency)	90% Firewood is available for campers through the MPA, MPA distributed butane cylinders and butane ovens to households in SK, as a result women do not need to spend time and energy collecting firewood from the surrounding areas and wood collection has almost completely stopped.
11. %age marketable products derived within SKP to which the ABS law applies	100%	0	Meetings and an open workshop are initiated for amending the ABS final draft law in line with comments sent to MSEA and for final approval prior to submission to Cabinet Ministers	100% The ABS Law applies to all MAP related products in the SKP

¹⁴ Feral donkey control Cost-Benefit Analysis Report, May 2009

Description of Indicator	Target Level	Baseline Level ¹² at 30 June 2007	Level at 30 June 2010 ¹³	Level at 30 June 2011
12. Number of rehabilitated sites	5	0	10 GSMAP species are successfully established and monitored on a regular basis in 7 rehabilitation and restoration sites	<ul style="list-style-type: none"> - The rehabilitation program selected plant species and rehabilitation sites on the basis of a number of criteria to increase chances of success, optimize the contribution of the intervention to MAP conservation in SKP, and ensure the feasibility of the intervention (water availability, site accessibility, availability of propagates and local community's willingness to get involved in the program). - Microhabitat surveys have shown that 4 of the target species had adequate population numbers and a fair distribution, and thus did not require restoration. Other species required restoration in 1 to 3 sites and 3 species required propagation with tissue culture. - 9 GSMAP species are successfully established and plants growth is closely monitored throughout all stages in 7 rehabilitation and restoration sites. - Additional comments on the MAP Rehabilitation and Restoration Program are presented below.
13. %age SKP endangered target species safeguarded through seed bank and living collection	100% (There are 14 endemic target species in SKP of which 10 are endangered)	50 samples representing 15 MP species collected and preserved in the national gene bank.	416 accessions representing 160 species transferred to the National Gene Bank;	<ul style="list-style-type: none"> - 100% - 518 accessions representing 160 species including all target endangered species and associated species were transferred to the National Gene Bank. - Planning of activities for seed and living collection were based on a gap analysis
			7 endangered MAP species safeguarded in the program sites Average restoration success and propagation survival percentage for 7 target GSMAP of about 87.5 % in 6 restoration sites in 2009 and 81.5% in 2010	<ul style="list-style-type: none"> - 12 of the 14 target GSMAP species were successfully propagated - <i>In situ</i> restoration was achieved in 6 restoration sites for 9 GSMAPs including 7 endangered species - The average species propagate survival rate in rehabilitated sites is xx% - species with the lowest propagate survival had been subjected to bird predation. - 11 GSMAP species and their associated species, including 7 target endangered species, are successfully preserved in greenhouses, gardens and restoration sites. - The botanical garden in El Salam Park (Sharm El Sheikh) includes 37 endangered species from the South Sinai of which 4 are endemic to SK.
14. %age increase in awareness of value of medicinal plants	25%	Limited	41% in 2009: > 2500 people through Green School Program, CBNRM, MPA and gov. authorities. In 2010, Biodiversity Information Center and Medicinal Plant Garden (> 30,000 plants from 37 MP species) inaugurated at Sharm el Sheikh International Botanical Garden.	<ul style="list-style-type: none"> - Over 2500 people were involved in Green School Program, CBNRM program, MPA education and awareness activities, including government authorities. - The Green school program implemented with 20 schools from the St. Katherine area and the children drawing contest increased children's awareness of the importance of MAPs and brought the project values into St. Katherine's households. 8 schools established cultivation gardens where children learned how to care the medicinal plants. - The project developed an attractive website presenting the main issues related to MAP conservation in SK and giving access to the virtual herbarium and the database on MAPs. - The MPA has participated in environmental events (Earth Day, World environment day) where the association's activities related to MAP conservation have gained visibility. In return, the MPA has received prestigious visitors, including the Secretary General of the Governorate, the Governor of South Sinai, and the Deputy Director of the Ministry of Solidarity. - The Information Centre on Biodiversity was established in Sharm El-Sheikh, a

Description of Indicator	Target Level	Baseline Level ¹² at 30 June 2007	Level at 30 June 2010 ¹³	Level at 30 June 2011
				popular tourist destination, to serve as a window on biodiversity in Egypt. This very attractive building includes exhibits on the natural history of Egypt, a library, a conference room and an exhibition that illustrates the link between the biodiversity products and local livelihoods in different parts of Egypt. Yet, the Biodiversity Information Center and the Medicinal Plant Garden in Sharm el Sheikh are not operational yet (entrance fee under discussion with Ministry of Finance)
Overall assessment of outcome 1				S

Additional comments on Community Based Natural Resource Management (CBNRM) Program

Following a recommendation of the MTE, the project revised its strategy and the intended outcome I was formulated to aim at conserving the MAP species within the ecosystem (*in situ*) through the development of sustainable management practices, including the protection of hotspots and individual plants whenever their status prevents any collection.

Enabling legislation for the commercial use of MAPs by local communities in SKP.

The CBNRM component is developing the framework and the capacities to enable commercial use of natural resources by local communities in a protected area. An enabling legislative framework is thus an absolute prerequisite and there must be a clear statement that the entity in charge of managing renewable natural resources inside the protected area has the right to devolve this management authority and responsibility to local community entities.

According to the Article 2 of the Law No. 102 of 1983 on Nature Protectorates, committing actions that will lead to the deterioration of the natural environment, including damaging or removing plants, is forbidden. Article 3 further states that it is forbidden to undertake activities that will have an effect on the protectorate's environment and nature except with the permission of the concerned Administrative Body. Article 4 of the same law No. 102 states that the administrative body responsible for the enforcement of the provisions of the law will be specified in a separate decree issued by the PM, which is the Prime Minister Decree No. 264 of 1994 for Conditions, Regulations and Procedures needed to carry out activities inside protected areas. The Law No. 102 of 1983 on Nature Protectorates overrides any other law regarding the use of natural resources in protectorates.

Law No. 4 of 1994 and Prime Minister's Decree No. 264 of 1994 assign a major role to EEAA in the management and monitoring of protected areas, including the management of the licensing system. All activities carried out in protected areas are subject to EEAA's control, which can take steps to enforce the rules and stop any illegal activity.

The Prime Minister Decree No. 264 of 1994 establishes conditions to carry out activities in protected areas and provides the NCS of the EEAA with the executive administrative authority to manage the SKP. Article 1 states that a permit from EEAA is required to carry out activities inside the protected area; this includes infrastructure, buildings, roads, agriculture, industrial, or commercial activities under some conditions, one of which being that the total area for allowed economic activities must not exceed 10% of the total extension of the protected area [4250 km²]. Other conditions are related to procedures for getting permits and other guidelines for infrastructure and construction activities.

The draft Agreement on collection and trade of wild MAPs in SKP was developed according to these provisions and it was planned that the agreement be concluded between the KGG association and the NCS of the EEAA. According to this Agreement, the NCS will recognize the KGG as the responsible body for the collection and primary trade of a number of wild MAPs over an area which is delimited in an annex to the agreement and will prevent unauthorized people from collecting or trading in the MAPs listed in another annex. This Agreement provides for granting licenses by the NCS to the collectors and to the traders named in specific annexes.

This agreement has not yet been signed and, at the time of the evaluation, was under revision by the legal department of EEAA. The area delimited for commercial harvest by the KGG association is the high altitude ecosystem and is estimated at 640 km² – which is above 425 km². Besides, there seems to remain some questioning regarding the authority competent to sign the agreement with the local community entity (SKP management rather than the NCS?). If this should be the case, the devolution of authority from NCS to SKP management on this issue should be clearly stated.

Enabling policy for co-management of MAPs involving local communities in SKP.

A social context favourable to co-management allows the co-management process to take place. No social pre-condition is absolutely necessary for effective co-management and practice can be ahead of policy and foster and instruct policy development. The term co-management describes a partnership by which 2 or more relevant social actors collectively negotiate, agree upon, guarantee and implement a fair share of management functions, benefits and responsibilities for a particular territory, area or set of natural resources. It can be understood as a broad concept spanning a variety of ways by which 2 or more relevant social actors develop and implement a management partnership.

Comments on the CBNRM constitution, rules and regulations

- The constitution of KGG should be limited to self-regulation and not regulate other parties, especially SKP. Section 11.2 specifies the role of SKP, its rights and obligations. But this information should be the subject of decisions fully shared and negotiated with SKP/NCS and presented explicitly in a co-management agreement.
- Section 7.5 states that “The Association members are representing the community of the Gebalaya tribe in taking the responsibility of protecting all the MAP resources within the tribal land area.” Given the fact that protecting all MAP resources within the tribal land area involves reducing the current threats, monitoring and managing the MAP resources over a vast area and may even require *ex situ* conservation measures and restoring specific sites, this responsibility must be explicitly shared with the SKP management - it cannot be borne solely by the KGG Association.
- Throughout the document, there is a strong emphasis on violation-penalties-fines-sanctions. A co-management agreement should seek collaboration and voluntary compliance to commonly agreed rules, rather than adopt a coercive approach where members of the association are policing each other.
- The Constitution/rules/regulations should be available and understandable by all members of the Association who have to abide by it. Currently, the Constitution/rules/regulations are so complex and exceedingly elaborate that the risk of violation is likely to be high simply due to a lack of knowledge of these regulations.
- The right of households to use MAPs for subsistence use and for feeding livestock is recognized under section 7.11. This right should be asserted from the beginning of the document. It must be clear that KGG’s right to use MAPs on a commercial basis should not limit the access of non-member families to the resources used on a daily basis at the household level.
- The quantities allowed for household uses are specified in the section 7.11. It would be useful to clarify whether these quantities are per day or per harvest.

- If individuals from other tribes are known to collect MAPs for their own use within the area concerned by the agreement, they must be informed of the existence of these regulations.
- Section 7.14 (e) specifies that SKP botanist rangers will design and implement a study to determine the harvest quota / maximum allowed collection quantities for each plant species. It is important to involve collectors in the monitoring of the impact of their activity. Actually, point 12 of Section A of Annex 1 refers to a joint monitoring program
- Section 7.23 refers to the annual review of the Rules/Regulations. Aspects that are subject to annual revision should be placed in a separate annex to avoid reviewing the entire document.
- Point 2 of Section A of Annex 1 states that there will not be any quota system to limit the harvest rates for the individual collectors. However, for clarity, it should be also noted that annual quotas for each collected species will be imposed for the collection made by the association.
- Sections 13 and 21 of Section A of Annex 1 state that the association will have the rights to manage the MAP resources, to take the necessary measures to conserve MAP resources and to agree on the plant species to be collected. It must be clearly stated that management and conservation decisions regarding MAPs must be made with SKP. These decisions could be the basis for a simple management plan subject to annual revision based on the analysis of the joint monitoring results (see Recommendation 7 on the simplified management plan).

Additional comments on the MAP Rehabilitation and Restoration Program

Enclosures. The first phase of the project focused on *ex situ* conservation and cultivation and *in situ* conservation through the maintenance and monitoring of previously established enclosures and the establishment of new ones. In 1998, SKP had initiated the first national plant protection enclosure system, which consisted of 37 enclosures. This total was expanded to 47 enclosures with the support of the MPCP to include some species that did not occur in the previously established enclosures. The results of this conservation approach indicated that this system is very suitable and effective for such areas and plants, especially against grazing impacts. The protection of vegetation against grazing and human activities allowed an improvement of the vegetation density, total cover and species richness. The extent of the positive impact of enclosures exceeds that of their surface area as they will act as reservoirs of genetic material that will serve to reseed surrounding areas. The opportunity costs related to the loss of grazing and wild collection areas is limited as the surface area of enclosures varies from 7 m² to 246 m².

Propagation. The achievements related to MAP propagation by seeds or green cuttings are all the more commendable that germination and propagation of desert plants are not well documented and represent a particular challenge for any conservation effort which aims to cultivate and reintroduce MAPs in the wild. The successful results of this component are attributable to the stepwise approach adopted for this component. New enclosures and restoration sites were carefully selected on the basis of habitat and water availability criteria. The agreement of local communities was sought through raising awareness on the project purpose before starting the field work. Also, the search for solution to any problem was participatory. After transferring seedlings on the site, their growth was closely monitored. Tasks for plant monitoring and care were clearly identified for each party and the responsibility of the site was transferred to the owner step by step. A close partnership was established from the very beginning. Cases where the restoration was less successful were due to an insufficient protection from grazers or from birds.

