



United Nations Development Programme

Country: Lebanon

PROJECT DOCUMENT

Project Title: Mainstreaming Biodiversity Management into Medicinal and Aromatic Plants Production Processes

UNDAF Outcome(s): 2. Rights-based approach to development promoted and implemented

Expected Output(s): - Appropriate collection methods ensure a viable long-term supply of raw materials of globally significant MAP species - Value-added processing and product improvement result in increased value of globally significant MAPs harvested in biodiversity-friendly manner

- Supply chain framework strengthened for sustainable harvest of globally significant MAP species and awareness promoted for conservation-friendly MAP products

Executing Entity: Lebanese Agricultural Research Institute

Lebanon lies within an important centre of flowering plant biodiversity, with approximately 2,600 species and an endemism rate of 12%. Around 365 medicinal and aromatic plants (MAPs) are found and utilised in Lebanon. The MAP and herb domestic markets are worth approximately US\$35 millions per year and wild stocks supply approximately 98% of the MAP markets. The collection of wild stocks now threatens the conservation of globally significant MAP biodiversity. The project idea is that non-destructive harvests, together with income generated by MAP business opportunities for local people, will maintain the wild stocks of at least 6 globally significant MAP species that are commercially traded and threatened by current harvesting practices. The project will create incentives for local communities to sustainably manage the wild stocks by ensuring the increased financial returns flow to the guardians of wild MAP stocks and are directly linked to sustainable harvest and management practices. The project will introduce a sustainable management regime for 800 tons annually of the target species. For this purpose, the project will support both the establishment of 7-10 community-based MAP-MSEs, and value-added production systems. At the end of the project, over 8 value-added products made from sustainably harvested MAPs will be available, using at least 300 tons of raw materials.

Table with 2 columns: Field (Programme Period, SRF Outcome, Atlas Award ID, Start date, End Date, Management Arrangements) and Value (2008 - 2012, Government Compliance with International Conventions promoted and supported, 00050138, 15 June 2008, 15 June 2012, NEX)

Table with 2 columns: Resource Type (Total resources required, Total allocated resources) and Amount (1.13 million USD, 1.13 million USD, 980,000 USD, 150,000 USD, 285,000 USD, 515,000 USD)

Agreed by LARI

Signature of Michel A. Hassan

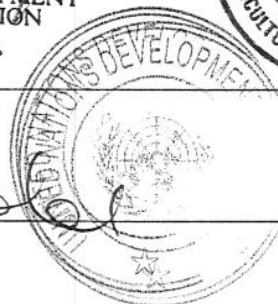
COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION

Agreed by CDR

PRESIDENT NABIL A. EL JISR

Agreed by UNDP

Signature of UNDP representative





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Programme Period:	2008 - 2012
SRF Outcome: 1: Government Compliance with International Conventions promoted and supported	
Atlas Award ID:	00050138
Start date:	15 June 2008
End Date	15 June 2012
Management Arrangements	NEX

Total resources required	1.13 million USD
Total allocated resources:	1.13 million USD
• GEF	980,000 USD
• UNDP	150,000 USD
• LARI (in-kind)	285,000 USD
• UNDP (in-kind)	515,000 USD

Agreed by LARI

Agreed by CDR

Agreed by UNDP

Acronyms

BD	Biodiversity
CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species of Fauna and Flora
CO	Country Office
COP	Conference of the Parties
ExA	Executing Agency
FAO	Food and Agriculture Organization
FSP	Full Size Project
GACP	Good Agricultural and Collection Practices
GEF	Global Environment Facility
IA	Implementing Agency
ISSC-MAP	International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants
IUCN	International Union for Nature Conservation
LARI	Lebanese Agricultural Research Institute
MAP	Medicinal and Aromatic Plant
MDGs	Millennium Development Goals
MFI	Microfinance Institution
MoA	Ministry of Agriculture
MoE	Ministry of Environment
MSE	Micro and Small Enterprises
MSP	Medium-sized project
NBSAPs	National Biodiversity Strategy and Action Plans
UNDP	United Nations Development Programme
IUCN-SSC	IUCN–Species Survival Commission
PIU	Project Implementation Unit
SME	Small and Medium Enterprise
TA	Technical Assistance
TRA	Threat Reduction Assessment
UNDP	United Nations Development Programme
UNEP	United Nations Environment Program
WHO	World Health Organization
WTO	World Trade Organization
WWF	World Wide Fund for Nature

I. SITUATION ANALYSIS

1. At issue is the security of Lebanon's high levels of medicinal and aromatic plant (MAP) diversity (around 365 MAPs are found and utilized in Lebanon, 47 of which are endemic to the region), which are threatened by destructive harvesting and overharvesting. Wild stocks supply approximately 98% of the MAP market and the current practices are threatening the market's supply base as well as globally significant biodiversity values.

2. Most unsustainable harvesting practices can be attributed to non-local collectors who are mostly itinerant male workers or Lebanese female Bedouins. The current harvesting practices are due to short-term rent seeking in the MAP market where profit maximisation is sought through high volume, low quality trade over a relatively short investment period. This approach is driven by the "open access" to wild MAP stocks. Resource-use and ownership rights do exist in Lebanon, but they are not strongly applied and lack any meaningful enforcement. The low articulation of access rights to MAPs permits commercial harvesters to have free and uncontrolled access to wild stocks. Unsustainable harvesting of MAPs is increasingly practised as more and more inexperienced collectors become involved in this business. Collection is frequently undertaken at places distant from villages and collectors include itinerant workers hired by traders and middlemen. As collectors are not the owners of the land where MAPs exist, they do not have control over them and feel little responsibility; MAPs are collected from any (unfenced) land, irrespective if private or public, which thus represents an open access system; there are no incentives for collectors to apply resource-conserving harvesting practices, in particular as MAPs collection takes place in a highly competitive environment. Overharvesting and destructive harvesting practices are further encouraged by the supplementary nature of the revenue. MAP harvesting as a business is picked up when opportunity affords. MAP harvest is in general considered as an addition or "bonus" to the collector's annual source of income. The informal, unregulated nature of the MAP market does not allow agreeing upon sustainability standards and there is no organisational structure which would allow enforcing them. The temporary engagement of collectors in the MAP business does not provide enough incentives to acquire knowledge and skills on environmentally-friendly harvesting. Also the fact that collectors are paid by the bag creates an incentive to include as much biomass as possible, even plant parts which are not useful.

3. The mainstreaming of conservation considerations into the MAP market is constrained by a number of barriers (see appendix III for detailed threat analysis):

Barriers related to the collection of wild-growing MAPs	The harvest of wild-growing MAPs mainly for commercial purposes is thought to have the most serious impact on the population level of the target species. Whereas relatively small amounts of MAPs are collected for personal use, the commercial scale represents a challenge for conservation. Following the loss of traditional knowledge, adequate information about the annual sustained yield that can be harvested without damaging the natural MAP populations is vanishing, and there are little incentives to apply sustainable harvesting techniques. Finally, the low economic value of MAPs, the lack of quality and collecting standards, the lack of proper market linkages and the dependence of local collectors on middlemen, and the opportunistic nature of collecting across a number of collecting areas with no incentives to manage the resources represent additional barriers to achieving a sustainable harvesting system.
Barriers related to processing and trading	Value-addition through primary and advanced processing is an important tool for rising prices and for increasing the income derived from MAPs, starting with simple cleaning and screening of MAPs all the way to the extraction of active ingredients. Barriers to mainstreaming conservation concerns into the MAP industry include lack of knowledge and inadequate technical skills on proper and advanced processing techniques, poor awareness on market potentials of sustainably manufactured value-added products, little product differentiation and also a poor level of organisation of the largely informal MAP industry.
Barriers related to the consumer level	As the majority of MAPs are sold without passing a quality control, consumers are usually not in a position to select among different products and to take a purchasing decision based on quality and sustainability standards. Consequently, the lack of labeling, consumer awareness and the prevalence of fraudulent practices in the market are issues that need to be addressed in order to revert consumption patterns, increase the willingness to pay for quality certified products to ensure the overall sustainability of the MAP sector and its resource base.

4. The Mediterranean region is the fastest growing contributor to the world market of MAPs and is especially important given its proximity to Europe. The demonstration of market transformation in Lebanon will provide an example for replication across the southern rim of the Mediterranean. The project will result in

a long-term maintenance of MAP biodiversity in general and at least 6 globally significant endemic MAP species in particular.

Target Species

5. Considerable efforts have been spent in the preparatory phase to select MAP species which are both globally significant and heavily traded. The selection process is shown in detail in the appendix III. It identified species endemic to Lebanon, endemic to the Levantine and endemic to the eastern Mediterranean. Both the IUCN Red List (1997 and 2000 versions) and the appendices of the CITES Convention (Convention on International Trade in Endangered Species of Fauna and Flora) have been accounted for in selecting target species. The status of MAPs with related trade information was obtained from a market study undertaken during the preparatory phase (summarized in Appendix V). This selection process highlighted 6 species which are endemic to the region, are endangered and are traded in significant amounts.

6. Due to the absence of national Red Data Books for plants in Lebanon and the lack of comprehensive conservation status assessments, the list of target species has been prepared in close consultation and cooperation with botanists and conservationists that are familiar with the region. The selection of target species thus builds on published and unpublished information and experience by local experts. Furthermore, a national stakeholder workshop was conducted during the preparatory phase to identify important MAP species and major threats and market barriers. In addition, a national expert workshop was conducted to verify and finalise the list of species.

7. Another level of verification was done at site level whereby three sites rich in genetic diversity of the targeted species were selected and interviews were conducted with the local communities specially with the local collectors and *attarin* (local herbalists) who discussed and finally confirmed the information obtained from the national workshop regarding the decline in populations of the selected species.

8. *Salvia fruticosa*, a heavily traded species endemic to the Eastern Mediterranean, was added to the target species list. The reason for the addition is that collectors who target *Salvia fruticosa* tend to also collect the other economically important globally significant species. Therefore the over-harvesting of *Salvia fruticosa* is negatively affecting the conservation of globally significant species.

9. During this selection and verification process it could be ascertained that the populations of all 7 MAP target species are declining. Species were included in the list only when the decrease was observed not only locally, but at the national level, and when the decrease was confirmed by several independent sources. It was also found that none of the target species is threatened to such a degree that would make it necessary to immediately ban collection and commercial use.

10. The list of target species includes both widespread plants such as *Origanum syriacum* or *Salvia fruticosa* and local plants with restricted ranges such as *Origanum ehrenbergii*. In the absence of thorough scientific studies, no objectively verifiable classification system could be developed to quantify the threats to individual species and to make the results comparable.

11. Technical studies were carried out during the preparatory phase to assess the conservation status, trade and local livelihood related to MAPs in Lebanon. These studies rely on questionnaires among MAP stakeholders, field surveys and literature assessments. The following information is a brief summary of the main findings of these studies (see Appendix V for more details).

12. The genus *Origanum* is represented in a few species and revealed as the most heavily traded kind of MAPs in the region, which is used both as food and for medicinal purposes. The market is dominated by *Origanum syriacum* which is endemic to the Levantine, and of which over 1,700 tons are traded annually in Lebanon. Of *O. ehrenbergii*, an endemic species to Lebanon, 173 tons are found in trade in Lebanon. The overall market of all *Origanum* reaches a value of almost US\$ 7,916,000.

13. Sage, *Salvia fruticosa*, also needs special attention; over 100 tons are consumed annually in Lebanon, in addition to the illegal export of Lebanese Sage to Jordan. Although not being a globally endangered species, its harvest seriously affects the populations of endemic species. *Salvia* and many identified target species grow in the same habitat, and when harvesters target mainly *Salvia*, they at the same time collect other economically important and globally significant MAP species such as *Origanum syriacum* and *O. ehrenbergii*, resulting in local overharvesting of these species. Therefore, *Salvia* has been added - not as a globally significant species - but because of the impact it has on globally significant target species, and can thus serve as a "vehicle species" to transport conservation concerns.

14. The size of the Lebanese market of the Majoram-leaved Calamint, *Cyclotrichium organifolium*, is estimated at 4,000 kg. The species is endemic to Lebanon, Syria and Turkey.

15. Lebanese Savory, *Micromeria libanotica*, is endemic to Lebanon and Syria, and 5,000 kg are known to be harvested annually in Lebanon from the wild. However, the actual amounts may be much higher, as collectors do not often distinguish between this species and the closely-related, but widespread *M. myrtifolia* and *M. barbata*.

16. Similarly, collectors usually do not distinguish between the Lebanon-endemic *Viola libanotica* and the widespread *V. odorata*. The size of the Lebanese market for *Viola* is estimated at 30,000 kg.

17. The annual harvest of *Alcea damascena*, which is endemic to Lebanon and Syria, is estimated at 6,000 kg. Collectors do not distinguish between *Alcea damascena* and the other *Alcea* species found in Lebanon. The overall size of the market for *Alcea* can therefore reach 100 tons with a market value of US\$ 320,000 for the genus as a whole.

18. There is, thus, significant trade in at least 6 globally significant MAP species. The collection of one more species (*Salvia fruticosa*), albeit itself not globally threatened, does have a serious impact on globally threatened species. The project will focus on these 7 species; however, will be open to include additional species during project implementation as needs arise.

II. STRATEGY

Project Rationale and Policy Conformity

19. The project seeks to address the problem by developing MAPs as a resource-base for local livelihood and national development. The project aims to integrate conservation objectives into the gathering, processing and marketing of globally significant MAPs. The hypothesis is that non-destructive harvests, together with income generated by MAP business opportunities for local people, will maintain the wild stocks of at least 6 globally significant endemic MAP species that are commercially traded and threatened by current harvesting practices. The project will create incentives for local communities to sustainably manage the wild stocks by ensuring the increased financial returns flow to the guardians of wild MAP stocks and are directly linked to sustainable harvest and management practices. The project will introduce a sustainable management regime for the target species. The project will focus on structuring the institutional framework of the MAP industry in Lebanon through assisting the establishment and strengthening of private-sector institutions. For this purpose, the project will support both the establishment of community-based MAP small business enterprises (SEs) and value-added production systems. Whereas this will mainly be done through capacity building including training and strengthening the necessary regulatory framework, the project will at the same time link these enterprises to Microfinance Institutions (MFIs) to pave the way for necessary loans for initial investments. Initial studies show that several MFIs welcome the opportunity to expand their operations in an area that is being supported by the GEF. The project will foster the provision of financial services by local MFIs, but does not involve itself in the credit business. The project will build awareness in the private sector and among consumers, build capacity and technical knowledge to ensure a shift in the production system, and will support the establishment of a national MAP Association (regulatory body) and a certification system for sustainable wild collection. Certification will be offered to producers and traders who can prove they collect, process and store MAPs in a sustainable manner.

20. The project will introduce a sustainable management regime for at least 800 tons annually of the globally significant target species. As the project will establish conditions to allow the approach to be extended and replicated to other MAP species and other countries and regions, the global benefits will be multiplied accordingly. Additional global benefits include global security of raw material for medicinal and aromatic plants, which will be improved through continued availability of genetic resources adapted to marginal environmental conditions, and therefore of significant value in adapting to global environmental change. At a national level, the project will contribute to an environmentally friendly economic development through developing and strengthening the MAP industry. Furthermore, the conservation of wild MAPs will ensure that a much broader genetic base is maintained from which new products can be developed so as to further support of the MAP industry. At the local level, the establishment of mechanisms to provide local communities with financial or other benefits from the sustainable use of MAPs represents an opportunity for increased income and therefore improved social and economic security. The capacity of local institutions from the public and private sector to provide technical assistance in support of the integration of conservation and production also represents a local benefit.

21. The project represents an important contribution to the goals and objectives of the *Convention on Biological Diversity* (CBD). It furthers an important interest expressed repeatedly by the Conference of the Parties (COPs) to increase the involvement and responsibility of the private sector in achieving the overall goals of the Convention. This project particularly contributes to the Convention objective of sustainable use of biological diversity. The proposal has been formulated in close harmony with the *Addis Ababa Principles and Guidelines for the Sustainable use of Biodiversity*, which consist of fourteen interdependent practical principles, operational guidelines and a few instruments for their implementation that govern the uses of components of biodiversity to ensure the sustainability of such uses. These principles and guidelines were adopted by the COP-7 in decision VII/12 (2004).

22. The project is in harmony with key principles of Article 10 (on Sustainable Use) of the CBD, in particular:

- *Integration* of conservation and sustainable use of biological resources into national decision-making;
- *Adoption* of measures relating to the use of biological resources to avoid or minimize adverse impacts on biological diversity;
- *Protection* and *encouragement* of customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements; and
- *Encouragement* of cooperation between governmental authorities and private sector in developing methods for sustainable use of biological resources.

23. The project is also an important contribution to the Convention efforts to eliminate perverse incentives and guarantee positive incentives for the conservation and sustainable use of biological resources, as

defined in decision VII/18. A certification system is a market-driven incentive system which complements to the Convention's focus on good governance and incentive-enhancing public policies.

24. The project fully meets GEF eligibility criteria under GEF Operational Programmes #1 (Arid and Semi-Arid Zone Ecosystems), including the promotion of conservation and sustainable use of endemic species. The project is furthermore closely linked to Operational Programme #3 (Forest Ecosystems), #4 (Mountain Ecosystems), and will also contribute to GEF goals in the area of agrobiodiversity (Operational Programme #13). The project targets the conservation and sustainable use of globally significant medicinal and aromatic plant species, aims at the *in-situ* conservation of these resources, and serves to remove threats to medicinal and aromatic plants by integrating their conservation into the production process in Lebanon.

25. The proposed project has been developed in line with the GEF's second strategic priority for the Biodiversity focal area "Mainstreaming Biodiversity in Production Landscapes and Sectors" (BD-2). As called for in the rationale for BD-2, the project will help support the integration of biodiversity conservation within the broader development agenda through mainstreaming conservation concerns within the MAP industry. The project will focus on business development, influencing consumers and adding value through the chain of custody to achieve both biodiversity and productive system gains.

26. The project is in line with the pillars of technical and financial assistance which form the foundation from which markets can be transformed to increase biodiversity in rural landscapes. Specifically, the project will help realise four of the eight pillars identified by UNDP-GEF:

- Development of the capacity of the rural population to work on biodiversity friendly production systems;
- Scaling up of the use of environmental standards and certification to verify production systems;
- Engagement of companies and consumers in increasing the demand for biodiversity friendly products and services;
- Provision of accessible and affordable financing for micro and SMEs engaged in investments benefiting biodiversity.

27. The project is in line with the *Global Strategy for Plant Conservation (GSPC)*, which was adopted by the CBD Conference of the Parties at its sixth meeting (decision VI/9). It was the first time that the CBD had set quantitative, although non-binding, conservation targets and a deadline for their attainment (2010). The GSPC is therefore one of the outstanding achievements of the worldwide conservation movement. The ultimate and long-term objective of the Strategy, which is composed of 16 targets, is to halt the current and continuing loss of plant diversity. The project particularly contributes to the implementation of target 13, which addresses the decline of plant resources supporting sustainable livelihoods, local food security and health care.

Country Ownership: Country Eligibility and Country Drivenness

Country Eligibility

28. Lebanon signed the *Convention on Biological Diversity* in 1992 and ratified it in August 1994. The country is eligible for GEF funding; it is participating in the Restructured GEF since 1994. Lebanon is eligible to borrow from the *World Bank* and receives technical and financial assistance from the *United Nations Development Programme* (UNDP).

Country Drivenness

29. Lebanon has benefited from a *Biodiversity Enabling Activity* project in 1997/98 during which a *National Biodiversity Strategy and Action Plan* (NBSAP) was prepared as well as a Country Report to the COP. The NBSAP was completed in November 1998 and endorsed by the *Minister of Environment*. The objectives and action plan of the NBSAP focus on conservation, sustainable use and benefit sharing of biodiversity. Within the framework of the Enabling Activities Project, draft legislation on access and benefit sharing of biological and genetic resources was also prepared and submitted to the concerned governmental institutions for adoption.

30. The Lebanon *State of the Environment Report*, issued by the Lebanese Ministry of Environment in 2001, gave special attention to plants of economic importance, and draws attention to the fact that overexploitation has already lead to the decline of a number of species. The *National Environmental Action Programme* (NEAP), which was completed in late 2005, also addresses the overuse of economically important plants, particularly medicinal and aromatic plants, and calls for promoting sustainable use. The NEAP suggests considering a lift of the present ban of export of MAPs in order to provide economic incentives for the private sector to engage in conservation and sustainable use.

31. The government development strategy gives priority to the improvement of the well-being of local communities in rural areas. Agriculture contributes to food security and plays an important role in the livelihoods of local population in arid and mountainous areas. National biodiversity strategies and action plan has emphasised the need to conserve and sustain the use of agricultural agro-biodiversity, and particularly MAP diversity.

32. The Government of Lebanon puts tackling poverty and income disparities high on its agenda. The government tries to overcome weak agricultural productivity and a widening gap between rural and urban incomes that have led to accelerated urbanisation, environmental degradation, and social imbalance. Recently, there has been a move by the Lebanese government to realizing the need for balanced regional development in the country, accompanied by an exploration of the policies of decentralization, regional development, and expansion of the sectors forming the basis of the country's economy. UNDP in Lebanon is supporting interventions aiming at promoting balanced regional development and rural community empowerment through (1) assisting the Government in devising a strategy for balanced development on a countrywide basis; (2) advocating for changing the policy of the Government to move towards increased concentration of efforts to rural areas through increased allocation of resources from sectoral line ministries to these regions; (3) strengthening and supporting the initiatives taken by the Government in developing rural areas through supporting countrywide initiatives in health, skills training and vocational education, income diversification, etc. and (4) strengthening local community initiatives and increasing awareness at the local community level for building a social network that can impact the Government policy decisions. Integrated rural developments for alleviating poverty together with support for environmental protection are therefore among the priorities for the Government. After the hostilities in Summer 2006, the government reform agenda remains not only relevant, but critical. The socio-economic impact of the war has given increased urgency to this reform agenda. "Unemployment and livelihood" and "environment" are therefore priority subjects brought forward by the Lebanese Government to the "Stockholm Conference for Lebanon's Early Recovery" in August 2006.

33. The proposed GEF project's main links to UNDP's corporate priorities – as set out in the UNDP's Strategic Plan for 2008-2011– are set out as follows: UNDP Lebanon has supported the Government of Lebanon in ratifying the Convention on Biological Diversity and has been providing assistance through technical support, policy advice, capacity development, and guidance to help in the formulation of national strategies for sustainable development integrating economic, social and environmental issues. This has been materialised through developing the National Biodiversity Strategy and Action Plan; the National Wetlands Strategy; the National Biosafety Framework; also through preparing the draft law for Access and Benefit Sharing of Biological and Genetic Resources of Lebanon; establishing and managing nature protected areas and wetlands for in-situ conservation of natural resources; promoting the conservation and sustainable use of agrobiodiversity; developing business plans and community development plans based on the sustainable use of biodiversity; and undertaking capacity development activities targeting national stakeholders for biodiversity-related issues.

34. The ultimate aim of the programme is also to incorporate environment and natural resources management into national poverty reduction strategies and key development frameworks. The contribution of biodiversity and ecosystem services to food security, health, livelihoods and reduced vulnerability to natural disasters is factored into national planning for the achievement of development goals, including safeguards to protect these resources. This project will therefore form an additional building block to put together conservation and social development within a national applicable scheme for better-integrated rural development. Finally, there is in Lebanon widespread interest among both health care professionals and the public at large in perpetuating the important health care role of medicinal plants.

35. Since much of Lebanon's rural economy was severely impacted by the destruction as a result of the 2006 conflict, the recovery of rural livelihoods and access to markets is a national priority. This proposal is fully consistent with the framework of initiatives for early recovery, led by UNDP at the request of the Government.

36. The project is in line with strategic goal 2 of the UNDAF – rights based approach to development, and specifically fits into the UNDAF operational objective 2.5 which aims at fostering equity and equality. Furthermore, the project fits into UNDP's earlier environment-related recovery efforts that were initiated after the July 06 conflict as reflected in the strategic resources framework primarily under the strategic goal 4 Crisis Prevention and Recovery, and to some extent goal 3: Energy and Environment for Sustainable Development. Finally, since the ultimately the project will be safeguarding the environment and natural resources in and around the NBC, the project outcomes will bring Lebanon a step closer towards achieving MDG Goal 7: Ensure environmental sustainability.

37. This project will be part of the UNDP Sustainable Land Management Programme for Livelihood Development which was launched recently in October 2007 to assist the Lebanese Government in identifying the specific problems and obstacles encountered in the long-term process of achieving sustainable land management to improve rural livelihood. The programme will provide support in the formulation and implementation of national projects devised to enhance this development process. The strategy of the programme focuses on integrating sustainable natural resources management with better alternatives in agricultural production and proper market linkages. This will enhance project's coordination and linkages between all programme partners.

Design Principles and Strategic Considerations

Project Design: Options and Alternatives

38. Transforming the MAP industry as a means of maintaining the conservation status of globally significant MAP species is a new and bold approach. It has not been tried in the Arab region before and it faces a number of barriers and risks. There are doubts whether value-added MAP products can create sufficient economic incentives to induce the desired behavioural change within the industry and establish the self-enforcement mechanisms necessary to "crowd out" non-complying industry participants. Income derived from MAPs will not be large and revenues generated will be seasonal supplements to household income. Nevertheless, business feasibility and economic comparative studies, as well as stakeholder surveys, indicate it can be possible. Certainly in comparison to alternative conservation strategies, the approach promises to be the most cost-effective, self-sustaining and the most likely to achieve the desired long-term behavioural changes.

Protected Area Approach

39. Like most terrestrial biodiversity in the Arab States, the target MAP species face potential threats from habitat deterioration and loss. These threats are not specific to MAPs but are part of broader land use and development issues. Land is scarce in Lebanon and natural MAP habitats face pressure from urban encroachment. Yet efforts to resist these pressures through the establishment of conservation zones (protected areas) generally have not been successful in the region. Protected area systems are weak and restrictions on access or resource-use not well respected. Perceived benefits from protected areas are not seen to out-weigh benefits from alternative productive land uses. Significant donor investments have been made in protected areas in Lebanon with fragile results. A previous UNDP-GEF protected area support project failed to achieve financial sustainability. Given the existing pressures on the protected area systems and the limited land mass, extensions to the systems to incorporate important MAP habitats are not feasible. Protected areas have been most successful when targeting flagship species such as *Cedrus libani*. MAPs are not considered flagship species.

40. Many MAP projects take a site-based approach, such as the GEF-supported projects in Egypt and Jordan. Reviews made recently identified potential concerns with these projects. A pure site-based approach is not sufficient to maintain genetic diversity. MAPs are widely distributed and the distribution area is far beyond the normal size of protectable units. In addition, MAPs are often found in disturbed or even altered natural systems (such as roadside verges) which have very little other protection value. MAPs are collected without regard of their origin, and regulations or restrictions at one site would just push the collectors to another area.

