



GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FULL-SCALE PROJECT
TYPE OF TRUST FUND: GEF TRUST FUND

For more information about GEF, visit TheGEF.org

PART I: PROJECT INFORMATION

Project Title:	Land degradation neutrality of mountain landscapes in Lebanon		
Country(ies):	Lebanon	GEF Project ID: ¹	
GEF Agency(ies):	UNDP	GEF Agency Project ID:	5837
Other Executing Partner(s):	Ministry of Environment	Submission Date:	10 February 2016
GEF Focal Area(s):	Land Degradation	Project Duration (Months)	72 months
Name of parent program:	n/a	Agency Fee (\$)	USD 438,996

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES²

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	Trust Fund	(in \$)	
		GEF Project Financing	Co-financing
LD Objective 2, Program 3: Landscape management and restoration	GEFTF	1,823,003	6,904,000
LD Objective 4, Program 5: Mainstreaming SLM in development	GEFTF	2,798,002	10,356,000
Total Project Cost		4,621,005	17,260,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: <i>To achieve land degradation neutrality of mountain landscapes in Lebanon through integrated landscape management</i>						
Project Components	Type ³	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Co-financing
Component 1: Rehabilitation and restoration ⁴ of degraded land to protect and re-instate ecosystem services in mountain landscapes including forest and agricultural land	T A	Outcome 1: Degraded mountain land in the Governorates of North Lebanon and Mount Lebanon identified, rehabilitated and restored <i>(One element of land degradation neutrality is the rolling-back of degradation by restoring and rehabilitating the impacted environment. Having identified the extent of degradation, and the values/resources that have been lost, the project will focus on significant</i>	1.1 Landscape-scale survey of North Lebanon and Mount Lebanon governorates mountain lands and high country areas, identifying state of the environment – ecosystems, ecological values and vulnerabilities, agricultural productivity and degraded land that merits rehabilitation/restoration 1.2 Assess economic impact of land degradation on socio-economic development and ecosystem service provision, and define technical and financing plans for rehabilitation and remedial works including measures to avoid or minimize further impacts downstream.	GEF TF	2,694,002	8,040,000

¹ Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

² When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#).

³ Financing type can be either investment or technical assistance.

⁴ In this initiative, “rehabilitation” is seen as the effort required to maintain, and enhance if possible, ecosystem services; whereas “restoration” is the return as close as possible to the original functional ecosystem with its biodiversity and sustainable state. To the extent possible, both will be attempted by the project.

		<p><i>impacts that can be reversed through the appropriate technology and approach. It will test comparative remedial methodologies to restore mountain lands to their valuable ecological functions such as sustainable agricultural productivity, biodiversity habitat, ecosystem services. It will evaluate restorative approaches and methodologies and through the knowledge management and communication strategy in Outcome 3, make them available for widespread replication. Areas of forest, cropland and quarry slopes restored/rehabilitated and innovative mechanisms tested for restoration in key production sectors.)</i></p> <p><i>Baselines and targets will be determined during PPG</i></p>	<p>1.3 Identified degraded forests replanted and restored at 2-3 pilot project sites⁵ and sustainable forest management applied – biodiversity habitat enhanced, community forestry (co-management + Hima) established, non-timber forest products identified and promoted, stress reduction on identified ecosystem services (e.g. enhancing vegetative cover to improve slope stability).</p> <p>1.4 Identified degraded quarries (3-4 pilots)⁶ rehabilitated – made safe (e.g. terracing), planting (e.g. green wall, hydroseeding), landscaping, impact minimization, use for social and ecological benefit, enhancement for eco-tourism and outdoor recreation potential.</p> <p>1.5 Collaboration with farmers and others in the mountain region agricultural sector (e.g. vineyards and other fruit and nut producers, as well as honey, mushrooms, medicinals, herbs and spices), to rehabilitate degraded farmland in 2-3 pilot projects sites⁷ to restore soil fertility and move towards environmentally sound production through e.g. contour bunds, mulching, planting of riparian vegetation strips, introduction of nitrogen-fixing intercrops, conservation agriculture, integrated crop management, drip-irrigation, recycling compost and other natural fertilizer, cover crops, soil enrichment, natural pest and predator controls, bio-intensive integrated pest management and other techniques.</p> <p>1.6 Collaboration with the tourism and outdoor recreation sector (as 2-3 pilot sites⁸) to address impacts of tourism on productive land, protected areas, and ecosystem services; develop a tourism charter for nature; aim for zero discharges.</p>			
<p>Component 2: A sustainable management system on a landscape basis for mountain lands developed, tested and evaluated to prevent land degradation</p>	<p>T A</p>	<p>Outcome 2: Mountain lands managed sustainably to prevent degradation</p> <p><i>(The second element of land degradation neutrality is the control and management of land and natural resources so as to prevent any new degraded lands. The enabling environment for this sustainable management will</i></p>	<p>2.1: Review of national policies, legislation and procedures relevant to land use planning and management in the mountain environment to identify opportunities to avoid land and forest degradation; identify barriers to implementation and address shortfall as appropriate (including review of current planning, permitting and licensing procedures, and removing any regulatory barriers; assess and adopt monetary incentives and disincentives, bond/guarantee management, mining levies and royalties, fines and penalties, etc)</p>	<p>GEF TF</p>	<p>1,241,250</p>	<p>6,200,000</p>

⁵ Location and size of degraded forest areas suitable for restoration to be determined during PPG

⁶ Specific quarries location and size will be determined during PPG following consultation with private sector owners

⁷ Location and size of the farms and farming activities will be determined during PPG

⁸ Tourism ventures with an impact on land productivity, degree of protection and ecosystem services will be identified at PPG

		<p><i>comprise policies, legislation, procedures, licensing, finances, capacity, know-how and land use plans. The project will also identify the respective roles and responsibilities for compliance monitoring, enforcement and prosecution as necessary. Also including serious application of the SEA and EIA Processes and other guidance for competing land uses and the monitoring and mitigation of harmful effects. A number of planning mechanisms will acquire integrated land management principles and practices mainstreamed into them to avoid future degradation.)</i></p> <p><i>Baseline and targets will be determined during PPG</i></p>	<p>2.2: Strengthening of the SEA and EIA Processes to prevent land degradation and identify options for mountain landscape rehabilitation and regeneration; identify opportunities for biodiversity and social gains, minimization of impacts on other land uses such as agricultural production, impact on ecosystem services and loss to society.</p> <p>2.3: Review current provisions for Land Use Planning and achievements at Strategic Regional level (District level) and local Development level (Municipality level), identify needs and gaps hindering an effective LUP process that integrates guidelines for sustainable land and forest management.</p> <p>2.4: Promote land degradation neutrality through a stronger system for compliance monitoring and enforcement as part of multi-stakeholder land use planning and management systems (including monitoring of conditions arising from the SEA/EIA Process, Land Use Plans, and the permitting system; collaborate with other central government agencies such as the Ministry of Finance, Ministry of Agriculture and local government) to ensure that the targeted benefits are sustained.</p> <p>2.5: In pursuit of the above harmonization aim, review and update the Quarries Master Plan and develop the Master Plan for the Protection of Mountain Plateaus, Natural Areas, Beaches, Green Areas, and Agricultural Areas to ensure the integration of these into Land Use Plans, and focus better on environmental protection, impact abatement, offsets, rehabilitation, compliance, and sustainable land use within a landscape approach.</p> <p>2.6: Capacity and know-how enhanced in Ministry of Environment and other relevant central government agencies as well as at local government level. (Training courses at institutional and individual level for efficient processing of permit applications as well as for compliance monitoring. This includes at relevant tertiary planning institutions as well as in training programmes of regulatory authorities).</p>			
<p>Component 3: Development of a communication and knowledge management strategy and the financial mechanisms to allow the scaling</p>	<p>T A</p>	<p>Outcome 3: Communication, knowledge management and financial mechanisms for the dissemination and replication of the results of the project with the</p>	<p>3.1: Communication and knowledge management strategy developed and implemented, based on the project results (after evaluation and validation)</p> <p>3.2: Production of knowledge management products based on best practice arising from Outcomes 1 and 2 above to ensure SLM through a cross-</p>	<p>GEF TF</p>	<p>466,253</p>	<p>2,330,000</p>