Description of Indicator	Target Level	Baseline Level at 30 June 2007	Level at 30 June 2010	Level at 30 June 2011
Project Outcome 2: MAP products market value chain strengthened and sustained				
15. Number of linkages within the value chain (Increased collaborative actions and agreements signed between producers, collectors, retailers, researchers transporters and other stakeholders within the value chain)	50% improvement Social capital strengthened through the improved linkages and collaboration of essential stakeholders in the value chain	0	42 MAP collectors (40 women) under written agreement Registration of Green Gold Association as a local union for MAP collectors and retailers who meet regularly through the MPA's CBNRM program.	<ul style="list-style-type: none"> - The MPA gathers collectors, farmers, and household farmers, and acts as processor and retailer. - KGG gathers collectors and 4 retailers (provision for 6) but is not yet operational (signature of the agreement pending) -The analysis of SKP MAP value chain did not differentiate between wild collected and cultivated MAPs (a recommendation is presented below)
16. %age of harvested plants meeting international certification requirements (standards for organic and fair trade practices)	75%	0	100% organic international certification in 2009 for the whole process (cultivation, harvest, storage, processing) In 2010, 2 nd inspection of MAP production processes in SKP by IMC certification body.	<ul style="list-style-type: none"> - 100% of cultivated MAPs are certified as organic by the Istituto Mediterraneo di Certificazione and the certification process is conducted independently by the MPA. - The organic certification applies to the 2 propagation greenhouses, the drying tunnel, 1 cultivation greenhouse and 6 cultivation farms owned by Bedouin families. - The main objective of getting fair trade certification was to help producers to access international markets. Since the market assessment study and the cost benefit analysis of MAP cultivation concluded that MAPs produced in SK would not be competitive if sold on international markets, this certification is no longer advantageous.
17. %age of traders/purchasers in the SKP MAP value chain demanding sustainable collection and production practices	100%	0	75% of traders/buyers link purchase to sustainable collection or production practices	100% All traders and purchasers are members of the MPA
18. Number of annual gatherings of SKP MAP value chain stakeholders to discuss MAP issues	20	0	16 in 2009 Monthly meetings among SKP value chain stakeholders	Members within each association are meeting on a continuous basis
19. Number of articles in national press about SKP MAPs and MAPs in general	About 105 (increased)	n.d.	10 articles published in newspapers and magazines – media and communication clipping collection kept up by Cairo liaison office	<ul style="list-style-type: none"> - 245 articles have been published in 40 journals and magazines including the most important ones on the national level and 23 television programs were broadcasted on MAP issues. - Events were held for local communities (fairs, contests, environment day) - Radio programs through the 4 stations broadcasting in St. Catherine – for remote communities - Websites (EEAA, MPCP, e-version of journals)

Description of Indicator	Target Level	Baseline Level at 30 June 2007	Level at 30 June 2010	Level at 30 June 2011
20. Marketing capacity of the MAP associations	The marketing capacity of a local MAP organization is improved as such that it can represent collectors and producers within the MAP value chain in national and international commercial negotiations.	None	85% in 2009 Marketing plan for MPA Sale outlet and catalogue established Capacity building in production and marketing for MPA board and staff	<ul style="list-style-type: none"> - The market analysis concluded to target the local market in SK and to raise the value of MAP products. New MAP products were developed to maximise the added value of by-products resulting from the sorting of dried plants. Drying was identified as the best method to reduce losses. - Training was provided for KGG and MPA on post-harvesting techniques, packaging and labeling, and best practices to meet EU standards including material for storing herbs before and after sieving, stem/leave ratio to meet quality standards, information required on labels to ensure traceability, safety and hygiene regulations, and potential methodological improvement with solar dryers. - KGG marketing capacity cannot be assessed as they have not started their commercial operations - The MPA operates 6 greenhouses for the production of seedlings and 2 drying tunnels. Labeling and packaging of MAP products produced through the MPA has been improved as a result of trainings provided by the project. - The MPA independently managed the inspection process to get an international organic certification for the whole process (cultivation, harvest, storage, and processing of MAPs) which ensures the quality of the product and its processing - The MPA obtained a license/certification issued by the City Council for packaged herbs, honey and handicraft – which is a first. - The MPA has participated national trade fairs where it was able to make sales on the order of 48,000 EGP - MPA's enhanced visibility gave it the leverage to be granted 16,000 EGP from the Egyptian South Sinai development program, 12,000 EGP support from the Mayor who also promised a 5 feddan land area to cultivate MAPs and build a visitor centre. The MPA was also given access to a new building. - The project developed a website presenting the MPCP in SK and giving access to the online catalogue of MAP products sold by the MPA.
Overall assessment of outcome 2				S

Developing and strengthening MAP Value Chain

R The identification of SKP MAP value chain partners was done before the development of the constitution of the KGG Association. Since the constitution of the KGG Association imposes restrictions on the retailer members and on wild collection, it would be useful to conduct separate stakeholder analyses for the value chains based on wild collected MAPs and on cultivated MAPs. Some of the common goals that were identified as well as the action plan are now likely to differ between the two value chains, notably for all aspects related to the production of MAPs.

A revision of the value chain analysis to take into account the 2 processes – wild MAP collection and MAP cultivation – would be a good opportunity to identify all potential areas for collaboration between the 2 associations, notably for the strengthening of the value chains actors.

R MAP sales should be monitored in relation to outlet or client trading capacity to avoid overproduction or overcollection.

Cultivation of MAPs Program

All activities are planned following a stepwise approach which includes literature reviews, assessments, analyses, planning, implementation, monitoring and evaluation of program results.

Cultivated MAPs are harvested, dried, cleaned, screened and stored to meet organic certification standards. Trainings specific to each part of the process enabled people to carry out all procedures independently. Approaches, procedures, methods, specifications, requirements are recorded clearly and in detail in technical reports that can serve as a reference for further training and for replication/extension. Detailed technical information on propagation, cultivation, fertilization, harvesting and drying processes are provided for the MAP species cultivated by MPCP in SKP.

Chemical analyses of 3 MAP species (*Origanum syriacum*, *Salvia multicaulis*, *Mentha longifolia*) have shown that the concentration of active substances are similar or superior for a majority of substances in plants cultivated in greenhouses as compared to plants grown in the wild or in demonstration farms. Although the number of samples is not given, these findings question the popular belief that wild plants have higher concentrations of active substances.

Description of Indicator	Target Level	Baseline Level at 30 June 2007	Level at 30 June 2010	Level at 30 June 2011
Outcome 3: Pressure on target resources reduced by use of alternatives				
21. %age of the cultivation programme managed by independent entities	100%	0 Benefit-cost analysis of MP cultivation in SK available. Project support to existing MP farms is limited to providing technical advice.	100% in 2009 and 2010	<ul style="list-style-type: none"> - 100% - All farms are successfully managed by independent entities - 6 greenhouses with seedlings are operated by the MPA - Because of water scarcity, small household farms are more efficient and successful than large farms. Besides, small farms reduce the risk of pest infestation and increase the benefits in terms of the number of people involved
22. Revolving Fund (RF) operated by an entity meeting Egypt's legal and financial requirements and UNDP's risk management requirements	Yes	An International micro-finance Consultant was contracted to set the operational rules for the Medicinal Plants Association	> 95% timely reimbursement rate MPA membership increasing MPA board operations are satisfactory	<ul style="list-style-type: none"> - The MPA was established as a registered NGO in November 2003 to work in the fields of environmental protection and services through MAP-related educational and training activities, management of a micro-finance facility to contribute to the adoption of measures to reduce threats to MAPs, and marketing of honey, handicraft and products derived from medicinal plants. - The project granted 18,000 US\$ as seed money to the MPA to establish a revolving fund to provide micro-credits to local residents of St. Katherine. In 2007, an international micro-finance consultant assessed the compliance of the RF with the GEF advisory note and recommended to stop any additional funding for the MPA as it did not comply with the advisory note requirements and to limit the project assistance to the MPA to capacity building to enable managing the existing resources. - In 2008, the MPA had developed the management of the RF including lending policy and procedures. It had established a managerial and financial system to control the RF, loans and pay back processes and procedures. The granting of a loan is preceded by a feasibility study of the project to be financed. - According to the information collected with the MPA, the majority of borrowers respect deadlines, especially women, and timely pay-back ratios near 100% as people understand that they must pay back to become eligible to other loans and to allow others to benefit from the loans. - MPA membership is 298, including 203 men and 95 women, and 90% of members are from the local community. Board of directors includes 4 women and 7 men and community leaders support the idea of increasing women's representation. Board of directors' renewal rate is 30% every 2 years.
23. Number of different alternative resource uses financed by RF	At least 5	0	2009 and 2010: 5 → MAP farms, solar heaters, firewood outlets, butane cookers, beehives	<p>More than 700 families of St. Katherine have benefited from this microfinance program to support 7 alternative resource uses:</p> <ol style="list-style-type: none"> 1. development of MAP farms (total loan of 48,000 LE); 2. firewood is available from MPA outlets for hikers and campers (total loan of 20,000 LE); 3. through facilitating the acquisition of butane ovens and cylinders to more than 700 households, the RF has contributed to reduce threats related to the use of fuel wood for household heating and cooking, and for the bakery (providing homes and tourists) and contributed to alleviate women's daily chores; 4. loans were made to purchase beehives to produce honey as an alternative

Description of Indicator	Target Level	Baseline Level at 30 June 2007	Level at 30 June 2010	Level at 30 June 2011
				<p>income-generating activity for 6 families – honey is marketed through the MPA (total loan of 27,500 LE);</p> <p>5. 6 solar heaters were installed in public places as demonstration to reduce the need for firewood</p> <p>6. loans were made to purchase fodder (from the Nile valley) to reduce overgrazing (total loan of 20,000 LE);</p> <p>7. a loan was made for a MAP outlet (loan of 5,000 LE)</p> <p>8. a loan has allowed the opening of a pharmacy in SK allowing the population to no longer rely solely on MAPs - the decision to allocate the loan was made following a large workshop.</p>
24. %age of loans made to resource users directly affecting hotspots	At least 75%	0	2009: 40% 2010: 75%	100% - The RF is available to all local communities
Overall assessment of outcome 3				HS

Description of Indicator	Target Level	Baseline Level at 30 June 2007	Level at 30 June 2010	Level at 30 June 2011
Project Outcome 4: MAP conservation and management enabling environment strengthened				
25. Establishment of a common vision among key stakeholders for a National MAP Strategy and Action Plan	Incorporates lessons from MPCP conservation strategies and builds on defined common goals of key stakeholders	In progress, the National Strategy and Action Plan committee convened three Consultation meetings during this quarter to establish a common vision for the strategy components.	2009: Final draft prepared through extensive consultation among stakeholders	<ul style="list-style-type: none"> - The National MAP Strategy and Action Plan applies the CBD and CITES provisions, strategies, actions plans and programs and builds upon knowledge available at the national and community levels. It relies on <i>in situ</i> and <i>ex situ</i> conservation and restoration as primary approaches. - The strategy is structured into 9 objectives on the following themes: Information and research; <i>in situ</i> and <i>ex situ</i> conservation; sustainable use; addressing threats; maintenance of ecosystems and services; protection of TK; fair and equitable sharing; communication, education, awareness; and institutional capacity. Intended outputs are identified under each objective, with indicators and milestones for monitoring and assessment of the implementation of the strategy. - The implementation of the Strategy will be coordinated by the MSEA and financed under the MSEA budget, and executed by the relevant ministries. - The Strategy was shared with all concerned stakeholders for a final review before the final validation workshop.
26. Presentation of National MAP Strategy and Action Plan to the appropriate authorities	Yes	No	2010: delays due to difficulty of communicating with the greatest possible number of stakeholders	All stakeholders gathered in a national workshop for a final validation of the strategy in July 2011 – to be submitted by the Minister of Environment to Cabinet of Ministers for approval and allocation of a budget line
27. Formalization of <i>in situ</i> NRM and CBNRM mechanisms by the SKP management plan	Yes	In progress. The plan will be further strengthened by the recruitment of the CBNRM Specialist and the MPA manager	2009: SKP management plan updated to integrate the whole program Joint monitoring program prepared and operational for CBNRM mechanisms 2010: MSEA minister approved the appointment of 4 trainees from the project as permanent staff with SKP which will ensure the implementation of CBNRM activities	The joint monitoring program is not operational yet but capacity was built to monitor plant status The SKP management plan was revised in September 2008 to update some parts and integrate components of the MPCP related to the CBNRM component. <u>Comments are presented below.</u> A total of 19 trainees from the project were recruited and the Minister of MSEA approved the appointment of 6 additional trainees from the project

Description of Indicator	Target Level	Baseline Level at 30 June 2007	Level at 30 June 2010	Level at 30 June 2011
28. <u>ABS Law</u> enters into force	Yes	In progress, 4 committee meetings were held during Q2 and four different international related legislations were discussed. A comparative study of 4 different international related legislations was prepared and reviewed and the draft national legislation is being prepared.	2009: Final version of ABS law submitted to the MSEA. A model for MAP traditional knowledge (TK) is prepared. Register of TK on MAP initiated with data on 35 plant sp including 5 GSMAP species, collected from 686 informants from local communities (recorded in the project database). 2010: Five ministers commented on the final draft ABS law. Revision ongoing.	<ul style="list-style-type: none"> - The new Law on ABS complies with the Nagoya Protocol and provides a strong basis for greater legal certainty and transparency for providers and users of genetic resources. The Protocol includes provisions on access to TK held by local communities when it is associated with genetic resources to strengthen their ability to benefit from the use of their knowledge and practices. - The final version of the Law integrates comments received from all relevant agencies / ministries and is submitted to the Ministry of Justice for legal editing. - Next steps: The Ministry of Justice submits the law to the Cabinet of Ministers and Parliament for promulgation – the Law is now submitted to the Legislative Council of the Cabinet and is expected to be enacted shortly. - Executive directive regulatory texts under preparation.
				<ul style="list-style-type: none"> - The Law on ABS is not restricted to medicinal plants but covers all components of biodiversity, and is not focused on a specific use. Purely scientific research with no intended commercialization is encouraged through free permits. Unauthorized access, unauthorized change of intent and smuggling of environmental samples as sources of biological material are criminalized. The law establishes a national register for genetic resources and traditional knowledge and recognizes the participation of indigenous and local communities in access procedures and in benefit sharing agreements, but does not interfere with traditional and customary practices within the community that does not have a frank commercial purpose. Among the benefit sharing provisions is pumping funds back to biodiversity conservation and development of local communities.
				<p>The MPCP also contributes to the preservation of traditional knowledge on MAPs in SKP through providing a small financial contribution to the Bedouin traditional medicine school. This School was established in 2007 by the traditional healer with the support of the EU to contribute to the preservation and transmission of the traditional Bedouin knowledge of natural medicine and of medicinal plants to younger generations.</p> <p>The school lacks financial resources, notably for student's living expenses and for the acquisition of equipment for the extraction of essential oils.</p>
Overall assessment of outcome 4				S

Updating SKP Management Plan & SKP staff capacity building

The primary management goals remain unchanged since the MPCP objectives related to *in situ* and *ex situ* MAP conservation were entirely compatible. The strategy remains the same and recognizes the importance of ensuring sustainable tangible benefits to Bedouins as well as the traditional responsibility of local people as resource managers.