Mainstreaming into Land-Use Planning

41. Another alternative is to focus on mainstreaming MAP considerations into spatial planning processes. Unlike many species or habitats with clearly defined boundaries of occurrence, it is very difficult to take a spatial planning approach to MAPs. MAPs are scattered all over the region and occur in a wide range of habitats, including forests, rangeland, dry lands, coastal areas, highlands, etc. A spatial approach would therefore be unlikely to achieve biodiversity conservation outcomes unless implemented at a national scale. National level land-use planning does occur in Lebanon and it is not realistic to assume that MAPs could be a powerful entry point to initiate spatial planning on a country-wide basis. The land use system is affected by so many strong players, while MAP conservation concerns play only a relatively weak role with little chance of leveraging wider attention and impact.

Cultivation of commercial MAP species

42. Cultivation of medicinal plants is widely viewed not only as a means for meeting current and future demands for large-volume production of plant-based drugs and herbal remedies, but also as a means for relieving harvest pressure on wild populations. For threatened MAPs, cultivation has often been described as a conservation option because the constant drain of material from their wild populations is much higher than the annual sustained yield. If the demand for these species can be met through cultivated sources, the pressure on the wild populations will be relieved.

43. Economical feasibility is a substantial limitation to cultivation as long as sufficient volumes of material could still be obtained at a lower price from wild harvest. Commercial gatherers who have incurred no input costs for cultivation can supply MAPs to the market at much lower prices than those business men who have invested in cultivation. Domestication of a previously wild collected species does not only require substantial investment of capital but also requires several years of investigations. Research has been undertaken in Lebanon for cultivating *Origanum syriacum* and *Salvia fruticosa*, although not for the majority of the target species. Considerable time and resources would be required to study the conditions under which an economically viable cultivation of the other species would be possible.

44. On the other hand, cultivation would devalue wild-growing MAPs, and would thus take away incentives for their protection in the wild and for the protection of the habitats they are growing in. From an economic perspective, gaining MAP raw material from cultivation is considerably more expensive than from wild sources. Furthermore, domestication of many highly endangered MAPs is not always technically possible. Many species are difficult to cultivate due to certain biological features or ecological requirements (slow growth rate, special soil requirements, low germination rates, susceptibility to pests, etc.). This group of plants would enter cultivation only with the help of public domestication programmes. Among the project target species, only *Origanum syriacum* and *Salvia fruticosa* species have been successfully cultivated. Furthermore, consumers in Lebanon prefer wild-collected MAPs to those coming from cultivated sources. Consumers think that cultivated herbs and spices are less aromatic and tasty than wild-collected ones.

45. Another aspect to consider is the genetic diversity of a species which is in demand. Industry requirements for standardisation encourage a narrow genetic range of material in cultivation, and usually plant individuals with certain growth forms and/or biological components (certain ecotypes) are selected for cultivation. This phenomenon is well-known particularly for *Origanum syriacum*, which shows high genetic variation and populations in Lebanon have been screened for their genetic and biochemical composition in search for breeding sources that would lead in cultivation to high quality products. Cultivation thus does not preserve the genetic diversity of wild-growing MAPs but favours certain genetic characteristics.

46. The Mid-term review of the project on conservation and sustainable use of medicinal plants in arid and semi-arid ecosystems in Egypt pointed out the high risk of putting considerable investment in cultivation of MAPs in arid and semi-arid areas where generally speaking small-scale farming system prevail. Therefore, encouraging farmers to invest in equipment and in cultivating MAPs may expose those farmers to the risk of environmental and market failures. In addition, the review argued that cultivation can fundamentally change the values of *in-situ* resources. This can be either by diminishing the value of wild MAPs which result in locals involved in MAPs collection putting greater emphasis on other values of the ecosystem such as grazing; or it can stimulate further wild collection not associated with the additional cost of cultivation.

47. Generally speaking, sustainable harvest is increasingly seen to be the most important conservation strategy for most wild-harvested species and their habitats, given their current and potential contributions to local economies and their greater value to harvesters over the long term. Sustainable wild harvesting brings livelihood opportunities to the poor, while cultivation is often more to the benefit of large scale operations with little direct benefit to local communities. For the reasons given above, cultivation, which had initially been considered as an option for project intervention, was finally excluded from the analysis and from the foreseen project design.

48. Some key arguments for and against cultivation as a project strategy for the conservation of the target species are shown in the table.

PRO cultivation	CONTRA cultivation
Remedy against the constant drain of plant material from the wild	Cultivation devalues wild-growing MAPs, thus taking away incentives for their protection and the protection of their habitats
Securing the constant provision of large amounts of raw material	Only certain genetically narrow based ecotypes become widely cultivated, which narrows the genetic diversity of the gene pool since the wild relatives of those cultivated species become neglected
	Consumers prefer MAPs grown in the wild against those from cultivation
	Domestication methodology for 5 out of 7 target species not known, domesticating would be expensive and long-lasting
	Collection from the wild provides livelihood opportunities to the poor

49. Cultivation remains an option to be considered for *Origanum syriacum* and possibly *Salvia fruticosa*, for which technologies both under rain fed and irrigated conditions are well-known. An economic assessment conducted by LARI showed that cultivation is profitable. However, the economic risks are considerable in rain fed land, compared to collection from the wild with practically no economic risk. As collecting *Origanum* is often carried out together with other MAP species, and these species will continue to be collected from the wild, it will be impossible to completely replace wild *Origanum* with cultivated one. Cultivation of *Origanum* may be considered as complementary to MAP collection in areas where the demand exceeds the sustainable yield. UNDP is executing a project on Promoting Cultivation of Medicinal and Aromatic Plants for Livelihood Recovery. This project will co-finance the current project in terms of promoting cultivation of Oregano and Sage.

Market regulation

50. Market regulation, through harvest and trade bans, has been tried in Lebanon and has failed. 10 years ago 3 decrees under the Forest Code were established to restrict the harvesting of the 5 main traded plants. Very few actions were taken and no fines were ever made despite the fact that 150 forest guards are dispatched across the country to enforce the decrees. The problems with market regulation include the difficulty law enforcement officers have in identifying MAP species, the limited available resources for the application of the laws and the informal nature of the industry itself. Moreover, as the target species include species consumed in the daily life, such as za'tar (*Origanum*) restrictions on its usage are unlikely to be effective.

The Mainstreaming Approach

51. Based on the above analysis, mainstreaming sustainable-use into the sector that most directly threatens the target biodiversity values has been selected as the most effective framework for improving the situation. The project will focus its mainstreaming efforts on the MAP industry, specifically MAP harvesting, processing and marketing. The mainstreaming approach to MAP conservation is especially relevant when working with species in which people have a clear vested interest due to the direct economic benefits provided.

52. The present project argues that a mainstreaming approach to MAP conservation in Lebanon has the potential to achieve important impacts, both on biodiversity as well as on the sustainable livelihoods and sustainable human development of the often vulnerable groups of individuals involved in this industry. It will furthermore serve as an important demonstration for the organisation and mainstreaming of sustainable MAP production systems and mainstreaming of biodiversity values within the MAP industry. Sustainable harvest is increasingly seen to be the most important conservation strategy for most wild-harvested species and their habitats, given their current and potential contributions to local economies and their greater value to harvesters over the long term. The basic idea of the project is that less destructive harvests together with income generated by the MAP business for local people will maintain population, species and ecosystem diversity.

53. One of the fundamental principles of the project is to trigger conservation and sustainable use of MAPs through adding value to MAP produces. Value-addition through primary and advanced processing is an important tool for increasing the income derived from MAPs through increased end-product prices; this will be linked to certification and the establishment of resource-conserving harvesting practices. Only those harvesters applying agreed standards on MAP harvesting will receive access to the system of value-added products linked to community-based MAP enterprises. It will be a foremost task of the MAP Association, professional private-sector body whose establishment will be promoted by the project, to get control over harvesters, and to exclude those harvesters and enterprises from the market who do not follow agreed practices and who continue to apply destructive harvesting practices. The MAP industry is highly competitive, and the project relies mainly on market forces rather than strict state controls.

54. The private sector will be the main entry point for project interventions. Mainstreaming sustainable use concerns into the MAP industry, which is largely informal in Lebanon, will lead to a further developed and better structured industry with enhanced responsibility for conserving its own resource-base, and will help secure the income of local people.

55. The project's mainstreaming approach builds on a number of completed activities in the field of land management, e.g. protected areas management and land use planning. These efforts include the GEF funded "Protected Areas Project (PAP)", the project "Strategic Environmental Assessment and Land Use Planning in Lebanon (SEA)", the project "Stable Institutional Structure for Protected Areas Management (SISPAM)", the "Combating Desertification in Lebanon" Project (CoDeL) funded by Germany and UNDP, and the GEF project "Conservation and Sustainable Use of Dryland Agrobiodiversity in the Near East".

Project Goal, Objectives, Outcomes and Outputs/Activities

56. The overall **project goal** is to secure globally significant Medicinal and Aromatic Plants (MAPs) in Lebanon, which form a resource-base for local livelihood and national development. The **project objective** is to integrate conservation objectives into the gathering, processing and marketing of globally significant MAPs.

57. The approach to mainstreaming conservation issues into the MAP industry involves building awareness in the private sector and among consumers, creating incentives and starting points for business-building, and building capacity and technical knowledge to ensure a shift in the production system. As this approach is linked with the creation of new institutional structures and the acquisition of knowledge and skills, speedy project results cannot be expected, and the project will take several years to show its full effects.

58. The project will link MAP collection to local communities, and will promote local collection for creating stronger responsibility and stewardship for MAPs as a resource base and base of income.

59. The conservation results will be linked to income generation for local communities. The project aims to achieve its stated objective through four outcomes. The first outcome is related to sustainable harvesting methods being widely adopted. The second one is related to increasing the economic valuation of MAPs, to become precious biological resources, through value-added processing and product improvement. The third outcome entails the establishment of regulatory framework as well as increasing consumer-awareness for conservation-friendly MAPs and derived products, resulting in higher demand for sustainably harvested MAPs. Finally, the fourth outcome is related to learning, evaluation and adaptive management of the project. The logical framework provided in section III lists the outcomes together with the objectively verifiable indicators of achievement.

Outcome 1: Appropriate collection methods ensure a viable long-term supply of MAP raw materials (total cost: US\$ 697,500; GEF: US\$ 332,500).

60. The project will help create incentives for local communities to feel responsible for MAPs growing in their territory and to obtain economic benefits from them. The project will promote the formation of community-based enterprises for the collection and primary processing of MAPs, train local collectors on sustainable harvesting methods, and promote the application of a certification system for sustainably harvested MAPs. Collection practices should ensure the long-term availability of wild populations and their associated habitats. Through collecting agreements with landowners in MAP rich areas, the enterprises will influence the land use pattern in a biodiversity-friendly way.

Outputs will include the following:

- *Community-based MSEs for MAP collection and primary processing established* (output 1.1). The project will encourage local entrepreneurs to establish community-based MSEs for the collection and marketing of wild-growing MAPs. These enterprises are the key structure for creating responsibility for local MAP resources. The MAP MSEs will link collectors with the market, and will increase the local interest in MAP harvest which is at present often dominated by people from outside the community. By involving more collectors from the communities themselves, the collectors' responsibility for MAPs as their resource base and source of income will increase. Being predominantly a seasonal business, there is a need for a light and efficient business structure, which would fit the traditional family-based enterprise structure. As the treatment of MAPs will only include primary processing such as drying, cleaning, cutting and bulk packing, heavy investment is not required, and financial projections show that these small businesses can be profitable even in the first year after establishment. The project will link local entrepreneurs with Microfinance Institutions (MFIs) to get the necessary funds for initial investments (GEF co-financing). Planning of activities related to this output will be based on gender disaggregated data to ensure that it does not emphasise traditional gender roles, which might or might not be harmful to the conservation of MAPs. It will also not deprive marginalised groups such as women from a means for a necessary income. Some of these community-based MAP-MSEs may include cultivation (e.g. of *Origanum*) in their business activities. The project will further these activities in collaboration with the on-going UNDP MAPs cultivation project (GEF co-financing), especially if the demand exceeds the sustainable yield and cultivation may serve as a means to safeguard MAP MSEs in an economic sense.
- *Collectors trained in MAP identification and sustainable harvesting methods* (output 1.2). The project will provide extensive training on issues extending from MAP identification (especially important for genera such as *Origanum*, *Viola* and *Micromeria*, which comprise very similar species) over resource-conserving harvesting techniques to appropriate post-harvest treatment that may help to increase efficiency and thus to decrease the amount of MAPs required. Special attention will be paid to the training of foreman collectors who can pass on their knowledge and experience to other collectors. Focusing on community-based collectors will allow the use and strengthening of local knowledge in the fields of good collection areas, habitat preferences of certain MAPs, harvesting techniques, MAP applications, etc. Training will include

post-harvest treatment, as improper handling may give rise to decay and thus an unnecessarily high input of MAPs. The training will include measures proposed by the “International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants” (ISSC-MAP), but will not be confined to these. The project will attempt to train all collectors throughout Lebanon in order to achieve a certain “minimum standard” as regards collection methods.

- *Certification system for sustainable harvest applied* (output 1.3). The certification system to be developed by the national MAP Association (see outcome 3) will be applied on the level of community-based MSEs. Certification will trigger a major shift in harvesting practices through making them sustainable within a transparent and manageable system. Certified products will give them comparative advantages over non-certified products and will help MSEs to get better market access and higher economic returns. The project will support MAP-MSEs to fulfil the requirements necessary for getting their products certified. To this end, the project will promote the certification system and will train collectors and other related persons.
- *Community-based resource use plans set up* (output 1.4). Community-based MAP-MSEs will be highly interested in maximising the use of MAPs growing on communal land, and will therefore try to prevent adverse impacts on MAP rich sites. An economic assessment showed that the economic returns of individual collectors are not high enough to allow them to pay fees to land owners for protecting MAPs and, in exchange, for getting permission to collect MAPs on their land. The project will therefore exert influence on the mode of land use through empowering local groups of resource users. So far, collectors are not united, but work on an individual basis or in family groups or as hired workers. Through the establishment of community-based MAP-MSEs, they will become linked to these enterprises, and this will give them a voice and a forum to negotiate with public and private land owners. The project will support communities to set up MAP resource use plans, preferably at sites where MAP-MSEs are operating. Collectors will play an active role in this process in identifying their main harvesting areas and threats to these areas, and in articulating their needs to sustain the MAP resource base. The project will support the preparation and implementation of MAP community resource use plans through the provision of technical expertise, strengthening negotiation abilities and awareness-building. Such formal and non-formal collection agreements with land owners will be promoted at MAP rich sites, and the agreements will be established between collectors and/or MAP-MSEs they are working for, and the (public and private) landowners. Local authorities such as municipalities will take an active role in controlling the implementation of the resource use plans.

Outcome 2: Value-added processing and product improvement result in increased value of globally significant MAPs harvested in biodiversity-friendly manner (total cost: US\$ 492,500; GEF: US\$ 242,500).

61. The project will support the transformation from sales of unbranded MAP products to branded value-added products. Manufacturers will better understand the need to harvest MAPs under controlled, sustainable conditions, and the need to conserve MAPs as valuable raw material for their business. Value-added production will be facilitated by upgrading those existing facilities and companies for manufacturing and trading, which are interested in certified products and which have already strong MAP market channels. Manufacturing value-added MAP products will increase the demand for high-quality raw material and will trigger an increase in prices.

Outputs will include the following:

- *Manufacturing and trading companies upgraded and linked with the community-based MAP-MSEs* (output 2.1). Manufacturing and trading companies will represent the link between community-based MAP-MSEs and the end-consumer market. Adding value through better packaging and labelling will help to yield higher prices and branding will help to achieve a market position and to sell larger quantities through brand recognition and consumer trust. Manufacturing value-added MAP based products mostly requires profound knowledge, skills and a professional background, which would exceed the capacities of rural community-based MAP-MSEs. The project aims at supporting a number of manufacturing and trading companies which offer different products, cover different price segments and sell to different markets. The project will link those companies with the producers (community-based MAP-MSEs) and will support them in the marketing efforts, such as at launching events, as well as the development of a series of standards and adaptable sales tools which the companies can use to shape their sustainability message and support their marketing efforts. The project will thus focus on capacity development for these enterprises, and will link them to ongoing microcredit programmes of Microfinance Institutions (MFIs) (GEF co-financing).
- *Locally processed MAP products branded* (output 2.2). Branding turns out to be critical for increasing the value of MAPs, and thus for having a positive impact on MAP conservation. Brands, i.e. names, designs, symbols, or any other feature that identifies one seller’s MAP products as distinct from those of other sellers, are almost unknown for MAPs in Lebanon. By identifying and authenticating a product, it delivers a pledge of satisfaction and quality and will help to increase the price. For some aromatic plants such as *Origanum*, the project will focus on so called “charismatic brands” – brands that customers feel are essential to their lives. Brand-building for MAPs requires intensive training and business consulting services to manufacturing and

trading companies, and brand awareness programmes for the consumers. Branding needs to be done with a wider range of products and will not necessarily be confined to MAP products developed from globally significant species.

- *Innovative MAP based products developed and introduced into the market* (output 2.3). The project will assist initiatives and enterprises to develop new products based on globally significant MAPs and which add value to the production chain. This will require a transfer of knowledge and technologies from other countries to Lebanon. The project will assist the manufacturing and trading companies in their efforts to identify possible new products and adapt the required technologies. Being based on sustainably harvested globally significant species, the new products are expected to have a positive impact on the conservation of these species, as local resource users and resource owners will understand their economic potential.

Outcome 3: Supply chain framework strengthened for sustainable harvest of globally significant MAP species and awareness promoted for conservation-friendly MAP products (total cost: US\$ 583,500; GEF: US\$ 383,500).

62. The project will substantially increase the demand for value-added MAP products which have been processed with the objectives of ecological, social and economic sustainability. The project will rely on a mix of regulative framework as well as administrative regulations and voluntary measures such as guidelines and certification labelling for achieving this goal, and will assist the stakeholders to form a professional organisation that develops and promotes these quality standards. The project will build on similar efforts already undertaken by various groups, and will closely cooperate e.g. with the Swiss-Lebanese project on "Organic Certification and Market Development", whose main objective is to develop the domestic and international market for Lebanese organic products. This will be achieved by establishing a professional, independent and locally owned certification agency, and through capacity building in the field of marketing by means of training, pilot projects and public relation.

Outputs will include the following:

- *National MAP Association established as private-sector entity* (output 3.1). The project will support the establishment of national MAP Association as non-profit public interest organisation campaigning and lobbying for a sustainable MAP business. The MAP Association will deal with crucial issues of MAP safety, environmental sustainability standards, certification, cultivation, corporate accountability, Fair Trade and other key topics. The association will draw its membership from *attarin*, traders, processors, botanists and other stakeholders interested in developing a sustainable industry. Funding of the association's activities has to come from membership fees and certification fees charged to MAP operators. MAP Association is critical for controlling and monitoring its members' activities, and thus for their compliance with sustainability standards.
- *Guidelines on sustainable harvesting practices agreed, training modules developed and widely applied* (output 3.2). "Good collection practices" will be developed for MAPs, especially at the species level, with a priority placed on those taxa for which destructive collection is reported. Development of such practices will be linked to elaboration of the *World Health Organization* (WHO) "Good Agricultural and Collection Practices (GACP)" issued in 2003 and the revised *WHO/IUCN/WWF Guidelines on Conservation of Medicinal Plants*, currently in preparation. Plant Monographs will be developed for the main target species. The project will closely cooperate with WWF, TRAFFIC and the IUCN-SSC Medicinal Plant Specialist Group on the "International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants" (ISSC-MAP), which was developed recently. The project will test and validate these standards on a wide scale (see also outcome 1) and will thus contribute to the further development of international standards. Sustainable harvesting standards may vary greatly from one species to the next and depend on population status and the species' intrinsic biology (e.g. some species are perennial, some annual, some widespread, others with specific temporal 'windows' required for establishment or reproduction). The standards will therefore not be left at a general level, but will be identified for each of the target species individually.
- *Certification system developed, agreed and put into practice* (output 3.3). In order to give consumers confidence that the standards are adhered to, an independent inspection and certification system will be put in place. Certification will be a further development of the guidelines. While the guidelines should be common practice and should be followed by all collectors, MAP-MSEs as well as manufacturing and trading companies, certifying MAP products will need more efforts, but will also provide additional benefits through its link to value-added production and branding. The certification offered by the association will be accessible by all producers and traders who can prove that they collect or cultivate, process and store MAPs in a sustainable manner according to the association's standards. Information tools will be elaborated explaining the certification programme and its benefits to companies. The tools will be made available in individual meetings, meetings of the MAP business association and on the web. The certification will include several steps of self-monitoring and external auditing. A multi-disciplinary expert working group on certification will be established in Lebanon under the roof of the MAP Association to explore further the

potential to establish certification schemes for MAPs. Such a group will be organised in consultation with internationally-recognised certification bodies, recognising that any process to develop standards will require several stages, including development of interim standards, field testing and refinement. To provide a real incentive for buying certified products, the certification label will also cover, in addition to ecologically-friendly harvest, aspects such as quality and health.

- *Regulative framework on collection, processing, and on national and international trade developed* (output 3.4). Whereas the project will support the implementation of standards and regulations by the MAP industry on a voluntary basis whenever possible, there is in certain fields a need for administrative and legal interventions. These include safety regulations for MAP health products, licensing of MAP enterprises, export and import regulations, etc. The project will elaborate recommendations and draft regulations for the relevant authorities together with the main stakeholders. Implementation of the regulations will be achieved through the MAP Association and its members from the business community. It will be considered to recommend lifting the export ban on some MAP species in Lebanon. Whereas the introduction of collection quotas is not foreseen on a broad scale, they may be considered for a transient period for certain species and areas, where effective voluntary restrictions are not yet in place.
- *Consumer awareness for sustainably harvested products raised* (output 3.5). As far as the domestic market for MAPs and herbal medicine in Lebanon is concerned, consumers are not even aware of the ecological and social aspects of MAP use and trade, let alone inclined to seek out products certified to be eco-friendly or produced in a socially responsible manner. The establishment of the certification system will therefore be accompanied by intensive awareness-building on the consumer side, to show the need for protection. As almost all MAP target species are regional endemics, awareness-building will be based on promotion of cultural identity. The awareness campaigns aim at enabling consumers to distinguish sustainably harvested MAPs from other products which do not fulfil these criteria.

Outcome 4: Learning, evaluation and adaptive management achieved (total cost: US\$ 454,500; GEF: US\$ 119,500).

63. There is a need to continually improve the MAP mainstreaming project, maximize its impacts, and increase cost-efficiency. In order to do so, the project will help create a learning and adaptive management system, which will document the impact of private sector activities on the status of MAPs in the wild, and explicitly test the assumptions and control the risks, as well as provide access to inputs, and knowledge from external groups and stakeholders.

Outputs will include the following:

- *Monitoring programme established* (output 4.1). Gender monitoring will be carried out throughout the project as a basis for adaptive management. Gender-disaggregated data on project beneficiaries and other stakeholders will be collected on a yearly basis. Gender elements will be included in contracts to be concluded with local enterprises, such as community-based MAP-MSEs and companies for value-added MAP production. The project will ensure that information related to project activities reach both, men and women, as well as preparing women to fully participate in the resource management process; it will target women in the communities for education and awareness on MAP conservation, collection and processing, as well as promote mechanisms for the active and full participation of women, targeting them for access to micro-credit facilities, and get them involved as much as possible in the MAP-MSEs and the manufacturing companies.
- *Adaptive management and strategic planning system established* (output 4.2). As the project follows an innovative approach and generates knowledge and lessons learned for example about the impacts on the MAP industry, on the certification processes and on market transformation, there is a need to continually reconsider the project strategy and to adapt it, if necessary, according to the project performance. This will happen at annual planning events and the results will be integrated in the Annual Work Plans (AWP).
- *Lessons learned and impact data are gathered, documented and disseminated to key internal and external audiences* (output 4.3). Once information is gathered and lessons learned are generated in a systematic way, the project will help disseminate the knowledge to a number of different audiences. The project's information and knowledge dissemination activities will target the project stakeholders including the private sector, government institutions, decision makers and local NGOs; projects dealing with the conservation and sustainable use of MAPs and other bioproducts as well as with sustainable harvest and certification; conservation and development organisations which promote sustainable agriculture, as well as the broader public through media organizations. The project will link itself with other MAP related GEF projects and with MAP networks. The project will allocate the necessary resources. Further details on planned activities are given in the section "Replicability".

Key Indicators and Assumptions

64. A number of performance indicators have been identified. The Log Frame provides the full list of indicators, baselines and targets. Measures for the project's overall success at the *objective* level include

- The population level of the 7 target species slightly increasing by 10% over the lifespan of the project;
- The proportion of globally significant MAPs that are harvested under an environmentally-friendly management control regime;
- The integrity of habitats at certain MAP-rich sites which have been selected for monitoring purposes.

65. At the project outcome level, the success of *outcome 1* (collection methods) will be measured by the market availability of the target species, the amount of MAPs collected per unit of collecting effort (the higher the MAP population density, the lower the efforts to collect a certain amount of MAPs), and the availability of target species in certain sample plots (within MAP rich areas). An assumption for this outcome renders that social solidarity within local communities is strong to the extent that community-based MAP collectors and MAP-MSEs are able to make arrangements with land owners minimising adverse impacts on MAP rich areas and secures the flow of plant raw material.

66. Achievements of *outcome 2* (value-added processing) will be indicated by the number of value-added products based on indigenous MAP species, the number of properly labelled MAP derived products, the number of brands using local MAPs, and the average price of MAP raw material (measured per species). It is assumed that processors of MAPs will rely on raw material collected under controlled conditions, and will not sacrifice quality standards (and herewith their own reputation) for cheap MAPs purchased from unsustainable sources.

67. Realization of *outcome 3* (Supply chain framework strengthened for sustainable harvest of globally significant MAP species and awareness promoted for conservation-friendly MAP products) will be measured by the annual sales of certified MAP products, the number of groceries and shops selling such products, consumer surveys, as well as by the signature and implementation of the CITES Convention managed by the Government of Lebanon. An assumption for this outcome is that increased consumer awareness will lead directly to increased sales of sustainably-produced MAP products, meaning that consumers are willing and capable of paying higher prices for these products. It is further assumed that the species are not (yet) critically endangered and the stocks of wild MAPs still allow sustainable use and are big enough to fulfil the demands.

68. The success of the project approach rests on three main assumptions: First, that value-added production will increase the value of MAPs in all stages of the production cycle, including the price of raw material; Second, that the Lebanese economy allows high-quality/high-priced MAP products to penetrate the market and to achieve significant market shares; Third, that community members are ready to engage in the MAP industry, whether as collectors or in MAP-MSEs, and that the incentives provided by this industry are sufficient to attract enough people.

Financial Modality

69. The total cost of the project is estimated to be US\$ 2,228,000. This includes US\$ 1,078,000 (48%) requested from the GEF, and the remainder (52%) constituting co-financing. Of the co-financing, US\$ 285,000 will be supplied by the Government of Lebanon as in-kind contributions over four years of project operation. This comes from the provision of offices and premises, staff involved in monitoring, vehicle, telecommunication, electricity, use of facilities, operations and maintenance, etc. This contribution will also cover the establishment of a monitoring system for wild-growing MAPs.