up from the pilot activities and reach out beyond the project into the broader mountain environment in Lebanon.		<p>aim of achieving land degradation neutrality.</p> <p><i>(This Outcome puts in place innovative finance mechanisms and brings together the results obtained by the project, such as the testing and validation of new, more efficient approaches to rehabilitation of degraded land and sustainable management so as to prevent new degradation. It also mainstreams sustainable land and forest management by private sector land developers/users such as farmers, orchardists, mining companies and tourism operators).</i></p> <p><i>Baseline and targets will be determined during PPG</i></p>	<p>sectoral multi-stakeholder landscape approach to managing competing uses of mountain lands.</p> <p>3.3: The Ministry of Environment Mountain Lands Database developed and made available (within the scope of the Master Plan for the Protection of Mountains, Natural Areas, Beaches, Green Areas and Agricultural Areas) through a WWW portal accessible by local authorities and others, to keep all those involved in the permitting, running and management of mountain land use, up to date with the latest statistics and developments.</p> <p>3.4: Mainstreaming of Sustainable Land Management in development investments leading to investment in SLM/SFM by private sector developers so as to avoid land degradation.</p> <p>3.5: Develop and put in place sustainable financing mechanisms (e.g. Targeted Scenario Analysis (TSA), comparative scenarios, costs & benefits, consideration of offsets, calculation of cost of environmental degradation and social costs) to provide the means for scaling-up and replication of best practices for rehabilitation of degraded land, the prevention of further degradation and achievement of land degradation neutrality.</p>			
Subtotal				4,401,505	16,570,000	
Project Management Cost (PMC) ⁹			GEFTF	219,500	690,000	
Total Project Cost				4,621,005	17,260,000	

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE¹⁰

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
Recipient Government	Ministry of Environment	Grant	8,025,000
		In-kind	500,000
	Ministry of Agriculture	In-kind	TBD
GEF Agency	UNDP	In-kind	335,000
Private sector	Various land owners	Grant	8,400,000
		In-kind	TBD
Total Co-financing			17,260,000

It is estimated that over USD17 million will be available in co-financing, however, this figure or a higher one will be confirmed during the PPG phase.

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY, COUNTRY AND THE PROGRAMMING OF FUNDS

⁹ For GEF Project Financing above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

¹⁰ Co-financing will be confirmed at the PPG phase

GEF Agency	Trust Fund	Country	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing	Agency Fee	Total
UNDP	GEFTF	Lebanon	Land Degradation ¹¹		4,621,005	438,996	5,060,001
Total GEF Resources					4,621,005	438,996	5,060,001

E. PROJECT PREPARATION GRANT (PPG)¹²

PPG AMOUNT REQUESTED BY AGENCY, TRUST FUND, COUNTRY AND THE PROGRAMMING OF FUNDS

Project Preparation Grant amount requested: \$91,324					PPG Agency Fee: \$8,675		
GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee ¹³ (b)	Total c = a + b
UNDP	GEFTF	Lebanon	Land Degradation		91,324	8,675	99,999
Total PPG Amount					91,324	8,675	99,999

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS¹⁴

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	52,000 ha of forest, rangelands, and high country agricultural land

PART II: PROJECT JUSTIFICATION

1. Project Description

1.1 Global environmental problems, root causes and barriers that need to be addressed

The background context

Lebanon has a total land area of 10,452 km², and lies entirely within the Mediterranean Basin Ecoregion. It is situated east of the Mediterranean Sea and has a coastline of 210 km and stretches 50 km inland.

Jurassic, Cretaceous and Tertiary Karstic limestone, Cretaceous and Quaternary sandstone and Conglomerate make up most of Lebanon's geology. Carbonated rock formations comprise more than two-thirds of the territory. These make up most of the mountain ranges making them exposed to groundwater contamination. The agricultural plains of the Bekaa Valley contain Terra-Rossa and Rendzina soils as the most prevalent. Soils in Lebanon are young and shallow and have a poor consistency. Soil degradation and soil erosion may result from natural and anthropogenic factors that hamper soil fertility¹⁵.

¹¹ In terms of the Flexibility Mechanism, \$1.5 million of BD STAR is allocated for this project, as well as \$900,000 of CCM STAR, and \$2.76 million of LD STAR (total of \$5,160,000 including fee and PPG).

¹² PPG requested amount can be up to \$150k for PF up to \$6m

¹³ PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

¹⁴ Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and/or SCCF.

¹⁵ UNDP / MOE / ECODIT (2011) State and trends of the Lebanese environment.

The lands bordering the Mediterranean Sea in southern Europe, North Africa, and western Asia constitute the Mediterranean Basin Eco-region and share a climate characterized by generally mild, rainy winters and hot, dry summers and Lebanon is within this eco-region. In the western areas of Lebanon, the climate is typical maritime coastal whereas the eastern side exhibits continental characteristics¹⁶. Precipitation averages 840 mm/year, during an average of 80 rainy days between September and May, varying from 200 mm/year in the northern inland regions to more than 1,500 mm/year on the peaks of Mount Lebanon. 40% of Lebanon is arid and semi-arid, 20% is dry-sub-humid and 40% is sub-humid and humid.

The Mediterranean Basin is considered as one of 25 biodiversity global hotspots by Conservation International¹⁷. In Lebanon, 9,119 species have been documented – 4,633 flora and 4,486 fauna. Of these species, 96 are considered rare or threatened. Eleven tree species are on the IUCN red list at low risk levels while *Arbutus*, *Ceratonia*, *Pistacia*, *Pinus*, *Quercus* and *Laurus* are among the surviving remnants of ancient forests¹⁸. The Mediterranean Eco-region containing Lebanon counts as one of the world's most endangered with only 4% of the original vegetation remaining intact. Human induced pressures, including overgrazing, deforestation and conversion of land for pasture, agriculture, quarrying and urban settlement have resulted in widespread land degradation.

Current land management practices in Lebanon are not sustainable as they continue to erode the country's natural resource base (soil, water, green cover, and landscape). While traditional practices such as terracing, controlled grazing and forest management have helped protect the land, modern practices have significantly altered the natural and social make-up of the land including perceptions of natural resources. Population growth, the continued loss of arable land and biodiversity, concerns about food security and the expanding infrastructure due to population growth and urban sprawl are major factors impacting land resources and the natural environment.

The Problem

Land degradation has been flagged as a serious environmental problem in Lebanon, resulting in losses estimated at US\$132 million yearly¹⁹. This is bound to be an underestimate due to the incomplete data, and damages and associated costs of environmental degradation are certainly higher. Unsustainable growth is having a heavy toll on Lebanon's natural resources with losses in forest cover, biodiversity and natural ecosystems, degradation of rangeland and desertification.

While land degradation is also driven by natural factors typical of mountain rocky lands with shallow soils and bare rocks, it is also brought about by anthropogenic factors, most importantly urban sprawl, quarrying, deforestation, and overgrazing; as well as the underlying causes of mismanagement of land use and lack of strategic planning, monitoring, enforcement and technical know-how. Productivity has declined in terms of crop cultivation, and there have also been losses in recreational opportunities and tourism, ecological values, and in land and property values²⁰²¹.

While 60% of the overall Lebanese territory is under threat of land degradation²², the mountain lands and high country of Lebanon, are particularly vulnerable. These regions constitute a national treasure and a repository for heritage, landscapes, biodiversity, water, and renewable energy (solar and wind). Unfortunately, the current myriad laws and regulations related to urban planning, water use and management, forests and protected areas do not recognize the intrinsic value of mountain lands as an ecosystem and tend to approach development in a fragmented manner. With the lack of explicit mountain regulations, monitoring and enforcement, infringements are frequent despite the presence of a framework document for land use planning in Lebanon.