The revised management plan integrated the following objectives from the MPCP:

- The development of a CBNRM system that aims to devolve the authority and responsibility for MAP and other renewable natural resources to a local community entity within the framework of the SKP Management Plan
- *In situ* conservation of MP species through the development of sustainable management practices, including the protection of hotspots and individual plants or communities wherever it is not possible to utilise the resources sustainably.
- *Ex situ* conservation measures for threatened species;
- Ensuring that benefits are returned to those closest to the resource and who bear the costs of conservation management.

Some activities such as the establishment of medicinal plants gardens and capacity building of the community are to be implemented by the project and MPA, but the post-project scenario is not indicated. Also, in many instances, reference is made to the project instead of referring to its principles or processes, which may be confusing once the project is ended.

Sustainable use of Medicinal Plants. This section on MAPs has been updated to emphasize the fact that use of these resources is a traditional right for Bedouins. Policy announces that a comprehensive programme will be developed that will build upon the MCPC experience, focusing on the CBNRM approach focused on in-situ conservation – and collectors are no longer encouraged to work with the medicinal plant centre. The strategy is adapted and refers to 'CBNRM' instead of explicitly referring to clear procedures.

R: Support the traditional school in developing its capacity to identify and secure adequate funding beyond project support to procure the equipment needed for specific trainings and to provide accommodation for students. This type of support might include lists of relevant potential donors, contacts, tips /advice to formulate and submit proposals.

Description of Indicator	Target Level	Baseline Level at 30 June 2007	Level at 30 June 2010	Level at 30 June 2011
Project Outcome 5: Learning, evaluation, and adaptive management increased				
29. Incorporation of a monitoring system (including indicators) into SKP management practices	Yes Monitoring system strengthened as per mid-term evaluation recommendations	Activity delayed	2009: 90% 2010: 93%	95% SKP management has integrated a monitoring system and submits monthly monitoring reports to NCS. Some parts of the monthly monitoring program are not yet included in the SKP monitoring protocol.
30. Quarterly update of UNDP Risk Module	Yes	No	100% in 2009, 2010	-
31. Number of position or briefing papers on MAP issues	10	1st position paper on Threat analysis & reduction	2009: 6 2010: 12	- 15 position papers presented in an attractive and practical format document the innovative approaches adopted by the project. - An encyclopedia in 2 volumes published in 2005 and 2006 is collating scientific monographs on 11 among the important plants used in traditional medicine in Egypt. Information includes taxonomy, description, distribution, ecology, status, propagation, chemical constituents, traditional uses and knowledge, pharmacological activity, toxicity, use and economic aspects.
Project communication strategy and information management			2010: Promotional material displaying info on MP, SKP and other PAs in Egypt, including a documentary on MP and project	A communication strategy was developed in 2008, based on various medias (radio, television, journals, events, websites) and targeting various groups with specific messages. Documents produced as project outputs were copied onto 6 CDs to constitute the project institutional memory, which were transmitted to the Ministry of Environment.
32. Finalization of a MPCP website and database	Yes	1st gap analysis report on MAP information	2009: MPCP website revised and improved for better communication and dissemination 2010: database compiled and available online	A beautiful documentary and a catalogue of biodiversity products from SKP are available on the MPCP website. The virtual herbarium displays over 800 digitized plant specimen from SKP A comprehensive and searchable database contains data on 56 MAP species, including taxonomy, distribution, status, traditional uses, habitat, and traditional knowledge. The database is available online from the MPCP website and has been transferred to the Biodiversity Unit of NCS.
Overall assessment of outcome 5				HS

Note: The assessment does not apply to the outcome as formulated but rather to the project contribution to developing and disseminating knowledge.

Table 8. Summary of Assessment of Progress achieved by the Project

GEF Criteria	Assessment
Project design	MS
Potential for replication	HS
Implementation approach	S
Monitoring and evaluation	MS
Stakeholder participation	S
Result level	
Objective	S
Revised outcome 1	S
Revised outcome 2	S
Revised outcome 3	HS
Revised outcome 4	S
Revised outcome 5	HS
Overall Project Assessment	S

*Note: The project progress is rated according to the following indices: **HS** - highly satisfactory, **S** - satisfactory, **MS** - marginally satisfactory, **MU** - marginally unsatisfactory, **U** - unsatisfactory, **HU** - highly unsatisfactory*

5.3 Sustainability

This section gives an appreciation of the extent to which main project impacts and benefits are likely to continue, within or outside the project domain after GEF and UNDP assistance or other external assistance has come to an end. The sustainability of the scheme put in place by the project may rely on various factors, including a sustainable financing mechanism, changes to local communities' perceptions, capacity development.

5.3.1 Maintenance of biodiversity benefits beyond the project

There is a whole system in place to preserve MAP biodiversity in SKP, including skilled scientists and technical staff, new knowledge and innovative practical experience that was captured in technical documents, papers, technical guides and databases, greenhouses, equipment and material, and an enabling legislative and policy environment.

To maintain MAP propagation and restoration operations, seed and living collections, monitoring of MAP enclosures, rehabilitated sites and condition of harvested plants, threat mitigation efforts, support to both associations, especially the KGG association which is still in its early stages, the project has developed a sustainability plan mainly consisting on hiring personnel by the SKP and the MPA, and the transfer of materials and equipment to these two entities. However, continued operations still depend on adequate financial resources and adequate institutional capacities. The plan identifies the SKP budget as the main source of financing but the capacity of the current budget to absorb the additional costs is not likely to be adequate.

Changes to the local communities' perceptions and attitudes towards MAPs. One of the risks identified from the beginning was the Bedouins' perception that MAP were of low economic value and thus not worth managing. This highlights the importance of the project contribution to create sustainable benefits and increased income associated with MAPs through MPA and KGG. The benefits must be spread widely among the community. If only a few people benefit there will be little incentive for the others to comply with the restrictive conditions of the agreement.

5.3.2 Maintenance of socioeconomic benefits beyond the project

The **socioeconomic benefits** of the project include the services provided to the local community by the MPA, such as provision of butane cylinders and ovens, fair and sustainable income generating

activities such as handicraft and honey production, educational and awareness activities on environmental issues and MAPs, especially with school children, the pharmacy in SK, and else. Social benefits also include a significant contribution to a profound social transformation in the local Bedouin traditional community, that is an increased recognition of women's status in their society.

Job creation. The project has created over 200 direct jobs, thus contributing to improve the welfare of over 1000 people (the population in the intervention zone is estimated at 8500).

Medicinal Plant Association. The MPA is well established, has a large membership (298 members: 203 men and 95 women), functions almost independently, has the capacity to mobilize funding and support by itself, is already fulfilling functions that were carried out by the project such as training, product development and marketing, and effectively manages the revolving fund. It is likely that the influx of tourists in SK will be maintained or even that it will increase, and therefore that sales of products related to herbal medicines and products will remain profitable, provided that prices can be maintained at a level that covers all production costs and still provide a fair income for the people involved.

Its enhanced visibility gave the MPA leverage to be granted 16,000 EGP from the Egyptian South Sinai development program, 12,000 EGP support from the Mayor of St. Katherine who also promised a 5 feddan land area to cultivate MAPs and build a visitor centre, and a new building for its operations. The MPA is one of the 20 important associations in South Sinai which is meaningful considering that there are approximately 120 associations in South Sinai, including 12 NGOs (1 foundation and 11 associations) in SK.

The number of people who benefited at some point from the activities conducted or managed by the MPA is estimated as follows: Awareness and trainings: 874, Loans from the revolving fund: 2420, Products: 625 for a total 3919 representing 46% of SK population (estimated at 8500)¹⁵. Even if some people may have benefited from more than one type of activity, it can be assumed that most of the population in SK is benefiting from MPA's activities, as the size of a household is from 5 to 7 and the whole household is likely to benefit more or less directly.

This NGO created with the MPCP support is likely to contribute significantly to the sustainability of activities initiated in the framework of the project.

Reducing the gender gap. Gender equality is a fundamental human right and empowering women is an indispensable tool for advancing development and reducing poverty. However, Egypt's rank on gender empowerment as reported in the UNDP Human Development Report 2004, was at a very low 75 out of 78 countries, despite substantial improvements in female literacy rates, enrolment rates, and labor force participation. With a Gender-Related Development Index (GDI)¹⁶ value of 0.634, Egypt was 99th over 144 countries.¹⁷

Involving women actively in both associations and in trainings had the impact of increasing their revenues which in turn raised their status in the household. This impact is all the more important that women collectors are among the poorest and most marginalized in their community. Consulting them for the development of the Law on ABS, the register on TK, and the regulation on the use of MAPs in SKP seems to have had a profound impact on people's perception, starting with men, and increased the recognition of women's role in their community:

- Bedouin women are major beneficiaries of the CBNRM initiative as 42 of the 44 wild collectors are women.
- Bedouin women (3) were members of the task force set up for the elaboration of the constitution of the KGG Association and the agreement between the association and the NCS/EEAA regarding wild MAP collection – this has been a rare and new opportunity for them to voice their concerns and priorities.
- Bedouin women were actively involved in the negotiation to define the new regulation on the collection of MAPs that is now integrated in SKP management plan – this is a first in the Bedouin community of South Sinai.

¹⁵ Figures provided by Mr Tarek Ragab Sokarya, MPA's Executive Manager

¹⁶ GDI aims to show the inequalities between men and women in the following areas: long and healthy life, knowledge, and a decent standard of living.

¹⁷ <http://egypt.unfpa.org>

- Women account for one third of the members of the MPA and 4 of the 11 members of the board of directors are women.
- Bedouin women are involved in MAP processing, small handicraft projects, MAP-based art craft, which are sold through the MPA – women derive an income from these activities which allows them to contribute to the household's livelihood.
- Bedouin women have been consulted for the elaboration of the Law on ABS and have contributed to the registry on TK on MAPs. In local communities, women tend to have more comprehensive knowledge and experience on medicinal plants than men, which is due to the importance of the plants in maintaining family health and as feed for grazing animals, both being women's duties.
- During interviews, community and association leaders (men) recognized the role and contribution of women and the importance of involving them further and more actively in the community's life beyond the context of the project.

5.3.3 Contribution to building national capacity

The project has contributed to increase national capacities at the systemic (National MAP Strategy and Action Plan and Law on ABS / national registry on MAP-related TK) and individual levels (project staff, SKP staff, local communities). Institutional capacity development includes the creation of two NGOs (MPA related to medicinal plants conservation and KGG related to sustainable collection and trade of wild MAPs), the integration of MPCP objectives into SKP management plan, and hiring technical staff and specialists trained through their involvement in the project.

The project also contributed to strengthening SKP management in terms of staffing and capacity. SKP staff, which includes eight environmental researchers and nine community guards, has accompanied the project throughout its implementation and thus have gained relevant knowledge and skills to carry on with the activities initiated through the MPCP. A number of technical staff and engineers who had been hired by the project will be hired by the NCS to join the staff of the SKP while others may join other protected areas and contribute to replicate good practices developed through the MPCP in other protected areas.

Capacity building at institutional level concerns actions that address the performance and operational resources of the organization as a whole, as well as its ability to adapt to change. It aims to strengthen the institution as a system, including individuals, groups and the organization itself. Besides infrastructure/equipment and qualified human resources, the institutions involved must have clearly defined and understood mission and mandate in relation to conservation and sustainable management and in sharing decision-making powers related to natural resource use and management with entitled entities and local communities. Effective institutional processes for planning, quality management, monitoring and evaluation must be in place. The financial resources required for implementation of various programs must be sufficient and available when needed. And the necessary information must be available and effectively distributed and managed.

Capacity building at individual level included trainings for national staff, MPA and KGG members, and farmers. Trainings were supported by elaborate and illustrated documents.

- Basic and advanced GIS training for 23 SKP rangers
- Technical training on MAP cultivation in 2004
- Cultivation, harvest, post-harvest of medicinal plants in 2006
- Harvest, post-harvest and extraction of essential oils in 2007
- Best practices of medicinal plants drying and processing in 2008
- Medicinal plants packaging and storing according to European Quality Standards in 2008
- Product development in 2008
- Organic certification training in 2008 for 16 participants including project and SKP staff, farmers and MPA members
- Implementation of Fair Trade principles in 2008 for 11 MPA members and 5 project staff
- Scenario planning in 2008 for 8 Bedouin representatives including 4 collector women and 13 institutional stakeholders

5.3.4 CBNRM

Enabling environment

Community-based natural resource management (CBNRM) is a highly relevant approach allowing biodiversity conservation through sustainable use of the natural resources and pro-poor development of local users - which contributes directly to the project's objectives. However, to be successful, sustainable and eventually replicated, CBNRM requires a clear enabling environment in terms of:

- | | |
|--------------|--|
| Legislation: | It must be clearly stated that the authority in charge of managing the resources can devolve the right and responsibility to use and manage natural resource to local community entities. This is provided for in the Law 4 of 1994, the Law 102 of 1983 and the Ministerial Decree 264 of 1994. |
| Policy | The concept of co-management of natural resources and its implications in terms of management and governance must be understood and accepted by all parties concerned. |
| Capacity | Local community entities and other parties involved in the co-management must develop the capacities required for all monitoring and management activities under their responsibility |

Given the time left for the project and the fact that this was the first initiative of this kind in Egypt, the decision to undertake the implementation of CBNRM in SKP in 2007 may have been risky. Although the project extension allowed KGG to receive some training, its members say they were not sufficient. They received training in plant processing and marketing but have not had the opportunity to apply and develop this knowledge to be able to conduct these operations independently. In addition, members of KGG will have to contribute to monitor the area and resources that are under their responsibility and to determine, in collaboration with SKP management, sustainable harvest rates for MAP species that can be harvested.

Social balance

At the time of the final evaluation, two associations have been established and have reached quite different stages of autonomy. As the signature of the agreement between the KGG Association and the NCS was still pending, the collectors could not sell their MAP harvest, and thus were deprived of their income. In addition, the KGG Association had not received as many trainings and support as the MPA, did not have their own premises, their own logo, etc. On the eve of the closing of the project, the members of this association demand the same means and resources as the other association.