70. The project will help to establish community-based MAP-MSEs and to upgrade existing manufacturing companies for producing value-added MAP products. Whereas this will mainly be done through capacity building including training and strengthening the necessary regulatory framework, the project will at the same time link these enterprises to Microfinance Institutions (MFIs) to pave the way for necessary loans for initial investments. The aim is to get the local MFIs to do the financing on their own. Initial studies show that several MFIs welcome the opportunity to expand their operations in an area that is being supported by the GEF and UNDP. The project will foster the provision of financial services by local MFIs, but does not involve itself in the credit business. GEF funds will thus cover expenditures for technical assistance rather than funding the MFIs' loans.

71. The project "Rural Dryland Development through Innovative Market Approaches, Financing Strategies and Local Initiatives for UNCCD Implementation" will support the marketing of MAPs as part of efforts towards promoting fair trade processes as an option for rural dryland producers and MSEs.

72. The project will also collaborate with the “Local Development and Poverty Alleviation Programme” on the provision of micro-financing and capacity building of MAP-MSEs in Lebanon and on capacity building for municipalities on sustainable use of natural resources.

73. The project will further collaborate with the project “Promoting Cultivation of Medicinal and Aromatic Plants for Livelihood Recovery” for promoting the cultivation of *Origanum syriacum* and *Salvia fruticosa*, especially if the demand exceeds the sustainable yield and cultivation may serve as a means to safeguard MAP MSEs in an economic sense.

74. The market for micro loans in Lebanon is large as is demonstrated by the continued growth of allocated funds. A recent study indicated that the total supply of micro credit in Lebanon has been steadily increasing over the years, and reached approximately \$27 million in 2003. The *Local Development and Poverty Alleviation Programme*, a multilateral international initiative for Lebanon coordinated by UNDP, has committed to extend credits to small holders for the establishment and upgrading of MAP based enterprises in the project areas. Several other institutions already expressed their intention to partner with the UNDP GEF project. These include the *Makhzoumi Foundation*, the foundation *Association for Rural Development (ADR)*, *Jihad al Binaa*, *Ameen SAL*, and *Al Majmouaa*. Several new micro-credit lines have been suggested for the war recovery programme of Lebanon, and it is likely that this will increase the opportunities for financing SMEs technically supported through the project.

Name of co-financier (source)	Classification	Type	Amount (\$)	%*
Lebanese Agricultural Research Institute	Exec. Agency	In-kind	285,000	24.8
UNDP	Impl. Agency	Grant	150,000	13
Micro-financing national NGOs	NGO	Soft Loan	200,000	17.4
Local Development and Poverty Alleviation Programme	Project	In-kind	115,000	10
Promoting Cultivation of Medicinal and Aromatic Plants for Livelihood Recovery	Project	In-kind	250,000	21.8
Rural Dryland Development through Innovative Market Approaches, Financing Strategies and Local Initiatives for UNCCD Implementation	Project	In-kind	150,000	13
Total Co-financing			1,150,000	100%

75. The project will be directly executed by UNDP-Lebanon, in accordance with standard UNDP project arrangements. Execution support services will be provided in line with UNDP’s NEX guidelines and reimbursed from the project budget on a strict cost-only recovery basis.

Cost-effectiveness

76. Mainstreaming MAP conservation considerations into the private sector represents a far more cost effective approach than the classical approach, which involves the establishment of protected areas in which MAP harvest is prohibited. By mainstreaming conservation, the recurrent costs will be virtually eliminated, with conservation supported by self-financing incentive systems that generate financial benefits for MAP collectors and processors who conserve. Driven by market incentives created by this project, MAP-MSEs will undertake investments into their own business to expand and to become eligible for certification. For the MAP industry as a whole, the voluntary, participatory approach of the project is cost-effective when compared to involuntary regulatory and enforcement measures, reducing the need, and therefore the costs, of interventions.

Sustainability

77. Sustainability of MAP species harvest in the wild and of the processes initiated by the project has been a major consideration throughout the development of this project. Sustainability will be mainly achieved through value addition along the MAP supply chain, thus taking a market-based approach. The project will increase the economic benefits derived from MAPs, for collectors, traders and manufacturers.

78. The project will focus on structuring the institutional framework of the MAP industry in Lebanon through assisting the establishment and strengthening of private-sector institutions. The project will assist members of local communities (men and women) in forming community-based enterprises for the collection and primary processing of MAPs, and will help private enterprises to enhance their capacities for value-added production and marketing of MAPs. Furthermore, the project will support the establishment of MAP Association as private-sector entity representing all concerned individuals and companies, to agree on common standards and to steer the MAP industry as a whole. All these institutions will be highly interested in securing a smooth and regular provision of raw material, and thus in securing sustainability of MAP species. The project will make sure that all groups are represented and that women are also part of this association and can participate in the decision-making process.

79. The sustainability of the processes initiated by the project will be further achieved through the direct involvement of all beneficiaries at all levels of the project, including their empowerment through capacity development. The envisaged MAP Association as professional organisation will give all concerned stakeholders voice and opportunities to take influence on the further development of the MAP industry. The engagement and commitment of development partners and an optimal mobilization of financial resources will be enhanced by their early involvement in project arrangements. This will ensure adequate ownership by all stakeholders, and not least of all, financial sustainability.

80. Financial sustainability: The project will deal mainly with private-sector institutions and companies, which will benefit from the project in the form of increased economic returns from MAP sales, through value-added production induced by the project. Once this production scheme is in place it will not require significant additional inputs to sustain it.

81. An economic assessment has been performed during project preparation to assess the economic viability of enterprises in the MAP industry. A modelling exercise was undertaken for different assumptions and framework conditions. It was found that MAP collecting, processing and trading may become a profitable business, even for small family-based enterprises. As dealing with MAPs is a mainly seasonal business, it is assumed that most enterprises will be run on an additional-income basis.

82. The project will thus help develop win-win opportunities resulting in both, livelihood and biodiversity gains, as well as getting stakeholders to accept trade-offs and internalize costs related to biodiversity in their production activities. It will help establish a new generation of entrepreneurs who will have a continuing stake in the sustainable use of MAPs. These individuals' direct economic interest in applying the knowledge gained through the project will help ensure that the human capacity gains thus achieved will not be lost.

Replicability

83. The project will test an innovative approach towards dealing with the threats to globally significant MAPs arising from human consumption, by mainstreaming biodiversity conservation into day-to-day business operations. This project will work in Lebanon on national scale, and aims at exerting influence on the MAP industry as a whole. The promotion of national MAP business association will help propagate the project concept throughout the country.

84. The business model pursued by the project combines income generation with global conservation benefits, and may thus serve as a model for similar economics in the Middle East and elsewhere. Results from the project will be disseminated within and beyond the project intervention zone through a number of existing information sharing networks and fora. At the global level, information will be made available through knowledge management systems, particularly through web links and global networks including those set up by the *IUCN Medicinal Plants Specialist Group* or the *FAO* through the *Non-wood News*. The project will also share information and experience with *MedPlant*, a global 'network of networks' dedicated to supporting and linking existing regional initiatives to build partnerships and improve collaboration on the sustainable use and conservation of medicinal plants.

85. In addition, the project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned.

86. The project will exchange lessons learned with other GEF funded projects dealing with MAPs; these include:

- Egypt: Conservation and Sustainable Use of Medicinal Plants in Arid and Semi-arid Ecosystems (UNDP, FSP); a mid-term evaluation to be carried out in autumn 2006. The results and lessons learned will be taken into account for the final design of the project.
- Ethiopia: Conservation and Sustainable Use of Medicinal Plants (IWRB, FSP);
- India: Mainstreaming Conservation and Sustainable Use of Medicinal Plant Diversity in Three Indian States (UNDP, FSP);
- Jordan: Conservation of Medicinal and Herbal Plants (IWRB, FSP);
- Sri Lanka: Conservation and Sustainable Use of Medicinal Plants (IWRB, FSP);
- Zimbabwe: Conservation and Sustainable Use of Traditional Medicinal Plants (UNDP, MSP);
- Regional (West Africa): Enhancing Conservation and Rationale Utilization of Medicinal, Aromatic and Pesticidal Plants through Sustainable Land Management (UNEP, FSP);
- Regional (Central America): Biodiversity Conservation and Integration of Traditional Knowledge on Medicinal Plants in National Primary Health Care Policy in Central America and Caribbean (UNEP, MSP).

87. The project will test the “International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants” (ISSC-MAP), currently being developed jointly by the *World Wide Fund for Nature (WWF)*, the TRAFFIC network, the German *Agency for Nature Conservation* and *IUCN–The World Conservation Union*. The objectives of this standard are to provide a framework of principles and criteria that can be applied to the management of MAP species and their ecosystems; to provide guidance for management planning; to serve as a basis for monitoring and reporting; and to recommend requirements for certification of sustainable wild collection of MAP resources.

88. The project will identify, analyse, and share lessons learned that might be beneficial in the design and implementation of similar future projects. Identifying and analysing lessons learned is an on-going process, and the need to communicate such lessons as one of the project’s central contributions is a requirement to be delivered not less frequently than once every 12 months. UNDP/GEF shall provide a format and assist the project team in categorizing, documenting and reporting on lessons learned.

III. RESULTS AND RESOURCES FRAMEWORK

Intended Outcome as stated in the Results and Resource Framework: Government Compliance with International Conventions promoted and supported
Outcome indicators as stated in the Country Programme Results and Resources Framework, including baseline and targets:
Applicable Goal: 3. Energy and Environment for Sustainable Development 3.1. Frameworks and Strategies for Sustainable Development
Project title: Mainstreaming Biodiversity Management into Medicinal and Aromatic Plants Production Processes
ATLAS Award ID: 00050138

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Risks and Assumptions
Objective of the project: To integrate conservation objectives into the gathering, processing and marketing of globally significant MAPs	Impact on Biodiversity: <ul style="list-style-type: none"> Population Index for the 6 globally significant species in three selected monitoring areas (amount collected per unit of collection effort). Population density of selected target species (plot counts) Threat Reduction Assessment Index (TRA index) 	<ul style="list-style-type: none"> 5.0 kg MAPs (fresh weight) per day per collector Will become available by beginning of the project 0 	<ul style="list-style-type: none"> Increase by 10% till the end of the project Increase by 10% till the end of the project 57% 	<ul style="list-style-type: none"> Annual assessments through interviews and field work with collectors Field assessments (beginning, mid and end of project) Field assessments (beginning, mid and end of project) 	<ul style="list-style-type: none"> Natural fluctuations of MAP population (e.g. weather-dependent) may affect population trends caused by the MAP industry. Baseline value will be validated further for each of the target species in the inception phase. Research institutions are going to provide as an in-kind contribution baseline data (plot counts) by the beginning of the project.
	Impact on Pressures: <ul style="list-style-type: none"> Amount of MAPs collected from the wild following sustainable harvesting practices 	<ul style="list-style-type: none"> 5% of the total MAPs collected from the wild 	<ul style="list-style-type: none"> 70% (800 tons) of the total harvest by end-of-project 	<ul style="list-style-type: none"> Market assessments (interviews with wholesalers, mills and trading companies) 	<ul style="list-style-type: none"> MAP industry (collectors, wholesalers, mills and companies) willing to cooperate. Overall market and political conditions are appropriate

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Risks and Assumptions
	Impact on Response Measures: <ul style="list-style-type: none"> Number of local people directly gaining income from MAPs increases or remains at least constant 	<ul style="list-style-type: none"> 1500 	<ul style="list-style-type: none"> At least 1500 	<ul style="list-style-type: none"> Annual Project Evaluation Reports, Mid-term Evaluation Report Annual assessments 	<ul style="list-style-type: none"> Baseline number of people working in the MAP industry in a broad sense needs to be differentiated according to the various groups.
Outcome 1: Appropriate collection methods ensure a viable long-term supply of raw materials of globally significant MAP species	Impact on Pressure: <ul style="list-style-type: none"> Percentage of collectors applying destructive harvesting practices (unnecessary uprooting, no rotation of collection areas, early collection). 	<ul style="list-style-type: none"> 90% 	<ul style="list-style-type: none"> Decrease by 70% at the end of project 	<ul style="list-style-type: none"> Reports on inspections of companies and collection areas Interviews with collectors Reports on training sessions provided for collectors 	<ul style="list-style-type: none"> Number of collectors applying unsustainable harvesting methods needs to be validated in the inception phase, taking into account the different groups of collectors
	Impact on Response Measures: <ul style="list-style-type: none"> MAP harvest follows resource use plans set jointly by the private sector, local communities and conservation experts. Number of traders/processors conditioning purchase to sustainable harvesting practices. Community-based MAP-MSEs established. 	<ul style="list-style-type: none"> 0 plans 0 traders/processors No such 	<ul style="list-style-type: none"> At least 10 plans 80% at the end of the project 7-10 enterprises 	<ul style="list-style-type: none"> Minutes of meeting, reports Annual Project Evaluation Reports, Mid-term Evaluation Report Annual project reports. 	<ul style="list-style-type: none"> Agreements with public and private landowners will mostly be on an informal level. Implementation depends on good-will and social control at community level.

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Risks and Assumptions
		companies	at project end		
<p>Outputs from Outcome 1:</p> <p>1.1 Community-based MSEs for MAP collecting and primary processing established.</p> <p>1.2 Collectors trained in MAP identification and sustainable harvesting methods.</p> <p>1.3 Certification system for sustainable harvest applied.</p> <p>1.4 Community-based resource use plans set up.</p>					
Outcome 2: Value-added processing and product improvement result in increased value of globally significant MAPs harvested in biodiversity-friendly manner	Impact on Pressure: <ul style="list-style-type: none"> Volumes of target species traded in processed form (volumes to be determined for each target species) 	<ul style="list-style-type: none"> less than 25 tons 	<ul style="list-style-type: none"> at least 300 tons by end of project 	<ul style="list-style-type: none"> Market survey 	<ul style="list-style-type: none"> Stakeholders willing to transform the MAP market from an informal to a better structured one
	Impact on Response Measures: <ul style="list-style-type: none"> Increased price of MAPs along the value chain from raw products to locally manufactured products. Number of value-added branded products manufactured according to WWF and WHO quality standards. 	<ul style="list-style-type: none"> Actual prices (prices available for each species) 0 	<ul style="list-style-type: none"> Increase by at least 20% per species and per product 8 by end of project 	<ul style="list-style-type: none"> Market survey Market survey 	<ul style="list-style-type: none"> Consumers willing to pay more for sustainably produced products Private sector owes the means for investments or willing to take the risk of credits International firms willing to transfer technologies at acceptable terms National and regional market for value-added products available Political decision-makers ready to support the initiative
<p>Outputs from Outcome 2:</p> <p>2.1 Manufacturing and trading companies upgraded.</p> <p>2.2 Locally processed MAP products branded.</p> <p>2.3 Innovative MAP based products developed and introduced into the market.</p>					
Outcome 3: Supply chain framework	Impact on Pressure: <ul style="list-style-type: none"> Portion of MAP consumers who declare to be ready to 	<ul style="list-style-type: none"> 71% declared to 	<ul style="list-style-type: none"> Increase from the 	<ul style="list-style-type: none"> Consumer survey 	<ul style="list-style-type: none"> Increased awareness will directly lead to increased demand

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Risks and Assumptions
strengthened for sustainable harvest of globally significant MAP species and awareness promoted for conservation-friendly MAP products	pay more for sustainably harvested MAP products.	be ready to spend up to 25% more	baseline by 30% by end-of-project		<ul style="list-style-type: none"> • Consumer trust in MAP-derived products and certification system. • MAP Association will be representative for the whole MAP industry • Proper labelling and certification based on a voluntary system requires strict discipline • Sustainability standards will be identified for each of the target species individually • Baseline figure for consumers ready to pay more for sustainably harvested MAPs has been extrapolated from figures derived from organic food which need to be verified
	<p>Impact on Response Measures:</p> <ul style="list-style-type: none"> • Number of properly labelled MAP-derived products. • National MAP Association functional. • Agreed sustainability standards available for target species. • Number of community-based enterprises applying certain ecological standards (certification). 	<ul style="list-style-type: none"> • None • No such organisation • None • None 	<ul style="list-style-type: none"> • 8 products at end-of-project • MAP Association established and functional • Elaborated document signed by all members of MAP Association • 7-10 community-based enterprises by the end of the project 	<ul style="list-style-type: none"> • Report on market survey. • Project reports. • Project reports. • Internal project evaluation reports. 	
<p>Outputs from Outcome 3:</p> <p>3.1 National MAP Association established as private-sector entity.</p> <p>3.2 Guidelines on sustainable harvesting practices agreed, training modules developed and widely applied.</p> <p>3.3 Certification system developed, agreed and put into practice.</p> <p>3.4 Regulative framework on collection, processing as well as on national and international trade developed.</p> <p>3.5 Consumer awareness for sustainably harvested products raised.</p>					
Outcome 4:	Impact on Response				

Project Strategy	Indicator	Baseline	Target	Sources of Verification	Risks and Assumptions
Learning, evaluation, and adaptive management	Measures: <ul style="list-style-type: none"> • Annual updates of gender analysis, risk mitigation strategy and impact assessment 	<ul style="list-style-type: none"> • As described in Project Document 	<ul style="list-style-type: none"> • Results incorporated in the annual work plans 	<ul style="list-style-type: none"> • Annual work plans 	<ul style="list-style-type: none"> • Qualified, experienced and affordable expertise available in the region • Flexibility of project partners to react on new developments and requirements
<p>Outputs from Outcome 4:</p> <p>4.1 Monitoring programme established;</p> <p>4.2 Adaptive management and strategic planning system established;</p> <p>4.3 Lessons learned and impact data are gathered, documented and disseminated to key internal and external audiences.</p>					

IV. ANNUAL WORK PLAN

Award ID:	000											
Award Title:												
Business Unit:												
Project Title:	Lebanon- Mainstreaming Biodiversity Management into Medicinal and Aromatic Plants Production Processes											
Project ID: PIMS												
Implementing Partner (ex.Ag.)	Lebanese Agricultural Research Institute											
ATLAS Project Objective	Atlas Activity (GEF Outcome)	Responsible Party	Source of Funds	Fund ID	ATLAS Budget	Atlas Budget Description	Amount Year 1	Amount Year 2	Amount Year 3	Amount Year 4	Total Amount (USD)	
Mainstreaming Biodiversity Management into Medicinal and Aromatic Plants Production Processes	Activity 1: Appropriate collection methods ensure a viable long-term supply of raw materials of globally significant MAP species	UNDP	GEF	62000	71200	International Consultants	5,500	17,250	9,000	9,250	41,000	
		UNDP	GEF	62000	71300	Local Consultants	34,000	36,000	3,400	2,000	75,400	
		UNDP	GEF	62000	71400	Contractual Services- Ind.	7,312	7,312	7,312	7,314	29,250	
		UNDP	GEF	62000	71600	Travel	4,250	11,450	4,250	11,450	31,400	
		UNDP	GEF	62000	72300	Materials and goods	10,000	5,000	5,000	0	20,000	
		UNDP	GEF	62000	72200	Equipment and Furniture	50,000	30,000	0	0	80,000	
		UNDP	GEF	62000	73400	Rental & maint. of other eqpt	1,700	1,700	1,600	0	5,000	
		UNDP	GEF	62000	72400	Comm. & Audio-Visual Eqpt.	975	975	975	975	3,900	
		UNDP	GEF	62000	74200	Audio vis.&print. production	2,500	3,500	2,750	0	8,750	
		UNDP	GEF	62000	72500	Supplies	2,300	2,200	2,150	0	6,650	
		UNDP	GEF	62000	74500	Miscellaneous Expenses	2,300	2,200	2,150	0	6,650	
		UNDP	GEF	62000	75100	F&A	6,125	6,125	6,125	6,125	24,500	
							sub-total	126,962	123,712	44,712	37,114	332,500
	In-kind Co-financing 365,000 USD											
		Activity 2: Value-added processing and product improvement result in increased value of globally significant	UNDP	GEF	62000	71200	International Consultants	7,000	23,000	17,500	9,200	56,700
			UNDP	GEF	62000	71300	Local Consultants	14,750	17,000	8,000	10,730	50,480
			UNDP	GEF	62000	71400	Contractual Services- Ind.	7,312	7,312	7,312	7,314	29,250
			UNDP	GEF	62000	71600	Travel	12,700	28,500	9,500	12,000	62,700
			UNDP	GEF	62000	74200	Audio vis.&print. production	0	2,500	2,170	0	4,670

MAPs harvested in biodiversity-friendly manner	UNDP	GEF	62000	72500	Supplies	2,000	2,500	2,000	1,050	7,550
	UNDP	GEF	62000	74500	Miscellaneous Expenses	2,000	1,500	1,500	1,650	6,650
	UNDP	GEF	62000	75100	F&A	6,125	6,125	6,125	6,125	24,500
						sub-total	51,887	88,437	54,107	48,069
In-kind Co-financing 250,000 USD										
Activity 3: Supply chain framework strengthened for sustainable harvest of globally significant MAP species and awareness promoted for conservation-friendly MAP products	UNDP	GEF	62000	71200	International Consultants	18,500	24,000	15,000	10,600	68,100
	UNDP	GEF	62000	71300	Local Consultants	11,500	13,500	7,500	5,000	37,500
	UNDP	GEF	62000	71400	Contractual Services- Ind.	7,312	7,312	7,312	7,314	29,250
	UNDP	GEF	62000	71600	Travel	22,000	27,400	21,500	24,500	95,400
	UNDP	GEF	62000	72100	Contractual Services- Comp	0	35,000	40,000	0	75,000
	UNDP	GEF	62000	72800	Information & Technol. eqpt.	10,000	0	0	0	10,000
	UNDP	GEF	62000	74200	Audio vis.&print. production	0	7,000	6,500	6,500	20,000
	UNDP	GEF	62000	72500	Supplies	4,000	4,000	3,000	1,000	12,000
	UNDP	GEF	62000	74500	Miscellaneous Expenses	3,000	3,000	3,250	2,500	11,750
	UNDP	GEF	62000	75100	F&A	6,125	6,125	6,125	6,125	24,500
					sub-total	82,437	127,337	110,187	63,539	383,500
In-kind Co-financing 200,000 USD										
Activity 4: Learning, evaluation, and adaptive management	UNDP	UNDP	04000	71400	Contractual Services -Ind.	37,500	37,500	37,500	37,500	150,000
	UNDP	GEF	62000	71400	Contractual Services- Ind.	20,500	20,500	20,500	20,170	81,670
	UNDP	GEF	62000	72400	Comm. & Audio-Visual Eqpt.	750	750	750	750	3,000
	UNDP	GEF	62000	72500	Supplies	575	575	575	575	2,300
	UNDP	GEF	62000	74100	Professional services	500	500	500	500	2,000
	UNDP	GEF	62000	74200	Audio vis.& print. Prod. costs	0	0	0	4,580	4,580
	UNDP	GEF	62000	74500	Miscellaneous Expenses	350	350	350	400	1,450
	UNDP	GEF	62000	75100	F&A	6,125	6,125	6,125	6,125	24,500
						sub-total	66,300	66,300	66,300	70,600
In-kind Co-financing 185,000 USD										
					Total	327,586	405,786	275,306	219,322	1,228,000

V. MANAGEMENT ARRANGEMENTS

i. Execution Modality

89. The project will be implemented over the next 4 years with the following foreseen executing arrangements: UNDP National Execution (NEX) modality will be applied to ensure broad stakeholder participation and to create both a high flexibility and an enabling environment for innovation. The project will be fully integrated into the country's reconstruction programme. The project will work in close cooperation with the *Ministry of Economy and Trade*, the *Ministry of Industry*, the *Ministry of Environment*, the *Ministry of Agriculture* as well as the *Chamber of Commerce, Industry and Agriculture (CCIA)* and several NGOs. Project execution will be carried out by the *Agriculture Research Institute (LARI)* working on behalf of the Government of Lebanon.

90. UNDP Country Office has ascertained the national capacities during the formulation stage of this project. UNDP will ensure high-quality technical and financial implementation of the project through its local office in Lebanon. UNDP CO will be responsible for monitoring and ensuring proper use of GEF funds to assigned activities, timely reporting of implementation progress as well as undertaking of mandatory and non-mandatory evaluations. All services for the procurement of goods and services, and the recruitment of personnel shall be provided in accordance with UNDP procedures, rules and regulations.

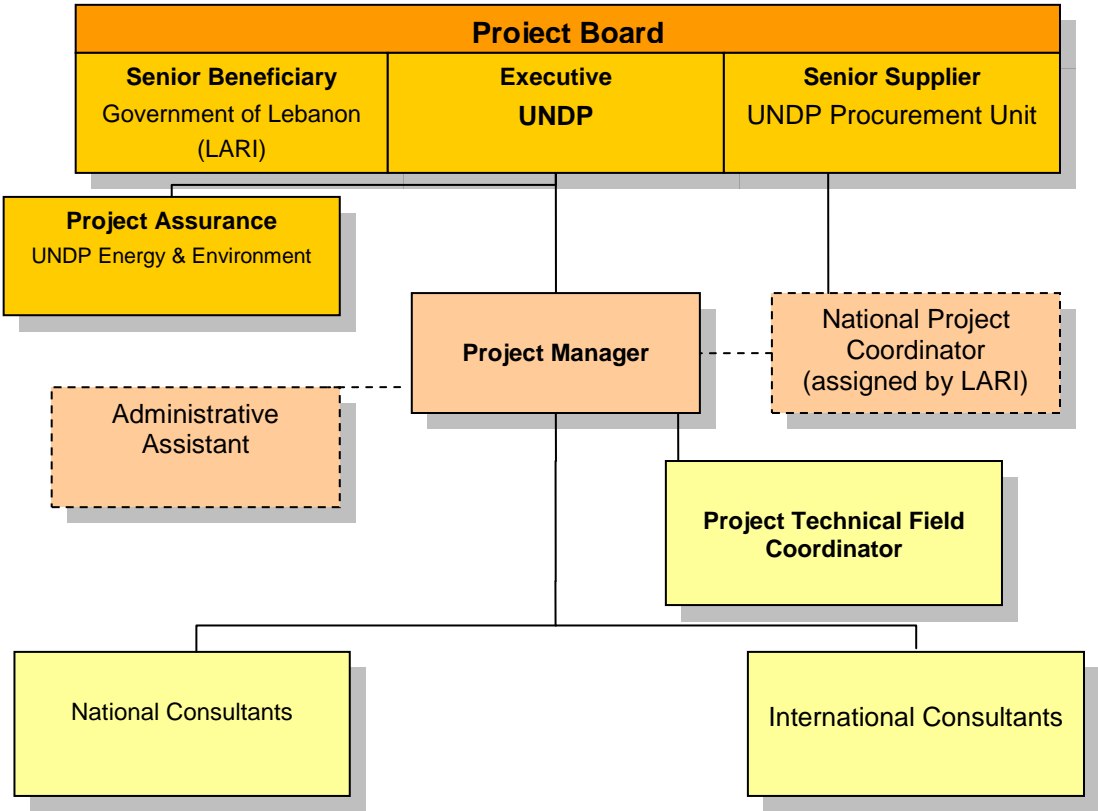
91. The project is highly complementary with a number of national GEF projects, and will work to coordinate and collaborate with other GEF projects that work in sustainable use of MAPs. As a minimum, the project will make an effort to share information and lessons learned with these projects, and to learn from the experiences generated in these other projects. Where possible, this project will try to formalize a collaboration around certain thematic issues, and even plan project activities in a way that they best complement other efforts. As most GEF-financed MAP projects do not work on mainstreaming of conservation concerns into the market and with market-based certification tools, the project will seek formalised collaboration with several other initiatives, programmes and projects.