Competing land use and **poor management of the agricultural sector** (from planning to development) has led to shrinking agricultural land and decreases in productivity. Indeed, for decades now, Lebanon's agricultural sector

16 MOE / GEF / UNDP (2011), Lebanon's Second National Communication to the UNFCCC

17 Myers, N, et. al. (2000) Biodiversity Hotspots for Conservation Priorities. *Nature* Vol 403, 24 February 2000. See also

http://www.conservation.org/where/priority_areas/hotspots/europe_central_asia/Mediterranean-Basin/Pages/default.aspx

181818 MOE / GEF / UNDP (2011) Lebanon's Second National Communication to the UNFCCC

19 World Bank. 2004a. Cost of Environmental Degradation – The Case of Lebanon and Tunisia

20 MoA 2003. National Action Programme to Combat Desertification

21 World Bank. 2004a. Cost of Environmental Degradation – The Case of Lebanon and Tunisia

22 MoA 2003. National Action Programme to Combat Desertification

has been declining, both in terms of percent contribution to GDP as well as total arable land. The slow but sure transformation of rural areas into urban and semi-urban areas is both a result and a cause of the further degradation of the sector, leading ultimately to soil erosion and rangeland degradation, and negatively impacting residual water quality and quantity. According to the National Center for Remote Sensing, agricultural lands areas decreased from 332,400 ha in 2002 to 294,400 in 2011, *i.e.* a decrease of 11.43%. Indeed, **poor management and insufficient technical know-how** have led to land degradation in many places. Excessive and uncontrolled pumping of groundwater for agriculture, especially in dry years, resulted in the lowering of the groundwater table in many places. Excessive fertilizer use has resulted in a high level of nitrates in groundwater making it inadequate for use. Furthermore, intensive monoculture and successive cropping of the same species is increasing soil infestation by weeds, pests and diseases, damaging soil structure and decreasing yield and soil fertility. A number of reasons lead to the current status of the sector, making it less and less appealing for farmers and/or land owners to invest in the sector allowing these lands to degrade. North of Lebanon, mainly Akkar, Koura and Zgharta have been identified as high risk areas where Akkar alone covers 80,000 ha (middle and highlands making 75% of this area) and **forest fires and unsustainable farming practices have been highlighted as major threats to land degradation**.

Other than the loss of vegetative cover, **mismanagement and lack of sector and urban planning** on steep mountainsides - a typical feature of the Lebanese topography - combined with poor drainage, weak lithology and torrential rains (likely to be intensified by climate change) inevitably result in an increased tendency to slope failure, landslides, flash floods, and soil and gully erosion with a devastating impact on forest ecosystems, rangelands, downstream agro-ecosystems and their resilience (e.g. through loss of topsoil), and downstream water resources in terms of water quality (siltation and suspended solids) and water quantity (increased and flash run-off).

The uncontrolled urbanization in mountain areas (linear and leap-frog, haphazard) including the parcelling of large estates for residential development (e.g., Qanat Bakish, Beit Misk), in addition to the development of transportation infrastructure, testify to the phenomenon of urban development. The environmental implications of **haphazard urban development** have been well characterized in the State and Trends of the Lebanese Environment²³. The report highlights the need for construction material, the loss of green cover, habitat fragmentation, loss of agricultural land and top soil, and ground water pollution as direct impacts of urbanization. Indeed, the continued shift towards a service-based economy (banking, tourism, health, etc.) and the sustained demand in the construction sector is putting a strain on agricultural lands, while construction all over the country, but mainly in and around forested areas, occurs at the expense of green cover. The pine forests that used to cover the hills overlooking Beirut, the capital and administrative centre of the country, are shrinking rapidly to make way for buildings and resorts. This dimension is captured in the Second Report on the state of plant genetic resources for the FAO (MoA 2007) which states that the Lebanese forest system has been seriously affected during the last three decades mainly through overgrazing, over-harvesting, quarrying and urban development.

In addition to urban expansion and development, land degradation is exacerbated by, among other things, Lebanon's **quarrying sector** which caters for local and regional demand for construction material. While mining can be a major driver of economic activity, creating jobs and building economic wealth, it is without a doubt a sector that remains very poorly organized where much of the activity is unlicensed and/or unregulated, resulting in significant environmental damage. Closed and abandoned quarries are a visible scar on the Lebanese landscape, and contribute to deforestation, loss of biodiversity, land degradation from soil compaction and pollution, and loss of topsoil from erosion – in turn leading to siltation and sedimentation of water bodies.

Quarries have been located mostly on productive soil, removing land from other productive uses, including agriculture, and impacting on livelihoods. Satellite images show that the number of quarries and areas they cover has increased from 784 quarries covering 2,897 ha in 1989, to 1,278 quarries covering 5,267 ha in 2005. The increase has been threefold on former arable lands (676 ha), one third on forest lands (137 ha) and double on pasture land (737 ha). The potential impact and related threats of quarries and sand removal activities in Lebanon have been captured in many reports and studies. For instance, quarrying appears in the National Biodiversity Strategy and Action Plan (MoE 1998) as one of the main threats to Lebanon's biodiversity with impacts extending from the quarry location to downhill and downstream habitats. Since 1998, the NBSAP and national reports to the CBD have highlighted regularly the need for rehabilitation of degraded or abandoned quarries. The main conclusions of Lebanon's Fourth National Report to the CBD (MoE 2009) note the absence of a direct reference to biodiversity within the National Master Plan for Quarries. In addition, Lebanon's National Action Programme to Combat

²³ MoE/UNDP/ECODIT (2011) State and Trends of the Lebanese Environment, 2010.

Desertification (MoA 2003) mentions that no attempt has been made to stabilize mountainsides and abandoned rock quarries. The negative contribution of the quarrying industry to the progressive deterioration of services delivered to society by agro-ecosystems and forest landscapes is expected to worsen if not given proper attention.

Without effective management of multiple activities in different economic sectors at the landscape level, already serious land degradation will accelerate in many areas around the country. The need to mainstream sustainable land management principles together with biodiversity conservation and ecosystem management in policy and legislation development have been documented in the Forestry Adaptation Action Plan prepared in the framework of the Second Communication Report to UNFCCC (MoE 2011) as a requirement for climate adaptation, another underlying driver to reverse land degradation and reduce its impacts.

Barriers

Despite recent incipient efforts, there is no systematic practice of sustainable land management in Lebanon and this is especially so in mountain areas. Little effort has been made for an integrated and holistic approach to achieve land degradation neutrality, whether at the central level or at the local level with the community and particularly with farmer groups. To date, this has prevented the development of an approach to landscape management and regeneration that would maintain / increase agricultural productivity and the continued delivery of multiple benefits from forest and rangeland ecosystems. Such an approach is impeded at the local level by a number of barriers.

In dealing with this situation as applied to sustainable land management in mountain areas, there are three key barriers as in the following table which also shows the root causes as well as the proposed project response.

BARRIER	ROOT CAUSES	PROJECT RESPONSE
1 Weak institutional framework for addressing land degradation	<ul style="list-style-type: none"> • Inadequate recognition of the extent of degradation of mountain lands and the “cost” of degradation • Limited experience in the implementation of Good Agricultural Practices • Limited know-how and experience in assessing the adequacy of rehabilitation plans and their implementation • Lack of experience in biomass production, eco-tourism potential, harvesting and pruning, etc, in forests to justify restoration • Limited technical capabilities of the MoE and MoA to oversee and critically review and monitor reclamation and rehabilitation • Lack of guidelines for rehabilitation of degraded sites by the private sector 	1 REHABILITATION AND RESTORATION <ul style="list-style-type: none"> • State of Environment survey • Assessment of economic impact of degradation • Plans for rehabilitation and restoration • Degraded forest replanted • Degraded quarries rehabilitated • Degraded farmland rehabilitated • Tourism impacts minimized
2 Weak regulatory framework and lack of capacity and experience in applying and promoting sustainable land management practices	<ul style="list-style-type: none"> • Absence of a Mountain Law for the protection of natural heritage • Limited resources for addressing non-compliance and weak enforcement of existing legal framework • Lack of experience, resources and know-how for monitoring and enforcement • Limited know-how in the development of strategic and local development plans • Unclear and complex permitting process for development projects and land conversion • Lack of territorial strategic planning to guide development, and when available, no legal mechanism for enforcing the plans to ensure sustainable land management • Absence of comprehensive environmental guidelines for land management • Weak role and capacity of local authorities in monitoring and enforcement of laws, regulations, and environmental guidelines 	2 PREVENTION <ul style="list-style-type: none"> • Review policies and procedures • Review and strengthen the SEA and EIA Processes • Review and update the process for LUP • Strengthen compliance and enforcement capacity • Review and update Quarries Master Plan • Develop Master Plan for the Protection of Mountain Plateaus, Natural Areas, Beaches, Green Areas, and Agricultural Areas • Enhance capacity in MoE, MoA and Local Government
3 Limited models and technologies for sustainable land management and financial barriers for up-scaling	<ul style="list-style-type: none"> • Inability to capitalize on experience gained • Lack of decision support instruments • Planning instruments do not factor in SLM • Limited funds available for the rehabilitation of public lands • Absence of clear procedural and regulatory provisions for utilizing bonds and guarantees • Lack of incentives for the private sector to incorporate SLM in land development 	3 TOOLS FOR UP-SCALING <ul style="list-style-type: none"> • Communication and Knowledge Management Strategy • Mountains ecosystem Database • Mainstreaming of SLM

	<ul style="list-style-type: none"> • Limited financial incentives for the promotion of the agricultural sector and for the rehabilitation of lands for agricultural production • No incentive for forest management as a source of income 	<ul style="list-style-type: none"> • Sustainable finance mechanisms
--	---	--

The long-term solution

Action is required at different levels for Lebanon to achieve land degradation neutrality in mountain lands within a wider approach to sustainable landscape management and rehabilitation. This requires collaboration with a wide range of stakeholders to improve the enabling environment for such an approach, including regulation and enforcement within the framework of multi-stakeholder and cross-sectoral land use planning and management.