The price of cultivated plants was estimated on the basis of a market study, taking into account production costs and the willingness of buyers to pay for a niche product sold on site in St. Katherine. However, the project has not yet made a separate study for the pricing of wild medicinal plants. KGG considers that the wild collected maps have a higher value than cultivated ones on the basis of a perceived higher quality and higher concentrations of active ingredients, which is supported by the Hakim, Dr Ahmed Mansour. This may not verify as the analysis of active ingredients conducted by the MCPC has shown - for 3 species only - that active substances can be higher for MAPs cultivated under controlled conditions in greenhouses. Then how do you differentiate the wild from the cultivated plants? And how do you ascribe a fair price for each type of MAP that will ensure a fair income to wild collectors while preventing the collapse of the cultivated MAPs value chain? A competition between the 2 products is likely to have detrimental effects on the social climate and on the profitability of either type of product. The wild MAPs and the cultivated MAPs value chains should target distinct markets to avoid a loss of profitability of one or the other.

This situation is conducive to social tensions and to competition among members of the 2 associations - or, if such tensions pre-existed, there is a risk to reinforce them - which must be avoided. There is no benefit to be derived from social tensions and competition between the two types of products. Members of both associations live in the same area, are neighbours and often members of the same family. Future interventions must strive to reinforce collaboration between the two associations for their mutual benefit.

Cost effectiveness

The project resorted to a combination of conservation approaches to address the MAP situation in SKP, including *ex situ* cultivation and *in situ* sustainable use, both with the purposes of alleviating threats on wild GSMAPs and developing sustainable livelihoods. Increasingly, the discourse of environmental conservationists draws attention to the high costs associated with reactive measures to advocate for the adoption of proactive measures.

Proactive conservation	Reactive conservation
<ul style="list-style-type: none"> ▪ Reinstate traditional environmental rules to preserve habitats ▪ Strengthen protected area management ▪ Adopt sustainable use practices ▪ Develop livelihoods based on the sustainable use of natural resources (KGG) 	<ul style="list-style-type: none"> ▪ Cultivation in greenhouses and small farms ▪ Site rehabilitation ▪ Seed collection and gene banks ▪ Develop alternative livelihoods to alleviate pressures on MAPs (MPA) ▪ Predator control (CBA)

Setting aside the complex and delicate social issues related to the existence of the 2 associations, *in situ* conservation through setting up a system ensuring a sustainable use of MAPs where users understand the importance of preserving resources, benefit from them and thus protect them, is certainly a more cost-effective approach to conserve medicinal plant species than cultivating them and reintroducing them in a suitable habitat. Nevertheless, these two approaches are complementary and address different aspects of the MAP situation in SKP. The cost of recovering populations through seed collection and gene banks, cultivation in greenhouse, site rehabilitation, predator control, is fully justified for endemic species already endangered or in a serious decline.

6 LESSONS LEARNED

L: Threat analysis. The revised project strategy rightfully recognized that changes in rainfall patterns and the life cycles of many of MAPs are poorly understood, as is their response to grazing and harvesting pressure. It questioned the assumption that grazing pressure was threatening the plants considering the recent declines in the number of livestock kept by Bedouin. It further stated that the unsustainable use of the MAP resources for grazing, fuel wood or medicinal and aromatic purposes had not been adequately demonstrated. The threat analysis later conducted by the project allowed documenting and assessing each potential threat and its root causes on the basis of the knowledge collected through literature reviews, field visits and surveys, and interviews with local stakeholders, and identifying the most relevant interventions. It would be most appropriate to conduct a threat analysis or this type of assessment during the preparatory phase of a project to lead further planning.

L: Communication. Building a trusting relationship with the local communities is a key factor of success in the development of processes which require their adherence at various levels. This is accomplished by maintaining a presence, a genuine communication, by involving them in the planning and decision-making, and making tangible demonstrations that the project purpose is their benefit.

L: Participatory decision-making is a real challenge, especially when addressing new issues, when reconsidering traditional or usual ways of doing things, it takes time, and is facilitated by the involvement of community leaders.

L: Ownership + innovation. As required by donors, development projects must be innovative – therefore, the selection of a project manager for a conservation project must seek people who are open to innovation, on the leading edge of the conservationist debate, and who have the capacity to turn knowledge into action for development. However, strong backing, ownership and leadership by the institution responsible for project execution were critical to get things moving in the direction of the project objectives.

L: Stepwise approach. On the basis of their experience with the MPCP, the project team in SK identified the following steps as the most successful approach for site rehabilitation: *i)* conduct scientific studies and literature review on target species to identify species habitat requirements; *ii)* increase local communities awareness on the project purpose – their full agreement and their cooperation are absolute requisites before moving forward with the field work; *iii)* clearly determine tasks for the community and for the scientists; *iv)* implement activities and closely monitor plant

growth; v) the search for solution to any problem must be participatory and, if needed, involve community leaders; vi) establish a close collaboration with the land owner or farmer from the very beginning and transfer the responsibility of the site step by step.

L: Voluntary agreements. The project sought the voluntary adhesion from collectors and through the signing of a voluntary agreement. This had the benefit of allowing discussion, the expression of needs, constraints, and concerns from communities and other owners, and the understanding of the subsequent steps in which they will be involved. This step is of particular importance in this co-management system which rests on developing a sense of accountability among communities regarding the conservation and sustainable management stakes.

L: Support to local communities. Small support to the benefit of local communities (such as contributions for the herbalist school, school and family gardens, facilitating access to gas ovens and cylinders, opening of a pharmacy in SK, supporting job creation and product development and marketing (handicraft, honey) through a revolving fund managed by the MPA) – that may sometimes appear less directly related to the project objectives – result in favorable attitude changes and trust development with local authorities and populations. As local people understand that the project is in their interest, they are more inclined to listen to the project team's proposals about innovative proposals aiming at improving their livelihood while preserving natural resources.

7 RECOMMENDATIONS

Some recommendations about the intended results are concerned with the completion of the final steps needed to attain them, but also the actions needed to insure their sustainability. General recommendations look to improving or facilitating the execution of similar projects in the future.

R1: When reports are not available in English, it would be useful to provide a short summary of the main decisions or main issues addressed in English.

R2: The use of indicators would be facilitated and improved through the preparation of a table presenting the definition of each indicator, unit of measurement, source of information, method for data collection or calculation, frequency and schedule of data collection; and individuals responsible for ensuring data availability.

R3: Restoration interventions must take into account plant population genetics or ecotypes as genetic variation within plant species (among populations) can influence their adaptation to local environmental conditions and hence their long-term chances of survival and growth. Moving plants of one ecotype to an area with different environmental conditions, such as different soil composition or soil moisture content, could result in poor growth or failure. Another concern is the opposite situation where the establishment of an introduced ecotype is so successful that it displaces the local ecotype. When information is not available on the plant intraspecific genetic variation, a precautionary approach is to use plant material of local genetic source whenever possible.

R4: Enclosures should be monitored regularly for MAP floristic diversity and abundance, compared with reference areas outside enclosures, and results must be interpreted in the light of micro-climatic data to understand the long term effect of this conservation measure and dissociate the effect of climate variation. To capture inter-seasonal variation of plant species occurrence, monitoring could be conducted twice yearly if financial resources allow it; otherwise, it could be carried out once yearly but in alternate seasons from one year to another, as long as corresponding climatic variation is carefully recorded.

R5: Standardize sampling and methodology to allow valid comparisons and effective assessment of conservation measures impact

R6: In the monitoring of enclosures, it would be useful to calculate a diversity index such as Shannon's or Simpson's which take into account species occurrence evenness, since one of the purposes of these enclosures is to increase species diversity. Diversity indices take the relative abundances of different species into account and provide more information about community composition than species richness.

R7: The identification of SKP MAP value chain partners was done before the development of the constitution of the KGG Association. Since the constitution of the KGG Association imposes restrictions

on the retailer members and on wild collection, it would be useful to conduct separate stakeholder analyses for the value chains based on wild collected MAPs and on cultivated MAPs. Some of the common goals that were identified as well as the action plan are now likely to differ between the two value chains, notably for all aspects related to the production of MAPs.

A revision of the value chain analysis to take into account the 2 processes – wild MAP collection and MAP cultivation – would be a good opportunity to identify all potential areas for collaboration between the 2 associations, notably for the strengthening the capacities of the value chain actors.

R8: MAP sales should be monitored in relation to outlet or client trading capacity to avoid overproduction or overcollection.

R9: Support the traditional school in developing its capacity to identify and secure adequate funding beyond project support to procure the equipment needed for specific trainings and to provide accommodation for students. This type of support might include lists of relevant potential donors, contacts, tips /advice to formulate and submit proposals.

CBNRM

R10: The role of community organizations (user groups) in medicinal plant resource management will require a sustained support to ensure that the purpose of adopting sustainable use practices is well understood by all users, that sustainable use levels are determined for harvested species and acknowledged by users, that harvested plants are adequately monitored in the field according to a preestablished and agreed protocol, and that the benefits provided by the sustainable harvest of wild MAPs are such that they constitute an adequate incentive for the user group to maintain sustainable practices and to respect the agreement.

R11: Before replicating the CBNRM pilot experience, the concept of co-management of renewable natural resources that builds upon the traditional knowledge and practices of local people, and its implications in terms of governance, rights, responsibilities and conditions, must get wide recognition among all relevant stakeholders at the national level, including an unequivocal acceptance that this co-management may include natural resource use for commercial purposes.

R12: A renewable co-management agreement between the local community entity (KGG) and the protectorate management authority (SKP/NCS) should include, in addition to the annexes to the agreement between NCS and KGG:

- the role, responsibilities and rights of each party in the agreement;
- a simplified management plan for the area delimited by the agreement – where the following areas will be mapped: closed areas, areas for sustainable collection of MAPs, areas where collection of firewood is allowed, areas dedicated for restoration, open access areas for household use, grazing areas as agreed according to the traditional management system, monitoring sites and enclosures – the simplified management plan will also indicate which species can be collected, each species collection period and maximum allowed collection quantities for each species;
- in addition to the traders record of collected MAPs, a monitoring system of the condition of harvested resources in relation to climate data, to assess the impact of collection on wild MAPs and eventually to determine specific sustainable harvest rates;
- the imposition of annual collection quotas for MAP species which collection is allowed, first determined according to a precautionary approach and literature review, later based on the specific sustainable harvest rates once determined through a monitoring of the exploited resources;
- the requirements for the agreement to be renewed.

R13: Scientific oversight should contribute to the examination of the monitoring results, at least annually, to monitoring the condition of MAPs in the area used by KGG, in areas closed and open to collection, in restored sites, and in other zones where different uses would be allowed.

R14: It is recommended that NCS centralize oversight of wild medicinal plant management and data collection to allow national authorities and scientists to evaluate the national economic and ecological impacts of wild medicinal plant collection and to assess and revise policies and regulations supporting sustainable use of wild medicinal plant resources.

R15: The SKP management is the representative of EEAA/NCS in the agreement for the co-management of medicinal plants in SKP which is a first experience in Egypt. Its role in the agreement was outlined in the project, but will necessarily require adjustments according to the results of this

first experience and as policies regarding the co-management of natural resources in Egypt will take shape – which may require resorting to external expertise. In addition, it is recommended in this report (R12) to assign an important role to SKP for monitoring plants subject to collection in order to determine sustainable harvest levels, with the collaboration of collectors. The level of effort required for the collection of field data, training and supervision of collectors for their participation in the monitoring, analysis of results and formulation of recommendations regarding the optimal collection of medicinal plants, important and also, will likely require external expertise.

Adequate support must be provided to SKP management as the representative of EEAA/NCS in the co-management agreement and adequate human and financial resources must be available to implement MAP conservation related tasks - those integrated in the revised SKP management plan and those that may be added as required to ensure the sustainability of wild MAPs collection. Further support to NCS and SKP management will be necessary since hiring additional staff, as qualified they may be, will not be sufficient to increase the institutions' capacity to address the new challenges brought by natural resources co-management.

R16: The adoption of the FairWild Standard Performance Indicators would be particularly useful and appropriate for a self-assessment of the ecological and socioeconomic sustainability of collection operations even if there is no intention to obtain the FairWild certification. Main principles and key elements are presented in Annex 5. Reference is in Section 8.

8 CONSULTED DOCUMENTS

Abdel-Azim N.S., K.A. Shams , A.A.A. Shahat , M.M. El Missiry , S.I. Ismail and F.M. Hammouda. 2011. *Egyptian Herbal Drug Industry: Challenges and Future Prospects*. Research Journal of Medicinal Plant, 5: 136-144.

Borrini-Feyerabend, G., M. Pimbert, M.T. Farvar, A. Kothari and Y. Renard. 2004. *Sharing power. Learning by doing in co-management of natural resources throughout the world*. IIED and IUCN/ CEESP / CMWG, Cenesta, Tehran. Available online at: http://www.iucn.org/about/union/commissions/ceesp/ceesp_publications/sharing_power.cfm#sp_contents

FairWild Foundation. 2010. *FairWild Standard: Version 2.0 / Performance Indicators*. FairWild Foundation, Weinfelden, Switzerland. Available online at: <http://www.fairwild.org/>

FairWild Foundation. 2010. *FairWild Standard: Version 2.0*. FairWild Foundation, Weinfelden, Switzerland. Available online at: <http://www.fairwild.org/>

Global Environment Facility Evaluation Office. 2008. *Guidelines for GEF Agencies in Conducting Terminal Evaluations*. Evaluation Document No. 3

Hawkins, B. 2008. *Plants for life: Medicinal plant conservation and botanic gardens*. Botanic Gardens Conservation International, Richmond, U.K.

Lange, D. 2006. *International Trade in Medicinal and Aromatic Plants. Actors, volumes and commodities*. in R.J Bogers, L.E. Craker and D. Lange (eds.) *Medicinal and Aromatic Plants*, 155-170. Springer. Netherlands. Available online at: http://library.wur.nl/frontis/medicinal_aromatic_plants/11_lange.pdf

Leaman D. J. and A.B. Cunningham. 2008. *Resource Assessment. A Guide to Implementing Principle 1: Maintaining Wild MAP Resources*. Guidance for Implementing the International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants (ISSC-MAP). Draft version. IUCN-SSC Medicinal Plant Specialist Group.