92. The project "Rural Dryland Development through Innovative Market Approaches, Financing Strategies and Local Initiatives for UNCCD Implementation" will support the marketing of MAPs as part of efforts towards promoting fair trade processes as an option for rural dryland producers and SMEs. The project will further collaborate with the "Local Development and Poverty Alleviation Programme" on the provision of micro-financing and capacity building of MAP-MSEs in Lebanon and on capacity building for municipalities on sustainable use of natural resources.

93. In order to accord proper acknowledgement to GEF for providing funding, a GEF logo should appear on all relevant GEF project publications, including among others, project hardware and vehicles purchased with GEF funds. Any citation on publications regarding projects funded by GEF should also accord proper acknowledgment to GEF. The UNDP logo should be more prominent – and separated from the GEF logo if possible, as UN visibility is important for security purposes.

The PMU will include the Project Manager who is responsible for the daily management of the project activities, an administrative assistant who is responsible for the administrative tasks and a national coordinator who will be assigned by LARI. The National Coordinator will act as the focal point of the project with the national executing agency. The Project Board, which includes senior representations of the Lebanese Government and UNDP will be responsible for the overall progress monitoring and guidance of the project as well as the approval of the annual workplan.

Project Organisation Structure



VI. MONITORING FRAMEWORK AND EVALUATION

94. Project monitoring and evaluation will be conducted in accordance with established UNDP and GEF procedures and will be coordinated by the *Project Management Unit* (PMU). Monitoring and evaluating implementation progress will be based on the indicators provided in the Logical Framework. A Project Inception Workshop will be conducted with the full project team, private sector stakeholders, relevant government representatives, co-financing partners, the UNDP-CO and representation from the UNDP-GEF Regional Coordinating Unit. A fundamental objective of this Inception Workshop will be to assist the project team to understand and take ownership of the project's goals and objectives, as well as to finalize preparation of the project's first annual work plan on the basis of the project's logframe matrix which will be reviewed during the workshop. The roles and responsibilities of the Project Board will be agreed, including that of the project manager and quality assurance role, who is independent from the Project Manager. Annual Monitoring will occur through an Annual Project Board meeting (Tripartite Review (TPR)). This is the highest policy-level meeting of the parties directly involved in the implementation of a project. The project will complete the Project Implementation Review Report (PIR) which will be reviewed and discussed by the Project Board. The Project Board considers the implementation of the project as a whole, paying particular attention to whether the project has achieved its stated objectives and contributed to the broader environmental objective. It decides whether any actions are still necessary, particularly in relation to sustainability of project results, and acts as a vehicle through which lessons learnt can be captured to feed into other projects under implementation or formulation. In addition, the project team will be responsible for the preparation and submission of the quarterly Progress Reports, technical reports, terminal report, thematic reports, etc. which will serve as monitoring tools for the Project Board. .

95. In accordance with UNDP-GEF M&E procedures, a Mid-term Evaluation (MTE) will be undertaken after 2 years to review progress and effectiveness of implementation. Findings of this review will be incorporated as recommendations and will be instrumental for bringing improvement in the overall project design for the remaining period of the project's term. In addition, within six months of completion of project activities an independent final evaluation will be conducted to assess project achievements and impacts and to document lessons learned.

Biodiversity Monitoring

96. Quantitative botanical surveys will be carried out to monitor natural populations of MAPs during the lifespan of the project. These assessments will be done by the Lebanese Agricultural Research Institute (LARI) as an in-kind contribution to the project. Two monitoring areas will be selected within MAP rich sites. Criteria of the selection of monitoring areas will include richness of MAP target species and representation of the predominant ecosystems. These eco-botanical surveys will be carried at the beginning, in the mid and at the end of the project. The transect/quadrates survey method will be used to assess and monitor the status of targeted species over the years. Species density or cover will be recorded in each quadrat. Identification of plant species will be done by experts from LARI, who were well trained and exposed to similar surveys that were carried out by the Agrobiodiversity Project. The survey forms will be based on the internationally agreed classification of environmental, management and species vitality characteristics reported in ICARDA and IPGRI

97. Biodiversity Monitoring will also include an assessment of the collection efforts, i.e. an assessment of the time which a collector needs to collect a certain amount of MAPs (population index). It has revealed that this is an appropriate tool to monitor the population level of MAPs, especially in cases where the distribution of MAPs is patchy and extends over a large area. As the results are biased towards the individual skills of collectors and the characteristics of the collection area, the project will carry out this survey with the same collectors in the same area every year

98. The project will further apply the *Threat Reduction Assessment* (TRA) methodology, developed by the Biodiversity Support Program to assess overall biodiversity threats to MAPs and will use it as a tool to measure project achievements in reducing the threats.

Type of M&E activity	Responsible Parties	Budget US\$	Time frame
Inception Workshop	<ul style="list-style-type: none"> ▪ Project Manager ▪ UNDP CO ▪ UNDP GEF ▪ Implementing partner 	3,000	Within first two months of project start up
Inception Report	<ul style="list-style-type: none"> ▪ Project Management Unit ▪ UNDP CO 	None	Immediately following IW
Impact Monitoring	<ul style="list-style-type: none"> ▪ Project Management Unit 	in-kind	Annual monitoring

according to LogFrame Indicators		contribution	
Biodiversity Monitoring	<ul style="list-style-type: none"> ▪ Lebanese Agricultural Research Institution 	in-kind contribution	At the onset, in the mid and at the end of the project
APR and PIR	<ul style="list-style-type: none"> ▪ Project Management Unit ▪ UNDP-CO ▪ UNDP-GEF 	None	Annually
TPR and TPR report	<ul style="list-style-type: none"> ▪ Implementing partner ▪ UNDP CO ▪ Project Management Unit ▪ UNDP-GEF Regional Coordinating Unit 	None	Every year, upon receipt of APR
Quarterly progress reports	<ul style="list-style-type: none"> ▪ Project Management Unit ▪ UNDP CO 	None	Four times a year
Project Terminal Report	<ul style="list-style-type: none"> ▪ Project Management Unit ▪ UNDP-CO ▪ External Consultant 	3,000	At least two months in advance of the TTR
Project Board	<ul style="list-style-type: none"> ▪ Project Manager ▪ Implementing Partners ▪ UNDP CO ▪ UNDP GEF 	15,000	Following Project IW and subsequently at least once a year
Audit	<ul style="list-style-type: none"> ▪ UNDP-CO ▪ Project Management Unit 	2,000	Yearly
Mid-term External Evaluation	<ul style="list-style-type: none"> ▪ Project Management Unit ▪ UNDP- CO ▪ UNDP-GEF Regional Coordinating Unit ▪ External Consultants (i.e. evaluation team) 	37,000	At the mid-point of project implementation.
Final External Evaluation	<ul style="list-style-type: none"> ▪ Project Management Unit, ▪ UNDP-CO ▪ UNDP-GEF Regional Coordinating Unit ▪ External Consultants (i.e. evaluation team) 	57,000	At the end of project implementation
TOTAL INDICATIVE COST (excluding project team staff time and UNDP staff)		USD 117,000	

Quality Management for Project Activity Results

Below is a preliminary Quality Management table for the project. This table shall be further refined during the inception phase of the project.

OUTPUT 1: Appropriate collection methods ensure a viable long-term supply of raw materials of globally significant MAP species		
Activity Result 1.1	<i>Community-based MSEs for MAP collecting and primary processing established</i>	Start Date: September 08 End Date: September 09
Purpose	These enterprises are the key structure for creating responsibility for local MAP resources. The MAP MSEs will link collectors with the market, and will increase the local interest in MAP harvest which is at present often dominated by people from outside the community. By involving more collectors from the communities themselves, the collectors' responsibility for MAPs as their resource base and source of income will increase.	
Description	<ul style="list-style-type: none"> - 7 to 10 sites rich in MAP targeted species selected - Entrepreneurs identified in each site, based on set criteria, for MSEs establishment - Entrepreneurs linked with national micro-financing institutions - 7 to 10 MAP MSEs established in MAP rich sites - Support provided to entrepreneurs through out the process of MSE establishment 	

Quality Criteria		Quality Method	Date of Assessment
MSEs producing pre-processed products harvested following sustainable practices		<ul style="list-style-type: none"> • Reports on annual inspections of companies and collection areas 	End of year 2
Activity Result 1.2	<i>Collectors trained in MAP identification and sustainable harvesting methods</i>		Start Date: March 09 End Date: March 2011
Purpose	To decrease destruction to non-target species, increase quality of harvest and reduce unsustainable harvesting practices of target species		
Description	<ul style="list-style-type: none"> - Local collectors in the selected sites identified - Extensive training courses conducted for local collectors in the selected MAP rich sites on MAP identification and sustainable harvesting methods - Workshops and seminars conducted for collectors at the national level 		
Quality Criteria		Quality Method	Date of Assessment
MAPs raw material harvested using non-destructive harvesting practices		<ul style="list-style-type: none"> • Reports on annual inspections of companies and collection areas 	End of year 3 and 4
Percentage of local collectors applying non-destructive harvesting practices		<ul style="list-style-type: none"> • Interviews with collectors • Reports on training sessions provided for collectors 	End of year 3 and 4
Activity Result 1.3	<i>Certification system for sustainable harvest applied</i>		Start Date: March 09 End Date: March 2011
Purpose	To trigger a major shift in harvesting practices through making them sustainable within a transparent and manageable system		
Description	<ul style="list-style-type: none"> - Support provided to the MAP MSEs to fulfil the requirements for getting their products certified - Information tools on importance and benefits of certified MAP products developed, distributed to manufacturing and trading companies and widely publicized 		
Quality Criteria		Quality Method	Date of Assessment
Number of companies willing to sell certified MAPs		<ul style="list-style-type: none"> • Market survey • Progress reports 	End of year 3
MSEs producing pre-processed MAPs harvested following sustainable practices		<ul style="list-style-type: none"> • Reports on annual inspections of companies and collection areas 	End of year 2, year 3 and year 4
Activity Result 1.4	<i>Community-based resource use plans set up</i>		Start Date: September 08 End Date: September 10
Purpose	To maximise the use of MAPs growing on communal land and to prevent adverse impacts on MAP rich sites		
Description	<ul style="list-style-type: none"> - Main harvesting areas within each selected site identified - Agreements established between local collectors/MSEs, the public/private landowners and the local municipalities - Local collectors and MSEs supported to set up and implement MAP resources use plans 		
Quality Criteria		Quality Method	Date of Assessment
MAP resource use plans implemented in selected sites		<ul style="list-style-type: none"> • Progress reports 	End of year 3
OUTPUT 2: Value-added processing and product improvement result in increased value of globally significant MAPs harvested in biodiversity-friendly manner			
Activity Result 2.1	<i>Manufacturing and trading companies upgraded</i>		Start Date: April 09 End Date: April 2011
Purpose	Adding value through better packaging and labelling will help to yield higher prices		
Description	<ul style="list-style-type: none"> - Identification of manufacturing and trading companies interested in certified and sustainably harvested MAP products - Business agreements established between the MSEs and the selected manufacturing/trading companies - Technical support and capacity building provided to the selected manufacturing/trading 		

companies		
Quality Criteria	Quality Method	Date of Assessment
Number of value-added certified products manufactured	<ul style="list-style-type: none"> • Market survey • Progress reports 	End of year 3
Number of national companies interested in manufacturing certified and sustainably harvested MAP products	<ul style="list-style-type: none"> • Market survey • Progress reports 	End of year 3 and 4
Activity Result 2.2	<i>Locally processed MAP products branded</i>	Start Date: April 09 End Date: April 2011
Purpose	Branding will help to achieve a market position and to sell larger quantities through brand recognition and consumer trust Branding is critical for increasing the value of MAPs, and thus for having a positive impact on MAP conservation.	
Description	<ul style="list-style-type: none"> - Technical support and trainings provided to selected manufacturing/ trading companies in brand-building of local MAP products - Support provided in terms of developing and implementing consumer brand awareness programs 	
Quality Criteria	Quality Method	Date of Assessment
Number of locally processed MAP products branded	<ul style="list-style-type: none"> • Market survey • Progress reports 	End of year 3 and 4
Activity Result 2.3	<i>Innovative MAP based products developed and introduced into the market</i>	Start Date: April 2010 End Date: January 2012
Purpose	To add value to the production chain. T	
Description	<ul style="list-style-type: none"> - Innovative value-added MAP products Identified and proposed of based on international expertise - Support provided in transfer and adaptation of suitable knowledge and technologies - Support provided in terms of marketing of the innovative MAP based products 	
Quality Criteria	Quality Method	Date of Assessment
Number of branded MAP products introduced into the market	<ul style="list-style-type: none"> • Market survey • Progress reports 	End of year 3 and 4
OUTPUT 3: Supply chain framework strengthened for sustainable harvest of globally significant MAP species and awareness promoted for conservation-friendly MAP products		
Activity Result 3.1	<i>National MAP Association established as private sector entity</i>	Start Date: February 09 End Date: February 2010
Purpose	For campaigning and lobbying for a sustainable MAP business. MAP Association is critical for controlling and monitoring its members' activities, and thus for their compliance with sustainability standards.	
Description	<ul style="list-style-type: none"> - National workshop organized for stakeholders aiming at the establishment of a national MAP committee - National committee established and supported to set the legal and administrative framework for the establishment of the MAP association - The legal and administrative framework for the establishment of the association proposed - MAP association established 	
Quality Criteria	Quality Method	Date of Assessment
MAP national association functional	<ul style="list-style-type: none"> • Progress reports 	End of year 2 and 3
Activity Result 3.2	<i>Guidelines on sustainable harvesting practices agreed, and training modules developed and widely applied</i>	Start Date: November 08 End Date: February 09
Purpose	To have common practice to be followed by all collectors, MAP-MSEs as well as manufacturing and trading companies for a sustainable business	
Description	<ul style="list-style-type: none"> - Guidelines for sustainable harvesting practices at the species level developed based on international reviews - Plant monographs for the main target species developed - Training modules developed on proper plant identification, application of sustainable harvesting and suitable post-harvesting practices 	
Quality Criteria	Quality Method	Date of Assessment

Agreed sustainable standards available for target species	• Progress reports	End of year 2 and year 3
Number of MSEs applying ecological standards	• Reports on annual inspections of companies and collection areas	End of year 3 and year 4
Activity Result 3.3	<i>Certification system developed, agreed and put into practice</i>	Start Date: February 09 End Date: February 2010
Purpose	To give consumers confidence that the standards are adhered to	
Description	<ul style="list-style-type: none"> - MAP association supported in establishing a multidisciplinary expert working group for developing MAP certification system - National standards developed based on international standards and guidelines, in consultation with internationally recognized certification bodies - MAP association supported in establishment of a certification agency 	
Quality Criteria	Quality Method	Date of Assessment
Certification system developed and put in place based on international standards	• Progress reports	End of year 2 and 3
Activity Result 3.4	<i>Regulative framework on collection, processing as well as on national and international trade developed</i>	Start Date: February 09 End Date: February 2010
Purpose	Whereas the project will support the implementation of standards and regulations by the MAP industry on a voluntary basis whenever possible, there is in certain fields a need for administrative and legal interventions. These include safety regulations for MAP health products, licensing of MAP enterprises, export and import regulations, etc.	
Description	<ul style="list-style-type: none"> - Support and recommendations provided to the MAP association to develop and propose regulative framework to relevant authorities (including safety regulations, licensing, export/import, etc.) 	
Quality Criteria	Quality Method	Date of Assessment
Regulative framework developed	• Progress reports	End of year 2 and 3
Activity Result 3.5	<i>Consumer awareness for sustainably harvested products raised</i>	Start Date: January 09 End Date: January 2011
Purpose	To enable consumers to distinguish sustainably harvested MAPs from other products which do not fulfil these criteria	
Description	<ul style="list-style-type: none"> - Production of relevant awareness material (posters, general and technical brochures, booklets, video films) - Dissemination of information through the media (radio, newspaper, TV and the internet) 	
Quality Criteria	Quality Method	Date of Assessment
Portion of MAP consumers willing to pay more for sustainably harvested MAP products	• Consumer survey	End of year 2 and 3
OUTPUT 4: Learning, evaluation, and adaptive management		
Activity Result 4.1	<i>Monitoring programme established</i>	Start Date: June 08 End Date: June 2012
Purpose	To monitor project activities and results	
Description	<ul style="list-style-type: none"> - Project implementation unit established and fully operational - Project Board established - Gender disaggregated data collected, analyzed and recommendations incorporated in periodic project strategic and annual work planning - Monitoring system for biodiversity of MAP targeted species established - Data on biodiversity status of targeted species collected, analyzed and recommendations incorporated in periodic project strategic and annual work planning 	
Quality Criteria	Quality Method	Date of Assessment
Project activities implemented	<ul style="list-style-type: none"> • Progress reports • Project Implementation Review Reports (PIR) • TPR reports 	End of year 1,2,3,4

Activity Result 4.2	<i>Adaptive management and strategic planning system established</i>	Start Date: June 08 End Date: June 2012
Purpose	To make necessary changes in activities whenever needed	
Description	<ul style="list-style-type: none"> - Inception workshop conducted - Technical thematic meetings conducted and recommendations for adaptive planning proposed - Periodic project strategic and annual work planning completed based on results of monitoring, consultation and Project Board meetings and technical thematic reports 	
Quality Criteria	Quality Method	Date of Assessment
Annual workplan developed and approved	<ul style="list-style-type: none"> • Progress reports • Project Implementation Review Reports (PIR) • TPR reports 	End of year 1,2,3,4
Activity Result 4.3	<i>Lessons learned and impact data are gathered, documented and disseminated to key internal and external audiences</i>	Start Date: March 09 End Date: June 2012
Purpose	To disseminate project results and impact	
Description	<ul style="list-style-type: none"> - Impact monitored according to the set logframe and tracking tools indicators - Mid-term evaluation conducted - Final evaluation conducted - Project experiences and results documented - Generated information and lessons disseminated through national seminars and information sharing networks, existing regional information sharing networks, project website, global networks, as well as through participation in relevant MAP international symposiums 	
Quality Criteria	Quality Method	Date of Assessment
Lessons learned and impact data produced and disseminated	<ul style="list-style-type: none"> • Progress reports 	End of year 2,3,4

VII. LEGAL CONTEXT

This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Government of Lebanon and the United Nations Development Programme, signed by the parties on 10 February 1986.

The UNDP Resident Representative in Lebanon is authorized to effect in writing the following types of revisions to the Project Document, after consultation with the project partners:

- Revision of, or addition to, any of the annexes to the Project Document;
- Revisions which do not involve significant changes to the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of inputs already agreed to or by cost increases due to inflation;
- Mandatory annual revisions which re-phase the delivery of agreed project outputs or increased expert or other costs due to inflation, or take into account agency expenditure flexibility; and
- Inclusion of additional annexes and attachments

VIII. RISK ANALYSIS

#	Description	Date Identified	Type	Impact & Probability (1= low, 5=high)	Countermeasures / Mngt response	Owner	Submitted, updated by	Last Update	Status
1	Microfinance repayments	Project initiation date	Financial	This would not delay the initiation of project activities <i>P = 3</i> <i>I = 1</i>	All UNDP-GEF projects related to microfinance are automatically classified as critical as part of standard fiduciary controls. However, as the project uses mainly existing microfinance schemes from co-funding sources, the actual risk is regarded as low.	MFI			
2	Security risk in post-war Lebanon	Project initiation date	Political	Political or security changes can hinder access to site and delay implementation of project activities <i>P = 3</i> <i>I = 4</i>	The security risks in post-war Lebanon have been carefully assessed and evaluated. It was found that some risks continued to exist, but are expected to change by the time implementation starts. According to estimates, clearing unexploded cluster bombs from southern Lebanon could take 12 months, and will then no longer constitute a significant potential threat to project implementation. Furthermore, all of the UNDP's 45 ongoing projects with a total budget of approximately \$70m across different sectors and programmes remain fully functional and have not been affected by the recent crisis or security situation.	UNDP/LARI			
3	MAP-MSEs fail to provide sufficient economic returns, significantly eroding the interest of local communities to pursue sustainable harvesting	Project initiation date	Operational	<i>P = 1</i> <i>I = 4</i>	MAP harvesting is a seasonal business and is likely to remain an additional source of income, not the primary source of income for local communities. Financial viability of MAP-MSEs has been shown in an economic assessment.	UNDP/LARI			
4	Value-added production supported by the project covers such a small percentage of harvesting that has	Project initiation date	Operational	<i>P = 2</i> <i>I = 3</i>	The project will deal not only with collection for value-added production, but will cover all collection activities. Training on sustainable MAP harvesting techniques will be provided to all collectors. Middle-men and traders who work so far with foreign collectors for mass-	UNDP/LARI			

	only negligible effect on the overall conservation status of the target species.				collection will be given access to the pool of well-trained community collectors who will be able to work in a more efficient and selective manner.				
5	Little interest of market players in certification, as it does not bring (enough) comparative economic advantages over non-certified products.	Project initiation date	Operational	$P = 2$ $I = 3$	The project will support awareness-building on the consumers side in order to make the certification system widely known and to raise the interest in certified products, and will provide technical expertise to market players to promote their certified products. So far very encouraging results from consumer surveys for related branches (organic produces).	UNDP/LARI			
6	Consumers are not ready to pay more for certified products.	Project initiation date	Operational	$P = 2$ $I = 4$	The project will support marketing efforts by awareness building and promotion. Market studies have shown that Lebanese consumers are ready to pay more for quality products (e.g. organic food). High-end MAP-based products will be offered in different price segments.	UNDP/LARI			
7	Rising prices of MAPs and MAP derived products will enhance collection activities at all levels.	Project initiation date	Operational	$P = 2$ $I = 4$	Only prices of certified products purchased from community-based MSEs are likely to rise. Even if the amount of MAPs collected in community collecting areas increases, it would have been collected under sustainable conditions (training for collectors and MSEs by the project).	UNDP/LARI			
8	There is a higher demand for MAP raw material than can be collected sustainably from community territory	Project initiation date	Operational	$P = 2$ $I = 4$	Cultivation may be considered as an option to supplement the stock from the wild (for <i>Origanum</i> and <i>Salvia</i> , the most wanted species). The on-going UNDP MAPs cultivation project will fill this gap.	UNDP/LARI			
9	Communities not sufficiently organised to ensure the establishment and start-up of small enterprises.	Project initiation date	Operational	$P = 1$ $I = 3$	MAP-MSEs will be established as light private sector enterprises, preferably as family-based companies. These enterprises will be responsible for influencing, organising or controlling the activities of individual harvesters and for negotiating with traders	UNDP/LARI			

					and buyers.				
10	Middle-men not willing to join the MAP Association in order to continue with existing destructive mass-collection practices.	Project initiation date	Operational	$P = 2$ $I = 3$	Direct link of MSEs with middle-men will be secured whereby part of their production will be sold directly without value-added price. This would encourage middle-men to partner in.	UNDP/LARI			

IX. ANNEXES

ANNEX 1 – TERMS OF REFERENCE

Ragged, as mentioned above under the M&E section, the TORs and financial allocations below do not reflect the market and other assessments to be undertaken as part of the monitoring of the project.