There is a need to address degraded land directly and rehabilitate and restore impacted forests, agricultural land, quarries, and land impacted by tourism activities. Such rehabilitation and restoration must take place, initially at the pilot scale, to gain the necessary skills and know-how as well as confidence, before it can be up-scaled and carried out comprehensively.

Rehabilitation and restoration practices need to be tested and demonstrated to prove technical effectiveness, cost-effectiveness and benefits. The specific practices to be developed for the agriculture and forestry sectors, the quarrying sector, and the eco-tourism and outdoor recreation sector, will relate to a number of phases starting from comprehensive land use planning and the SEA required for such plans, on to the EIA Process for specific development proposals, to monitoring for compliance with any conditions attached to a permit and an obligation for rehabilitation, restoration, and other remedial works, and their enforcement.

At present, this institutional and regulatory context is weak and there is a need to review, update and strengthen the regulatory and planning frameworks so as to prevent new degradation of forests and agricultural lands. A robust, comprehensive and appropriate legal framework is required which will: assess biodiversity and ecosystem values during the Land Use Planning and EIA processes; determine areas where no development or land conversion activities should be allowed (permitting functions); assess and value the impact of existing operations on key ecosystem goods and services to inform permitting decisions; integrate SLM, biodiversity, ecosystem values/principles and sustainable productivity into any land rehabilitation activities. There is also a need to ensure that the extractive sector, including quarrying, has adequate and proper safeguards in place and this can come about through the reinforcement and mainstreaming of sustainable land management principles, biodiversity and ecosystem values, and the intrinsic (and irreplaceable) value of productive land use into existing and new legal and institutional frameworks. This may require, for example, revision of EIA/SEA frameworks; revision of land use planning frameworks; clarification of roles and enhancement of capacities at local government level; guidelines based on international best practice; incentives and disincentives such as certification, PES, and offsets; awareness building and outreach; enhanced monitoring so as to ensure compliance.

And finally there is a need for new financing mechanisms and knowledge management platforms to facilitate sustainability, replication and up-scaling of the new practices leading to land degradation neutrality.

1.2 The baseline scenario and associated baseline projects

Increasingly, Lebanon's green cover and agricultural areas are exposed to degradation due to urbanization, pests and diseases, fires, wars, climate change, human neglect, improper management, outdated laws, and poor law enforcement²⁴. The government has recognized the serious impact that land degradation has had and continues to have on the Lebanese environment and specifically on mountain lands, and has taken a number of measures to address the problem.

Land use planning and regulation of urbanization

Until recently, land use planning undertaken by the Directorate General of Urban Planning (DGUP) took mostly the form of statutory maximum site coverage and domestic plot ratio for buildings of different heights, neglecting

²⁴ MOE/AFDC 2009

the comprehensive and holistic consideration of the area's resources and limitations for development. In this context and over the past 10 years, **the Directorate General of Land Registration and Cadastre at the Ministry of Finance (MoF)** has been investing in setting at least plot ratios for the remaining unsurveyed 84% of the territory, particularly in mountain areas, in an effort to regulate planning. However, progress is expected to remain slow partly due to bureaucratic procedures and partly due to the substandard performance of some topographers and their lack of expertise in devising a development-oriented vision. Despite the prevalent simplistic approach, the **Council for Development and Reconstruction (CDR)** has endeavoured in rolling out gradually Territorial Strategic Development Plans and a declination of projects that address land degradation and the sustainable use of resources – two of which are for North Lebanon. Interestingly, along with the CDR, a number of unions of municipalities have been preparing strategic plans in order to attract financing for the implementation of development projects – a requirement by donor agencies to ensure that local and regional specificities have been taken into account and that adequate expertise has been mobilized.

Also, in efforts to regulate large scale development projects in mountain areas, MoE flagged the need to regulate investments in sensitive areas and suggested the preparation (with DGUP and CDR) of a **Master Plan for the Protection of Mountain Plateaus, Natural Areas, Beaches, Green Areas, and Agricultural Areas**. Efforts are under way with line ministries and related stakeholders to control and limit land degradation in these areas. Furthermore, fuelled partly by the construction and reconstruction boom at the national level, the mining industry witnessed a growth that required the MoE to strengthen its organization of quarries exploitation and rehabilitation. In addition to a number of texts updating licencing conditions, and efforts to restore illegally degraded public sites, the MoE prepared a draft **Programme Law for the Rehabilitation of Quarries Sites** aiming to secure, once approved, a sum of USD 4 million for rehabilitation works on abandoned sites²⁵, whether they had been operated legally or illegally, thus testifying to the commitment of the Government of Lebanon and MoE in enhancing sustainable land management in the quarrying sector. Also supporting in the restoration of these sites, the Lebanon Reforestation Initiative (LRI) with the support of the International Program of the United States Forest Service (USFS) is allocating roughly **USD 450,000 for ecosystem restoration in close coordination with the MoE** with the possibility of budget increase through private sector contributions. Additional financing of approximately USD 500,000 is also expected through the **European Commission** in the coming months for the Lebanon Mountain Trail Association who are aiming to restoring damaged sites along the Trail, knowing that an estimated 100km have been lost in recent years because of quarrying.

Afforestation and reforestation initiatives

Reversing the effects of **human-induced deforestation** has become a priority for the Lebanese Government that has been allocating resources for reforestation activities and for improved management. A number of initiatives have been undertaken and are planned not only by central authorities but also by NGOs with the support of academic institutions. The **National Reforestation Plan (NRP)**, initiated in 2001 by the MoE, aims at the restoration of the green cover lost throughout recent years. Two phases of reforestation activities were executed and the third reforestation phase started in 2009 with a total budget of USD 2,255,000. Also at the central level, the National Action Plan to Combat Desertification was developed by the MoA in 2003; the project “**Safeguarding and Restoring Lebanon's Woodland Resources**” was developed to complement what has been started under the NRP in 2009; and, the launching of the mentioned **Lebanon Reforestation Initiative (LRI)** in 2012. Additionally, the MoA is currently implementing the **National Afforestation/Reforestation Programme (NARP): 40 Million Forest Trees Planting Programme** which includes the preparation of a roadmap that intends to draw a strategic course of action starting with a target of 13% forest cover by 2013 reaching 20% cover by 2030 taking into accounting the existing operational capacity within the MoA and its partners to end up with strengthened and tooled institutions at the central and local levels. In recognition of the need for coordination of funds directed towards afforestation and reforestation, the FAO has set up a coordination unit to manage institutional reinforcement, afforestation/reforestation sites identification, and financial resources mobilization.

Land degradation and desertification initiatives

The MoA strategy for 2015-2019 commits the Government to the good governance and **sustainable management of land, rangelands, and forest resources** in line with previous strategies. Additionally, it builds on engaging women and youth in agricultural projects and investments. Over the past 10 years, the MoA has implemented a number of programmes for the promotion of sustainable agricultural practices and the development of nurseries. Many of these programmes continue to contribute to alleviating pressures on

²⁵ These funds will form part of the co-financing by the government for this project

agricultural lands. An on-going project implemented by Green Plan is **HASAD, the Hilly Areas for Sustainable Agriculture Development project** financed by the International Fund for Agricultural Development (IFAD) with USD 16.5 million. The project targets areas with low agricultural production and prone to desertification, among others, and aims at improving water and land management and at building the capacity of stakeholder farmers. The project has already implemented a number of reclamation projects in North Lebanon and in Mount Lebanon, mainly on the mountain plateaus.

Strengthening Environmental Governance (StREG) (2014-2018) is a project supported by the EU and designed with the overall objective of improving the environmental performance of the Lebanese public sector through improved governance at the MoE. Through its various components, and with approx. USD 300,000 out of the project budget, it aims to develop an approach for the delineation of protected areas and their integration in local master plans both before development of these plans and *à posteriori*. Furthermore, the project also invested in pushing priority actions under **Lebanon's National Strategy for Forest Fire Management**²⁶ endorsed in 2009, which addresses the phenomenon through five components known as the five Rs: (1) Research, (2) Risk modification, (3) Readiness, (4) Response, and (5) Recovery, including the rehabilitation and ecological restoration of healthy forest conditions. It is also meant to provide support to individuals and communities in the short- and medium term aftermath of the fire. However, so far, little has been achieved under the strategy besides the setting-up of an early warning and alert system. Currently, the MoE is supporting the testing of several prediction models in order to adopt the most effective one for Lebanon to minimize the risks of forest fires and subsequent degradation.