Medicinal Plant Specialist Group. 2007. *International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants (ISSC-MAP) Version 1.0*. Bunde samt fur Naturschutz (BfN) MPSP/SSC/ICN, WWF Germany, and TRAFFIC, Bonn, Gland, Frankfurt, and Cambridge (BfN-Skripten 195).

Schippmann U., Leaman D. J. and A. B. Cunningham. 2006. *A Comparison of Cultivation and Wild Collection of Medicinal and Aromatic Plants under Sustainability Aspects*. in R.J Bogers, L.E. Craker and D. Lange (eds.) *Medicinal and Aromatic Plants*, 155-170. Springer. Netherlands. Available online at: http://library.wur.nl/frontis/medicinal_aromatic_plants/06_schippman.pdf

Schippmann U., Leaman D. J. and A. B. Cunningham. 2002. *Impact of Cultivation and Gathering of Medicinal Plants on Biodiversity: Global Trends and Issues*. Published in FAO 2002. Biodiversity and the Ecosystem Approach in Agriculture, Forestry and Fisheries. Ninth Regular Session of the Commission on Genetic Resources for Food and Agriculture. 2002. Inter-Departmental Working Group on Biological Diversity for Food and Agriculture. Rome.

Winkler S. 2010. *Framework for developing an adaptive management plan for sustainable collection of wild plants*. Guidance Manual for Implementing the International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants (ISSC-MAP). Available online at: <http://www.fairwild.org/>

Management Reports produced by the UNDP/GEF Project:

MPCP Project Document (2001) and Project Brief (2000)
 Inception report (2002)
 MidTerm Evaluation Report and annexes (2006)
 MPCP Revised Log Frame (2007)
 MPCP Project Strategy (2007)
 Annual Work Plans (AWP) 2007-2009, 2009, 2010, 2011
 Project Implementation Reports (PIR) 2004, 2005, 2006, 2007, 2008, 2009, 2010

Technical Reports produced by the UNDP/GEF Project team and consultants (titles may be abbreviated – authors are given for consultancy reports):

Flora of SKP (2004)
 Evaluation of botanical conservation measures in SKP (2004)
 Floristic survey of the mountainous region of South Sinai: SKP (2004)
 Enclosure monitoring of SKP (2005)
 Encyclopedia of wild MP in Egypt (Batanouny, ed.) – Volumes 1 (2005) and 2 (2006)
 Draft Proposal / Elements for a National Strategy for Conservation and Sustainable Use of Medicinal and Aromatic Plants (H. Zedan, 2007)
 Microfinance consultancy report (Joan Hall, 2007)
 MP Threat Analysis and Threat Reduction Assessment (2007)
 Market Assessment and Marketing Plan Development (EQI, 2008)
 SK MP Marketing and Fundraising Plan (2008)
 The application of fair trade standards by the local community of St. Catherine, Egypt (2008)
 Training Report: Implementation of Fair Trade Principles (2008)
 Scenario Planning Report (Murphree, Hamada and Hurst, 2008)
 Community-based natural resource management program (2008)
 MP TK Data Collection Program (3 species) (2009)
 Cultivation of MP in SKP facing growing demand and risk of damage (2009)
 The power of art (2009)
 Feral donkey control – Cost-Benefit Analysis (2009)
 MAP Cultivation – Cost-Benefit Analysis (2009)
 Green School Program (2009)
 MP Rehabilitation Program – Implementation of the rehabilitation program of the globally significant plant species in the SKP (2009)
 Floristic Survey of Saint Katherine's Protectorate (Abdel-Aziz Ali Fayed, Nasr M. Hassan, El-Bialy E. Hatab, Ahmed M. Faried, Mostafa A. Aboul-Ela, 2010)
 Position papers (15 documents)
 Virtual Herbarium (accessed through the MPCP website)

Draft Agreement on Collection and Trade of Wild Medicinal Plants in SKP
 KGG Association Constitution, Rule and Regulations

Tables

- Table 1. Rearrangement of the project intended results at project inception and after the midterm evaluation.
- Table 2. Financing plan and actual contributions from partners as of June 30th 2011 (US\$)
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Annexes

- Annex 1. Project Logical Framework (revised)
- Annex 2. Terms of Reference
- Annex 3. List of Persons Interviewed
- Annex 4. Field visit
- Annex 5. Fair Wild Standards
- Annex 6. GEF tracking tool for the Biodiversity Strategic Priority #1

Annex 1. Project Logical framework

Project Strategy	Objectively verifiable indicators				
Goal	<i>The rate of loss of globally significant medicinal plants is reduced.</i>				
	Indicator	Baseline (2006)	Target (Project end)	Sources of verification	Risks and Assumptions
Objective: Conservation and sustainable use of globally significant medicinal plant biodiversity in SKP	10 - 16 globally significant MAP species have populations in excess of 500 individuals present in at least 3 different microhabitats (per species) as identified in the ecogeographic survey and analysis	To be quantified in March 2007 based on existing data (from surveys undertaken, field visits etc) To be augmented by hotspot analysis and ecogeographical analysis - as recommended in the mid-term evaluation - in April 2007	Populations of 10 - 16 globally significant MAP species in SKP remain at viable levels as compared to project baseline	Ecogeographical surveys in March 2009 Species recovery plans	Climate change is not the driving force behind MP loss Medicinal plants are threatened
	Application of the Threat Reduction Assessment tool	To be quantified through the application of the TRA tool - based on a threat analysis - in identified hotspots in April 2007	Annual threat analysis (2007 - 09) show positive trend against 2007 baseline.	TRA tool (March 2007, 08, 09)	Threats can be identified and adequately quantified Monitoring does not reflect cyclical patterns of rainfall (e.g. annuals)
	Annual application of GEF Tracking Tool.	'Mainstreaming' SP2 Tracking Tool applied by project team in March 2007	Annual tracking tool scores show a positive trend against baseline	GEF SP2 Tracking Tool (March 2007, 08, 09)	Retro-fitted Tracking Tool is an accurate description of project baseline
Outcome 1: Conservation management of SKP MAP resources strengthened	<i>In situ</i> NRM mechanisms in place	Limited	At least 1 <i>functionally efficient</i> unit of community management is defined* with community management agreements CBNRM pilot projects operating in 75% of areas with community management agreements by end of project Community agreed harvest rates in place in areas with community management agreements by end of project Community agreed grazing plans in place in 75% of areas with community management agreements Open access managed in 75% of areas with community management agreements 100% of anthropocentric threats addressed in X number of hotspots by end of project Destructive wood collection practices reduced by 50% by end of project The ABS law applies to 100% of marketable products derived within SKP by end of the project X sites rehabilitated by end of project	Community management area(s) mapped Clearly defined user agreements formalised in the SKP MP User groups defined Collector surveys, SKP and MPCP monitoring reports	Financial value of medicinal plants is less than opportunity costs Bedouin social organisation is robust enough to cope with external factors Grazing and over collecting is driving species extinction in SKP External inputs to communities deflect interest in sustainable management of NR
	Seed bank and living collection	100% of SKP endangered target species safeguarded	Safeguard 100% of SKP endangered target species by end of the project	Seed bank and living collection	Original threats to species can be identified and resolved Sufficient material can be located

	International certification standards for organic and fair trade practices introduced	To be quantified in March 2007 based on existing data (from surveys undertaken, field visits etc)	75% of harvested plants meet international collection standards by end of project	KAP survey: Increased # of producers and collectors understanding and pursuing certifications	International standards remain a mystery or an unobtainable goal for many MAP stakeholders due to lack of appropriate information and misunderstandings about the incentives for certifications
	Number of traders/purchasers in the SKP MAP value chain demanding sustainable collection and production practices	None	100% of traders/ purchasers linking purchase to sustainable practices by end of project	KAP survey: Increased # of traders/purchasers pursuing certified products	The low local demand for sustainably harvested plants leads stakeholders in the SKP MAP value chain to believe that no viable market exists. By introducing the international market and its demands to the SKP MAP value chain, sustainable practices will become a priority
	Improved information flow at local and national level	To be quantified based on existing data (from surveys undertaken, field visits etc) showing number of gatherings of SKP MAP value chain stakeholders per month to discuss MAP issues. Newspaper clipping service at the national level.	Information flow channels improved by regular meetings about MAP issues. Number of articles in national press about SKP MAPs and MAPs in general is increased.	MAP association conducting regular meetings in SKP on MAP issues. Newspaper clipping service at the national level shows regular articles about MAP in major newspapers.	Better coverage of the SKP MAP issue at the national level in newspapers and through other media outlets would assist the efforts of the project in the advocacy process. Lack of involvement of the national media representatives is a result of little efforts made to engage them. At the local level, routine meetings addressing MAP issues will strengthen value chain collaboration.
	MAP association with increased marketing capacity representing producers in commercial negotiations	No current capacity	The marketing capacity of a local MAP organization (cooperative?) is improved as such that it can represent collectors and producers within the MAP value chain in national and international commercial negotiations.	MAP association institutional capacity built to manage ongoing commercial negotiations.	International marketing of SKP products requires skills that are not commonly found within the Bedouin community. International buyers will be more interested in buying products that demonstrate benefits to Bedouin communities as a whole.

Outcome 3: Pressure on target resources reduced by use of alternatives	Graduation of cultivation programme	Operated by the project	100% Cultivation programme managed by independent entity(s) by end of project	Quarterly reports	External inputs to communities deflect interest in MAP cultivation Cultivated MAPs remove value from <i>in situ</i> MAPs resulting in competing land uses (e.g. increased grazing) Market for plants exists Transport costs remain economical Bedouin are the principal participants in the trade
	Revolving Fund operational	Operated by the MPA Revolving fund does not meet UNDP-GEF risk management minimum requirements	Revolving Fund operated by an entity meeting Egypt's legal and financial requirements and UNDP's risk management requirements by end of Y1 RF finances at least 5 different alternative resource uses by end of project At least 75% of loans are made to resource users directly affecting hotspots by end of project	UNDP CO applies UNDP-GEF Advisory Note to MPCP revolving fund by 1 st Quarter (Y1) of project extension Revolving fund accounts	Resource replacement impacts negatively on MAPs by removing value from the <i>in situ</i> resources Resource replacement will reduce pressure on <i>in situ</i> medicinal plants
Outcome 4: MAP conservation and management enabling environment strengthened	Establishment of a common vision among key stakeholders for a National MAP Strategy and Action Plan	Under preparation	Incorporates lessons from MPCP conservation strategies by end of project, builds on defined common goals of key stakeholders, presented to the appropriate authorities by end of project	Comprehensive advocacy document for MAPNSAP established through participation of entire value chain	NSAP is not acceptable to EEAA Stakeholders do not share a common vision of the NSAP
	SKP Management Plan	SKP MP does not explicitly meet sustainable use criteria*	SKP MP formalises <i>in situ</i> NRM and CBNRM mechanisms by end of project	SKP MP	CBNRM recommendations are not acceptable to EEAA
	ABS Law	Under preparation	Draft ABS Law by end of 2 nd Quarter Y1 Incorporates lessons from MPCP conservation strategies by end of Y1 Enters into force by end of project	ABS Law	Bedouin will register IK and IP National and international framework for IPR is effective
Outcome 5: Learning, evaluation, and adaptive management increased	Project monitoring system operated by SKP by end of project	Application of above indicators to commence March 2007	Monitoring system (including indicators) incorporated into SKP management practices by end of project Monitoring system strengthened as per mid-term evaluation recommendations	SKP MP	SKP has sufficient capacity and resources to implement monitoring
	UNDP Risk Module	MPCP has no adaptive management framework and risk assessment	Updated every quarter	UNDP Risk Module Changes to strategy and activities documented in Quarterly Reports	PMT has the management capacity to adopt an adaptive management approach All stakeholders agree to changes in deliverables
	Project communication and information management strategy	MPCP web site MPCP database	MPCP produces 10 position or briefing papers on MAP issues by end of project	MAP Encyclopaedia Reports and Papers	Project makes information available MPCP is prepared to move from an "academic" to a "communications" approach for information management
	Final evaluation	PDF B Project Document Inception Report Mid Term Review Reorientation strategy & revised LFM	Objective of MPCP is successfully achieved by end of project	Final Evaluation Report	Sufficient budget resources are allocated

Annex 2. Terms of Reference

Terms of Reference for Final Evaluation Conservation and Sustainable Use of Medicinal Plants in Arid and Semi-Arid Ecosystems PIMS 972 -00012347 - 00012348

I. INTRODUCTION

The Conservation and Sustainable Use of Medicinal Plants in Arid and Semi-Arid Ecosystems Project is a national project and it is jointly undertaken by the United Nations Development Program (UNDP), the Global Environment Facility (GEF) and the Egyptian Environmental Affairs Agency (EEAA). The Operational Unit for Development Assistance (OUDA) is the financial and administrative support to the project, on behalf of UNDP.

As summarized by the project document: The Medicinal Plants Conservation Project (MPCP) is a national project that aims to eliminate the root causes of the loss in biodiversity and the threats to the conservation and sustainable use of Wild Medicinal Plants in Egypt.

The project activities have been grouped under five main components:

Outcome 1: Conservation Management of SKP Strengthened

Outcome 1 aims at conserving the Medicinal and Aromatic Plants (MAP) species within the ecosystem (*insitu*) through the development of sustainable management practices, including the protection of hotspots and individual plants or communities wherever it is not possible to utilize the resources in a sustainable manner. The project also considered *ex-situ* conservation measures when the threat to a species is considered severe enough to warrant such measures.

The main thrust for the project interventions is to address the issues of tenure of and access to the MAP resources and ensure that benefits are returned to those closest to the resource and who are bearing the costs of conservation management. Accordingly the project also developed a system of community-based natural resources management (CBNRM) that aims to devolve the authority and responsibility for MAP to a level that reflects the unit production, management and benefit within the framework of the SKP Management Plan.

Outcome 2: MAPs products market value chain strengthened and sustained

Outcome 2 aims at promoting the economic values of MAPs to provide the motivation for conservation management. This intervention seeks to develop national and international markets and add value to the wild and cultivated MAPs with the aim of capturing a significant and equitable proportion of those values locally. This can be characterized as providing the motivational force to drive the systemic approach of Outcome 1.

Outcome 3: Pressure on Target Resources Reduced by Use of Alternatives

Outcome 3 deals with developing interventions designed to deflect pressure from the *in situ* MAP resources by promoting alternative livelihoods and resource replacement. This Outcome can be characterized as a resource replacement and alternative livelihoods approach.

Outcome 4: Conservation and Management Environment Enabled and Strengthened

Outcome 4 aims at capturing the experience from the project and developing an appropriate local and national enabling environment by incorporating lessons learned and facilitating the development of a national policy and legislative framework that protects those that are dependent upon the resource for their livelihoods, their indigenous knowledge and intellectual property. This Outcome can be characterized as an enabling or regulatory approach.

Outcome 5: Learning, Evaluation, and Adaptive Management Increased

Outcome 5 aims at providing the vehicle for the project to develop Outcomes 1 to 4 and arrive at the Objective. The purpose of this Outcome is to constantly challenge assumptions, monitor risks and ensure that when assumptions do not hold true and risks materialize the Project is able to respond rapidly based upon evidence and analysis. This Outcome can be characterized as an adaptive management approach. The tools used to include threat reduction assessments (TRA), scenario planning, and an ongoing monitoring and evaluation system are kept up by all of the Project staff members.

The project was launched in January 2003, with a total budget of 4.617 Million US\$. The original plan was to finalize the project by 2007. Since then, the project has been extended for three years at no additional cost in order to complete the tasks requested in the project document as well as to ensure the sustainability of the mechanisms developed during the project.

During its lifetime, some amendments have also been made to the originally proposed mechanisms in order to better fit with the local systems. In addition, some activities have been extended to cover broader scope to ensure completeness and sustainability. This has been done without an additional budget request, which has been possible, among others, due to the favorable exchange rate development between the Egyptian pound and the US dollar leading into a situation.

The Monitoring and Evaluation (M&E) policy at the project level in UNDP/GEF has four objectives: i) to monitor and evaluate results and impacts; ii) to provide a basis for decision making on necessary amendments and improvements; iii) to promote accountability for resource use; and iii) to document, provide feedback on, and disseminate lessons learned. A mix of tools is used to ensure effective project M&E. These might be applied continuously throughout the lifetime of the project – e.g. periodic monitoring of indicators -, or as specific time-bound exercises such as mid-term reviews, audit reports and final evaluations.

The objective of this consultancy is to carry out a final project evaluation in accordance with UNDP/GEF M&E policies and procedures, which stipulates that all regular and medium-sized projects supported by the GEF should undergo a final evaluation upon completion of implementation. Final evaluations are intended to assess the relevance, performance and success of the project. It looks at early signs of potential impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. It will also identify/document lessons learned and make recommendations that might improve design and implementation of other UNDP/GEF projects.

II. OBJECTIVES OF THE EVALUATION

As an integral part of the project implementation cycle, UNDP has initiated a final evaluation that will analyze the achievements of the project against its original objectives while providing donors, government and project partners with an independent review of project final outputs. The evaluation will review technical and managerial aspects and consider issues of effectiveness, efficiency, relevance,

impact and sustainability. The evaluation will identify factors that have facilitated and/or impeded the achievement of objectives and should result in recommendations and lessons learned that will help in re-orienting and re-prioritizing project activities and managerial arrangements as needed.

III. PRODUCTS EXPECTED FROM THE EVALUATION

The main product of the final evaluation is expected to be a comprehensive report. The final evaluation should provide an overall rating of achievement of the project's objectives.

The final evaluation will be structured according to the following outline, as detailed in Section VII:

1. Executive summary
2. Introduction
3. The project(s) and its development context
4. Findings and Conclusions
 - 4.1 Project formulation
 - 4.2 Implementation
 - 4.3 Results
5. Recommendations
6. Lessons learned
7. Annexes

The final evaluation report should not exceed 50 pages excluding annexes and will be submitted to UNDP Egypt, two weeks after the end of the mission. The report will be circulated for two weeks to the government counterparts and project management unit to verify factual statements. Meanwhile any discrepancies between the impressions and findings of the evaluation team and the aforementioned parties these should be explained in an annex attached to the final report.

IV. METHODOLOGY OR EVALUATION APPROACH

The evaluation will be based on information obtained from reviewing documents such as the project document, project brief, quarterly progress reports, Annual Project Reports (APR), Project Implementation Reports (PIR), minutes from Tripartite Review, Project Technical Reports, Midterm Evaluation and minutes from relevant meetings. The mission should also rely on information gathered through field visits, and interviews with target beneficiaries and project staff including government officials, and/or consultants. Interviews should include Egyptian Environmental Affairs Agency, UNDP, the Bedouin Community, The Medicinal Plants Association and other relevant NGOs. The methodology that will be used by the evaluator should be presented in the report in detail. It shall include scrupulous information on documentation review, interviews held; field visits; participatory techniques and other approaches for the gathering and analysis of data.

V. EVALUATION TEAM

The final evaluation will be carried out by an independent international consultant that has not participated in the project preparation and/or implementation and does not have any conflict of interest with project related activities. The expert will be responsible for conducting a mission to Egypt to meet with the stakeholders, and will be responsible for drafting and finalizing the report. If deemed necessary, a national consultant could be recruited to support the independent international consultant in his/her assignment

The appropriate evaluator for this assignment will have the following qualities:

- Recognized experience in the management and sustainable use of dry land medicinal plants
- Competence in Adaptive Management, as applied to conservation or natural resource management projects
- Experience with multilateral or bilateral supported conservation projects.
- Recent experience with result-based management evaluation methodologies
- Experience applying participatory monitoring approaches
- Experience applying SMART indicators and reconstructing or validating baseline scenarios
- Recent knowledge of the GEF Monitoring and Evaluation Policy
- Recent knowledge of UNDP's results-based evaluation policies and procedures
- Previous involvement and understanding of UNDP and GEF procedures is an advantage and extensive international experience in the fields of project formulation, execution, and evaluation is required; experience in science to policy linkages would be welcome.
- Advanced university degree preferably in Environmental Science, Ecology, Agriculture or Botany, with 10-15 years of national and international experience in the field.
- Preferable familiar with protected area policies and management structures in Egypt and with laws and regulations pertaining to the production, labeling, sale and export of medicinal and aromatic plant products in Egypt
- Fluency in English and possess strong technical writing and analytical skills coupled with relevant experience in results-based monitoring and evaluation techniques.

VI. IMPLEMENTATION ARRANGEMENTS

Management Arrangements:

The principal responsibility for managing this evaluation lies with UNDP-Egypt. The UNDP Egypt Country Office is the main operational point for the evaluation and will be responsible for liaising with the project team to set up the stakeholder interviews, arrange the field visits and co-ordinate with EEAA and other counterparts. UNDP-Egypt will contract the evaluator and ensure the timely provision of per diems and travel arrangements within the country for the evaluator.

Although the final report must be cleared and accepted by UNDP before being made public, the UNDP Evaluation Policy clearly states that the evaluation function should be structurally independent from operational management and decision-making functions in the organization. The evaluator will be free from undue influence and has full authority to submit reports directly to appropriate levels of decision-making. UNDP management will not impose restrictions on the scope, content, comments and recommendations of evaluation reports. In the case of unresolved difference of opinion between any of the parties, UNDP may request the evaluation team to set out the differences in an annex to the final report.

Time Frame:

The consultancy will be for 6 weeks and the activities and timeframe are broken down as follows:

Activity	Timeframe and responsible party
Desk review	4 working days

Visits to the Field	12 working days
Writing draft report	7 working days
Finalization of the evaluation report (incorporating comments received on first draft)	3 working days

The time frame above does not include two weeks of unpaid time, during which UNDP Egypt will analyze, provide comments and share the draft report with different stakeholders. This slot falls between the writing of the draft report and finalization of the evaluation report. The consultant is expected to send the draft evaluation report two weeks after the end of the mission.

Resources and Logistical Support Required:

It is expected that at least one senior member of the project will accompany the evaluator during the visits in order to facilitate and provide clarifications where necessary.

During the evaluation period, the team will require office accommodation that will be provided by the Project Management offices (in Cairo and Sinai) or UNDP-Egypt as necessary.

VII. SCOPE OF THE EVALUATION- SPECIFIC ISSUES TO BE ADDRESSED

The scope of evaluation includes 2 principal components:

- Analysis of the attainment of global environment objectives, outcomes, impacts, project objectives and delivery and completion of project outputs (based on indicators);
- Evaluation of project achievements according to GEF Project Review Criteria:
 - Implementation approach;
 - Country ownership/drive;
 - Stakeholder participation/Public involvement;
 - Sustainability;
 - Replication approach;
 - Financial planning;
 - Cost-effectiveness;
 - Monitoring and evaluation
 - Ancillary impacts like gender disaggregation, conflict sensitive programming, poverty reduction

An annex providing more detailed guidance on terminology and the GEF Project review Criteria is an integral part of this ToRs and is provided in Annex 1.

Please note that some of the categories in the findings and conclusions need to be rated in conformity with the GEF guidelines for final evaluations.

The outline of the evaluation report should be as follows:

1. Executive summary

Brief description of project

Context and purpose of the evaluation

Main conclusions, recommendations and lessons learned

2. Introduction

Purpose of the evaluation

Key issues addressed

Methodology of the evaluation

Structure of the evaluation

3. The project(s) and its development context

Project start and its duration

Problems that the project seek to address

Immediate and development objectives of the project

Main stakeholders

Results expected

4. Findings and Conclusions

In addition to a descriptive assessment, all criteria marked with (R) should be rated using the following divisions: Highly Satisfactory, Satisfactory, Marginally Satisfactory, and Unsatisfactory

4.1 Project Formulation

Conceptualization/Design (R). This should assess the approach used in design and an appreciation of the appropriateness of problem conceptualization and whether the selected intervention strategy addressed the root causes and principal threats in the project area. It should also include an assessment of the logical framework and whether the different project components and activities proposed to achieve the objective were appropriate, viable and responded to contextual institutional, legal and regulatory settings of the project. It should also assess the indicators defined for guiding implementation and measurement of achievement and whether lessons from other relevant projects (e.g., same focal area) were incorporated into project design.

Country-ownership/Drive Assess the extent to which the project idea/conceptualization had its origin within national, sectoral and development plans and focuses on national environment and development interests.

Stakeholder participation (R) Assess information dissemination, consultation, and "stakeholder" participation in design stages.

Replication approach Determine the ways in which lessons and experiences coming out of the project were/are to be replicated or scaled up in the design and implementation of other projects (this also related to actual practices undertaken during implementation).

Other aspects to assess in the review of Project formulation approaches would be UNDP comparative advantage as IA for this project; the consideration of linkages between projects and other interventions within the sector and the definition of clear and appropriate management arrangements at the design stage.

4.2. Project Implementation

Implementation Approach (R) This should include assessments of the following aspects:

- (i) The use of the logical framework as a management tool during implementation and any changes made to this as a response to changing conditions and/or feedback from M and E activities if required.
- (ii) Other elements that indicate adaptive management such as comprehensive and realistic work plans routinely developed that reflect adaptive management and/or; changes in management arrangements to enhance implementation.
- (iii) The project's use/establishment of electronic information technologies to support implementation, participation and monitoring, as well as other project activities.
- (iv) The general operational relationships between the institutions involved and others and how these relationships have contributed to effective implementation and achievement of project objectives.
- (v) Technical capacities associated with the project and their role in project development, management and achievements.

Monitoring and evaluation (R). Including an assessment as to whether there has been adequate periodic oversight of activities during implementation to establish the extent to which inputs, work schedules, other required actions and outputs are proceeding according to plan; whether formal evaluations have been held and whether action has been taken on the results of this monitoring oversight and evaluation reports.

Stakeholder participation (R). This should include assessments of the mechanisms for information dissemination in project implementation and the extent of stakeholder participation in management, emphasizing the following:

- (i) The production and dissemination of information generated by the project.
- (ii) Local resource users and NGOs participation in project implementation and decision making and an analysis of the strengths and weaknesses of the approach adopted by the project in this arena.
- (iii) The establishment of partnerships and collaborative relationships developed by the project with local, national and international entities and the effects they have had on project implementation.
- (iv) Involvement of governmental institutions in project implementation, the extent of governmental support of the project.

Financial Planning: Including an assessment of:

- (i) The actual project cost by objectives, outputs, activities
- (ii) The cost-effectiveness of achievements

(iii) Financial management (including disbursement issues)

(iv) Co-financing¹

Sustainability Extent to which the benefits of the project will continue, within or outside the project domain, after it has come to an end. Relevant factors include for example: development of a sustainability strategy, establishment of financial and economic instruments and mechanisms, mainstreaming project objectives into the economy or community production activities.

Execution and implementation modalities This should consider the effectiveness of the UNDP counterpart and Project Co-ordination Unit participation in selection, recruitment, assignment of experts, consultants and national counterpart staff members and in the definition of tasks and responsibilities; quantity, quality and timeliness of inputs for the project with respect to execution responsibilities, enactment of necessary legislation and budgetary provisions and extent to which these may have affected implementation and sustainability of the Project; quality and timeliness of inputs by UNDP and GoE and other parties responsible for providing inputs to the project, and the extent to which this may have affected the smooth implementation of the project.

4.3. Results

Attainment of Outcomes/ Achievement of objectives (R): Including a description *and rating* of the extent to which the project's objectives (environmental and developmental) were achieved using Highly Satisfactory, Satisfactory, Marginally Satisfactory, and Unsatisfactory ratings. If the project did not establish a baseline (initial conditions), the evaluators should seek to determine it through the use of special methodologies so that achievements, results and impacts can be properly established.

This section should also include reviews of the following:

Sustainability: Including an appreciation of the extent to which benefits continue, within or outside the project domain after GEF assistance/external assistance in this phase has come to an end.

Contribution to upgrading skills of the national staff

5. Recommendations

Corrective actions for the design, implementation, monitoring and evaluation of the project

Actions to follow up or reinforce initial benefits from the project

Proposals for future directions underlining main objectives

6. Lessons learned

This should highlight the best and worst practices in addressing issues relating to relevance, performance and success.

7. Evaluation report Annexes

Evaluation TORs

¹ Please see guidelines at the end of Annex 1 of these TORs for reporting of co-financing

Itinerary
 List of persons interviewed
 Summary of field visits
 List of documents reviewed
 Questionnaire used and summary of results
 Comments by stakeholders (only in case of discrepancies with evaluation findings and conclusions)

VIII. TERMS OF REFERENCE ANNEXES

Annex 1: List of Documents to be reviewed by the evaluators
 Annex 2: Terminology in the GEF Guidelines to Terminal Evaluations

Annex 1: List of Documents to be reviewed by the evaluators

The following documents are essential reading for the evaluators:

- Project Document and any revisions
- Websites:
 - www.undp.org.eg
 - www.ecaa.gov.eg
 - www.undp.org/gef/05/monitoring/policies.html
 - www.mpcpegypt.com/index.html
- M & E Operational Guidelines, all monitoring reports prepared by the project
- Financial and Administration guidelines for RSCN
- Project operational guidelines, manuals and systems
- Midterm Evaluation
- Quarterly Progress Report and detailed activity progress reports
- Minutes of Steering Committee, Tripartite Programme Review and other project management meetings.
- Presentations and other inputs to Steering Committee, TPR and project management meetings
- Combined Delivery Report
- Atlas Reports (such as the AWP and Project Budget Balance report)
- Project Implementation Reviews
- Inception Report
- UNDP User Guide (relevant sections)

Other products and reports produced by the Project including:

- Technical Reports.
- Baseline reports
- Strategy documents, internal system, management plans.
- Maps
- Publications
- Annual Reports

Annex 3. List of persons interviewed

Name and position	Organization
Dr Mohamed Bayoumi, Environment Program Team Leader, A. R. R.	UNDP
Ms Mirey Atallah, Regional Team Leader and Regional Technical Advisor	GEF-UNDP
Dr Mahaweb Abu El-Azm, Chief Executive Officer	EEAA/MSEA
Eng. Ahmed Ali, Director	NCS/EEAA
Mr Adel Abd Alla Soliman, Project Manager (since June 2010)	MCPC Project team
Mr Mahmoud Ismail Sarhan, Technical Officer and Socio-Economist	
Mr Ahmed M. Abdelmaksoud, Project Accountant	
Dr Moustafa Fouda, Biodiversity Consultant, Minister Advisor on Biodiversity	
Mr Omar Abdel-Dayem, Project Manager from March 2008 to May 2010	
Mr Khaled El-Sayed Megahed, Green House Expert, Cultivation and Propagation Team Leader	
Mr Ayman Hamada, CBNRM Technical Assistant	
Mr Ahmed Abdel Fadeel, Seed storage and rehabilitation program specialist	
Mr Ayman Hameden, Chemist and laboratory specialist	
Mr Ibrahim El Gamal, Agriculture specialist	
Mr Abbas Mohamed Abbas, Agriculture specialist	
Mr Amir Shaloufa, GIS and database specialist	
Mr A. Hakeem, Communication Specialist	
Dr Mohamed A. Abdel-Wahab, Assistant Professor	
Prof. Hamdallah H. Zedan, Professor of Microbiology and Immunology, Former Executive Secretariat for CBD, Chairman of VACSERA, Head of the National Committee for the National MAP Strategy and Action Plan	MAP Research Dept., Desert Research Centre
Prof. Ossama El-Tayeb, Professor of Microbiology, Director of the Microbial Biotechnology Center, Adviser to EEAA, National Focal Point for Biosafety and ABS	Faculty of Pharmacy, Cairo University
Mr Mohammed Abd-Allah Kotb, Manager	SKP
Dr Mohamed Fawzy, Environmental Researcher	
Mr Ismael Hatab, Environmental Researcher	
Mr Tarek Ragab Sokarya, Executive Manager	MPA
Mr Gamel Attya Husen, Chairman	
Mr Kalil Hemed, Secretary	
Ms Salha Mousa	Representatives of women members of MPA
Ms Messada Saad	
Ms Sobhya Ibrahim	
Ms Nasra Souliman	
Ms Hoda Zayed	
Ms Naaema Mohamed	
Dr Ahmed Mansour	Traditional Healer
Sheikh Ahmed Mohammed Farag	KGG Association
Sheikh Mahmoud Mansour Awad, MAP Trader	
Ms Nadia Sobhy	Representatives of women members of KGG (MAP collectors)
Ms Badria Salama	
Ms Nora Ramadan	
Ms Slima Mousa	
Ms Zayda Mohmaed	
Ms Gemea'a Salem	
Mr Selem Soliman Hemeid	MAP Small farm
Hossin Mansour Farhan	Local community
Mr Swelam Farhan	
Mr Soliman Mahmoud Farage	
Mr Mohammed Eid Awad	
Mr Mohammed A. Almo'aty	
Mr Hemeid Mohammed Mansour	City council

Annex 4. Field visit

Field visit to the project site in St. Katherine, South Sinai, from 19 to 24 July 2011.

Date	Location	Meetings
July 19	Travel from Cairo to St. Katherine	Adel Soliman, PM and Mahmoud Ismail, socio-economist
	Fox Camp	Bedouin dinner and meeting with local stakeholders, SKP staff and project staff in SK
July 20	MPCP office in SK	CBNRM consultant
	Al Raseeis	Propagation and Cultivation team
		Visit of propagation and drying greenhouses
		Medicinal Plant Association Representatives
July 21	Presentation on MAP post harvesting processes and product development – Dr Abdel Wahab	
	Rehabilitation site in SK	Propagation and Cultivation team
	Esbaeya	Visit to MAP small farm and MAP school farms – Mr Khaled Megahed
	Al-Zaytona	Visit to SKP visitor center – Mr Kobt
July 22	Sharm El-Sheikh, Peace park	Visit to the new building of MPA
	Wadi Al-Raha	Visit to Biodiversity Information Centre and MAP Herbarium
July 23	Al Raseeis	Sheikh Ahmed Mansour, traditional healer and Mahmoud Mansour, KGG MAP retailer
		MAP products marketing and organic certification
	St. Katherine Monastery	Project sustainability plan
	Al Raseeis	Visit
July 24	Travel from St. Katherine to Cairo	Meeting with local community Bedouin women
		Seed storage, GIS and database unit, laboratory / Project staff

Annex 5. FairWild Standard

The FairWild Standard (version 2.0), including the FairWild Standard Performance Indicators, was developed through an update and combination of FairWild Standard Version 1 with the International Standard for Sustainable Wild Collection (ISSC-MAP) specifically developed for MAPs. The performance indicators will provide useful guidance for self-assessment of the sustainability of collection operations according to the Principles and Criteria of the FairWild Standard even if there is not intention to obtain the FairWild certification.

The FairWild Standard

- assesses the harvest and trade of wild plants against various ecological, social and economic requirements to ensure the continued use and long-term survival of wild species and populations in their habitats, while respecting the traditions and cultures, and supporting the livelihoods of all stakeholders, in particular collectors and workers.
- provides clear principles, criteria, indicators and verifiers that will enable relevant actors to assess and monitor the sustainability of wild resources and collection practices.
- includes a focus on ecological aspects of good collection practices which are often neglected: the need for thorough but cost-effective resource assessments and the determination of sustainable yields.
- primarily addresses the collection of wild plant materials for commercial purposes, rather than for subsistence or local small-scale use
- applies to wild plant collection operations wishing to demonstrate their commitment to sustainable collection, social responsibility and fair trade principles
- helps support efforts to ensure plants are managed, harvested and traded in a way that maintains populations in the wild and benefits rural producers

Key elements of sustainable wild plant collection corresponding to the FairWild Requirements

Key elements are grouped under 6 principles:

- i) Wild-collection and conservation requirements
 - Maintaining wild plant resources
 - Preventing negative environmental impacts
- ii) Relationship between collectors and collecting station
 - Promoting fair contractual relationships between operators and collectors
 - Limiting participation of children in wild-collection activities
 - Ensuring benefits for collectors and their communities
- iii) Fair labour conditions in collecting and processing companies
 - Ensuring fair working conditions for all workers of wild-collection operations
- iv) Obligations of FairWild companies towards their suppliers and buyers
 - Fair trade practices: fair pricing and fair trade premiums paid to source
 - Promoting buyer commitment
- v) Legal and ethical requirements
 - Complying with laws, regulations and agreements
 - Respecting customary rights and benefit-sharing
- vi) Management and business practices
 - Applying responsible management practices
 - Applying responsible business practices
 - Transparent cost-calculation and benefit-sharing throughout the value chain

Annex 6. GEF tracking tool for the Biodiversity Strategic Priorities #1



Section One: Project General Information

1. Project Name: Egypt-Conservation and Sustainable Use of Medicinal Plants in Arid and Semi-Arid Ecosystems
2. Project Type (MSP or FSP): FSP
3. Project ID (GEF): EGY/00/G31/A/1G/99
4. Project ID (IA): EGY/00/031/A/1G/99
5. Implementing Agency: Egyptian Environmental Affairs Agency (EEAA)
6. Country(ies): Egypt

Name of reviewers completing tracking tool and completion dates:

	Name	Title	Agency
Work Program Inclusion			
Project Mid-term			
Final Evaluation/project completion			

7. Project duration: **Planned** 5 _____ years **Actual** _____ years

8. Lead Project Executing Agency (ies): EEAA, GEF, UNDP

9. GEF Operational Program:

☒ Drylands (OP 1)

☐ Coastal, marine, freshwater (OP 2)

☐ Forests (OP 3)

☐ Mountains (OP 4)

☐ Agro-biodiversity (OP 13)

☐ Integrated ecosystem management (OP 12)

☐ Sustainable land management (OP 15)

Other Operational Program not listed above: _____

10. Project coverage in hectares:

Please complete the table below.

Targets and Timeframe	Foreseen at project start	Achievement at Mid-term Evaluation of Project	Achievement at Final Evaluation of Project
Project Coverage			
Extent in hectares of protected areas targeted by the project	435000 Ha	435000 Ha	

Tracking Tool for GEF Biodiversity Focal Area Strategic Priority One:
Catalyzing Sustainability of Protected Area Systems at National Levels

Please complete the table below for the protected areas that are the target of the GEF intervention. Use NA for not applicable.

Name of Protected Area	Is this a new protected area? Please answer yes or no.	Area in Hectares	Global designation or priority lists (E.g., Biosphere Reserve, World Heritage site, Ramsar site, WWF Global 200, , etc.)	Local Designation of Protected Area (E.g, indigenous reserve, private reserve, etc.)	IUCN Category for each Protected Area ¹⁸					
					I	II	III	IV	V	VI
1.Saint Katherine Protectorate (SKP)	NO	435000 Ha	World Heritage site	Ecosystem & Biodiversity Reserve				X	X	
2.										
3.										
4.										

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- I. Strict Nature Reserve/Wilderness Area: managed mainly for science or wilderness protection
- II. National Park: managed mainly for ecosystem protection and recreation
- III. Natural Monument: managed mainly for conservation of specific natural features
- IV. Habitat/Species Management Area: managed mainly for conservation through management intervention
- V. Protected Landscape/Seascape: managed mainly for landscape/seascape protection and recreation
- VI. Managed Resource Protected Area: managed mainly for the sustainable use of natural ecosystems

Section Two: World Bank/WWF Site-Level Management Effectiveness Tracking Tool for Protected Areas

Reporting Progress in Protected Areas

A Site-Level Management Effectiveness Tracking Tool

Reporting Progress in Protected Areas: Data Sheet

Name of protected area	St. Katherine Protectorate		
Location of protected area (country, ecoregion, and if possible map reference)	South Sinai -Egypt – Irano- terranian Map: http://www.qpgsoftware.com/gmaps/viewsite.php?sid=6211&lat=28.333333333333&lon=33.916666666667&loc=St%20Katherine%20Protectorate		
Date of establishment (distinguish between agreed and gazetted*)	Agreed 1988	Gazetted 1996	
Ownership details (i.e. owner, tenure rights etc)	Ministry of state for Environmental Affairs – Egyptian Environmental Affairs Agency – Nature Conservation Sector (NCS)		
Management Authority	NCS		
Size of protected area (ha)	435000 ha		
Number of staff	Permanent 31	Temporary 39	
Annual budget (US\$)	\$ 835,000		
Designations (IUCN category, World Heritage, Ramsar etc)	World Heritage		
Reasons for designation	Biological Diversity and Cultural Heritage		
Brief details of GEF funded project or projects in PA	Medicinal Plants Conservation Project which aims to " Eliminate the root causes of the threats of Biodiversity loss in SKP"		
Brief details of other relevant projects in PA			
List the two primary protected area objectives			
Objective 1	Protection of ecosystem and Biodiversity including Flora and Fauna Diversity. This includes mitigating the effects of .tourism and industrial developments		
Objective 2	Cultural Heritage protection including Saint Katherine Monastery and Bedouin Traditions		
List the top two most important threats to the PA (and indicate reasons why these were chosen)			
Threat 1	Human activities (over grazing , firewood collection, Increasing tourist numbers, agricultural intensification/expansion, utilization and disturbance to birds)		
Threat 2	Drought in the past decades linked to international concerns surrounding the effects of climate change on sensitive climatic zones i.e. Dryland areas		
List top two critical management activities			
Activity 1	Biodiversity and ecosystem conservation		
Activity 2	Tourism management (diversity of opportunities i.e ecotourism)		

Name/s of assessor (including people consulted): _____

Contact details (email etc.): _____

Date assessment carried out (Day/Month/Year): _____

* Or formally established in the case of private protected areas

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Issue	Criteria	Score	Comments	Next steps
1. Legal status	The protected area is not gazetted	0		
Does the protected area have legal status?	The government has agreed that the protected area should be gazetted but the process has not yet begun	1		
	The protected area is in the process of being gazetted but the process is still incomplete	2		
Context	The protected area has been legally gazetted (or in the case of private reserves is owned by a trust or similar)	3		
2. Protected area regulations	There are no mechanisms for controlling inappropriate land use and activities in the protected area	0	Due to the overwhelming size of the Protectorate, the paucity of staff to manage it and the limited funds available it can be construed that this causes obstacles towards effective management, during 2008, 8 more trainee rangers were enrolled at the PA and received adequate training currently the new rangers are performing the roles within the PA management plan	
Are inappropriate land uses and activities (e.g. poaching) Controlled?	Mechanisms for controlling inappropriate land use and activities in the protected area exist but there are major problems in implementing them effectively	1		
Context	Mechanisms for controlling inappropriate land use and activities in the protected area exist but there are some problems in effectively implementing them	2		
	Mechanisms for controlling inappropriate land use and activities in the protected area exist And are being effectively implemented	3		
3. Law enforcement	The staff have no effective capacity/resources to enforce protected area legislation and regulations	0		
Can staff enforce protected area rules well enough?	There are major deficiencies in staff capacity/resources to enforce protected area legislation and regulations (e.g. lack of skills, no patrol budget)	1		

Tracking Tool for GEF Biodiversity Focal Area Strategic Priority One:
Catalyzing Sustainability of Protected Area Systems at National Levels

<i>Context</i>	The staff have acceptable capacity/resources to enforce protected area legislation and regulations but some deficiencies remain	2		
	The staff have excellent capacity/resources to enforce protected area legislation and Regulations	3		
Issue	Criteria	Score	Comments	Next steps
4. Protected area objectives	No firm objectives have been agreed for the protected area	0	Objectives have not all been met due to the relatively limited funding for the protected area compared to its large area, more resources should be allocated through retention of an extra part of the entrance fees and directing it to conservation activities which will help the PA to be more financially	
Have objectives been agreed?	The protected area has agreed objectives, but is not managed according to these Objectives	1		
<i>Planning</i>	The protected area has agreed objectives, But these are only partially implemented	2		
	The protected area has agreed objectives And is managed to meet these objectives	3		
5. Protected area design	Inadequacies in design mean achieving the protected areas major management objectives of the protected area is impossible	0		
Does the protected area need enlarging, corridors etc to meet its objectives?	Inadequacies in design mean that achievement of major objectives are constrained to some extent	1		
	Design is not significantly constraining achievement of major objectives, but could be improved	2		
<i>Planning</i>	Reserve design features are particularly aiding achievement of major objectives of the protected area	3		
6. Protected area boundary demarcation	The boundary of the protected area is not known by the management authority or local residents/neighbouring land users	0		

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Catalyzing Sustainability of Protected Area Systems at National Levels

Is the boundary known and demarcated?	The boundary of the protected area is known by the management authority but is not known by local residents/neighbouring land users	1	The GIS maps, street signs and continuous awareness campaigns (Bedouins & tourists).	
Context	The boundary of the protected area is known by both the management authority and local residents but is not appropriately demarcated	2		
	The boundary of the protected area is known by the management authority and local residents and is appropriately demarcated	3		
Issue	Criteria	Score	Comments	Next steps
7. Management plan	There is no management plan for the protected area	0		
Is there a management plan and is it being implemented?	A management plan is being prepared or has been prepared but is not being implemented	1		
	An approved management plan exists but it is only being partially implemented because of funding constraints or other problems	2		
	An approved management plan exists and is being implemented	3		
Planning				
Additional points	The planning process allows adequate opportunity for key stakeholders to influence The management plan	1		
	There is an established schedule and process for periodic review and updating of the management plan	1		
	The results of monitoring, research and evaluation are routinely incorporated into planning	1		
Planning				
8. Regular work plan	No regular work plan exists	0		
Is there an annual work plan?	A regular work plan exists but activities are not monitored against the plan's targets	1		
	A regular work plan exists and actions are monitored against the plan's targets, but many activities are not completed	2		
	A regular work plan exists, actions are monitored against the plan's targets and most or all prescribed activities are completed	3		
Planning/Outputs				

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9. Resource inventory	There is little or no information available on the critical habitats, species and cultural values of The protected area	0		
Do you have enough information to manage the area?	Information on the critical habitats, species and cultural values of the protected area is not sufficient to support planning and decision making	1		
Issue	Criteria	Score	Comments	Next steps
Context	Information on the critical habitats, species and cultural values of the protected area is sufficient for key areas of planning/decision making but the necessary survey work is not being maintained	2		
	Information concerning on the critical habitats, species and cultural values of the protected area is sufficient to support planning and decision making and is being maintained	3		
10. Research	There is no survey or research work taking place in the protected area	0		
Is there a programme of management-orientated survey and research <i>Inputs</i>	There is some ad hoc survey and research work	1		
	There is considerable survey and research work but it is not directed towards the needs of protected area management	2		
	There is a comprehensive, integrated programme of survey and research work, which is relevant to management needs	3		
11. Resource management	Requirements for active management of critical ecosystems, species and cultural values have not been assessed	0		
Is the protected area adequately managed (e.g. for fire, invasive species, poaching)?	Requirements for active management of critical ecosystems, species and cultural values are known but are not being addressed	1		
	Requirements for active management of critical ecosystems, species and cultural values are only being partially addressed	2		

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<i>Process</i>	Requirements for active management of critical ecosystems, species and cultural values are being substantially or fully addressed	3		
Issue	Criteria	Score	Comments	Next steps
12. Staff numbers	There are no staff	0	Additional numbers of rangers are required in certain specializations.	
Are there enough people employed to manage the protected area?	Staff numbers are inadequate for critical management activities	1		
	Staff numbers are below optimum level for critical management activities	2		
	Staff numbers are adequate for the management needs of the site	3		
<i>Inputs</i>				
13. Personnel management	Problems with personnel management constrain the achievement of major management objectives	0		
Are the staff managed well enough?	Problems with personnel management partially constrain the achievement of major management objectives	1		
	Personnel management is adequate to the achievement of major management objectives but could be improved	2		
<i>Process</i>	Personnel management is excellent and aids the achievement major management objectives	3		
14. Staff training	Staff are untrained	0	Many vacancies were filled using a trainees program and are currently receiving on the job training. More Staff needs to be recruited and they should also receive the appropriate training	
Is there enough training for staff?	Staff training and skills are low relative to the needs of the protected area	1		
	Staff training and skills are adequate, but could be further improved to fully achieve the objectives of management	2		
	Staff training and skills are in tune with the management needs of the protected area, And with anticipated future needs	3		
<i>Inputs/Process</i>				

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15. Current budget	There is no budget for the protected area	0	Governmental budget is not sufficient to achieve the optimum objectives of the Protectorate, more ways to allocate additional budget should be created to ensure financial sustainability of the PA	
Is the current budget sufficient?	The available budget is inadequate for basic management needs and presents a serious constraint to the capacity to manage	1		
	The available budget is acceptable, but could be further improved to fully achieve effective management	2		
Issue	Criteria	Score	Comments	Next steps
<i>Inputs</i>	The available budget is sufficient and meets the full management needs of the protected area	3		
16. Security of budget	There is no secure budget for the protected area and management is wholly reliant on outside or year by year funding	0		
Is the budget secure?	There is very little secure budget and the protected area could not function adequately without outside funding	1		
<i>Inputs</i>	There is a reasonably secure core budget for the protected area but many innovations and initiatives are reliant on outside funding	2		
	There is a secure budget for the protected area and its management needs on a multi-year cycle	3		
17. Management of budget	Budget management is poor and significantly undermines effectiveness	0	Despite the limited amount of funds the available budget is well utilized.	
Is the budget managed to meet critical management needs?	Budget management is poor and constrains effectiveness	1		
	Budget management is adequate but could be improved	2		
	Budget management is excellent and aids effectiveness	3		
<i>Process</i>				

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18. Equipment	There are little or no equipment and facilities	0		
Are there adequate equipment and facilities?	There are some equipment and facilities but these are wholly inadequate	1		
	There are equipment and facilities, but still some major gaps that constrain management	2		
Process	There are adequate equipment and facilities	3		
Issue	Criteria	Score	Comments	Next steps
19. Maintenance of equipment	There is little or no maintenance of equipment and facilities	0		
Is equipment adequately maintained?	There is some ad hoc maintenance of equipment and facilities	1		
	There is maintenance of equipment and facilities, but there are some important gaps in maintenance	2		
Process	Equipment and facilities are well maintained	3		
20. Education and awareness programme	There is no education and awareness Programme	0		
Is there a planned education programme?	There is a limited and ad hoc education and awareness programme, but no overall planning for this	1		
	There is a planned education and awareness program but there are still serious gaps	2		
Process	There is a planned and effective education and awareness programme fully linked to the objectives and needs of the protected area	3		
21. State and commercial neighbors	There is no contact between managers and neighboring official or corporate land users	0		
Is there co-operation with adjacent land users?	There is limited contact between managers and neighboring official or corporate land users	1		
	There is regular contact between managers and neighboring official or corporate land users, but only limited co-operation	2		

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<i>Process</i>	There is regular contact between managers and neighboring official or corporate land users, and substantial co-operation on management	3		
22. Indigenous people	Indigenous and traditional peoples have no input into decisions relating to the management of the protected area	0		
Issue	Criteria	Score	Comments	Next steps
Do indigenous and traditional peoples resident or regularly using the PA have input to management decisions? <i>Process</i>	Indigenous and traditional peoples have some input into discussions relating to management but no direct involvement in the resulting decisions	1		
	Indigenous and traditional peoples directly contribute to some decisions relating to management	2		
	Indigenous and traditional peoples directly participate in making decisions relating to management	3		
23. Local communities	Local communities have no input into decisions relating to the management of the protected area	0		
Do local communities resident or near the protected area have input to management decisions? <i>Process</i>	Local communities have some input into discussions relating to management but no direct involvement in the resulting decisions	1		
	Local communities directly contribute to some decisions relating to management	2		
	Local communities directly participate in making decisions relating to management	3		
Additional points	There is open communication and trust between local stakeholders and protected area managers	1		
<i>Outputs</i>	Programs to enhance local community welfare, while conserving protected area resources, are being implemented	1		

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24. Visitor facilities	There are no visitor facilities and services	0		
Are visitor facilities (for tourists, pilgrims etc) good enough?	Visitor facilities and services are inappropriate for current levels of visitation or are under construction	1		
	Visitor facilities and services are adequate for current levels of visitation but could be improved	2		
<i>Outputs</i>	Visitor facilities and services are excellent for current levels of visitation	3		
25. Commercial tourism	There is little or no contact between managers and tourism operators using the protected area	0	Possible issue for comment: examples of contributions	
Issue	Criteria	Score	Comments	Next steps
Do commercial tour operators contribute to protected area management?	There is contact between managers and tourism operators but this is largely confined to administrative or regulatory matters	1	This year, the tourism is very low due to country	
	There is limited co-operation between managers and tourism operators to enhance visitor experiences and maintain protected area values	2		
<i>Process</i>	There is excellent co-operation between managers and tourism operators to enhance visitor experiences, protect values and resolve conflicts	3		
26. Fees	Although fees are theoretically applied, they are not collected	0		
If fees (tourism, fines) are applied, do they help protected area management?	The fee is collected, but it goes straight to central government and is not returned to the protected area or its environs	1		
	The fee is collected, but is disbursed to the local authority rather than the protected area	2		
<i>Outputs</i>	There is a fee for visiting the protected area that helps to support this and/or other protected areas	3	The collected fees is disbursed to the EEAA from which some amount is reimbursed to the PAs	
27. Condition assessment	Important biodiversity, ecological and cultural values are being severely degraded			
Is the protected area being	Some biodiversity, ecological and cultural values are being severely degraded	1		

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managed consistent to its objectives?	Some biodiversity, ecological and cultural values are being partially degraded but the most important values have not been significantly impacted	2		
<i>Outcomes</i>	Biodiversity, ecological and cultural values are predominantly intact	3		
Additional points	There are active programs for restoration of degraded areas within the protected area and/or the protected area buffer zone	1		
<i>Outputs</i>				
28. Access assessment	Protection systems (patrols, permits etc) are ineffective in controlling access or use of the reserve in accordance with designated objectives	0		

Tracking Tool for GEF Biodiversity Focal Area Strategic Priority One:
Catalyzing Sustainability of Protected Area Systems at National Levels

Issue	Criteria	Score	Comments	Next steps
Is access/resource use sufficiently controlled? <i>Outcomes</i>	Protection systems are only partially effective in controlling access or use of the reserve in accordance with designated objectives	1		
	Protection systems are moderately effective in controlling access or use of the reserve in accordance with designated objectives	2		
	Protection systems are largely or wholly effective in controlling access or use of the reserve in accordance with designated objectives	3		
29. Economic benefit assessment Is the protected area providing economic benefits to local communities? <i>Outcomes</i>	The existence of the protected area has reduced the options for economic development of the local communities	0		
	The existence of the protected area has neither damaged nor benefited the local economy	1		
	There is some flow of economic benefits to local communities from the existence of the protected area but this is of minor significance to the regional economy	2		
	There is a significant or major flow of economic benefits to local communities from activities in and around the protected area (e.g. employment of locals, locally operated commercial tours etc)	3		
30. Monitoring and evaluation Are management activities monitored against performance? <i>Planning/Process</i>	There is no monitoring and evaluation in the protected area	0		
	There is some ad hoc monitoring and evaluation, but no overall strategy and/or no regular collection of results	1		
	There is an agreed and implemented monitoring and evaluation system but results are not systematically used for management	2		
	A good monitoring and evaluation system exists, is well implemented and used in adaptive management	3		
TOTAL SCORE		80		