Position Titles	\$/ person week*	Estimated person weeks	Tasks to be performed
For Project Management			
Local			
Project Manager	935	205	<ul style="list-style-type: none"> - Supervise and coordinate the production of project outputs as per the project document - Ensure timely implementation of the project activities - Ensure efficient and timely disbursement of funds for project activities; ensure proper management of funds consistent with UNDP requirements, and budget planning and control - Formulate job descriptions and define the scope of work for consultants and sub-contractors - Undertaking all logistical operations for recruitment of short-term local and international consultants - Ensure coordination among different national stakeholders - Prepare the annual project Work Plan and all necessary financial and progress reports required - Undertake budget revisions, including mandatory revisions - Provide publicity and awareness for the project - Ensure timely reporting (substantive and financial) of the overall status of project activities to UNDP/GEF and project steering committee - Prepare Annual Project Implementation Report (PIR) for submission to GEF - Technical review and commenting concerning the outputs of all consultants and sub-contractors - Manage procurement of goods and services under UNDP requirements and guidelines - Prepare Annual Project Reports (APR), impact reports, lessons learned, case studies and other reports as may be required by GEF/UNDP for submission to the UNDP Country Office - Organize National Project Steering Committee meetings according to workplan, or on ad-hoc basis as needed
Administrative Assistant	300	205	<ul style="list-style-type: none"> - Assist in the scheduling, preparing and organization of meetings, workshops, preparation of publications, and information dissemination - Take minutes of meetings, prepare draft notes, memoranda, correspondence and briefings - Establish, maintain and update an accessible filing system including all incoming/outgoing mail and other documents, data entry and

			<p>registration</p> <ul style="list-style-type: none"> - Draft contracts, financing agreements, memoranda of understanding and other legal documents under the guidance of the Project Manager - Processing requests for direct payments (RDPs), purchases and maintains records of transactions and accounts - Assist in the organization of travel for project consultants - Assist in preparation of expenditure forecasts and other control reports including status of allotments as well as reports used for control purposes such as telephone charges, liberty mileage, DSA payments and other commitments - Prepare budget estimates, monitoring expenditures and maintaining close contact with UNDP Beirut
International			
-	-	-	-
For Technical Assistance			
Local			
MAP Marketing Expert	800	25	<ul style="list-style-type: none"> - Coordinate implementation of the marketing strategy with the selected trading companies and the institute(s) subcontracted for conducting public awareness activities - Build relationships with retailers and promote certified MAP products - Conduct marketing and consumer surveys for impact assessment - Assist the MAP Marketing International Consultant in conducting trainings for the selected partner companies related to marketing the branded and certified products
MAP Expert	1000	30	<ul style="list-style-type: none"> - Undertake with a team of experts the selection of the sites where MSEs will be established based on diversity and richness of targeted MAP species and community characteristics - Identify with the Natural Resources Economist the main harvesting areas within each site - Provide scientific support in the field for the executing agency staff undertaking the botanical surveys towards the beginning, midterm and end of the project - Develop plant monographs for the MAP target species - Provide continuous support for the MSEs to fulfill the requirements for getting their products certified, with continuous guidance provided by the MAP international consultant - Participate in capacity building activities provided to collectors, MSEs and selected manufacturing/ trading companies
Socio-economist	1000	15	<ul style="list-style-type: none"> - Undertake with a team of experts the selection of the sites - Undertake interviews with the key persons within selected communities - Identify MAP local collectors in each site - Identify and support the active members of the project communities in the establishment of MAP MSEs - Support the project in establishing and maintaining proper links with the local communities

Natural Resources Economist	1000	10	<ul style="list-style-type: none"> - Identify with the MAP national expert the main harvesting areas within each site - Estimate the availability and volume of raw materials of MAP species within selected sites - Together with other lead consultants and in consultations with major stakeholders, finalize the agreements for resource use plans between local collectors/MSEs, the public/private landowners and municipalities - Conduct a study on comparative economics of MAP sustainable harvesting; analyze and present the economics of MAP sustainable harvesting and certified MAP products
Micro-finance/ Small Business Development Experts (2)	800	27.5	<ul style="list-style-type: none"> - Develop business plans for the MSEs - Actively pursue contacts with micro-financing institutions identified during the preparation of the project proposal for subsequent MSEs micro-credit program
Legal expert	1200	20	<ul style="list-style-type: none"> - Review and analysis of currently applied laws that affect MAP sustainable harvesting at the national level and propose regulative framework based on gaps and weaknesses identified that encourage sustainable MAP management - Draft the legal agreements for resource use plans between local collectors/MSEs, the public/private landowners and municipalities within selected sites - Provide support for MSEs to establish business agreements with the selected manufacturing/ trading companies - Provide legal support for the establishment of the MAP Association
Technical Field Coordinator	450	195	<ul style="list-style-type: none"> - Coordinate the field and community work of the project - Ensure Coordination among different national stakeholders - Interact with local rural communities as well as the public institutions, private sector and micro-finance institutions for technology transfer and proper implementation of project activities - Assist in production of project technical reports - Assist in preparing and executing training programs for local communities and MAP processors in collaboration with local/ international consultants
Land Tenure Expert	800	8	<ul style="list-style-type: none"> - Undertake with a team of experts the selection of the sites - Evaluate selected sites in relation to ownership of the MAP habitat within them (land tenure conditions and constraints). This will include identification of any conflicting claims and a definition of the property rights regime- individual, community, private, municipal, etc. - Lead the process for developing, proposing and finalizing, in consultations with major stakeholders, the agreements for resource use plans between local collectors/MSEs, the public/private landowners and municipalities
Midterm Evaluator	1000	6	<ul style="list-style-type: none"> - Analyze through review of project documents and reports, meeting with stakeholders, and sites visits the progress in achieving project objectives and outcomes (based on project indicators), and delivery and progress of project outputs/activities - Evaluation of project achievements according to GEF and UNDP Project Review Criteria

			<ul style="list-style-type: none"> - Produce Midterm Evaluation Report - The national consultant will act as resource persons to the team leader
Final Evaluator	1000	7	<ul style="list-style-type: none"> - Analyze through review of project documents and reports, meeting with stakeholders, and sites visits attainment of global objectives, project objectives and outcomes/impacts (based on project indicators), and delivery and completion of project outputs/activities -Evaluation of project achievements according to GEF and UNDP Project Review Criteria - Produce Final Evaluation Report - The national consultant will act as resource persons to the team leader
International			
MAP Marketing Expert	2788	9	<ul style="list-style-type: none"> - Develop information tool on importance and benefits of certified MAP products - Approach marketing and trading companies and promote the benefits of certified MAP products - Put a marketing strategy for ensuring rapid increase in market demand of certified MAP products - Identify and propose innovative value-added MAP products - Build capacity in marketing the branded and certified products through proper trainings for the selected partner companies
MAP Technical Advisor	2788	12	<ul style="list-style-type: none"> - Provide technical assistance for project activities - Provide hands on support to the Project Manager, project staff, and other government counterparts in the areas of conservation and sustainable use of MAPs, monitoring, and impact assessment - Lead the process of developing guidelines on MAP sustainable harvesting practices and training modules for MAP collectors - Lead the process of developing national standards for certification based on international standards and guidelines and in consultation with internationally recognized certification bodies - Assist the Project Manager in coordinating the technical work of all consultants, ensuring the effective synergy among the various activities
Certification Specialist	2788	10	<ul style="list-style-type: none"> - Propose guidelines on MAP sustainable harvesting practices and develop training modules for MAP collectors - Propose national standards for certification based on international standards and guidelines and in consultation with internationally recognized certification bodies
Gender Mainstreaming Specialist	2788	2	<ul style="list-style-type: none"> - Review and analysis of project reports in terms of gender data - Identify relevant gaps and draft recommendations to elevate deficiencies
Midterm Evaluator	2788	6	<ul style="list-style-type: none"> - Analyze through review of project documents and reports, meeting with stakeholders, and sites visits the progress in achieving project objectives and outcomes (based on project indicators), and delivery and progress of project outputs/activities - Evaluation of project achievements according to GEF and UNDP Project Review Criteria

			<ul style="list-style-type: none"> - Produce Midterm Evaluation Report - Will act as the evaluation team leader and will be responsible for establishing the evaluation structure, team planning, mission methodologies, backstopping the data collection and synthesis of preliminary findings, as well as the overall responsibility for the final content and quality of the Midterm Evaluation Report
Final Evaluator	2788	7	<ul style="list-style-type: none"> - Analyze through review of project documents and reports, meeting with stakeholders, and sites visits attainment of global objectives, project objectives and outcomes/impacts (based on project indicators), and delivery and completion of project outputs/activities -Evaluation of project achievements according to GEF and UNDP Project Review Criteria - Produce Final Evaluation Report - Will act as the evaluation team leader and will be responsible for establishing the evaluation structure, team planning, mission methodologies, backstopping the data collection and synthesis of preliminary findings, as well as the overall responsibility for the final content and quality of the Final Evaluation Report
MAP Post-harvest and Quality Expert	2788	5	<ul style="list-style-type: none"> - Propose Training modules for capacity building of MSEs in areas related to proper post harvest handling, cleaning, pre-processing, bulk packaging and storage of MAPs - Technical support and capacity building provided to established MSEs to ensure good post harvesting practices and quality control applied
MAP Processing Expert	2788	5	<ul style="list-style-type: none"> - Provide technical support and capacity building to selected manufacturing/ trading companies to ensure quality procedures applied during processing - Provide technical support and trainings to selected manufacturing/ trading companies in brand-building of local MAP products - Provide support in transfer and adaptation of suitable knowledge and technologies
MAP Conservation Expert	2788	4	<ul style="list-style-type: none"> - Assess through data collected from monitoring and surveys activities the impact of proposed MAP businesses on the wild harvesting and MAPs biodiversity conservation - Produce relevant reports on biodiversity status of targeted species

*Person week for international consultants is spread over 7 days; the one for national consultants is spread over 5 days.

ANNEX 2 – COST SHARING AGREEMENT

ANNEX 3 – TRACKING TOOLS

I. Project General Information

1. Project Name: Mainstreaming Biodiversity Management into Medicinal and Aromatic Plants Production Processes
2. Project ID (GEF): 4008
3. Project ID (IA): tbd
4. Implementing Agency: UNDP
5. Country(ies): Lebanon

NAME OF REVIEWERS COMPLETING TRACKING TOOL AND COMPLETION DATES:

	Name	Title	Agency
Work Program Inclusion	Project preparation team	–	UNDP
Project Mid-term			
Final Evaluation/project completion			

5. Project duration: **Planned** __4__ years **Actual** __0__ years (beginning)

6. Lead Project Executing Agency (ies): Lebanese Agricultural Research Institute (LARI)

7. GEF Operational Program:

drylands (OP 1) (focus)

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: _____ None _____

8. Production sectors and/or ecosystem services directly targeted by project:

8a. Please identify the main production sectors involved in the project. Please put “**P**” for sectors that are primarily and directly targeted by the project, and “**S**” for those that are secondary or incidentally affected by the project.

Agriculture	S
Fisheries	
Forestry	P
Tourism	

- Mining
 - Oil
 - Transportation
 - Other
- P (Trade)

8b. For projects that are targeting the conservation or sustainable use of ecosystems goods and services, please specify the goods or services that are being targeted, for example, water, genetic resources, recreational, etc

- 1. Genetic resources
- 2. Healthcare products
- 3. Food
- 4. _____

II. Project Landscape/Seascape Coverage

9a. What is the extent (in hectares) of the landscape or seascape where the project will directly or indirectly contribute to biodiversity conservation or sustainable use of its components? An example is provided in 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			
Landscape/seascape area <u>directly</u> ¹ covered by the project (ha)	n/a		
Landscape/seascape area <u>indirectly</u> covered by the project (ha)	n/a		

Explanation: The project works on a national scale, covering principally all of Lebanon.

9b. Are there Protected Areas within the landscape/seascape covered by the project? If so, names these PAs, their IUCN or national PA category, and their extent in hectares.

	Name of Protected Areas	IUCN and/or national category of PA	Extent in hectares of PA
1.	n/a		
2.			
3.			
4...			

Explanation: The project works on a national scale, covering principally all of Lebanon. There are protected areas throughout the country, but they do not play a specific role in the project context.

¹ Direct coverage refers to the area that is targeted by the project's site intervention. For example, a project may be mainstreaming biodiversity into floodplain management in a pilot area of 1,000 hectares that is part of a much larger floodplain of 10,000 hectares.

III. Management Practices Applied

10.a. Within the scope and objectives of the project, please identify in the table below the management practices employed by project beneficiaries that integrate biodiversity considerations and the area of coverage of these management practices? Note: this could range from farmers applying organic agricultural practices, forest management agencies managing forests per Forest Stewardship Council (FSC) guidelines or other forest certification schemes, artisanal fisherfolk practicing sustainable fisheries management, or industries satisfying other similar agreed international standards, etc. An example is provided in the table below.

Targets and Timeframe Specific management practices that integrate BD	Area of coverage foreseen at start of project	Achievement at Mid-term Evaluation of Project	Achievement at Final Evaluation of Project
1. No uprooting of MAPs	n/a		
2. No indiscriminate harvest (harvest without proper species identification)	n/a		
3. Timely harvest	n/a		

10. b. Is the project promoting the conservation and sustainable use of wild species or landraces?

Yes No

If yes, please list the wild species (WS) or landraces (L):

Species (Genus sp., and common name)	Wild Species	Landrace
<i>Alcea</i> sp. (khatmiyat dimashk)	<i>Alcea damascena</i>	–
<i>Cyclotrichium</i> sp. (Hashishet El-Basha, Majoram-leaved calamint)	<i>Cyclotrichium origanifolium</i>	–
<i>Micromeria</i> sp. (Zoufa, Lebanon Savory)	<i>Micromeria libanotica</i>	–
<i>Origanum</i> sp. (Za'atar, Hyssop of the Bible, Syrian oregano)	<i>Origanum syriacum</i>	–
<i>Origanum</i> sp. (Za'atri)	<i>Origanum ehrenbergii</i>	–
<i>Salvia</i> sp. (Meramieh, Lebanese Sage)	<i>Salvia fruticosa</i>	–
<i>Viola</i> sp. (Banafsaj Loubnan)	<i>Viola libanotica</i>	–

10c. For the species identified above, **or other target species of the project not included in the list above (E.g., domesticated species)**, please list the species, check the boxes as appropriate regarding the application of a certification system, and identify the certification system being used in the project, if any. An example is provided in the table below.

	A certification system is being used	A certification system will be used	Name of certification system if being used	A certification system will not be used
<i>Alcea damascena</i>		YES	To be developed	

<i>Cyclotrichium origanifolium</i>		YES	To be developed	
<i>Micromeria libanotica</i>		YES	To be developed	
<i>Origanum syriacum</i>		YES	To be developed	
<i>Origanum ehrenbergii</i>		YES	To be developed	
<i>Salvia fruticosa</i>		YES	To be developed	
<i>Viola libanotica</i>		YES	To be developed	

IV. Market Transformation and Mainstreaming Biodiversity

11a. **For those projects that have identified market transformation as a project objective**, please describe the project's ability to integrate biodiversity considerations into the mainstream economy by measuring the market changes to which the project contributed. The sectors and subsectors and measures of impact in the table below **are illustrative examples, only**. Please complete per the objectives and specifics of the project.

Name of the market that the project seeks to affect (sector and sub-sector)	Unit of measure of market impact	Market condition at the start of the project	Market condition at midterm evaluation of project	Market condition at final evaluation of the project
MAP Industry	Number of community-based MAP-MSEs	0 (target: 7-10)		
	Number of value-added branded products manufactured according to WWF and WHO quality standards	0 (target: 8)		
	National MAP Association	0 (target: 1)		
	Volumes of target species traded in processed form	Less than 25 tons (target: 300)		
	Annual sales of certified products	0 (target: 30% of all sales of target species)		

11b. Please also note which (if any) market changes were directly caused by the project.

n/a _____

V. Improved Livelihoods

12. For those projects that have identified improving the livelihoods of a beneficiary population based on sustainable use /harvesting as a project objective, please list the targets identified in the logframe and record progress at the mid-term and final evaluation. An example is provided in the table below.

Improved Livelihood Measure	Number of targeted beneficiaries (if known)	Please identify local or indigenous communities project is working with	Improvement Foreseen at project start	Achievement at Mid-term Evaluation of Project	Achievement at Final Evaluation of Project
New source of side income	Not known	Community members in MAP rich areas	<ul style="list-style-type: none"> ▪ 7-10 communities ▪ At least 20 persons per community ▪ Income 25% increase from annual average income 		

VI. Project Replication Strategy

13a . Does the project specify budget, activities, and outputs for implementing the replication strategy?

Yes__ X ___ No ___

13b. Is the replication strategy promoting incentive measures & instruments (e.g. trust funds, payments for environmental services, certification) within and beyond project boundaries?

Yes_ X ___ No___

If yes, please list the incentive measures or instruments being promoted:

The project uses value-added production and certification of wild MAPs to increase economic returns and thus as a vehicle to promote sustainable harvest. Certification, value-added production and awareness-building for these issues are inherent parts of the project strategy, and are not manifested in a single outcome or output.

13c. For all projects, please complete box below. Two examples are provided.

Replication Quantification Measure	Replication Target Foreseen at project start	Achievement at Mid-term Evaluation of Project	Achievement at Final Evaluation of Project
Tons of sustainably harvested wild MAPs (out of the of the 7 target species)	800		
Tons of value-added products	300		
Number of value-added products/brands	8		
Number of community-based MAP enterprises	7-10		

VII. Enabling Environment

For those projects that have identified addressing policy, legislation, regulations, and their implementation as project objectives, please complete the following series of questions: 18a, 18b, 18c. An example for a project that focused on the agriculture sector is provided in 18 a, b, and c.

14. a. Please complete this table at **work program inclusion for each sector** that is a primary or a secondary focus of the project. Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector	Agriculture	Fisheries	Forestry	Tourism	Trade	Other (please specify)
Statement: Please answer YES or NO for each sector that is a focus of the project.						
Biodiversity considerations are mentioned in sector policy	YES		YES		NO	
Biodiversity considerations are mentioned in sector policy through specific legislation	YES		YES		NO	
Regulations are in place to implement the legislation	YES		Yes		NO	
The regulations are under implementation	NO		NO		NO	
The implementation of regulations is enforced	NO		NO		NO	
Enforcement of regulations is monitored	NO		NO		NO	

14b . Please complete this table at **the project mid-term for each sector** that is a primary or a secondary focus of the project. Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector	Agriculture	Fisheries	Forestry	Tourism	Trade	Other (please specify)
Statement: Please answer YES or NO for each sector that is a focus of the project.						
Biodiversity considerations are mentioned in sector policy						
Biodiversity considerations are mentioned in sector policy through specific legislation						
Regulations are in place to implement the legislation						

The regulations are under implementation						
The implementation of regulations is enforced						
Enforcement of regulations is monitored						

14c. Please complete this table at **project closure for each sector** that is a primary or a secondary focus of the project. Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector	Agriculture	Fisheries	Forestry	Tourism	Trade	Other (please specify)
Statement: Please answer YES or NO for each sector that is a focus of the project.						
Biodiversity considerations are mentioned in sector policy						
Biodiversity considerations are mentioned in sector policy through specific legislation						
Regulations are in place to implement the legislation						
The regulations are under implementation						
The implementation of regulations is enforced						
Enforcement of regulations is monitored						

All projects please complete this question at the project mid-term evaluation and at the final evaluation, if relevant:

14. d. Within the scope and objectives of the project, has the private sector undertaken voluntary measures to incorporate biodiversity considerations in production? If yes, please provide brief explanation and specifically mention the sectors involved.

An *example* of this could be a mining company minimizing the impacts on biodiversity by using low-impact exploration techniques and by developing plans for restoration of biodiversity after exploration as part of the site management plan.

VIII. Mainstreaming biodiversity into the GEF Implementing Agencies' Programs

15. At each time juncture of the project (work program inclusion, mid-term evaluation, and final evaluation), please check the box that depicts the status of mainstreaming biodiversity through the implementation of this project with on-going GEF Implementing Agencies' development assistance, sector, lending, or other technical assistance programs.

Time Frame	Work Program Inclusion	Mid-Term Evaluation	Final Evaluation
Status of Mainstreaming			
The project is not linked to IA development assistance, sector, lending programs, or other technical assistance programs.			
The project is indirectly linked to IAs development assistance, sector, lending programs or other technical assistance programs.			
The project has direct links to IAs development assistance, sector, lending programs or other technical assistance programs.			
The project is demonstrating strong and sustained complementarity with on-going planned programs.	YES		

IX. Other Impacts

16. Please briefly summarize other impacts that the project has had on mainstreaming biodiversity that have not been recorded above.

Appendix I

SME (MSE) Situation Analysis in Lebanon

The Lebanese economy has always been open and liberal and before 1975 was regarded as one of the most dynamic and stable economies in the Middle East. Since the end of hostilities in 1991 the economy has gone through several phases involving boom, slow down, recession and more recently, slow recovery.

The government is making attempts to liberalize trade, to create a better climate for investment and to gain accession to the WTO and the Association Agreement. There is a strong process of monetary stability and the banking sector is regaining ground. The availability of money is not an issue, but releasing equity into the SME sector is a challenge. This investment is needed to fuel the development of export oriented businesses in key growth sectors.

The SME sector consists mainly of tiny enterprises, about 90% have fewer than five employees, though these are not integrated into the main growth sectors through forms of sub-contracting and despite initiatives and some funding, much remains to be done to transform the SME sector, once again, into the engine for economic development in Lebanon. It is important to note here the difference between an European SME and a Lebanese SME, which size in terms of number of employees and turn-over is very small compared to the former. This is why the term MSE (Micro) has been used instead of SME in the Project Proposal.

The SME-support programme funded by the EU is currently reviewing and updating the policies, regulations and enabling environment for SMEs in Lebanon. Partnership of the GEF project with this programme should be sought. The project manager has already expressed interest in cooperating with the GEF project in a previous meeting held with the project preparation team. Some of the information below is extracted from the SME project's inception report.

A Census conducted by the Central Administration of Statistics (CAS) in 1996 showed that there was at that date 199,450 economic units (enterprises). However, there were only 377 units (or 0.2% of the total number of units) with more than 100 employees, while 175,786 units (88% of the total) had less than 5 employees. An additional 10,687 units (5% only of the total) had between 5 and 10 employees. Other enterprises representing only 3% of the total had between 10 and 100 employees. In addition the census showed that 61% of the units had less than 100 square meters surface and only 14% had a surface larger than 200 sq. m. In terms of sectoral breakdown 64% of enterprises were active in the trade and service sectors, 12% in industry, 10% in agriculture, and 7% in the tourist sector (see table below).

DISTRIBUTION OF ENTERPRISES ACCORDING TO SIZE BY SECTOR OF ACTIVITY

Sector	<5	5-9	10-19	20-49	50-99	100-199	200>	Missing	Total
Agriculture	92.53%	2.56%	0.61%	0.26%	0.03%	0.01%	0.01%	3.99%	100.0%
Service	93.81%	3.00%	0.76%	0.29%	0.06%	0.03%	0.01%	2.04%	100.0%
Construction	76.47%	12.63%	3.75%	2.32%	0.49%	0.25%	0.54%	3.55%	100.0%
Industry	79.72%	11.76%	3.52%	1.60%	0.38%	0.14%	0.11%	2.76%	100.0%
Leisure	86.27%	6.78%	2.86%	1.33%	0.20%	0.05%	0.05%	2.46%	100.0%
Other	77.66%	6.64%	3.98%	2.53%	0.89%	0.44%	0.29%	7.57%	100.0%
Total	88.36%	5.17%	1.83%	0.93%	0.26%	0.12%	0.08%	3.26%	100.0%

Source: 1996 Census of Buildings and Establishments. ACS. 1997.

These figures show the preponderance of very small enterprises in the Lebanese economy, typically generating very low productivity and very modest incomes for their owners. Even the relatively few larger enterprises in Lebanon (with more than 100 employees) would be considered as medium sized enterprises in Europe. Since this 1996 census the situation has hardly changed. A study in 2003 identified only 1,365 SMEs with a turnover of more than Euro 300,000. Most of these were in chemicals, plastic and metal sectors, followed by the food and textile sectors, with wood, paper and media in third place.

Another recent study funded by the EU and conducted for the Economic and Social Fund in Lebanon concluded, after analysing in details the results of the 1996 census, that one of the main problems affecting the performance of the Lebanese economy was that these small enterprises were not integrated in the modern segments of the economy, through various sub-contracting arrangement and linkages with larger enterprises, as is the case in all well developed economies.

The modernisation of SMEs in Lebanon is essential for sustained economic development, for reducing unemployment and the brain drain and for increasing the competitiveness of the Lebanese economy. The experiences of other similar countries and of highly industrialised countries confirm the importance of SMEs and of policies for promoting SMEs. Thus there is a large body of established best practice that can be drawn upon by Lebanon.

It has long been recognized in EU countries that SMEs provide the most dynamic force for economic development. They make a significant contribution to job creation and to the generation of wealth. Small businesses make up almost 95% of all registered businesses in Europe, while in Lebanon more than 90% of all industries employ fewer than ten people. SMEs overwhelmingly dominate the Lebanese economy and it is vital that the government has a clear policy and action plan to encourage an open and liberal economy within which SMEs can modernize, multiply and grow.

In terms of economic growth SMEs also provide essential support to larger companies – either through services or sub-contracting. The health of these SMEs can therefore have an impact on the health and potential growth of larger companies. A vibrant SME sector can also lead to greater economic inclusion of lower income groups; SMEs help entrepreneurship to flourish and importantly provide a significant contribution to regional development since SMEs, unlike larger companies, tend to be imbedded in their respective local economies.

In 2003 in Naples, participants from the Euro-Mediterranean region met to discuss the principles of sustainable development. In particular they developed the “Euro-Mediterranean Charter for Entrepreneurship” that was aimed at tackling a wide range of bottlenecks to the successful development of SMEs. The Charter supports:

- The strengthening of a spirit of innovation and entrepreneurship;
- The achievement of a regulatory, fiscal and administrative framework that supports entrepreneurship;
- Open access to markets free of regulatory interference;
- Access to technology best practice and R & D;
- Access to finance;
- Continual improvement in business performance;
- The voice of small business being heard;
- Governmental provision of effective and high quality SME support.

By endorsing the Charter the Government of Lebanon will have a blueprint for actions that need to be taken for the effective and rapid development of SMEs in Lebanon.

Progress towards an open and liberal marketplace for SMEs has been achieved in Lebanon through the Horizon 2000 plan (1993). A Five Year Development Programme was also prepared in 1999-2000 by the Council for Development and Reconstruction (CDR) but never implemented. The latter helped identify (i) the economic sectors where the Lebanese private sector firms could have a competitive advantage and (ii) policy and regulatory measures to be taken to encourage the private sector.

Initiatives supporting SMEs

The **export plus** program is designed to assist Lebanese farmers and SMEs involved in agriculture to export their produce to neighbouring countries. The program is administered and funded by IDAL (Investment Development Authority in Lebanon) and has been operational since August 2001. The GEF project will explore venues for cooperation with this program since it can offer a market to the value-added MAP products produced.

The central bank runs a scheme subsidising loans for industry, agriculture, and tourism. The scheme applies to loans in excess of 50 million LBP. Loans that reach a limit of 5 billion LBP receive a 7% interest rate subsidy. For loans exceeding 5 billion LBPs, the subsidy decreases to 5%.

The government has signed several agreements aimed at increasing the investment of local companies and businesses in other countries, such as the agreement with the EU that allows about 85% of Lebanese exports to benefit from preferential treatment.

A number of treaties have been entered into with other countries for the promotion and protection of investments and the avoidance of double taxation. The Agreement for the Promotion and Reciprocal Protection of Investments aims at promoting private investment between two contracting companies in each others territories within a fiscally safe environment.

Micro- Finance

Many national and international NGOs operate in Lebanon. Traditionally, their services have focused on immediate war and post war needs such as providing hospitals and medical centres, dealing with rehabilitating the injured, and providing general humanitarian assistance. Following the end of the war, the need for medical centres and medical aid decreased and many NGOs changed. Since the late 1990s one of their major activities has been the provision of micro loans to micro entrepreneurs. The market for micro loans in Lebanon is large as is demonstrated by the continued growth of allocated funds. A recent study indicated that the total supply of micro credit in Lebanon has been steadily increasing over the years, and reached approximately \$27 million in 2003. The table below lists most of the larger service providers and indicates their services.

LARGER SERVICE PROVIDERS IN THE MICRO-FINANCE SECTOR

Organisation	Name	Type of service provided
Government and public organisation	Economic and Social Fund for Development ESFD (part of the CDR)	<ul style="list-style-type: none"> ▪ Micro credit loans (through NGOs, especially ICT and Majmoua) ▪ SME loans (through ICT) ▪ Business development services (Through ICT) ▪ Employment creation mechanisms (various NGOs)
NGOs	Majmoua	<ul style="list-style-type: none"> ▪ Micro credit loans
	CHF Ameen	<ul style="list-style-type: none"> ▪ Micro credit loans
	Kard al Hassan	<ul style="list-style-type: none"> ▪ Micro credit loans
	Mercy corp	<ul style="list-style-type: none"> ▪ Development projects ▪ Micro credit
	Makhzoumi foundation	<ul style="list-style-type: none"> ▪ Micro credit ▪ Vocational training
	Najdeh	<ul style="list-style-type: none"> ▪ Vocational training
	Caritas	<ul style="list-style-type: none"> ▪ Micro credit loans
	Mouvement Sociale	<ul style="list-style-type: none"> ▪ Micro credit ▪ Vocational training
	AEP	<ul style="list-style-type: none"> ▪ Training ▪ Micro credit
	ADR	<ul style="list-style-type: none"> ▪ Micro credit
	IDLES	<ul style="list-style-type: none"> ▪ Micro credit
	YMCA	<ul style="list-style-type: none"> ▪ Micro credit ▪ SME credit ▪ Vocational Training

Interviews were conducted with some of these institutions to better understand the opportunities and problems facing the microfinance sector in Lebanon, with a special focus on credits provided to rural-related activities. Main findings are described in the following paragraphs. In brief, the micro-financing environment appears to be suitable to support the GEF project in assisting MAP-SEs in obtaining micro-credits for their development. Several institutions already expressed their intention to partner with the GEF project.

1) Makhzoumi foundation:

- No MAP related projects were credited to date, only Agro-business loans (purchase of machine or packaging equipment)
- The problem is in the Market not in the Production itself
- They recommend to establish A to Z projects, or a complete package (growing, micro-credits and marketing services)

- Beneficiaries do not need the financial assistance alone but also need help in their business channel (know how, trainings, marketing channels)

2) ADR foundation:

- Origanum syriacum is being propagated, together with Lavender and Sage in ADR nursery in Tyr / South Lebanon and being sold to farmers
- ADR has 10% part of agriculture in their micro-credit program
- ADR has a USAID grant till 2007 to purchase tractors and for renovation of nurseries
- ADR is working on establishing a network system among Lebanese microfinance institutions (sharing of data research, beneficiaries list, black list...)