On another level, recognizing that the mining industry is a root cause of land degradation in Lebanon, the project looks at strengthening environmental inspection and enforcement and at determining the best strategies for preventing the environmental harm that could result from the expected growth of the quarry and building materials sector in response to anticipated regional and national demand. The project is exploring export duties on building materials, quarrying fees for rehabilitation of existing abandoned quarries, bans on exports of building materials, or other economic and financial mechanisms that may be relevant.

However, and in spite of an impressive baseline of activities, efforts remain fragmented, land degradation barriers have not been overcome and mountain lands in Lebanon continue to be subjected to impacts from competing land uses. Without a fresh and comprehensive approach, land use in mountain regions will remain unsustainable.

1.3 Proposed alternative scenario

The proposed intervention targets two GEF strategies under the Land Degradation thematic area – LD 2, Program 3: Landscape management and restoration; and LD 4, Program 5: Mainstreaming SLM in development. And the aim is to work towards land degradation neutrality – restoring degraded land and preventing new degradation.

The project plan is to survey and identify degraded land in mountain lands and high country environments of the North Lebanon and Mount Lebanon governorates and analyze the losses associated with this degradation in terms of lost agricultural productivity, deforestation and other loss of vegetation, loss of biodiversity habitats, reduction in environmental quality for ecotourism and outdoor recreation, reduced ecosystem services and ultimately unsustainable land use and impacts on society and communities.

The project will assess why the baseline scenario is not working as it should and seek technical and institutional remedies which will be applied at a pilot scale to real life impacts and problems. These pilot projects will test the proposed solutions, evaluate the results, refine the system as necessary and propose it for widespread adoption. The project will also develop the enabling environment for the management of mountain lands on a sustainable basis and distribute the arising guidance for developers, managers, industry and regulators, including local government. This will pave the way to an upscaling and replication of the new approach to effective land use management thus reducing land degradation and achieving land degradation neutrality of mountain landscapes.

The project framework comprises three components, as follows:

²⁶ MOE/AFDC 2009

Component 1: Rehabilitation and restoration²⁷ of degraded land to protect and re-instate ecosystem services in mountain landscapes including forest and agricultural land

One element of land degradation neutrality is the rolling-back of degradation by restoring and rehabilitating the impacted environment. Having identified the extent of degradation, and the values/resources that have been lost, the project will focus on significant impacts that can be reversed through the appropriate technology and approach. It will test comparative remedial methodologies to restore mountain lands to their valuable ecological functions such as sustainable agricultural productivity, biodiversity habitat, ecosystem services. It will evaluate restorative approaches and methodologies and through the knowledge management and communication strategy in Outcome 3, make them available for widespread replication. Areas of forest, cropland and quarry slopes will be restored and/or rehabilitated and innovative mechanisms applied to roll back land degradation in key production sectors.

Component 2: A sustainable management system on a landscape basis for mountain lands developed, tested and evaluated to prevent land degradation

The second element of land degradation neutrality is the control and management of land and natural resources so as to prevent any new degraded lands. The enabling environment for this sustainable management will comprise policies, legislation, procedures, licensing, finances, capacity, know-how and land use plans. The project will also identify the respective roles and responsibilities for compliance monitoring, enforcement and prosecution as necessary. It will also including serious application of the EIA Process and other guidance for competing land uses and the monitoring and mitigation of harmful effects. A number of planning mechanisms will acquire integrated land management principles and practices mainstreamed into them to avoid future degradation. Capacity building will be provided by the project at both central and local government levels.

Component 3: Development of a communication and knowledge management strategy and the financial mechanisms to allow the scaling up from the pilot activities and reach out beyond the project into the broader mountain environment in Lebanon

This Outcome puts in place innovative finance mechanisms (various tools and mechanisms such as Targeted Scenario Analysis (TSA), comparative scenarios, costs & benefits, consideration of quarry offsets²⁸, calculate the cost of environmental degradation and social costs, etc) and new resources for SLM/ILM. It also brings together the results obtained by the project, such as the testing and validation of new, more efficient approaches to rehabilitation of degraded land and sustainable management so as to prevent new degradation. It also mainstreams sustainable land and forest management by private sector land developers/users such as farmers, orchardists, mining companies and tourism operators. It will tie the results of the project together and devise ways in which to upscale and replicate best practices for SLM and rehabilitation. It will develop and implement a communication and knowledge management strategy to disseminate and replicate the results of the project with the aim of achieving land degradation neutrality. In addition, the project will support the development of the Mountain Lands Database under the scope of the Master Plan for the Protection of Mountain plateaus, natural areas, beaches, green areas, and agricultural areas, under the Ministry of Environment (linked to related mapping of critical biodiversity and soil erosion) and the setting up of a web portal for dissemination of the guidance to developers, land users, the agriculture sector and regulatory authorities. In effect, this component will lead to the project achieving its ultimate impact namely, the effective rehabilitation of degraded land and the prevention of new degradation on a nation-wide basis, in the long term.

1.4 Incremental reasoning

The proposed alternative juxtaposed on the baseline and the expected global benefits are indicated in the following table which summarizes the baseline in column one and shows that a substantial and significant set of plans and activities are either on-going or envisaged in Lebanon to address the problem of land degradation, particularly in mountain areas. However, in spite of this impressive portfolio of work, Lebanon will not achieve Land Degradation Neutrality and the second column outlines the proposed alternative with the help of GEF. Finally, the third column discusses the global benefits that will accrue through the proposed alternative project, over and above the benefits

²⁷ In this initiative, “rehabilitation” is seen as the effort required to maintain, and enhance if possible, ecosystem services; whereas “restoration” is the return as close as possible to the original functional ecosystem with its biodiversity and sustainable state. To the extent possible, both will be attempted by the project.

²⁸ See for example <http://www.quarrylifeaward.com/about/participating-quarries/warranty-conservation-offset-site>

to Lebanon. Global environmental benefits will be further quantified at the PPG phase using the GEF LD Tracking Tool.

CURRENT BASELINE	PROPOSED ALTERNATIVE	GLOBAL BENEFITS
<p>Draft programme law for the rehabilitation of quarries sites aiming to secure, once approved, a sum of USD4 million for rehabilitation works on abandoned sites.</p> <p>Strengthening Environmental Governance (StREG) (2014-2018) project is supported by the EU and designed with the overall objective of improving the environmental performance of the public sector through improved governance. USD 300,000 of the project budget aims to develop an approach for the delineation of protected areas and their integration in local master plans.</p> <p>The project also invested in pushing priority actions under Lebanon's National Strategy for Forest Fire Management endorsed in 2009, which addresses the phenomenon through: (1) Research, (2) Risk modification, (3) Readiness, (4) Response, and (5) Recovery, including the rehabilitation and ecological restoration of healthy forest conditions.</p> <p>The StREG project also looks at strengthening environmental inspection and enforcement and at determining the best strategies for preventing the environmental harm that could result from the expected growth of the quarry and building materials sector in response to anticipated regional and national demand.</p> <p>Land use plans are available for a mere 16% of the Lebanese territory and planning is often restricted to a formula for building:plot ratio rather than having a comprehensive and holistic consideration of the area's resources, limitations and resources for development, including environmental and socio-economic considerations for community welfare.</p> <p>Since about 10 years, the Directorate General of Land Registration and Cadastre at the Ministry of Finance (MOF) has been surveying the entire territory, particularly, in mountain areas. Progress has been slow partly due to bureaucratic procedures and partly due to the substandard performance of some topographers.</p> <p>The National Physical Master Plan for the Lebanese Territory²⁹ (NPMPLT) approved by CoM Decree 2366/2009, defines the principles of development for various regions as well as the basis of land use for all areas. It also proposes facilities and sites of planned activities, specifying their objectives, dimensions and locations.</p> <p>The NPMPLT introduced the "green and blue network" for the protection of the most important natural resources of Lebanon, and also for the stabilization of steep slopes from excessive erosion risks. It also identifies three planning zones related to natural and cultural heritage conservation - including high mountain plateaus, cedar corridors, mountain horticulture, connection areas of forests, valleys and other natural sites.</p> <p>The Council for Development and Reconstruction (CDR) has rolled out Territorial Strategic Development Plans and a declaration of projects that address land degradation and the sustainable use of resources – two of which are for North Lebanon.</p> <p>In 2009 MoE proposed a National Strategy for the Protection of Mountain plateaus, natural areas, beaches, green areas, and agricultural areas. These efforts were reiterated in 2014 in a wider consultation exercise with line ministries and related stakeholders, namely the Ministry of Public Works and Transportation (DGUP) and the CDR.</p> <p>The MoA strategy for 2015-2019 commits the Government to the good governance and sustainable management of land, rangelands, and forest resources in line with previous strategies. It also engages women and youth in agricultural projects and investments.</p> <p>The FAO Country Programming Framework for 2012-2015, addresses the agricultural sector, including forests and its subsectors, from a sector-wide and integrated perspective.</p>	<p>The proposed alternative, to be carried out with GEF support, will set a long-term goal of land degradation neutrality for the mountain lands and high country of Lebanon.</p> <p>It will do this by identifying examples of degraded land and carry out rehabilitation and restoration on selected pilot sites to test innovative techniques and approaches.</p> <p>In parallel, the project will review existing policies, legislation, procedures and other regulatory provisions for land use and management in the mountain regions, determine why they are not being implemented and enforced, and propose amendments to address and remove the barriers. The project will assist with the development of the now draft Master Plan for the Protection of Mountain plateaus, natural areas, beaches, green areas, and agricultural areas, together with a Mountains Database leading to a Decision Support System for the wise use of mountain lands, including for agricultural production on a</p>	<p>The implementation of the proposed project will have an immediate global environmental benefit through the rehabilitation and restoration of degraded mountain lands in Lebanon.</p> <p>More specifically, the project will achieve rehabilitation and restoration in up to 13 pilot project localities (75-100 ha each) and pave the way for similar improvements nation-wide leading to land degradation neutrality in up to 5,200 ha directly³² and an estimated 52,000 ha in mountain lands and high country³³.</p> <p>The project will also bring about the protection of valuable ecological resources such as forests, rangelands and arable land through the enforcement of land use plans, buffer zones, and riparian strips. This, in turn, will lead to the restoration and renewal of the natural habitats of a number of plant and animal species and valuable ecosystem services. In addition, land productivity, in various forms, will be enhanced. As a result, globally significant biodiversity will be</p>

²⁹ Council for Development and Reconstruction (CDR). 2004.

³² Upscaling by a factor of four is targeted in the two governorates of North Lebanon and Mount Lebanon, from the land areas of the pilot projects.

³³ This is an estimate of the land area that stands to benefit ultimately from the project. It is based on the length of the Lebanon Mountain Trail which is approximately 450km and a modest estimate of an average width of 1.2km.

<p>Lebanon's National Strategy for Forest Fire Management³⁰ prepared in 2009 looks at the situation of forest fires in Lebanon, examining contributing factors such as land use, climate change, and causes of fires.</p> <p>The National Reforestation Plan (NRP), initiated in 2001 by the MoE, aims to restore the green cover lost throughout the years. Two phases of reforestation activities were executed and the third reforestation phase started in 2009 with a total budget of USD 2,255,000.</p> <p>The National Action Plan to Combat Desertification was developed by the MoA in 2003.</p> <p>The project Safeguarding and Restoring Lebanon's Woodland Resources was developed to complement what has been started under the NRP in 2009.</p> <p>The Lebanon Reforestation Initiative (LRI) started in 2012 with the support of the International Program of the United States Forest Service (USFS) to provide needed support to large-scale reforestation activities across the country.</p> <p>The National Afforestation/Reforestation Programme (NARP): 40 Million Forest Trees Planting Programme is currently being implemented by the MoA.</p> <p>The FAO has set up a coordination unit to manage institutional reinforcement, afforestation/reforestation sites identification, and financial resources mobilization</p> <p>An inventory of afforestation and reforestation projects was made available in the Third National Communication to the UNFCCC³¹, testifying to the efforts of local actors in increasing forest cover and the restitution of lost forests. Projects in Mount Lebanon have already worked on the rehabilitation of 137 ha of degraded forests</p> <p>The Strategic Sustainable Regional Development Plan for the Governorate of Akkar (2014) along with Upper Hermel and Upper Minieh-Donniyeh regions has the objective of providing a long term vision for the development of the area. The plan was developed within the context of the ADELNORD project supported by the EU and which has three main components: 1) Agricultural infrastructure, 2) Community development, and 3) Environment.</p> <p>Territorial Strategic Development Plan of Donniyeh Region (2012). Developed under the UNDP-ARTGOLD project in close collaboration with the Donniyeh Union of municipalities, prepared a strategic development plan for the region of Donniyeh in North Lebanon - promoting and enhancing the sustainable use of land resources reflecting the area's potential for agriculture, eco-tourism, forest resources, while controlling environmental degradation.</p> <p>The European Commission is expected to provide approximately USD 500,000 for the Lebanon Mountain Trail Association to restore damaged sites along the Trail.</p> <p>MoA is implementing a number of continuous programmes for the promotion of sustainable agricultural practices and the development of nurseries. An on-going project implemented by Green Plan is the Hilly Areas for Sustainable Agriculture Development (HASAD) project financed by IFAD with USD16.5 million. The project targets areas with low agricultural production and prone to desertification, among others and aims at improving water and land management and at building the capacity of stakeholder sand farmers.</p>	<p>sustainable basis. The project will also build capacity and know-how for the MoE and other regulatory agencies (including local government), develop institutional tools upstream at national level which will provide the MoE with the means and mechanisms for regulating land use in mountain regions on a sustainable basis for the common good and in the best interest of the land owners as well as the nation.</p> <p>As a result of the significant effort that the project will make on institutional capacity building, innovative finance mechanisms, and the mainstreaming of a sustainability ethic into land use on mountain lands and high country, these benefits will be sustainable.</p>	<p>conserved, valuable ecosystem services will be safeguarded and land under sustainable agricultural production will be increased.</p> <p>The project will also introduce a number of financial mechanisms to combat land degradation, and a knowledge management system to widely disseminate the lessons arising from the pilots and tests which will be carried out.</p>
---	--	--

Co-financing: The indicative co-financing from the baseline scenario is estimated to be worth **USD17,260,000**.³⁴ It will be contributed in almost equal amounts by the central government and the private sector. The increment from the GEF Trust Fund is **USD4,621,005**, making a project total of **USD21,881,005**.

1.5 Innovation, sustainability and potential for scaling up

Innovation: The project is innovative as very little effort has been made to date to create a national, comprehensive and effective approach to the problem of land degradation in mountain lands. The project's efforts to support the government, local authorities and the private sector to build such an approach based on the acceptance that this is a shared responsibility is the first such attempt in the country. The project has been designed to ease the collaboration

³⁰ MOE/AFDC 2009

³¹ MoE/UNDP. 2015.

³⁴ Co-financing amounts will be confirmed at the PPG phase

between different government agencies and for the government and the private sector to work together. This is expected to contribute to institutional innovation in the country. A salient innovative feature is the sustainable financing mechanism, based on the user-pays principle, to be developed by the project. This will include mining off-sets. Furthermore, the project will unlock existing and future resources for SLM including the existing resources in the form of the bonds/guarantees which currently amount to USD 8 million.

Sustainability: As the project builds a strong enabling environment taking into account the needs of the government sector and focussing on building their capacities for long term effective management, the actions proposed are expected to be sustainable. The project is designed to involve different sectors of the government by building on their comparative advantage and their core mandates, which will further ensure sustainability. By focusing on financial sustainability (see above) and scaling up from demonstration models (see below), project design has a strong focus on sustainability. In addition, the project will work closely in true partnership with the private sector in its search for integrated land use planning and management of competing land uses. This will create a better climate for sustainability.

Potential for scaling up: The project approach is to develop the enabling environment and then test/demonstrate the resulting elements in pilot project situations. The pilots will be evaluated, refined if necessary, and written up as guidance for the various land use actors in the mountain environment and on a broad, nationwide landscape scale.

2. Stakeholders

Key stakeholders are identified below together with their respective mandates.