3) Jihad al Binaa:

- Micro-credit program is under assessment for the core mission of the institution (ended in 2004)
- Loans were given at 0% interest rate, funding from people donations
- Have done several experiments on MAP and odorant species for the extraction of seeds
- Starting in 2006 a project on growing and propagation of MAP and odorant species as an alternative crop to Tobacco culture in the South area was launched.
- Reimbursement method: after harvest
- Provide for farmers: technical assistance and low cost inputs
- They recommend to establish A to Z projects, or a complete package (growing, micro-credits and marketing services)

4) Ameen SAL:

- Interested in the UNDP/GEF project and they are willing to partner
- No MAP beneficiaries, only Agro-business loans (purchase of machine or packaging equipment)
- Ameen has 5% part of agriculture in their micro-credit program
- Starting a grant by Cedars plus CHF to give loans to Agro-business all over Lebanon in collaboration of RMF and Hariri foundation.
- They recommend for MAP project a special LOAN PRODUCT tailored to fit the beneficiaries (example: reimbursement rate might be seasonal)

5) Al Majmouaa:

- Group loan is very interesting: 5 women, each one guarantees the other
- Al Majmouaa has 12% part of agriculture in their micro-credit program
- Taan Wanji is a MAP processor in Akkar, his loan reached 5,000\$
- Micro-credits loans are the most difficult loans because agriculture is very sensitive to price fluctuation.

ESFD – BDS and Loan Guarantees

The Economic and Social Fund for Development (ESFD) is responsible for poverty alleviation in Lebanon through the creation of employment generating activities, usually through micro loans. The ESFD has a business development service programme in the south, with the assistance of a private bank, in order to help entrepreneurs who would normally not attempt to obtain loans from the banks. Entrepreneurs who are accepted into the programme are helped to prepare documents and a business plan. Loan money comes from a fund that is lent to Banks at low interest rates in order to lower interest rates and induce the bank into lending the required loans. Currently, two private banks are participating in this scheme, and a

third is set to join them. Loans are set at a maximum of €20,000 with a 5 year repayment period, a grace period of up to one year and a declining 10.5% interest rate.

KAFALAT

Kafalat is the Lebanese credit guarantee agency. The company was created through the active participation of several private banks, in collaboration with the central bank, in order to facilitate lending to SMEs. Kafalat is funded through the pooling of a percentage of the reserve requirements deposited at the Central Bank by the participating banks and uses its capital to issue credit guarantees of 75% of loan funds in order to lower effective interest rates. Thus guaranteed loans have very low interest rates equivalent 2.5-3% a year.

By 2003, Kafalat was providing around 33% of total subsidised loans and had by December 2004 guaranteed 397 billion LBP's in loans (\$263 million) with an average loan size of \$77,000 distributed to over 3,396 applicants. Generally, subsidised loans issued by the Central Bank directly are issued to large enterprises, making Kafalat the only large public source of funding to SMEs.

Industry is the major recipient of the guarantees, followed by agriculture and tourism, with specialized technology loans increasing on a yearly basis and handicrafts having received minimal guarantees. Despite the positive contribution of Kafalat, the issue of collateral is still impeding finance for SMEs. Kafalat with the support of the SME Support Unit will play a leading role in resolving this impediment. It is anticipated that Kafalat and the SME Support Unit will work closely in the delivery of €4m from the SME Programme to meet the needs of SMEs targeted by the programme.

Appendix II
Map Friendly SME (MSE) Assumptions and 5-year Business Projections

The project will encourage local entrepreneurs to establish community-based MSEs for the collection and marketing of wild-growing MAPs. These local enterprises will link local collectors with the market, and will increase the local interest in MAP harvest which is at present often dominated by people from outside the community. Being predominantly a seasonal business, there is a need for a light and efficient business structure, which would fit the traditional family-based enterprise structure. As the treatment of MAPs will only include primary processing such as drying, cleaning, cutting and bulk packing, heavy investment is not required.

An assessment was made during the preparation of the project to find out whether these MAP-MSEs are economically viable and profitable, and whether they provide enough economic incentives for local communities in rural areas. All projections were made under conservative, moderate, and aggressive assumptions: A conservative scenario where there will be no changes in the production capacity of MSE due to the lack of awareness of the importance of MAPs; a moderate growth scenario where there will be a 20% increase in MAP sales due to higher consumer awareness, improved marketing and increased demand; and a high growth scenario where there will be a 40% increase.

According to the moderate feasibility assessment for the MAP-MSEs in Lebanon, US\$7,700 is the net projected income to be obtained during the 2nd year and US\$11,400 the net projected income for the 3rd year, compared to a total average income of US\$7,120 as obtained from socio-economic surveys in three rural communities. All scenarios (conservative, moderate, and aggressive projections) show a higher income potential compared to the two highest sources of income (crops/fruit trees and off-farm) except for the first year of operation (conservative assessment version).

The table below gives the income projections from the MAP MSEs in comparison to the average of the two highest sources of income (crops/fruit trees and off-farm), as obtained from socio-economic surveys conducted in three rural communities in Lebanon. It clearly shows that the income which may be generated through MAPs play a significant role and constitutes sufficient incentives for dealing with this kind of business.

Comparison of the average sources of income in three rural communities in Lebanon to the three years MAP SE income projections (see pages 9-11). All values in US\$.

Income source	Average household income	Income generated by MAPs (projected for the first 3 ys.)
MAP-MSEs: Conservative assessment		
• 1 st year		1,639
• 2 nd year		5,379
• 3 rd year		9,077
MAP-MSEs: Moderate assessment		
• 1 st year		3,977
• 2 nd year		7,717
• 3 rd year		11,414
MAP-MSEs: Aggressive assessment		

• 1 st year		8,652
• 2 nd year		14,304
• 3 rd year		21,699
Average annual income in the 3 rural communities	7,120	
Income from crops & fruit trees	2,020	
Income from off-farm (non-agricultural economic activities)	2,392	

On the business front, the assumptions made for an economically viable MSE takes into consideration that it will:

1. Be a local community based venture.
2. Have a Light structure.
3. Have insured access to market through accredited market trading companies.
4. Use of local community talent for collection following appropriate training in MAP friendly collection practices.

Assessments for community based MSEs will take into consideration that the community enjoys an important MAP potential from a sustainability point of view, and the trading of the MAPs will be done on the primary target species that have been selected, but does not exclude other MAP species available in the community.

While the overhead portion does not vary significantly, the performance will be primarily based on collection availability of MAPs and successful sale to market based trading companies.

The three approaches take into consideration MAP friendly collection and resorting to local collectors as well as community rents / storage areas.

It also takes into consideration the potential to sell in bulk to established middlemen / traders who are presently resorting to hired help, by providing them with a similar service through local community collectors at sensibly a similar cost that they would otherwise incur when resorting to hired help from outside the community.

Revenues are estimated based on estimated quantities available in local areas (from livelihood and conservation assessments) and average market prices.

Conservative assessment:

Five Year Income Statement community based MAP-SE Projections (conservative)					
Description	Y1	Y2	Y3	Y4	Y5
Sales revenue					
Map	\$15,000.00	\$23,000.00	\$35,000.00	\$45,000.00	\$60,000.00
Total Sales Revenue	\$15,000.00	\$23,000.00	\$35,000.00	\$45,000.00	\$60,000.00

Cost of Goods Sold					
Map (45% of sales)	\$6,750.00	\$10,350.00	\$15,750.00	\$20,250.00	\$27,000.00
Total Cost of Goods Sold	\$6,750.00	\$10,350.00	\$15,750.00	\$20,250.00	\$27,000.00
Total Revenues	\$8,250.00	\$12,650.00	\$19,250.00	\$24,750.00	\$33,000.00
Overheads					
Salaries and Charges (Family pooled income derived from benefits)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Storage	\$1,000.00	\$1,000.00	\$1,500.00	\$1,500.00	\$2,000.00
Utilities	\$750.00	\$750.00	\$1,000.00	\$1,000.00	\$1,500.00
Transportation	\$1,000.00	\$1,000.00	\$1,500.00	\$1,500.00	\$2,000.00
Communication	\$1,000.00	\$1,000.00	\$1,500.00	\$2,000.00	\$2,500.00
Miscellaneous	\$1,500.00	\$1,500.00	\$2,000.00	\$2,500.00	\$2,500.00
Financing repayment (loan of \$3000 at 4.5% APR or \$89.25 / month)	\$1,071.00	\$1,071.00	\$1,071.00		
Total Overheads	\$6,321.00	\$6,321.00	\$8,571.00	\$8,500.00	\$10,500.00
EBITDA (Earnings Before Interest, Tax, Depreciation and Amortization)	\$1,929.00	\$6,329.00	\$10,679.00	\$16,250.00	\$22,500.00
Tax 15% (no taxes on loss, tax on difference of cumulative exercises)	\$289.35	\$949.35	\$1,601.85	\$2,437.50	\$3,375.00
Net income	\$1,639.65	\$5,379.65	\$9,077.15	\$13,812.50	\$19,125.00

Sample Projection Y1 (Becharre site)

Sales revenue	Y1	Est. Tonnage	Est. Value / Ton in USD
Potential from Origanum	\$3,900.00	1.5	\$2,600.00
Potential from Cychlotrichium	\$6,000.00	1.5	\$4,000.00
Potential from Viola	\$2,100.00	0.6	\$3,500.00
Potential from Micromeria	\$3,000.00	1.5	\$2,000.00
Total MAP	\$15,000.00	5.1	\$3.025

Moderate assessment:

Five Year Income Statement community based MAP-SE Projections (moderate)					
Description	Y1	Y2	Y3	Y4	Y5
Sales revenue					
Map	\$20,000.00	\$28,000.00	\$40,000.00	\$56,000.00	\$79,000.00
Total Sales Revenue	\$20,000.00	\$28,000.00	\$40,000.00	\$56,000.00	\$79,000.00

Cost of Goods Sold					
Map (45% of sales)	\$9,000.00	\$12,600.00	\$18,000.00	\$25,200.00	\$35,550.00
Total Cost of Goods Sold	\$9,000.00	\$12,600.00	\$18,000.00	\$25,200.00	\$35,550.00
Total Revenues	\$11,000.00	\$15,400.00	\$22,000.00	\$30,800.00	\$43,450.00
Overheads					
Salaries and Charges (Family pooled income derived from benefits)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Storage	\$1,000.00	\$1,000.00	\$1,500.00	\$1,500.00	\$2,000.00
Utilities	\$750.00	\$750.00	\$1,000.00	\$1,000.00	\$2,000.00
Transportation	\$1,000.00	\$1,000.00	\$1,500.00	\$1,500.00	\$2,000.00
Communication	\$1,000.00	\$1,000.00	\$1,500.00	\$2,000.00	\$2,000.00
Miscellaneous	\$1,500.00	\$1,500.00	\$2,000.00	\$2,500.00	\$3,000.00
Financing repayment (loan of \$3000 at 4.5% APR or \$89.25 / month)	\$1,071.00	\$1,071.00	\$1,071.00		
Total Overheads	\$6,321.00	\$6,321.00	\$8,571.00	\$8,500.00	\$11,000.00
EBITDA (Earnings Before Interest, Tax, Depreciation and Amortization)	\$4,679.00	\$9,079.00	\$13,429.00	\$22,300.00	\$32,450.00
Tax 15% (no taxes on loss, tax on difference of cumulative exercises)	\$701.85	\$1,361.85	\$2,014.35	\$3,345.00	\$4,867.50
Net income	\$3,977.15	\$7,717.15	\$11,414.65	\$18,955.00	\$27,582.50

Aggressive assessment:

Five Year Income Statement community based MAP-SE Projections (aggressive)					
Description	Y1	Y2	Y3	Y4	Y5
Sales revenue					
Map	\$30,000.00	\$43,000.00	\$62,000.00	\$90,000.00	\$115,000.00
Total Sales Revenue	\$30,000.00	\$43,000.00	\$62,000.00	\$90,000.00	\$115,000.00
Cost of Goods Sold					
Map (45% of sales)	\$13,500.00	\$19,350.00	\$27,900.00	\$40,500.00	\$51,750.00

Total Cost of Goods Sold	\$13,500.00	\$19,350.00	\$27,900.00	\$40,500.00	\$51,750.00
Total Revenues	\$16,500.00	\$23,650.00	\$34,100.00	\$49,500.00	\$63,250.00
Overheads					
Salaries and Charges (Family pooled income derived from benefits)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Storage	\$1,000.00	\$1,000.00	\$1,500.00	\$2,000.00	\$3,000.00
Utilities	\$750.00	\$750.00	\$1,000.00	\$2,000.00	\$3,000.00
Transportation	\$1,000.00	\$1,000.00	\$1,500.00	\$2,000.00	\$4,000.00
Communication	\$1,000.00	\$1,000.00	\$1,500.00	\$2,000.00	\$2,500.00
Miscellaneous	\$1,500.00	\$2,000.00	\$2,000.00	\$3,000.00	\$3,000.00
Financing repayment (loan of \$3000 at 4.5% APR or \$89.25 / month)	\$1,071.00	\$1,071.00	\$1,071.00		
Total Overheads	\$6,321.00	\$6,821.00	\$8,571.00	\$11,000.00	\$15,500.00
EBITDA (Earnings Before Interest, Tax, Depreciation and Amortization)	\$10,179.00	\$16,829.00	\$25,529.00	\$38,500.00	\$47,750.00
Tax 15% (no taxes on loss, tax on difference of cumulative excercises)	\$1,526.85	\$2,524.35	\$3,829.35	\$5,775.00	\$7,162.50
Net income	\$8,652.15	\$14,304.65	\$21,699.65	\$32,725.00	\$40,587.50

The three approaches provide a suitable entry point into the evaluation of the establishment of community based MSEs. It would only be normal to witness performance variation from one region to another and from one business to another not only due to the availability of MAPs as initially stated but also to variables inherent to the personality and drive of the business owner, the family structure and help available, the adoption of a long term commitment to the business as well as the local community's response with the MAP preservation and facilitation of the MSE as an added value and overall income generation to the community as a whole and not exclusively to the family owners themselves.

Any cost related to the business such as the membership fees, percentage contribution, or financing fees is built into the cost of goods for all practical purposes.

The major barriers to such a business outlook can best be summarized by:

- **Access to markets:** No MSE can sustain itself if there is no access to markets. So far the farming communities in Lebanon suffer extensively from this lack of access to market and find themselves at the mercy of middlemen.
- **Community support:** At the heart of the MSE's success will be community buy-in and support. Without the community's support, the MSE would simply wither and die. The major barrier is thus in convincing communities that contract production / collection is the best option for both MSEs and communities as it provides for visibility and fair dealings at both ends.
- **Major trader's threat:** Existing traders relying on their own hired help might try to fight the establishment of local MSEs. This threat can greatly be reduced by providing the traders' with a similar cost structure that they have in terms of collection, but by exclusively relying on local collectors. Another means to reduce the rejection from the trade is linked to first access to MAPs and the self regulation that would be derived from a successful community based MSE which would push the community to preserve the economic benefits derived from MAPs through a stricter control of the community's resources and the forbidding of outsiders to come and collect from the local community.
- **Consumer response:** While community based MSEs can become a viable enterprise based on the previously mentioned assumptions, the end consumer response will also have an important part to play in the success of such ventures. Even though no direct sale will be done through the local MSEs to end consumers, and consumers would rather deal with Market based trading companies accredited by the MAP association, any rejection or fluctuation in market demand will have a trickle down effect from the major markets all the way down to the community based MSEs.

There are a number of reasons which encourage local entrepreneur to establish community based MSEs:

- I. MAPs are already being traded and have an economic value; however the primary beneficiaries from the trade are people from outside the community. Community based MSEs would thus tilt the balance to start benefiting the locals (Entrepreneurs and collectors alike).
- II. The MAP friendly collection methods that will be established will also have a positive impact on the biodiversity as well as the quantities of species available and potential to grow the trade in a MAP friendly way over a few years.
- III. The low level investment required to start the business as there would not be any heavy investment in processing units or buildings.
- IV. The projected additional income that local entrepreneurs can derive from the setting-up of such MSEs can be as high as 84% of their average annual income (EBITDA Y2 conservative estimate).
- V. The revenue streams and intra-community payment for collection will reflect the MSEs performance and need for local support as all local stakeholders would start benefiting from an otherwise wasted additional source of income, by using MAP friendly collection and preservation methods.
- VI. Market access facilitated by the proposed business model.

In addition to the likelihood to start MSEs, and as per the financial projections provided in the various tables (conservative to aggressive), and the factual first year example from the Becharre community, it is clear that community based MSEs are viable.

The minimum turnover to become viable is intrinsically linked to the cost of goods as well as the overheads. Both have been established under conservative scenarios. A revised assessment for Cost of Goods as well as other overheads, can lead to a minimum turnover of \$8000 to have a small but positive result (next Table).

Description	Y1
Sales revenue	
Map	\$8,000.00
Total Sales Revenue	\$8,000.00
Cost of Goods Sold	
Map (35% of sales)	\$2,800.00
Total Cost of Goods Sold	\$2,800.00
Total Revenues	\$5,200.00
Overheads	
Salaries and Charges (Family pooled income derived from benefits)	\$0.00
Storage	\$500.00
Utilities	\$750.00
Transportation	\$500.00
Communication	\$1,000.00
Miscellaneous	\$1,000.00
Financing repayment (loan of \$3000 at 4.5% APR or \$89.25 / month)	\$1,071.00
Total Overheads	\$4,821.00
EBITDA (<i>Earnings Before Interest, Tax, Depreciation and Amortization</i>)	\$379.00
Tax 15% (<i>no taxes on loss, tax on difference of cumulative exercises</i>)	\$56.85
Net income	\$322.15

There are no limits for the performance of such enterprises to grow except by the owners themselves (dynamism, commitment). A semi-community based MSE called Earth and Co, has successfully

developed in the southern town of Mansouri and has reached turnover rates of \$180,000 in 2005 according to Masri Etudes et Expertises on their medicinal and aromatic plants sales portion. Should 50% of this turnover be reached by locally based MSEs, a turnover of \$90,000 would not be unrealistic in a 5 year time span.

Should we apply a pure financial outlook, economic viability is when a business is positive, or turns a profit. From that perspective, and based on the projections, viability can happen from Y1. A more realistic outlook should take into consideration a 2-year development period to start reaching levels of EBITDA that would be of interest to local entrepreneurs (84% of their income).

Appendix III

Threats to globally significant MAP Biodiversity, Barriers to Mainstreaming of Biodiversity Management into the MAP Industry and Project Response

Threats to Globally Significant MAP Biodiversity:

The threat analysis relied on the following sources of information and processes:

1. Literature review at the national and international levels;
2. Analysis of the stakeholder interviews;
3. Experts brainstorming session;
4. Working group sessions at the national consultation workshop; and
5. Stakeholders validation meeting

Current MAP market practices threaten the populations of many indigenous globally significant species. The main threatening processes are destructive harvesting and overharvesting.

Destructive harvesting methods include early harvesting, uprooting and indiscriminate harvesting. *Origanum* is often harvested as whole plant, as it is easier to remove the leaves from the branches later, thus negatively affecting the recovery of the species or even giving rise to the extermination in the collection area. Despite the decisions made by the Lebanese *Ministry of Agriculture* to regulate the harvesting and trade in certain key MAPs, destructive harvesting remains a predominant practice in the country.

Overharvesting is difficult to quantify, as the exact sustainable harvest level is not known and is variable from one collecting area to another, one season to the next. Most threatening harvesting practices can be attributed to non-local collectors who are mostly itinerant male workers or Lebanese female Bedouins.

The current harvesting practices are due to short-term rent seeking in the MAP market where profit maximisation is sought through high volume, low quality trade over a relatively short investment period. This approach is driven by the “open access” to wild MAP stocks. Resource-use and ownership rights do exist in Lebanon, but they are not strongly applied and lack any meaningful enforcement. The low articulation of access rights to MAPs permits commercial harvesters to have free and uncontrolled access to wild stocks.

Threatening harvesting of MAPs is increasingly practised as more and more inexperienced collectors become involved in this business. Collection is frequently undertaken at places distant from villages and collectors include itinerant workers hired by traders and middlemen. These collectors only collect MAPs for a short period of time before moving on. Many of them may have no intention to return to the same collecting point again even next season. As collectors are not the owners of the land where MAPs exist, they do not have control over them and feel little responsibility; MAPs are collected from any (unfenced) land, irrespective if private or public, which thus represents as described in detail in the situation analysis, an open access system; there are no incentives for collectors to apply resource-conserving harvesting practices, in particular as MAPs collection takes place in a highly competitive environment.

Overharvesting and destructive harvesting practices are further encouraged by the supplementary nature of the revenue. MAP harvesting as a business is picked up when opportunity affords. MAP harvest is in general considered as an addition or “bonus” to the collector’s annual source of income. The informal, unregulated nature of the MAP market does not allow agreeing upon sustainability standards and there is no organisational structure which would allow enforcing them. The temporarily engagement of collectors in the MAP business does not provide enough incentives to acquire knowledge and skills on environmentally-friendly harvesting. Also the fact that collectors are paid by the bag creates an incentive to include as much biomass as possible, even plant parts which are not useful.

Like most terrestrial biodiversity in the Arab States, the target MAP species face potential threats from habitat deterioration and loss. These threats are not specific to MAPs but are part of broader land use and development issues. Land is scarce in Lebanon and natural MAP habitats face pressure from urban

encroachment. Lebanon seriously struggle with land degradation and desertification. The loss of the natural vegetation has lead to increased soil erosion and decreased soil fertility, which imposes serious threats to biological diversity and ecosystem integrity. This process principally extends throughout the region, although it is more pronounced in the extreme North and South of Lebanon and the Eastern part of Lebanon. The misuse of rangeland by overgrazing is common in the project region, especially in the dry land areas, resulting in the degradation of the vegetation cover, including the decline of many MAPs. Overgrazing materializes in terms of intensive, untimely grazing and poor management of herd sizes. The high human population density in Lebanon as well as rural poverty result in high pressure on land and natural resources, bears responsible for the loss and deterioration of natural habitats. Although land degradation including poor rangeland management and urbanization undoubtedly negatively affect MAP populations, MAPs, however, play only a minor role in this problem complex, and thus do not constitute an effective leverage for changing the land use system. Land use issues are tackled by several other projects in Lebanon.

Barriers to Mainstreaming of Biodiversity Management into the MAP Industry:

The project aims to create a framework in which the target MAPs are more highly valued - because they provide increased household income – and are therefore better managed by the recipients of the added value. In doing so, sustainable management measures will be mainstreamed all along the MAP industry chain of custody. However, there is a number of barriers that hinder biodiversity conservation measures being taken into account by the industry and instead permit or even encourage overuse. This section identifies and describes barriers that are preventing the mainstreaming of biodiversity issues into the Lebanese MAP production system. The barriers have been examined on three levels:

- Collecting of wild-growing MAPs,
- Primary processing (milling, wholesale trading), advanced processing and trading of MAP products,
- Consumption.

Barriers related to the Collection of Wild-growing MAPs

Whereas relatively small amounts of MAPs are collected for personal use, the commercial scale (with over 1,300,000 kg of the 7 target species in the project region) has a serious impact on the population levels of the concerned species. Influencing commercial collection practices therefore promises to achieve significant biodiversity results. Yet there are a number of factors that challenge the ability to mainstream biodiversity considerations into the collection of wild growing MAPs.

- **Weak Property Rights:** As a conservation strategy, increasing the market value of wild stocks of MAPs requires mechanisms that allow MAPs to be treated as a privately owned commodity – with clear and inalienable ownership and enforceable access to benefits. Property rights are therefore extremely important. As described in the Situation Analysis, there are no significant law enforcement mechanisms that would prevent collectors from gathering plants from any land that is unfenced. Itinerant collectors are thus able to collect MAPs practically anywhere they are found. Even if lands are under cultivation, MAP collectors have access to the naturally grown MAPs.

The open access system increases competition among collectors who feel little responsibility for the MAP resource base. Rotation of collecting areas (to allow regeneration) is therefore not practiced and not feasible under the current land use system. Open access schemes prevent rational and cautious use of plant population and make it difficult to adhere to restrictive measures such as quotas and closed seasons.

- **Poor knowledge of sustainable harvest levels:** Little is known about the sustainability level of MAPs. Each species has specific potentials, depending on the climatic and ecological conditions in the collecting area. The sustainable harvest may thus change from one year to the next (e.g. as a consequence of varying precipitation). Resource managers are confronted with a lack of adequate information about the annual sustained yield that can be harvested without damaging the populations. Whereas data for some species is available internationally, and some knowledge is available locally

through experience, the overall situation remains insufficient and remains a barrier to the sustainable management of the MAP resource base.

- **Opportunistic harvesting practices:** The nature of current harvesting practices is generally opportunistic. Some collectors are paid by middlemen to collect, but generally only as supplementary revenue. Those work opportunistically across a number of collecting areas with no incentive to manage the resources in those areas. Collectors are paid by the bag as middlemen are not prepared to offer full-time work and collectors are not willing to enter into contracts. Payment by the bag creates a disincentive to apply sustainable harvesting techniques, as collectors strive to include as much plant biomass as possible. Itinerant workers often collect MAPs on their way to/from work, in say the construction industry. These collectors generally have little knowledge of MAPs and their biology and ecology. As a result, many MAP species are regularly being uprooted. Closely related species are also often not distinguished, so endemic species are collected together with relatively abundant and widespread species (e.g., *Micromeria* and *Viola*).

The opportunistic nature of current practices creates a barrier to the integration of biodiversity considerations into MAP harvesting, as it means there is no clearly defined group of collectors to work with and train in sustainable harvesting techniques. Collectors may be generally employed in other sectors, or by foreign workers who only collect MAPs for a couple of months before being replaced by other itinerant workers. This makes collectors a difficult entry point for mainstreaming biodiversity considerations.

- **Loss of traditional knowledge:** Traditional knowledge can be a significant contributor to mainstreaming biodiversity considerations into the MAP industry. Traditional harvesting practices were formed before the advent of large-scale commercial trade and applied by local communities and households who were dependent on wild stocks of MAPs as their primary source of medicine, a significant contributor to dietary needs and as “insurance” against yearly fluctuations in household revenue (primarily from livestock and agriculture). As a result, communities traditionally had incentives to apply sustainable collection practices (although these incentives were moderated by the far greater abundance of MAPs and reduced pressures on the resources).

The vast customary and indigenous knowledge that traditionally regulated the use of MAPs is weakening and in some cases vanishing from the region. MAP collection was originally practiced by relatively few villagers, but with the enlargement of the business and the opportunity to deliver to the big cities, more people have become involved in collecting activities. It is estimated, at present, that only some thirty percent of MAPs are collected by local harvesters coming from local communities, whereas the majority are either Syrian workers or Lebanese Bedouins not resident in the collecting areas. Knowledge is not passed down from one generation to the next.

The loss of traditional knowledge is a barrier to mainstreaming biodiversity considerations into the MAP industry, as it means there is a diminishing pool of people demonstrating, advocating and sharing tried and tested sustainable practices. Knowledge lost means that the same lessons and mistakes may have to be repeated only to regain sustainable practices that were used in the past.