STAKEHOLDER	MANDATE
Ministry of Environment (MoE)	MoE is the national environment agency in Lebanon, responsible for all environmental protection issues. Its responsibilities are: (i) to strengthen environmental inspection and enforcement; (ii) to promote sustainable management of land and soil; (iii) to preserve and promote Lebanon's ecosystem capital (iv) to promote hazardous and non-hazardous waste management; (v) to control pollution and regulate activities that impact the environment. The Ministry of Environment is actively represented in the Higher Council of Urban Planning.
Ministry of Agriculture	The Ministry of Agriculture oversees the majority of land use in Lebanon. It is also the National Focal Point for the UNCCD. More specifically, it has responsibility for the management of forests, rangelands and agricultural activities. The MoA will provide advice and expertise for project activities at the local level.
Ministry of Public Works and Transport (Urban Planning - DGUP)	The Directorate General for Urban Planning (DGUP) of the Ministry of Public Works and Transport has responsibility for land use planning in Lebanon although to date this has focussed on the urban environment, dealing mainly with the formulation and/or review of urban master plans when existing.
Ministry of Interior & Municipalities (MoIM)	The Ministry of Interior and Municipalities (MoIM), through the municipalities, federation of municipalities, and Governors has a crucial role in the monitoring of land use activities and rehabilitation of degraded land and enforcement of regulations and permitting condition (including environmental provisions). The MoIM is also represented in the Higher Council of Urban Planning.
Ministry of Energy & Water (MoEW)	The MoEW can provide advice on the implications of land use for water quality and quantity through coordination with the water establishments. Furthermore, through the Directorate of Exploitation, MoEW is involved in the permitting of quarrying activities certifying that exploitation is of no consequence to water resources.
Ministry of National Defense (MoND)	The Ministry of National Defense through the Directorate of Geographic Affairs is a key partner in the assessment and monitoring of land use activities. The MoE often relies on the MoND on the production of satellite imagery on regular basis to be used by the responsible department in the management of legal and illegal activities.
Ministry of Finance	The Ministry of Finance leads the Government's economic reform through formulation and management of fiscal policy and public debt in order to foster economic growth. Through its various departments, it is involved in taxation aspects of land use activities (Income tax and indirect taxes). It also includes the Directorate for Land Registry and Cadastre, which handles ownership and trading of privately-held parcels including the surveying of the lands for that purpose.
Ministry of Tourism	The Ministry of Tourism is entrusted with the promotion of tourism, regulation of tourism-related professions and encouraging the development of touristic projects, including the inter-region and sustainable tourism projects as part of local development.

Council for Development & Reconstruction (CDR)	The Council for Development and Reconstruction has three main tasks: compiling a plan and a time schedule for the resumption of reconstruction and development, guaranteeing the funding of projects, supervising their execution and utilization by contributing to the process of rehabilitation of public institutions, thus enabling it to assume responsibility for the execution of a number of projects under the supervision of the Council of Ministers. More recently, CDR has focused on land use and land use planning and as such will be a key stakeholder and partner for the project.
Local Government	Specific sites will be decided during the PPG phase and this will lead to the identification of Districts, Municipalities and Unions of interest to the project. These local administrations are charged with the day-to-day management of all public works within their area of jurisdiction including water and waste networks, waste disposal, internal roads, urban planning.
National Fund for the Environment	The National Fund for the Environment is a public institution with legal personality and financial and administrative independence. It aims at the protection of the environment pursuant to the provisions of Law No. 444 Date 29/7/2002 (Law for the Protection of the Environment). It can be foreseen at this stage to use the NFE as a vehicle for channeling fines and fees collected for environmental protection from quarrying and similar activities with an impact on land resources.
Private Sector	Both private sector land owners and/or operators are stakeholders in the project as it affects their land use and development practices. SLM and SFM principles will be mainstreamed into their operations as they work within the guidance provided by land use plans and sector development plans. It is expected that the private sector exponents will include farmers, orchardists, quarry owners, tourism operators, etc.
Order of Engineers	The Order of Engineers can be a very efficient entry point to the private sector/contractors. Environmental considerations are increasingly present in proposed development projects mostly driven by improvement of the legislation but also due to increasing awareness. The Order can be brought in at various stages of the project, in building capacities for development planning (particularly extraction activities) and rehabilitation planning.
Academic and Research institutions	Building on existing experience, academic and research institutions can be considered as a very important source of local expertise to be brought in on the various project components, but mainly on the technical component. The PPG phase will exhaustively identify these actors, explore existing, and planned linkages with the private sector for support on rehabilitation planning, execution, and post-rehabilitation monitoring.
NGOs	A number of NGOs have been very active in the implementation of projects contributing to land reclamation and rehabilitation and would therefore be considered a very important partner for the replication of project outcomes, whether on the agriculture front, on afforestation and reforestation, on quarries rehabilitation and on eco-tourism. They are also able to access funds from international donors.

3 Gender Considerations

The project will adopt UNDP's commitment to gender equality and women's empowerment and take into account the differences, needs, roles and priorities of men and women.

The project will also acknowledge that women are often the most vulnerable to land degradation such as that resulting from poor management of the agricultural sector, and will be proactive in seeking women's input to local innovations for sustainability, particularly those with a focus on rehabilitation and restoration.

Gender equality and women's empowerment will be mainstreamed into project activities, ensuring that women have a real voice in project formulation, as well as governance and an active role in implementation. Women will participate equally with men in any dialogue or decision-making initiated by the project and will influence decisions that will determine the success of the project and ultimately the future of their families.

Further to the overall mainstreaming of gender equality measures and the fostering of women's participation into the general conduct of the project, the PPG will identify more specifically the areas for women's participation at the Outcome level.

4 Risks

RISK	RATING	ALLEVIATION AND MITIGATION MEASURES
Rehabilitation of disused and abandoned land surfaces may encounter resistance from land owners (public and/or private) and from political figures	Moderate	The project will work to reduce the likelihood of this risk occurring by ensuring that initiatives will be designed and implemented with the full participation of stakeholders from the public sector, namely municipalities and from the private sector, fostering an understanding of the need for striking the right balance between planned and occurring land use and safeguarding of ecosystems for the services they provide. If the risk arises, the project will stress the economic case of sustainable natural resource use versus the development of certain sectors in sensitive areas delivering critical ecosystem services. It will also put into effect an effective communication strategy and stakeholder involvement plan which is expected to lead to an appreciation, and defence, of what the project is proposing.
Land owners/users circumvent planning regulations resulting in urban encroachment on valuable agricultural areas, high use of agricultural chemicals, the proliferation of quarries, and other impacts on ecosystems affecting ecosystem services	Moderate	The project targets specifically capacity for compliance monitoring and enforcement to address these undesirable behaviours on the part of individual land owners and managers. Establishment of landscape level management fora and landscape level management planning through participatory processes, as well as robust implementation of monitoring mechanisms will work towards minimising the risk. A dialogue with the private sector (real estate development, agricultural producers, quarry operators and the ecotourism and outdoor recreation sector) will be established as part of the process of district land use planning to obtain their buy-in and address concerns, so as to improve compliance.
Future Government Administrations may be reluctant to increase areas designated for conservation for fear of losing state revenues	Moderate	The project will invest in the development of a decision support system for land-use, with valuation tools for different types of ecosystem services and other land use values. This will establish the monetary loss from land degradation as a result of the different manmade land degrading activities and will help convince Government of the importance of preserving these services for their economic as well as their ecological value.
Insecurity and political unrest may result in considerable delays and postponement of project implementation	High	The current political situation in Lebanon is stable, but the potential for a spontaneous upsurge in violence is real. The project team, with support of the UNDP Country Office, will implement a continuous monitoring of the security situation in the country and update the project board on a regular basis so there is sufficient lead time for adequate response actions and adjustment in project strategy. The UN also constantly assesses country and localised risk in all areas where it operates through the unified UN Security System. During the project preparation and implementation, the system of security clearances will be enforced for any project related field deployment.
Land Use Plans encounter challenges to their implementation in the form of: absence of formal approval by the Council of Ministers and therefore a lack of the appropriate decision-making power; absence of a programming phase following the drafting of the Plan; lack of budgetary resources required for implementation	Medium	The institutional set-up for land use planning in Lebanon is weak in general and the project will be operating in an unappreciative environment. However, it will overcome this through its focus at local level, building capacity, awareness and appreciation. The risk is not so much to the project's LUP activities but to their sustainability and the project will overcome this through its participatory approach and its efforts towards local ownership of the LUPs, creating a groundswell of understanding and recognition of the value to the administrations and residents alike of planning for sustainable land management.