- **Absence of quality control mechanisms and standards.** Standards regarding overall MAP quality and collecting methods are not applied in the project region. MAPs below a certain quality level (e.g. mixed with other plant material or soil or other particles) are often simply thrown away. MAPs still appear as cheap raw material, into which not much is invested for increasing quality from the time of harvest. There are no regulations of collection seasons, amounts and methods, and the MAP industry is thus developing without a regulatory framework which would define the rules of the game for competing companies and for conserving the industry’s resource base. While some decrees exist in Lebanon banning the collection and export of some species, they are ineffective. No export permit has been requested over the past two years, and no fines to this respect have ever been emitted.

The unregulated, uncontrolled nature of the industry means that there are relatively few entry points for integrating biodiversity considerations. If quality control mechanisms already existed, those mechanisms could be adapted or expanded to include biodiversity considerations. The fact that no such quality control mechanisms exist is a challenge, as it means that new standards need to be developed. It is unlikely that biodiversity considerations could solely drive such a process.

On the other hand, this barrier could be turned into an opportunity. The absence of any existing quality control mechanisms means that they can be designed from the beginning to incorporate biodiversity safeguards.

Barriers related to Processing and Trading

The nature of the market provides few existing mainstreaming “hooks”. The market is mainly for domestic trade, informal, unregulated and involves little advanced processing. Primary processing includes the drying, stocking, milling and packing of plant raw material, steps often assumed by wholesalers and mills. Advanced processing is understood to encompass the manufacturing of products based on MAPs. Value-addition through primary and advanced processing is an important tool for rising prices and thereby increasing the incentive to sustainably manage MAPs.

- **Domestic trade:** Due to the relatively small surface areas of Lebanon, the market is a net importer of MAPs, not an exporter. This limits the opportunity to use trade and labelling regulations and recipient country health requirements to integrated biodiversity considerations. Most MAPs are sold on domestic markets after primary processing as half-finished raw material. There are few finished products. This hampers the market opportunities of producers and traders to use product differentiation across price segments and product lines as a means of integrating biodiversity considerations. Labelling of MAP products in Lebanon is generally poor.

Another barrier is the poor level of market organisation. There are no professional organisations advocating for the interests of the MAP industry, which could have been used as an entry point for biodiversity considerations.

- **Lack of knowledge on advanced processing techniques.** Most processing is undertaken by local millers who lack the knowledge and facilities to manufacture value-added products. There are over 140 mills of Lebanon, around 40 mills are larger operations with processing capabilities as well as transformation lines producing packaged and branded products.

Attarin, the owners of the traditional health shops, are not formally educated, and they usually obtain their knowledge either from their fathers and grandfathers or they educate themselves with the help of books. Their level of knowledge and skills are therefore often fragmentary.

Many local communities are not fully aware of the potential values of MAPs and MAP derived products. They only know the (relatively low) price of MAP raw material, but do not perceive the economic potential of value-added products. They, therefore, cannot estimate the profitability of the proposed operation.

- **Business environment not favourable for innovations.** The general economic and political conditions in Lebanon are not supportive of business innovations. Due to political circumstances, not many people want to make investments with high economic risks.

Such characteristics are typical of marginal markets that involve poor and vulnerable groups along the chain of custody. Yet it is precisely because of their involvement that efforts to mainstream biodiversity considerations through market transformations can have the greatest impact on livelihoods and poverty.

Barriers related to Mainstreaming Biodiversity Considerations at the Consumer Level

Only a small number of finished MAP products and brands are available on the Lebanese market. They are not produced under international quality and sustainability standards such as those developed by the World Health Organisation (WHO) and the World Wide Fund for Nature (WWF).

- **Consumer awareness:** While consumers are extremely sensitive to perceptions of “quality” in terms of taste or potency, they pay no attention to the quality in terms of sustainability and origin of the MAP products offered in the market. Their purchasing decisions actually have important environmental impacts on the populations of wild growing MAPs. However, consumers are not in a position to take such decisions, as they are usually not aware of threats to MAPs and the regions of origin.

- **Poorly developed markets:** Consumers usually have only little chance to select among several MAP products. The low number of end products and local brands often forces consumers to switch to relatively expensive imported ware. Most advanced MAP products available in the domestic markets are imported.
- **Demise of the traditional healing system:** The traditional *attarin* shops throughout generations have served not only as places where herbs and herbal medicines are acquired, but also as places providing information on health care and medical treatments. Therefore they represent a logical point to mainstream biodiversity considerations into the industry. However this opportunity is being lost. Some *attarin* are still able to provide these services, based on knowledge they have obtained from their fathers and grandfathers. However, there is now a new generation of *attarin* who for economic reasons step into this business with poor knowledge in health care. Decreased knowledge and provision of traditional services, limited range of finished health care products and increasing alternative options for consumers all contribute to reduced consumer dependence upon *attarin*.

The poorly developed market does not provide many opportunities to bring biodiversity considerations to the consumers' attention. Nevertheless, consumers in the project region are getting increasingly sensitive towards environmental issues and become increasingly interested in sustainably produced products. The growing number of organic food and natural cosmetic shops as well as a growing membership of environmental associations is a clear evidence for this trend.

A consumer survey on organic produces conducted through the World Vision organic agriculture project in Lebanon shows a relatively high sensitivity of the population. The primary organic produce buyers show a high incidence for health concerns (74%), followed by taste issues (21%) and on the low end environmental and local issues. These readings could strengthen the role of labelling and certification from a quality standpoint. The other noteworthy issue is reflected by the non-organic users who in the majority show the lack in awareness on organic produce as the primary reason why they have not bought those (57%) followed by price issues (23%). 42% of all interviewed consumers stated that they are ready to pay up to 10% more for organic food, 29% are ready to pay up to 25% more, and 18% up to 50% more. Only a relatively small portion of 17% showed no willingness. Awareness, thus, needs to play a key role in terms of informing people of the availability of relevant produces.

Response measures by the project to the barriers to achieving the mainstreaming of biodiversity conservation into the MAP industry:

The following table shows the measures that will be carried out by the project in order to overcome the barriers to achieving the mainstreaming of biodiversity considerations into the MAP industry. The barriers correspond with the list of barriers identified during project preparation

Key Issues	Project Response
Collection increasingly done by non-local people	The project will focus on efforts to get local communities engaged in the MAP industry, both as collectors and as small-scale entrepreneurs. Access to value-added production will provide them the necessary incentives.
Collection often an opportunistic and supplementary economic activity	Through the establishment of community-based MAP MSEs and through linking local collector to these enterprises, MAP collection will become a calculable source of income.
Collectors have no control over MAP resources (free access to land)	Setting-up MAP resource use plans will help local communities to protect their raw material against other forms of land use and against opportunistic collectors coming from outside.

No collecting standards, vanishing of local knowledge	The project will set up together with the main stakeholders guidelines on sustainable harvesting practices and will adopt international standards.
No possibility to enforce standards (informal sector)	The projects will restructure the MAP industry and will initiate its transformation from the informal to the formal sector. The establishment of community-based MAP MSEs, upgraded manufacturing companies and national MAP Association are the pillars of this structure. The MAP Association will be responsible to enforce standards through its member enterprises.
No incentives for knowledge acquisition because of temporarily nature of MAP collection activities	Linking local collectors to community-based MAP MSEs will give the trust in a regular income, and will underline the need for training for sustaining livelihood.
MAP raw material underrated	Value-added production will increase the economic return both of collectors (who need to improve their collecting practices) and MAP enterprises (who will make better use of the raw material). It will be shown that MAPs are underrated only as crude, unprocessed raw material, but will gain significant prices as finished products.
Barriers to Mainstreaming	Project Response
Weak Property Rights	The project will support the establishment of resource use plans on community level with the participation of public and private land owners and the users of MAP resources as raw material for the industry. These plans will help regulate the access to land and the use rights.
Poor knowledge of sustainable harvest levels	Information gathered from both scientific and local sources (local knowledge) will be combined and integrated into training programmes to be provided by the project to MAP collectors.
Opportunistic harvesting practices	The project will get local collectors and communities more involved into the MAP business through establishing community-based MAP-MSEs. As these will be able to offer better quality and will get with the help of the project better market access, they will have a comparative advantage over opportunistic harvesters.
Loss of traditional knowledge	The project will largely rely on the local knowledge on sustainable harvesting methods of local people. Training measures will build on this knowledge, and will help proliferate the information to other collectors including the young generation.
Absence of quality control mechanisms and standards	The project aims to adopt international standards and will implement them through capacity building on local level.
Domestic trade	The project will support producers to develop new product lines based on sustainably harvested MAPs, which will open them new market opportunities and will allow them to better integrate biodiversity considerations into their marketing concepts. The better structured market will allow to better use trade and labelling regulations as well as health requirements. The project will support the establishment of

	professional organisation advocating for the interests of the MAP industry, including a sustainable use of the raw material.
Lack of knowledge of advanced processing techniques	The project will help introducing advanced processing techniques to help people better understand the economic potential and profitability of MAPs, and thus the need not to harm the resource base.
Business environment not favourable for innovations	The project will support establishing and upscaling small-scale operations with perceivable financial risk. The project will further link manufacturing companies interested in developing new MAP based product lines with microfinance institutions (co-financing).
Consumer awareness	The project will work with interested MAP manufacturing enterprises in awareness raising for sustainable harvest. The project will link sustainability labelling and labelling regarding the origin of the MAP raw material with health considerations in order to get higher consumer attraction.
Poorly developed markets	The project will increase the number of value-added products to give consumers the chance to select among different products and to give them the chance to select sustainably produced items. At the same time, this will increase the competition for quality and taste.
Demise of the traditional healing system	Training to be provided by the project to representatives of local communities will increase the general interest in herbs, medicinal and aromatic plants and may help to strengthen the role of traditional healers such as <i>attarin</i> .

The reasons for unsustainably harvesting MAPs and short-term profit maximisation are diverse. Collection is more and more done at places far distant from the own community and collectors include itinerant workers hired by traders and middlemen, and only collect MAPs for a short period of time before moving on. Many of them may have no intention to return to the same collecting point again even next season. As collectors are not the owners of the land the MAPs are growing on, they do not have control over them and feel little responsibility; MAPs are collected from any (unfenced) land, whether private or public, which thus represents, as described in detail in the situation analysis, an open access system; there are no incentives for collectors to apply resource-conserving harvesting practices, in particular as collecting takes place in a highly competitive environment.

Overharvesting and unsustainable harvesting practices are further encouraged by the supplementary nature of the revenue. MAP harvesting as a business is picked up when opportunity affords; as MAP harvest is for none of the collectors the main annual source of income, they can treat it as additional or “bonus”. The informal, unregulated nature of the MAP market does not allow agreeing upon sustainability standards and there is no organisational structure which would allow enforcing them. The temporarily engagement of collectors in the MAP business does not provide enough incentives to acquire knowledge and skills on environmentally-friendly harvesting. Also the fact that collectors are paid by the bag creates an incentive to include as much biomass as possible, even parts of plants not required.

MAP raw material is underrated and its collection is mainly done by the poorer population, which in Lebanon includes non-local Bedouins (usually women) and foreign workers (exclusively men). As communities do not have strong incentives to protect MAPs and therefore do not show much stewardship for the MAPs growing on their territory, they give open access to any collectors, who in return regard MAPs as common goods and do not take much care of sustainability aspects.

Appendix IV

Summary of the Livelihood, Conservation and Production/Marketing Assessments

Three main technical studies were undertaken during the project preparation: (1) production and market assessment, (2) livelihood and land tenure assessment and (3) conservation assessment.

The target species covered by the study are:

1. *Origanum syriacum*.
2. *Origanum ehrenbergii*.
3. *Viola libanotica* (*Viola* sp.)
4. *Alcea damascene* (*Alcea* sp.).
5. *Micromeria libanotica* (*Micromeria* sp.).
6. *Cyclotrichium organifolium*.
7. *Salvia fruticosa*.

Three sites were selected for the local assessments based primarily on the availability of target species and the presence of trade. The selected sites are: (1) Rachaya el Wadi village (Rachaya area), (2) Abadiyeh village (Aley area) and (3) Bcharreh-Beka'kafra (Ehden-Bcharreh area).

Livelihood and Land Tenure Assessment:

The present land tenure system classifies lands in Private and Public properties. Private lands are either individual (*mīrī* or *milk*) or collective (*waqf*). *Masha'a* is the common name to define *matrūk* and *mawāt* lands. It is essential to distinguish here between two types of *masha'a* lands: *al-jamhouri* lands with benefiting rights to the villagers and *al-jamhouri* lands which belong to the Republic.

MAP can be collected in cultivated lands but are mostly harvested in natural ecosystems. These occur mainly in public lands (where forests, shrublands, grasslands occur) and in extended private properties.

The unclear boundaries of public properties, together with the low law enforcement, lead to the local concept that a public land is synonymous of an abandoned land. Only the municipalities perform some control activities in terms of encroachment or use of the resources (mainly pastures).

Waqf seems to be one of the juridical properties that promote the sustainable use of natural resources, probably due to their extension versus the usually very small properties owned by peasants.

A clear dichotomy exists today concerning access to MAP between what was conceived as a customary right and the present situation.

Customary rights - and the derived article of the Ottoman Code - imply that the access to MAP - and the other resources from *mawat* – was for subsistence needs.

Customary rights on natural resources in public and communal lands were perceived as a diversification of resources to face the needs of the poorest and were set against the risky conditions of production in a hostile climate.

Actually access to MAP can be either for personal or commercial use, no distinction is practically done whether the parcel is a non-fenced private cultivated land or a natural ecosystem in a public property.

The main elements defining the harvesting areas - either for commercial or subsistence purposes - are determined by the harvesting effort:

- availability/abundance of the resource and
- accessibility of the area (measured in terms of distances rather than access rights as relationship to a certain community or ethnic group).

The low articulation of access rights to MAP permit to external, commercial harvesters to have free and uncontrolled access to resources.

The livelihood assessment has shown that local commercial harvesters are mainly peasant families deprived of or with not enough capital land. Access to MAP represents for them a seasonal additional income and not a primary source of income. They are mainly men, while women collect MAPs primarily for home consumption.

Harvesting for subsistence consumption is still widespread in all communities. The number of target species is decreasing due to loss of traditional knowledge and availability of species. This subsistence practice plays also a role as social link with the other members of the village, as usually gifted and represents a link to the different ecosystems and the traditions of their "*terroir*".

Unclear boundaries and governance authorities of extended rural and mountainous areas, the open access to resources and the weak law enforcement represent important causes that are leading to the threatening of the already scarce MAP resources in Lebanon. It can be concluded that:

- Access to MAP is free, ie low articulation of rights (surely exception exists but to areas where access is enforced by local groups for reasons usually different than MAP access);
- Land tenure system does not influence the access rights;
- Access rights exist for grazing in common properties and private lands (usually in common lands, shepherds from the same community do not pay fees but those from external community do; fees are not paid for transit in private lands and very marginalized lands; fees are paid if for example flocks stay longer due to access facilities to water);
- Theoretically the access to State lands is controlled by MoA and that one of Municipal lands by Municipalities – Municipalities usually have the control on both as boundaries are not delimited;
- Law enforcement is always weak, even in "reserve" areas, as is the case of Bcharre;
- Local collectors for commercial purposes are usually the poorest of the community (deprived of land capital); access to common/private properties is crucial; MAP-associated activities are most of the time an additional income and rarely the main source of income from the household, and is mainly men-driven;
- Involvement of women is more common in the "post-harvesting" phases.

CONSERVATION ASSESSMENT:

The morphology of the target species was described and issues related to their conservation at the three study sites were analyzed primarily through interviews with collectors and key stakeholders.

The conservation assessment highlighted the necessity for raising awareness of people involved in MAP production processes on the relations between trade and conservation while shedding the light on the connection that needs to be made within the market, linking local supply with national or international demand.

The assessment supports findings from livelihood assessment, highlighting the necessity to change the behavior of local people into making them the custodians of the species. All interviewed stakeholders with no exception have at some point mentioned the responsibility of “foreign harvesters¹” in the depletion of the resource base.

Some contradictions and discrepancies need to be flagged with respect to the purpose of collection of the plants: although harvesting for personal consumption is very widespread and plausible, very few will admit to selling the resource. This would be recognition of financial need, an issue that rural Lebanese pride in particular does not admit. Only those stakeholders that are more or less professionally involved in the trade of MAPs openly state the sales of MAPs.

Feedback from all the sites hints to the fact that daily workers driven by immediate benefits have a tendency to apply destructive harvesting techniques as well as to completely deplete a certain site from the target species. Therefore, there is room within the intervention strategy to introduce a chain of control and custody that would be based on the quality rather than the quantity of plants collected. This could include the size of the flowers, roots or other plant parts where the active components are present; it could also include the cleanliness of the material – i.e. mud-free or not – as well as additional species specific conditions that would make their harvesting both more sustainable and economically viable for the workers.

Furthermore, at all sites and for all species, it was stated that there are no prior agreements with traders on the quantities required: collection either happens upon immediate request on ad hoc basis, or plants are collected and if attempts at their sales are unsuccessful then they are disposed of – they are free of charge anyway. Instating such agreements and creating linkages between the demand and supply sides of the market might have a positive effect on the collection and harvesting of MAP species, on improving reserve conditions or promoting transformation and value addition as a way to add value while making sure that plants are not harvested at loss (from an ecological perspective).

Introducing the documentation of harvesting practices, quantities, locations and persons would be an important step to allow for the monitoring of species variations and population changes. Building the local capacities for undertaking such an effort could also be rewarding on the long-term in that it will help ensure the durability of these efforts and inscribe them in the long-term. Finally these would prove as important assets upon project start-up by providing baseline information and building a database for monitoring the impacts of the project.

PRODUCTION AND MARKET ASSESSMENT:

A total of 77 key stakeholders were interviewed and served as main source of information to understand the issues governing the production and marketing of MAPs in Lebanon. A parallel research study was also conducted by a specialized office (MEE) to allow for corroboration of results.

¹ Foreign is a term that’s applied indiscriminately to people coming from different villages, Syria, Bedouins, Arabs – tribes – as well daily workers. In reality it mainly refers to the latter and encompasses all harvesters that come in to the area with the purpose of intensive collection for sales.

The market value for MAP products in Lebanon was estimated to be around USD 35 million. Mills and processors, traders/importers and attareen appear to share most of the market, as opposed to pharmaceutical companies, cosmetic industries, health shops and other outlets such as supermarkets, which have a lower share of the market.

An important fact is that the total number of traders, who appear to be the main drivers of production practices in the country and responsible for the majority of MAP collected in Lebanon, do not exceed 10 in number, with forty percent accounting for the bulk of the activity.

Community based Attareen do not seem to be extremely active in their own communities since the populations of MAP rich areas resort to collection for home consumption instead of buying MAPs from the local Attar. The most active attareen are mostly present close to larger agglomerations where the market is found.

The trade milling portion is the largest contributor of the estimated market size at a time when MAP transformation into processed products for consumption or spices as food additives play a major role in the weight of the segmentation. Important findings of the study include:

The collection / distribution structure is primarily done through hired help:

- i. The bulk of the collection (70%) is done through hired workers (45 % Non locals / 30 % Syrians / 25 % Bedouins). The common term used to describe hired help is the “Maquana” or the “machine”. The term in itself provides the right connotation as to the type of indiscriminate collection usually done by such hired workers.
- ii. The primary reason is the absence of a link between local collectors and the market further hinders their involvement in the collection business; besides it is more “practical” and probably economical for traders to hire their own “foreign” collectors for one collection day than to obtain raw materials from numerous local collectors distributed in different areas.
- iii. Another reason is the fact that many areas where MAPs are found seem to have witnessed a hemorrhage in available working locals as the younger generation (18-30) migrate to metropolitan areas to find a job instead of staying in their villages (Y. Njeim / Maaser Al Chouf Association).
- iv. The estimated percentages in collections split between those derived from hired workers and locals are in the range of 70% and 30%, respectively; these percentages are related to the amount of MAPs collected and not to the number of collectors themselves.
- v. In the local communities, the estimated split comes as 65% women / children-derived and 35% men-derived MAPs. The estimate varies from region to region, and the role of women and children in high incidence areas, is mainly linked to collection for self consumption, while that of men is mostly linked to commercial reasons.

The local collection is primarily done for home consumption:

- i. The local collection by communities themselves is primarily for home use / consumption.
- ii. Local collectors seldom sell to local communities' trade as there do not seem to be a viable economic drive for such a pattern to take place, unless expressly requested by a local Aattar.

The collection / distribution structure is bi-polar:

- i. There are two types of Middlemen:
 - 1. Large ones who deal on a national level.
 - 2. Smaller scale ones who are not necessarily present in major metropolitan areas.
- ii. The large middlemen who are often traders / wholesalers (e.g.: Mohammad Hassouneh), rely for their sourcing on the primary usage of hired workers to collect the required quantities from target sites.
- iii. Smaller middlemen are often Attareen who get the MAPs either:
 - a. Through the use of hired workers to collect or local communities according to the time and quantities required (e.g. Chakib Chbat in Rachaya), or
 - b. through the direct purchase from large Middlemen (Barbar Agha purchases from Mohammad Hassouneh, and in turn sells to the market and other shops).
- iv. Means through hired help can be important:
 - a. Whether large or small, the middlemen who resort to hired help often put also at their disposal trucks that would carry not only the workers, but more importantly the MAPs from the collection area to the warehousing facilities of the middlemen.
 - b. More often than not, these facilities are simple storage areas, especially in the case of smaller middlemen and can not be compared to major industrial warehousing.
 - c. Due to the pay for service nature of the help, middlemen put pressure on the collectors to maximize the quantities collected, in order to generate a higher return on investment.

First come first serve syndrome:

- i. The moment the MAP season starts , a brisk activity starts in terms of collection.
- ii. A true race often happens between competing hired collectors across regions to secure the requested quantities from the wild.

- iii. The seasonality of the species thus increases the need to have a first mover advantage in a target area and secure the MAPs, irrespective of how the collection is done.

Evidence of an unstructured demand / supply chain:

- i. Unlike other market chains, the MAP chain seems quite unstructured from a demand / supply chain perspective. Specifically, individual collection especially from Bedouins and sometime local communities happen on their own, and are either offered for sale to Attareen / local community's trade or on the side of the roads for appears-by or even through contacts to larger middlemen by informing them that such a quantity is available (unsolicited).
- ii. The fact that an unsolicited offer is done by collectors to middlemen tips the bargaining power even more in favor of the middlemen.
- iii. In some areas, it would seem that some families are known to act as a demand push driver by offering quantities to middlemen or even acting as their local representatives (e.g.: Rida family, Habshi Family, Assaf family).

Impact through limited availability:

- i. Some species such as *Origanum syriacum*, are heavily collected with up to 98% of the local trade being based on wild collection.
- ii. The surplus demand for such species seems to primarily come from neighboring countries such as Syria.
- iii. The imports are done through parallel channels and are often untraceable.
- iv. The traditional middlemen previously mentioned act as the primary vehicle of import through their trade knowledge and seeming important interconnection between the primary stakeholders in Lebanon and in Syria.

It is safe to say that there are no sustained production of MAP based products as per international norms and standards of quality, as most of the low awareness MAPs would be traded at the Attareen level, and would not comply with advanced ecological or quality standards. Should the trade become gradually structured in a way that provides for a control mechanism (association, code of conduct, certification, map friendly collection), which would in turn provide standards of quality through certification and labeling, then the derived increased value of MAPs would encourage appropriate labeling and would also reduce the seemingly heavy falsification that is taking place on major MAP species (*Origanum*, *Ferula*, *Viola*).

COMPARATIVE TABLE OF MARKET VALUE OF TARGET SPECIES

Species	Estimated market needs (Tons)	Estimated Market Value (\$)
<i>Origanum syriacum</i>	1753	\$7,200,000
<i>Origanum ehrenbergii</i>	173	\$716,000
<i>Salvia fruticosa</i>	100	\$200,000

<i>Viola</i> (all species including <i>libanotica</i>)	30	\$95,000
<i>Cyclotrichium origanifolium</i>	4	\$40,500
<i>Micromeria</i> (all species including <i>libanotica</i>)	5	\$315,000
<i>Alcea</i> (all species including <i>damascena</i>)	6	\$320,000

ORIGANUM DERIVED PRODUCT LINE KNOWN AS ZAATAR AND PRICING

Type	Retail Price Range LL	Average Retail Price USD
Fresh	1650 - 3000 / Dozen Bunches	\$1.50
Dried	10,000 - 12,000 / Kg	\$7.33
Mixed	7,000 - 14,000 / Kg	\$7.00
Condiments	7,000 - 18,000 / Kg	\$8.33
Distilled Water	10,000 - 20,000 / L	\$10.00

MARKET ESTIMATE WHOLESALE AND RETAIL VALUE OF ZAATAR (*ORIGANUM SYRIACUM* AND *ORIGANUM EHRENBERGII*) BY FORM

Form	Estimated Quantity	Wholesale Estimated Value	Retail Estimated Value	% subdivision
Milled	1,714 tons	\$7,088,245	\$8,505,894	91%
Leaves	212	\$876,075	\$1,051,290	9%
Total	1,926 tons	\$7,964,320	\$9,557,184	100%

VIOLA PRICING AND DERIVED PRODUCT LINE KNOWN AS ZHOURAT

Type	Retail Price LL	Retail Price USD
Dried flowers 1 kg mixed	10,000	6.66
Dried flowers 1 kg unmixed	30,000	\$20.00

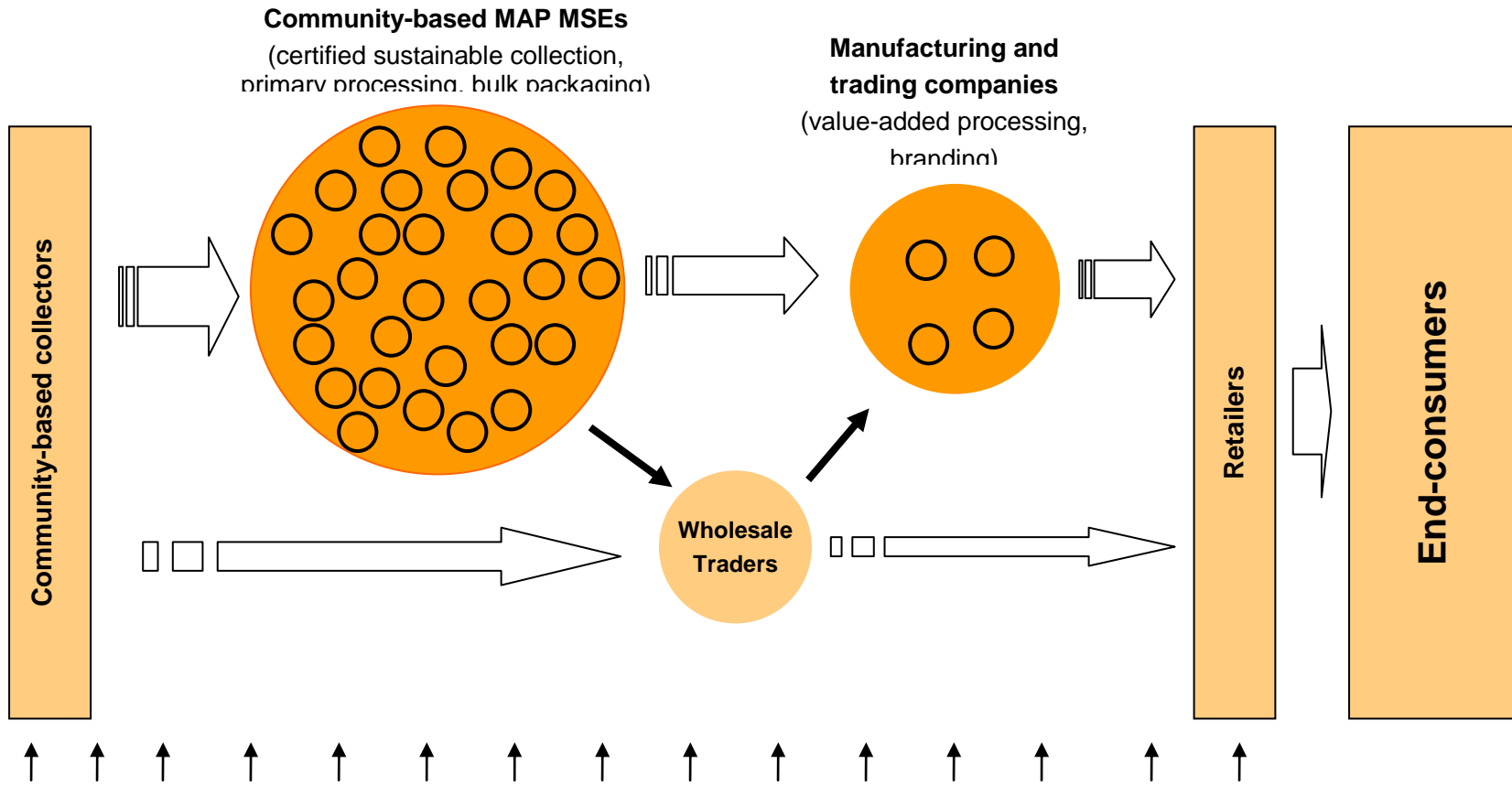
ALCEA DAMASCENA DERIVED PRODUCT LINE KNOWN AS ZHOURAT AND PRICING

Type	Retail Price LL	Retail Price USD
Dried flowers 1 Kg	4,500	\$3.00
Dried flowers mixed 1 Kg	5,250	\$3.50

MICROMERIA LIBANOTICA DERIVED PRODUCT LINE KNOWN AS ZOUFA AND PRICING

Type	Retail Price LL	Retail Price USD
Dried flowers 1 Kg	5,000	3.33
Dried flowers mixed 1 Kg	8,000	\$5.30

Appendix V
The Proposed Business Structure of the MAP Industry



Appendix VI

Threat Reduction Assessment for three monitoring sites in Lebanon

The project will apply the *Threat Reduction Assessment* (TRA) methodology, developed by the Biodiversity Support Program to assess overall biodiversity threats to MAPs and will use it as a tool to measure project achievements in reducing the threats. The TRA approach is a low-cost, practical alternative to more cost- and time-intensive approaches. It is a measurement tool that provides useful information at an acceptable cost to measure project success. The TRA methodology aims at calculating the *Threat Reduction Assessment Index* (TRA index), which is the result of identifying threats, ranking them according to specific criteria, and assessing progress in reducing each of them. Therefore the TRA index represents the % of threat reduction that will be reached after a certain period of time and will be used as indicator for assessing impact of the project on MAP Biodiversity (objective indicator) in addition to the biological indicator to be assessed through the eco-botanical surveys. A first assessment of the TRA Index has been carried out during the project preparation in order to identify the baseline. The TRA methodology will be re-applied for verification at the inception phase of the project whereby threats levels will be re-assessed. The TRA index for each site will be calculated towards the mid and end the project at the times where the threat reductions will be assessed. The aggregated TRA indices resulting from the mid and final assessments will be obtained and compared with the one set as a target, therefore comparing the progress in reducing threats to MAP biodiversity.

Threat Reduction Assessment for Abadiyye Site:

TRA Worksheet/Side A

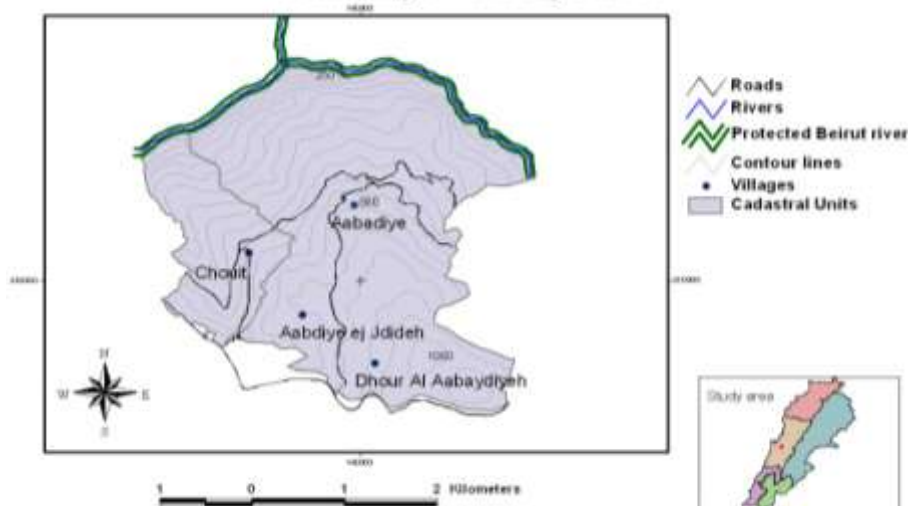
SITE NAME: Abadiyye, Lebanon	
SITE DESCRIPTION: Lies in the mid “Metn” area of Mount Lebanon, 17 km away from the capital Beirut. It is divided into three areas, according to the names given by inhabitants, with an altitude that ranges from 250m to 1050m above sea level. The “Dhour” area is the highest part (1050m) and is directly above the extension of the old village. The middle area is the one just below the village, and the third area is the forest area (called el-Horsh or El-Barriyye) which is the lowest part (250m) and is bounded by the Beirut River. The upper part of Abadiyye, called Dhour El-Abadiyye, used to be planted by grapes, but is now diminishing at the expanse of urban expansion.	
ASSESSMENT PERIOD: June 2006	COMPLETED ON:
COMPLETED BY: Project Preparation Team	

Threats	CRITERIA RANKINGS	Total	Predicted	Predicted Raw Score (total)
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		Area	Intensity	Urgency	Ranking	% Threat Reduced	ranking x threat reduced / 100)
A	Overharvesting	4	3	3	10	90	9
B	Destructive harvesting methods	3	4	4	11	90	9.9
C	Land conversion for Agriculture	1	1	1	3	5	0.15
D	Urbanization	2	2	2	6	5	0.3
Total		10	10	10	30		19.35

TRA FORMULA	INDEX	Predicted TOTAL RAW SCORE	TOTAL RANKING	CONVERT TO PERCENTAGE	Predicted TRA INDEX
TRA CALCULATION	INDEX	19.35	: 30	= 0.645 x 100 =	64.5 %

Aabadiye - study Area



TRA Worksheet/Side B

EXPLANATION OF THREATS	
A	Threat Overharvesting
	100% Reduction =

	Eliminating any intensive and unregulated harvesting practices
B	Threat Destructive harvesting methods
	100% Reduction = Eliminating any unsustainable harvesting practices
C	Threat Land conversion for Agriculture
	100% Reduction = Eliminating conversion of natural habitats for purposes of planting crops
D	Threat Urbanization
	100% Reduction = Eliminating conversion of natural habitats for construction purposes

Threat Reduction Assessment for Bcharre Site:

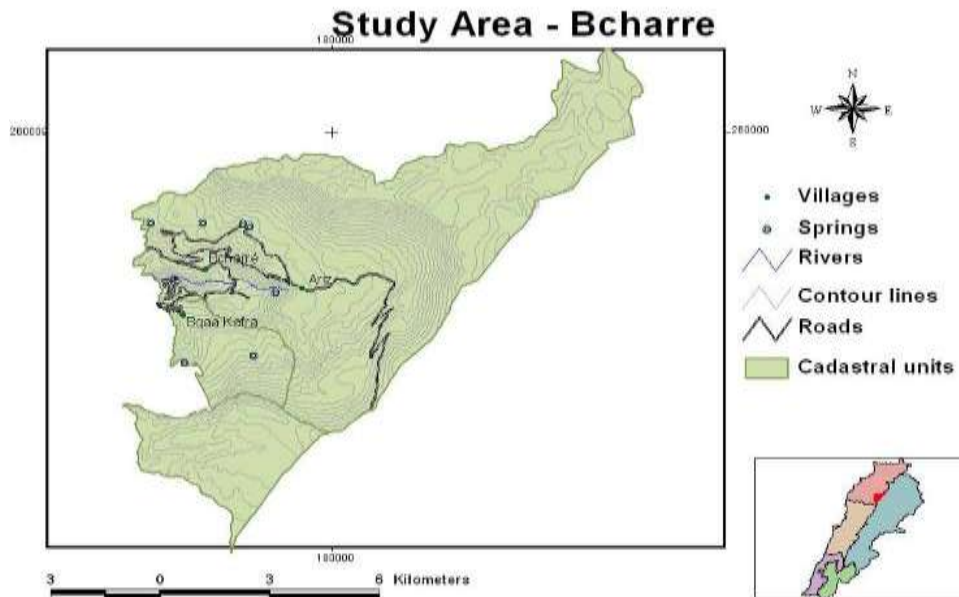
TRA Worksheet/Side A

SITE NAME: Bcharre, Lebanon	
SITE DESCRIPTION: Predominant mountainous area overlooking the “sacred” valley of “Kadisha”, considered being one of the world heritages by UNESCO. On top of it lies the biblical “sacred” cedar forest.	
ASSESSMENT PERIOD: June 2006	COMPLETED ON:
COMPLETED BY: Project Preparation Team	

	Threats	CRITERIA RANKINGS			Total Ranking	Predicted % Threat Reduced	Predicted Raw Score (total ranking x threat reduced / 100)
		Area	Intensity	Urgency			
A	Overharvesting	5	5	4	14	90	12.6
B	Destructive harvesting methods	4	4	5	13	90	11.7
C	Land conversion for	3	2	2	7	5	0.35

	Agriculture						
D	Urbanization	2	3	3	8	5	0.4
E	Overgrazing	1	1	1	3	5	0.15
Total		15	15	15	45		25.2

TRA FORMULA	INDEX	Predicted TOTAL RAW SCORE	TOTAL RANKING	CONVERT TO PERCENTAGE	Predicted TRA INDEX
TRA CALCULATION	INDEX	25.2	45	0.56 x 100 =	56 %



TRA Worksheet/Side B

EXPLANATION OF THREATS	
A	Threat Overharvesting 100% Reduction = Eliminating any intensive and unregulated harvesting practices
B	Threat

	Destructive harvesting methods
	100% Reduction = Eliminating any unsustainable harvesting practices
C	Threat Land conversion for Agriculture
	100% Reduction = Eliminating conversion of natural habitats for purposes of planting crops
D	Threat Urbanization
	100% Reduction = Eliminating conversion of natural habitats for construction purposes
E	Threat Overgrazing
	100% Reduction = 100% management of herds and rangeland

Threat Reduction Assessment for Rachayya Site:

TRA Worksheet/Side A

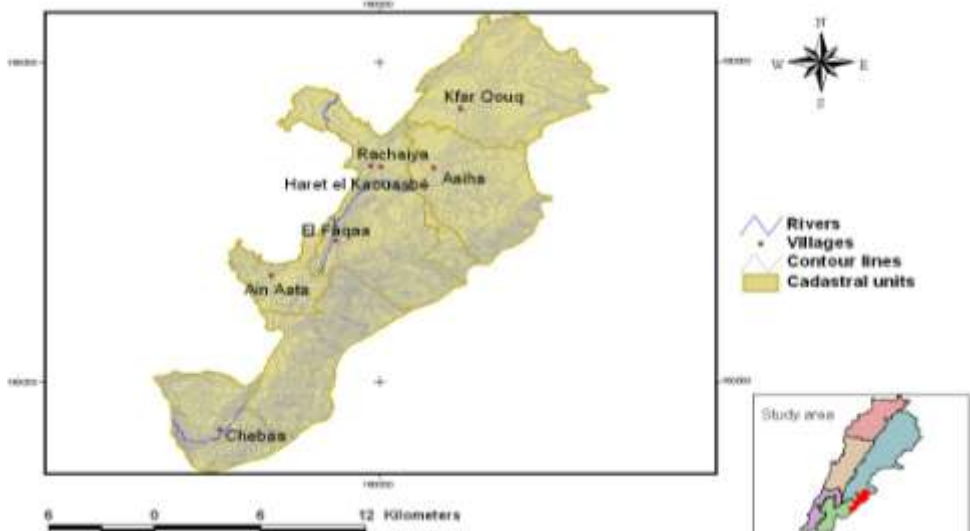
SITE NAME: Rachaiya, Lebanon	
SITE DESCRIPTION: Predominant mountainous area. Falls on the foot steps of the biblical “sacred” Mount Hermon, on the eastern side of the Lebanese mountain chain and used to act as a connection point for the trade between Lebanon and Syria. Mount Hermon is rich in its biodiversity and endemic plants.	
ASSESSMENT PERIOD: June 2006	COMPLETED ON:
COMPLETED BY: Project Preparation Team	

	CRITERIA RANKINGS		Predicted	Predicted
			Raw Score	

	Threats				Total Ranking	d % Threat Reduced	(total ranking x threat reduced / 100)
		Area	Intensity	Urgency			
A	Overharvesting	5	4	4	13	90	11.7
B	Destructive harvesting methods	4	5	5	14	90	12.6
C	Land conversion for Agriculture	2	1	2	5	5	0.25
D	Urbanization	1	2	1	4	5	0.2
E	Overgrazing	3	3	3	9	5	0.45
Total		15	15	15	45		25.2

TRA FORMULA	INDEX	Predicted TOTAL RAW SCORE	TOTAL RANKING	CONVERT TO PERCENTAGE				Predicted TRA INDEX
TRA CALCULATION	INDEX	25.2	45	0.56	x	100	=	56 %

Cadastral limits of Rachaiya



TRA Worksheet/Side B

EXPLANATION OF THREATS

A	<p>Threat Overharvesting</p> <p>100% Reduction = Eliminating any intensive and unregulated harvesting practices</p>
B	<p>Threat Destructive harvesting methods</p> <p>100% Reduction = Eliminating any unsustainable harvesting practices</p>
C	<p>Threat Land conversion for Agriculture</p> <p>100% Reduction = Eliminating conversion of natural habitats for purposes of planting crops</p>
D	<p>Threat Urbanization</p> <p>100% Reduction = Eliminating conversion of natural habitats for construction purposes</p>
E	<p>Threat Overgrazing</p> <p>100% Reduction = 100% management of herds and rangeland</p>

Appendix VII Stakeholder Analysis

The MAP Industry

Lebanon has a long tradition in utilising MAPs. The Bible mentions over 130 plant species, including several MAPs endemic to the region. The best-known example is *Origanum syriacum*, the Bible Hyssop, which is confined to the Levantine countries. The high diversity of MAPs and the long tradition of using them for health and culinary purposes have resulted in the formation of specialised healers and small-scale MAP industries.

A key feature of the industry is the role of traditional herbalists called *attarin*, who purchase MAPs from the Bedouins and villagers who collect them in the wild. *Attarin* are present in all larger cities in Lebanon, and, sometimes in smaller towns. They are predominantly found in less sophisticated areas and in the oldest parts of the towns, in popular “souks”. They are small-scale shops selling a variety of herb-based and transformed (basic distillation) products. All of the items sold are mainly unbranded, and come under a crude packaging form. *Attarin* are principally traders of dried raw material. Some important *attarin* also act as middlemen and often deal directly with collectors. Although some *attarin* have acquired their skills only recently, *attarin* in general can be regarded as key persons for traditional knowledge on MAPs in Lebanon, who deliver their knowledge from one generation to the next. While collectors of MAPs may either be men or women, depending on traditions and socio-economic circumstances, *attarin* are most dominantly men.

Primary processing of raw material takes place in so called “mills”, which sell their output in ground form. There are over 140 mills in Lebanon, 40 of which are considered as middle-size or large-size operations. The main herb on which millers rely is *Origanum syriacum* (*za'tar*). Some *attarin* have their own mills which they use mainly for processing *O. syriacum*.

Post-harvest processing is limited to drying, packaging and milling. Post harvest handling of MAPs, whether collected or cultivated, is rudimentary and the infrastructure for proper handling is lacking throughout the chain of custody.

By regional and international comparisons, processing of MAPs is not well developed in the project region. Processing is done by millers and small-scale manufacturers. The main processing procedures include screening, cleaning, further drying (for some MAPs), milling, adding preservatives such as salt and citric acid, mixing with other herbs like fennel and coriander and/or other ingredients such as sesame seeds, olive oil, wheat and sumac. In the case of manufacturers, oils are extracted from various parts of dried MAPs, and ground MAPs are blended together to produce medicines and preparations of various sorts. Primary processing which is usually carried out within family premises is usually carried out by women, whereas value-added processing carried out in mills and other facilities is clearly dominated by men.

In Lebanon, there is no traceable processing of MAP based medicine at the pharmaceutical level although there are several pharmaceutical companies operating in the country.

The overall Lebanese market value for herbs inclusive of MAPs is estimated at up to US\$ 48,000,000. More conservative estimates still result in approximately US\$ 35,000,000. Despite the relatively small contribution, income generated from MAPs is important for vulnerable groups. MAPs contribute up to 70% to the annual household income of MAP collectors.

In Lebanon, an estimated number of over 1500 people gain direct income from MAPs. This number does not include the large group of collectors whose number is difficult to assess, as it includes many seasonal opportunistic part-time foreign workers.

A gender differentiated analysis of the stakeholders engaged in the MAP industry revealed that the classical pattern “women collect and men market” does not stand true for Lebanon. The picture is altered due to some socio-economic framework conditions and external pressures. Men are generally dominating

both collection activities and marketing, whereas women play a significant role in processing, packaging and in post harvest activities. Exceptions are Lebanese Bedouins, where MAP collection is a domain for women.

In Lebanon, the marketing chain is managed and directed by men. The owners of local health shops, *attarin*, and their employees are exclusively men.

Other Stakeholders

Activities will be implemented through a gender sensitive and participatory approach and partnerships between community-based enterprises, trading and manufacturing companies and industry associations. The project development team undertook extensive consultations with interested parties through a series of opinion polls, presentations, interviews, discussion groups, and workshops during the preparatory phase. These wide-ranging consultations were undertaken to ensure that stakeholders at all levels are aware of the project and its objectives and that they assist in the identification of threats to globally significant MAP species and the determination of the root causes. Finally, stakeholders participated in the identification of the GEF project concept and the design of the project.

All groups of stakeholders were contacted during project preparation. The key stakeholders from the business sector are the following:

Collectors: No reliable figure could be determined due to the heavy involvement of “foreign” collectors working on opportunistic basis. Male waged workers are more represented than females. Women harvest preferably in areas nearby their houses. “Older” women usually take a leading role and are accompanied by other members of their families, usually younger women and children. Among ethnics, Bedouin women have the highest mobility, while Bedouin men are hardly found among the collectors.

Cultivators: Cultivation of MAPs is not widespread, and extends from a few square metres in home gardens to larger irrigated fields. The bulk of the trade in Lebanon (up to 98%) is based on collection from the wild.

Middlemen: Middlemen provide the link between collectors, on one hand, and *attarin* and millers on the other. Middlemen sometimes act as wholesale traders in parallel with their traditional roles. Middlemen are mainly men gendered.

Attarin: Attarin are known as bulk purveyors of MAPs and spices and other consumer dry goods as well as carriers of knowledge regarding remedies (mixtures of herbs) for common ailments. Generally, they are well-established merchants, having inherited the trade (practice) from their fathers and grandfathers, and their shops are usually located in the oldest town markets. The number of *attarin* in Lebanon stands around 70-100. All *attarin* and all their employees are men.

Millers: In Lebanon, there are over 140 mills, 40 of which are considered to be middle-sized or large-sized operations. Mill-owners and mill-workers are the always male-gendered.

Traders: In Lebanon, the number of active traders, whether in terms of reselling MAPs within the country or cross-selling them, does not exceed 10, with four of them accounting for the bulk of the activity. All traders are male-gendered.

Processors and manufacturers: MAP processing is not well-developed in Lebanon. There is no traceable processing of MAP based medicine at the Pharmaceutical level from local raw material, although such industries do exist. Processing therefore is limited to production of MAP infusions, mixings, and distilled water. Primary processing including cleaning, sorting, drying and storing is a typical female domain. All kinds of processing which is conducted outside the family premises are carried out by men. Usually, only men work in mills and in other manufacturing enterprises.

The lines between traders, processors and middlemen are unclear, as they sometimes overlap depending on the economic circumstances and the type of MAP used.

The following governmental organisations can be regarded as key stakeholders:

Ministry of Economy and Trade: Is the main institution responsible for the organisation of trade, certification and development of trade agreements. It currently harbours two initiatives of relevance to the project. The first aims at developing an organic certification system for agriculture, and the second aims at enhancing the certification infrastructures in Lebanon. Both initiatives may be linked to the project and offer opportunities for mainstreaming MAP concerns into the processes.

Ministry of Industry: It is also part of a committee responsible for delivering permits for the establishment of processing industries. This Ministry is of relevance to any processed MAP products falling under the category of agro-foods, such as distilled waters of sage, flowers, roses, oregano or others.

Ministry of Public Health (MoPH): Is responsible for setting the national health policy, which as seen through WHO recommendations, should be revised in order to incorporate TM and the use of HM. This could constitute one of the essential moves for regulating the sector. Additionally, MoPH is responsible for allowing and permitting the use of certain MAPs and delivering operation permits for large processing units.

Ministry of Agriculture (MoA) and Ministry of Environment (MoE): These are obviously key institutions in relation to the development of legislation for the protection and sustainable use of MAPs. The MoA can also play a role in terms of law enforcement and monitoring with respect to harvesting while its regional centres can also support extension services in case the cultivation of some MAPs was retained as an option. The MoE can support the establishment of conservation/sustainable use areas, designate priority species for conservation and guide the national implementation of international conventions.

Consumers are those stakeholders who, through their consuming behaviour, have the strongest influence on the production process. Their demands and expectations will be regularly assessed and monitored through consumer surveys. Awareness campaigns conducted in close liaison with the establishment of a certification system for sustainably collected MAPs will directly address their sensitivity towards environmentally-friendly MAP products.

Some governmental and private sector stakeholders will be included into the National Project Steering Committee, responsible for reviewing and supervising progress of the project activities.

Appendix VIII

Main characteristics of the Target species

Species	Status and Distribution	Collecting	Trade
<i>Alcea damascena</i> (Khatmiyat Dimashk)	Endemic to Lebanon and Syria.	Roots, leaves and seeds are used for medicinal purposes. Often found next to other <i>Alcea</i> spp. (<i>setosa</i> , <i>digitata</i> , <i>rosea</i>) and collected together with them.	The size of the Lebanese market for <i>Alcea</i> species may reach 100 tons. The value varies between US\$ 9625 for <i>A. damascena</i> and \$320,000 for all <i>Alcea</i> species.
<i>Cyclotrichium organifolium</i> (Hashishet El-Basha, Majoram-Leaved Calamint)	Endemic to Lebanon, Syria and Turkey.	Only the dried aerial parts of this plants are used.	The size of the Lebanese market for <i>Cyclotrichium organifolium</i> is estimated at 4 tons with a market value on wholesale basis is estimated at US\$ 40,500.
<i>Micromeria libanotica</i> (Zoufa, Lebanon Savory)	Endemic to Lebanon and Syria.		Annual harvest in Lebanon approx. 5 tons, whereas it reaches 60 tons for <i>Micromeria myrtifolia</i> or <i>barbata</i> , corresponding to market values US\$ 26,900 (<i>libanotica</i>) and US\$ 315,000 (all <i>Micromeria</i>)
<i>Origanum syriacum</i> (Za'atar, Hyssop of the Bible, Syrian Oregano)	Endemic to the eastern Mediterranean.	Primarily the leaves and flowers, both fresh and dried; young stems may also be used. The green branches are harvested with special very sharp knives. Some collectors harvest the whole plant and remove the leaves from the branches later. Some of them uproot the plant and later remove the leaves then discard the roots.	Annual harvest in Lebanon approx. 866,000 kg plus up to 1,000,000 kg imported primarily from Syria. Total market value US\$ 7,200,000.
<i>Origanum ehrenbergii</i> (Za'atri)	Endemic to Lebanon.	The same as for <i>O. syriacum</i> .	Annual harvest in Lebanon 173,000 kg with a market value of US\$ 716,000.
<i>Salvia fruticosa</i> (Meramieh, Sage)	Mainly east Mediterranean. Overharvesting of <i>S. fruticosa</i> increases the overharvesting of <i>Origanum</i> spp. since the collectors, while	Only leaves are used.	In Lebanon, about 100 tonnes are harvested p.a., with a market value of US\$ 200,000.

	targeting mainly <i>Salvia</i> , also collect along with that species the economically important <i>Origanum</i> species.		
<i>Viola libanotica</i> (Banafsaj Loubnan)	Endemic to Lebanon.	The end products are derived from dried flowers.	Collectors usually cannot distinguish between <i>V. libanotica</i> and the widespread and abundant <i>V. odorata</i> which seriously affects the populations of <i>V. libanotica</i> . The size of the Lebanese market for <i>Viola</i> is estimated at 30 tons valued at \$95,000.

Appendix IX

Gender Analysis

After some initial surveys, it became necessary to further analyse the pattern “women collect and men market”, as this typical picture is altered due to some socio-economic framework conditions and external pressures. It turned out that at present circumstances, men are dominating both collecting activities and marketing. Women play a significant role in processing, packaging and in post harvest activities.

Activity	Men	Women	Gender Role / Remarks
Harvest	●●●	●	<p>The dominance of men can be explained by the far distance of many collection areas from human settlements, and the fact that military questioning and other security risks occur.</p> <p>Men are dominant in the harvesting of consistent quantities of MAP for commercial purposes: in this case male wageworkers are more represented than females. Women harvest preferably edible plants and in areas nearby their houses. “Older” women usually take a leader role and are accompanied by other members of their families (usually younger women and children). Among ethnics, Bedouin women have the highest mobility, whereas Druze women have the lowest mobility.</p> <p>The role of women is related to harvesting for subsistence purposes for own consumption, whereas men prevailingly collect for commercial sales.</p>
Primary Processing	●	●●●	Primary processing including cleaning, sorting, drying and storing is a typical female domain.
Value-added Processing	●●●	●	All kind of processing which is done outside the family premises is dominated by men. Usually, only men work in mills and in other manufacturing enterprises.
Sale/Trade	●●●	●●	<p>The marketing chain is managed and directed by men. Merchants pick up collected MAPs mostly from male collectors. This shows that men have better access to traders.</p> <p>The owners of local health shops, <i>attarin</i>, and their employees are exclusively men.</p>
Consumption	●●	●●	There seems to be no evidence that either gender is more prone to consuming MAPs.

●●● = dominant role; ●● = moderate role; ● = minor role.