5 Coordination

A thorough analysis of initiatives with similar coverage of area, scope or involved agencies will be carried out during the PPG phase (so as to keep it up to date) to ensure maximum complementarities and synergies, and to avoid duplication of efforts particularly with other GEF projects and other projects under preparation. A number of initiatives were identified related directly to land degradation and which can contribute through technical, capacity and data to support the proposed project. Some of the key initiatives include the EU-funded Strengthening Environmental Governance (StREG) project, namely through its Inspection and Environment components as well as the Financial instruments components, which will be looking specifically into the Lebanese quarrying sector. Furthermore, and as presented earlier, the project is looking at developing an approach for the delineation of protected areas and their integration in local master plans both *à priori* and *à posteriori*. It is intended to build on

the expected outputs of this project particularly with regards to strengthening the capacity of the MoE to inspect works and enforce applicable regulations. Furthermore, the project will benefit from the established communication and coordination channels with the Ministry of Finance both in terms of regulation of the activity from a revenues and taxation perspective and for building the knowledge base for land use planning.

Furthermore, the project will be coordinating with upcoming projects implemented by the Lebanon Reforestation Initiative building on the success of the first phase of reforestation activities and extends this time to focus on social and economic welfare of the rural community.

Additionally, and among projects foreseen in the near future is the Sustainable Agricultural Livelihoods in Marginal Areas (SALMA) projects that aims among other expand the area under reforestation, thus contributing to the adoption of climate change adaptation measures in targeted project areas. Synergies in achieving this objective are evident. It is worthwhile noting that the SALMA project is also in line with the National Afforestation/Reforestation Programme (NARP) implemented under the MoA.

The project will work closely with the GEF Project on Sustainable Land Management in the Qaraoun Catchment which will develop institutional tools to provide the Ministry of the Environment and the Ministry of Agriculture as well as related agencies including local government with the know-how, means and mechanisms for promoting sustainable land use as in the best interest of the land owners, farmers and communities as well as the nation. The Project will contribute a rehabilitation perspective to the Qaraoun Project on the latter's development of Land-Use Plans at the landscape level which will identify land productivity values and ecosystem services and how they can be protected.

Also, tight collaboration is expected with local governments, namely in Akkar and Donnieh knowing that these areas are of particular interest, and considering the existence of strategic territorial plans for these areas. It is intended to involve them from the onset in the preparation of the PPG to ensure a buy-in from the community and from the local authorities towards rehabilitation projects.

Partners from these projects and other complementary projects will be invited to coordination meetings of the PPG to ensure that proper communication and collaboration takes place.

6 Consistency with National Priorities

The project is consistent with a number of national strategies and policy statements of which the following are considered the most salient.

Work Program of the Ministry of Environment – the Ministry of Environment has been advocating in the past years the need to protect the natural resources of Lebanon through (i) sustainable management of quarries activating the Loi Programme financing the rehabilitation of quarry sites in addition to instigating the legal, financial, and institutional mechanisms regarding continuous and post-closure rehabilitation, (ii) implementation of the national plan for reforestation and combating desertification including the modernization of reforestation techniques, (iii) declaration of protected sites and natural reserves, (iv) activation of the national strategy for the management of forest fires for the promotion of the sustainable management of forests and forest fire prevention. More recently, and as presented above, MoE is pushing for a strategy and master plan for the protection of mountains, natural areas, beaches, green areas and agricultural lands, which has been very well received by line ministries but remains a challenge to activate.

National Action Plan for combating degradation and desertification – The Ministry of Agriculture flagged in its NAP the need to restore/ rehabilitate degraded areas to restore biodiversity and ecosystem functioning. Indeed, under the umbrella of Objective 1 of the 2003 NAP aiming at stabilizing ecosystems and establishing ecological equilibrium and the rehabilitation of abandoned and degraded zones is an endorsed action that was planned.

National Agriculture Strategy 2015-2019 – The Ministry of Agriculture finalized in 2014 its strategy for the sector, which flagged the main challenges faced at the national level and particularly the need to ensure the sustainable management and use of natural resources (*land*, forest, water, genetic resources, fisheries and aquaculture resources...) in response to climate change impacts, *land degradation*, overgrazing, unsuitable cropping patterns, overuse of forest resources, over exploitation of fisheries vulnerable stocks. Accordingly, its

objectives are articulated around 3 axes, the third being the *promotion of sustainable use of natural resources* and genetic resources.

National Biodiversity Strategy and Action Plan (NBSAP) –The MoE developed in 1998 with the support of UNDP/GEF a NBSAP thus addressing Article 6a of the Convention which calls contracting Parties to “Develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity”. MoE is currently working on updating of its NBSAP and expected to be finalized by end 2015. The current draft clearly presents sustainable management and use of natural ecosystems and resources as well as ecosystem restoration as priority areas. Targets under these priorities state that by 2030, rehabilitation plans ought to be implemented in at least 20% of degraded sites that will safeguard the sustainable delivery of ecosystem services (Target 7 in draft NBSAP 2015). Furthermore, it intends to mobilize the private sector to implement plans for sustainable consumption and production to mitigate or prevent negative impacts on ecosystems’ carrying capacity through the use of natural resources (Target 16 in draft NBSAP 2015). Additionally, the NBSAP and particularly under Target 11 of the current draft, it further stresses on the need to mainstream UNCDD priorities in policy making.

The National Strategy for Sustainable Development (NSDS) - The Presidency of the Council of Ministers (PCM) in collaboration with the MoE is currently drafting the National Sustainable Development Strategy (NSDS) expected to be finalized early 2016. The NSDS draft report considers (i) the update of existing databased and degraded and abandoned sites as a first step towards rehabilitation and (ii) the development of a prioritization scheme for degraded zones/areas requiring urgent intervention, then developing and implementing adequate conservation actions in these areas, which would include namely rehabilitation and development of appropriate land use plans. Relevant to land degradation and rehabilitation, the NSDS also sets targets for 2030 for the development and implementation of regional development plans in addition to setting up targets for the rehabilitation of dumpsites and abandoned quarries at 50% and 25%, respectively.

In addition to the above mentioned strategic documents, the need for sustainable land management was highlighted in successive Cabinet statements. Indeed, environmental issues gained increasing importance at the national level since the early 2000s with the recognition of the interlinkages between economic and environmental dimensions of development. Successive Cabinets have given higher priority to environment on their agenda. In 2003, the Government pledged to “*work to activate and strengthen the role of the Ministry of the Environment by working on issuing laws and implementing decrees relating to its planning, executing and oversight role and issuing laws with regard to quarries, beaches, parks and protection of springs, and others.*” In 2005, the GoL explicitly gave “*special importance to the reforestation of Lebanon*” and aimed to *stop desertification in parts of its land*”. In 2009, the cabinet statement was particularly indicative of the increasing commitment of the Government to move on the sustainability agenda. It tackled issues related to following up on issues of **climate change and desertification**, establishing **green spaces** in cities and towns, **promoting natural reserves, re-forestation, preventing forest fires** and reducing the clutter of **quarries**. The statement also tackles water resources protection (in quality and quantity) and the enhancement of capacities and role of agricultural extensions. And for the first time, it clearly mentions the need for development of eco-tourism at the country level.

7 Knowledge Management

The project will review and strengthen the enabling environment for the effective management of land use in the high country environment and elements of the enabling environment will be tested in five or so pilot situations, evaluated and refined before being rolled out for replication. In other words, the project will have an immediate impact on a small number of problem sites, but its ultimate impact will be nationwide through replication through dissemination of the lessons and knowledge gained. In order to ensure this, the project will develop and implement an efficient knowledge management system through activities under Outcome 3. The project will set up a WWW portal, to be maintained by MoE, to provide managed access to developers, applicants for various land use permits, EIA consultants, regulatory authorities both at central and local government levels, NGOs and community members. All those involved in the permitting, operating and management of land use, will be able to stay up to date with the latest statistics, developments and technical advances. The portal will become a source of advice and

guidance, built initially on the results of the pilot projects but becoming increasingly valuable through the accumulation of experience and knowledge.


PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT AND GEF AGENCY

A. RECORD OF ENDORSEMENT³⁵ OF GEF OPERATIONAL FOCAL POINT ON BEHALF OF THE GOVERNMENT:
(Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this template.)

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Mohamad Al Mashnouk	Minister of Environment	MINISTRY OF ENVIRONMENT	10 FEBRUARY 2016

B. GEF AGENCY CERTIFICATION

This request has been prepared in accordance with GEF policies³⁶ and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

Agency Coordinator, Agency name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email
Adriana Dinu UNDP-GEF Executive Coordinator		10 Feb. 2016	Doley Tshering	+66-(0)2-3049100 ext. 2600	doley.tshering@undp.org

³⁵ For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

³⁶ GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF