

FAO/GEF PROJECT DOCUMENT

Project Title:	Smart Adaptation of Forest Landscapes in Mountain Areas (SALMA)
FAO Project ID :	GCP /LEB/027/SCF
GEF Project ID:	5125
Recipient Country(ies):	Lebanon
Executing partners:	Ministry of Agriculture
Expected EOD (Starting Date):	June 2016
Expected NTE (End Date):	May 2021
Contribution to FAO's Strategic Framework: (Indicate as appropriate)	<p>Strategic Objective/Organizational Outcome: SALMA will contribute to FAO's Strategic Objectives 2 related to increasing the provision of goods and services from forestry in a sustainable manner and Strategic objective 5 related to increasing resilience of livelihoods to threats and crises.</p> <p>Country Programming Framework(s) Output: SALMA will enhance the capacity of the Ministry of Agriculture (MOA) to coordinate stakeholders to achieve the goal of the National Afforestation and Reforestation Programme ("Planting 40 million forest trees" by 2030 or planting additional 70,000 hectares to reach 20% of the Lebanese territories through supporting the planned Reforestation Programme Coordination Unit (RPCU).</p> <p>Regional Initiative/Priority Area: SALMA contributes to the three FAO Regional Initiatives for the Near East and North Africa region. The project contributes to the Building Resilience for Food Security and Nutrition Regional Initiative, focus area: building resilience of households, communities and agro-eco-systems to human-induced and natural shocks, through increasing the resilience of the mountainous ecosystems against fire and pests' risks and climate change effects and enhancing the resilience of the rural people depending on them. The project also contributes to Water Scarcity Regional Initiative, focus area: improving water management, performances and productivity, through improved provision of water, thanks to upstream application of controlling soil erosion and increasing sustainable forest and land management practices, and reforestation, both increasing water percolation and retention and decreasing siltation of waterbodies (hill lakes, dams and rivers). In addition, SALMA contributes to Small Scale Agriculture</p>

	Regional Initiative, focus area: organizational and institutional support of producers' organizations and cooperatives through building capacity of small producer community groups and increasing their livelihood options by developing and setting the basis for value chains, production, processing and marketing of wood and non-wood forest products.										
Contribution to Climate Change Adaptation Strategy Strategic Objectives (LDCF/SCCF projects):	<p>SALMA will contribute to the following Climate Change Adaptation Strategy Strategic Objectives:</p> <ul style="list-style-type: none"> • Reducing vulnerability: Reduce vulnerability to the adverse impacts of climate change (Reduced vulnerability to climate change in development sectors) • Increasing adaptive capacity: Increase adaptive capacity to respond to the impacts of climate change, including variability at different levels (Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level) • Adaptation technology transfer: Promote transfer and adoption of adaptation technology (Successful demonstration, deployment, and transfer of relevant adaptation technology in targeted areas) 										
Environmental and Social Risk Classification	low risk <input checked="" type="checkbox"/> moderate risk <input type="checkbox"/> high risk <input type="checkbox"/>										
Gender Marker	G0 <input type="checkbox"/> G1 <input checked="" type="checkbox"/> G2a <input type="checkbox"/> G2b <input type="checkbox"/>										
Financing Plan:	-										
SCCF allocation:	USD 7 147 635										
Co-financing:	<table> <tr> <td>MOE</td> <td>USD 11 000 000</td> </tr> <tr> <td>IFAD/Green Plan HASAD</td> <td>USD 8 340 000</td> </tr> <tr> <td>USAID/LRI</td> <td>USD 6 900 000</td> </tr> <tr> <td>FAO-Lebanon</td> <td>USD 740 000</td> </tr> <tr> <td>Sub-total co-financing</td> <td>USD 26 980 000</td> </tr> </table>	MOE	USD 11 000 000	IFAD/Green Plan HASAD	USD 8 340 000	USAID/LRI	USD 6 900 000	FAO-Lebanon	USD 740 000	Sub-total co-financing	USD 26 980 000
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Total budget:	USD 34 127 635										

EXECUTIVE SUMMARY

Lebanon is known for its rich forest biodiversity that is available in a very limited area of land; the country covers 0.007 percent of the world's land surface area and hosts about 0.8 percent of the world's recorded and catalogued tree species. Lebanon encompasses important components of the Mediterranean vegetation which are relicts from the ancient forests that dominated the Mediterranean Basin two million years ago (5th CBD, 2015) and its forests have been identified by the Millennium Ecosystem Assessment (MEA) as one of the world's most threatened terrestrial ecosystems.

Forests in Lebanon have long been subject to intense human intervention and exploitation, resulting into forests losses equivalent to 35 percent of the forest cover (Europe Aid, 2014). Threats to mountain forest ecosystems are exacerbated by climate change as argued in the forthcoming Third National Communication (TNC, 2016). By 2040, rainfall is projected to decrease by 10-20 percent, temperatures to increase by 1-2°C and extreme weather events are expected to intensify, with drought periods projected to become 9 days longer by 2040, altogether resulting in a higher water stress on plants and water shortages. Direct impact of climate change would be manifested through more recurrent, larger and more intense forest fires, pest outbreaks, die-back of trees, and reduced regeneration. Some bioclimatic zones and habitats would disappear by the end of the century, namely those found on higher altitudes.

The climate change and human activities nexus is accelerating the pace of forest and land degradation and the depletion of natural resources. Poor rural populations, including a growing number of Syrian refugees, in mountain forest areas are the most vulnerable to climate change. These communities rely on fuel wood for heating, and on non-wood forest products for part of their incomes and livelihoods (pine nuts, honey, aromatic and medicinal plants, ecotourism, etc.). Projected increase in forest fire and pest outbreaks would further reduce availability of wood and non-wood forest products, while the demand on forest resources remains and further increases.

Without a GEF intervention, continued survival of fragile forest ecosystems and the resilience of vulnerable communities are at stake. SALMA intends to achieve climate resilience of both vulnerable forest ecosystems and rural mountain communities living in and partially depending on these forest ecosystems. Reforestation initiatives in Lebanon address either environmental or economic aspects; some projects target the increase of forest cover, biodiversity conservation, or ecosystem restoration, while others focus on the livelihoods of rural communities through the increase of the production of pine nuts, carob molasses, or creation of temporary employment opportunities through reforestation activities. SALMA will address both environmental and economic priorities jointly, through the promotion of environmental governance integrating community-based and ecosystem-based adaptation approaches.

Furthermore, SALMA offers to work at a scale that goes beyond administrative borders and focuses on ecological corridors and watersheds. Ecological corridors, connecting core zones such as the neighboring Biosphere and natural reserves, help maintain and recover cohesion in the fragmented forest ecosystems in the intervention areas. It is believed that through the connection of fragmented habitats, the viability of animal and plant species is improved. Fragmented forest ecosystems will be reconnected particularly through SALMA's reforestation component, building more climate change resilient forest ecosystems contributing also to adaptation benefits such as reduced soil erosion and siltation waterways.

SALMA's objective is to enhance the resilience of vulnerable rural communities and their livelihoods in mountain areas through sustainable forest management. SALMA is believed to contribute to the achievement of reduced soil and water erosion, forest fire prevention and control, pest management, diversification of livelihood income (from ecosystem services) of 24 vulnerable communities, and improved adaptive capacity of these communities through reforestation (1 000 ha) and sustainable and participative forest management at the landscape level (1 000 ha).

It is a joint effort by the Ministry of Agriculture (MOA), through its Rural Development and Natural Resources Directorate (RNDRD/MOA), the Ministry of Environment (MOE), local stakeholders, FAO and the GEF to support the above mentioned areas of intervention and the improvement of the populations' standard of living in fragile mountain forest ecosystems. The project will partially be blended with and co-financed by *The Lebanon Reforestation Initiative* (LRI), the *National Afforestation and Reforestation Plan* (NARP), the *Hilly Areas Sustainable Agricultural Development* (HASAD) project, the *Restoration of Terraces* project, as well as the FAO supported projects *Piloting the Forest and Landscape Restoration Mechanism in Lebanon* (FLRM) and *Strengthening the Coordination of the NARP*.

SALMA will be implemented through the following components:

Component 1: *Climate proof forest management for enhanced ecosystem services and livelihoods.* This component will adopt a participatory and community driven approach to forest management, informed by site-specific vulnerability and risk assessments of some of the most vulnerable forest stands (see longlist in Annex 8). Interventions will focus on reducing the risk from forest fires with the adoption of improved and innovative integrated management practices, as well as reducing the risk of pest outbreaks by promoting integrated forest management and forest restoration techniques. Even though the component focuses on supporting forest ecosystems that are more resilient to CC impacts, it also includes an output on forest fire control in order to minimize damage from fires that could not be overcome particularly to protected areas and livelihoods. Another important outcome of this component is the diversification of sustainable sources of income for vulnerable communities from forest ecosystems via micro community projects of which viability and sustainability is assessed using the RuralInvest tool.

Component 2: *Participatory reforestation for increased adaptive capacity of fragile forest ecosystem.* This component intends to expand and climate proof the area under reforestation in the targeted project areas to counteract biodiversity loss and soil erosion. The project will assist consortiums of municipalities and reforestation partners (i.e NGOs, university) to develop and implement participatory reforestation plans. This component will finance: (i) the preparation of participatory reforestation plans; (ii) the planting, maintenance and protection of climate hardened tree seedlings on around 1 000 ha of reforested communal land; (iii) an assessment study on the potential impacts from reforestation on soil erosion and sedimentation levels in selected waterbodies and an analysis of land use changes along the targeted ecological corridors; and (iv) capacity building and technical assistance for MOA and Green Plan staff, municipalities and local communities.

Component 3: *Enhanced enabling environment for climate proof forest management* - This component aims at increasing the awareness on forest ecosystem services and climate change to key target groups such as government agencies and forest engineers in the central administration and in the targeted project areas. Training on environmental and social best practices to reforestation and sustainable forest management, based on greater community participation, will be provided to key stakeholders to upscale and replicate the approach and practices. Component 3 will also finance the project communication strategy that aims at mobilising resources in SFM and participatory reforestation initiatives.

The MOA will be the main implementing partner, through its Rural Development and Natural Resources Directorate (RNDRD/MOA). FAO will be the GEF Agency responsible for supervision and provision of technical guidance during the project implementation. In addition, FAO will act as executing agency (Direct Execution implementation modality).

A Project Steering Committee (PSC) will be established. It will be comprised of representatives from MOA, MOE, FAO and Green Plan and chaired by the National Project Coordinator who is also representing MOA. SALMA's Project Management Unit (PMU) will be housed under RPCU.

The project will have a duration of 5 years. The total cost of SALMA will be USD 34 127 635, to be financed through a USD 7 147 635 SCCF grant and USD 26 980 000 cofinancing.

ACRONYMS

AFDC	Association for Forests Development and Conservation
AMAT	Adaptation Monitoring and Assessment Tool for LDCF and SCCF
ARDP	Agricultural and Rural Development Programme (funded by the EU)
AWP/B	Annual Work Plan and Budget
BD	Biodiversity
BH	Budget Holder
CAS	Central Administration for Statistics
ESIA.....	Environmental and Social Impact Assessment
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FLO.....	Funding Liaison Officer
FMP	Forest Management Plan
FRA	Forest Resources Assessment
FSN	Global Forum on Food Security and Nutrition
GDP.....	Gross Domestic Product
GEF	Global Environment Facility
GES	Good Ecological Status
GHG	Greenhouse gases
GIS	Geographical Information System
GOL.....	Government of Lebanon
GP	Green Plan (MOA)
GPR	Guidelines for Participatory Reforestation
Ha	Hectare
HASAD	Hilly Areas Sustainable Agriculture Development Project (funded by IFAD)
IFAD	International Fund for Agricultural Development
IMNRC.....	Inter-Ministerial National Reforestation Committee
IW	Inception Workshop
Km	Kilometer
Km ²	Square Kilometer
LARI.....	Lebanese Agricultural Research Institute (MOA)
LD	Land Degradation
LP.....	Lebanese pound
LRI.....	Lebanon Reforestation Initiative
LTO	Lead Technical Officer
m ³	Cubic meter
M&E.....	Monitoring and Evaluation
MDG	Millennium Development Goal
MOA	Ministry of Agriculture
MOE.....	Ministry of Environment
MOU	Memorandum of Understanding
NARP.....	National Afforestation and Reforestation Program
NBSAP	National Biodiversity Strategy and Action Plan
NGO.....	Non-governmental organization
NPMPLT	National Physical Master Plan for the Lebanese Territory
NRP	National Reforestation Plan
O&M	Operations and Maintenance
PIR	Project Implementation Review

PMU.....	Project Management Unit
POM.....	Project Operational Manual
PPR	Project Progress Reports
PRPM	Participatory Reforestation Plan Manual
PSC.....	Project Steering Committee
RDNRD	Rural Development and Natural Resources Directorate/MOA
RP	Reforestation Partners such as NGOs and Universities
RPF.....	Resettlement Policy Framework
SALMA	Smart Adaptation of Forest Landscapes in Mountain Areas
SFMF	Strategic Framework on Mediterranean Forests
SRLWR	Safeguarding and restoring Lebanon's woodland resources
SBR	Shouf Biosphere Reserve
SCCF.....	Special Climate Change Fund
SNC	Second National Communication
TEV.....	Total Economic Value
TNC	Third National Communication
TOR.....	Terms of Reference
UNCBD	United Nations Convention on Biodiversity
UNCCD	United Nations Convention to Combat Desertification
UNFCCC.....	United Nations Framework Convention on Climate Change
UNDP	United Nations Development Programme
UNEP.....	United Nations Environment Programme
USAID.....	United States Agency for International Development
USFS.....	United States Forest Service
WB	World Bank
WSI	Regional Initiative on Water Scarcity for the Near East and North Africa
WTP	Willingness-to-pay

CONTENTS

SECTION 1 – PROJECT RATIONALE	9
1.1 OVERVIEW OF THE PROJECT CONTEXT	9
1.2 THE CURRENT SITUATION.....	19
1.3 THE GEF ALTERNATIVE	26
1.4 ALIGNMENT AND STRATEGIC FIT	42
SECTION 2 – INNOVATIVENESS, POTENTIAL FOR SCALING UP AND SUSTAINABILITY	45
2.1 INNOVATIVENESS	45
2.2 POTENTIAL FOR SCALING UP AND SCALING OUT	46
2.3 SUSTAINABILITY.....	46
2.4 INDIGENOUS PEOPLES.....	48
2.5 HUMAN RIGHTS BASED APPROACHES (HRBA)	48
2.6 CAPACITY DEVELOPMENT.....	48
SECTION 3 – INSTITUTIONAL AND IMPLEMENTATION ARRANGEMENTS	50
3.1 INSTITUTIONAL ARRANGEMENTS.....	50
3.2 IMPLEMENTATION ARRANGEMENTS.....	50
3.3 COORDINATION WITH OTHER ONGOING AND PLANNED INITIATIVES.....	55
3.4 RISK MANAGEMENT	56
3.5 FINANCIAL MANAGEMENT	57
SECTION 4 – MONITORING, REPORTING AND EVALUATION	62
4.1. OVERSIGHT.....	62
4.2 MONITORING	62
4.3 REPORTING	62
4.4 EVALUATION	64
4.5 M&E PLAN.....	65
4.6 COMMUNICATION	66

ANNEXES	68
ANNEX 1: RESULTS MATRIX.....	69
ANNEX 2: RESULTS BASED BUDGET	72
ANNEX 3: THE PROJECT RISK LOG.....	77
ANNEX 4: RISK CLASSIFICATION CERTIFICATION FORM.....	79
ANNEX 5: PROJECT ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST	81
ANNEX 6: TERMS OF REFERENCE OF PROJECT MANAGEMENT UNIT STAFF AND KEY TECHNICAL STAFF	83
ANNEX 7: PARTICIPATORY REFORESTATION PLAN MANUAL.....	91
ANNEX 8: LONG-LISTS OF SELECTED PROJECT AREAS	149

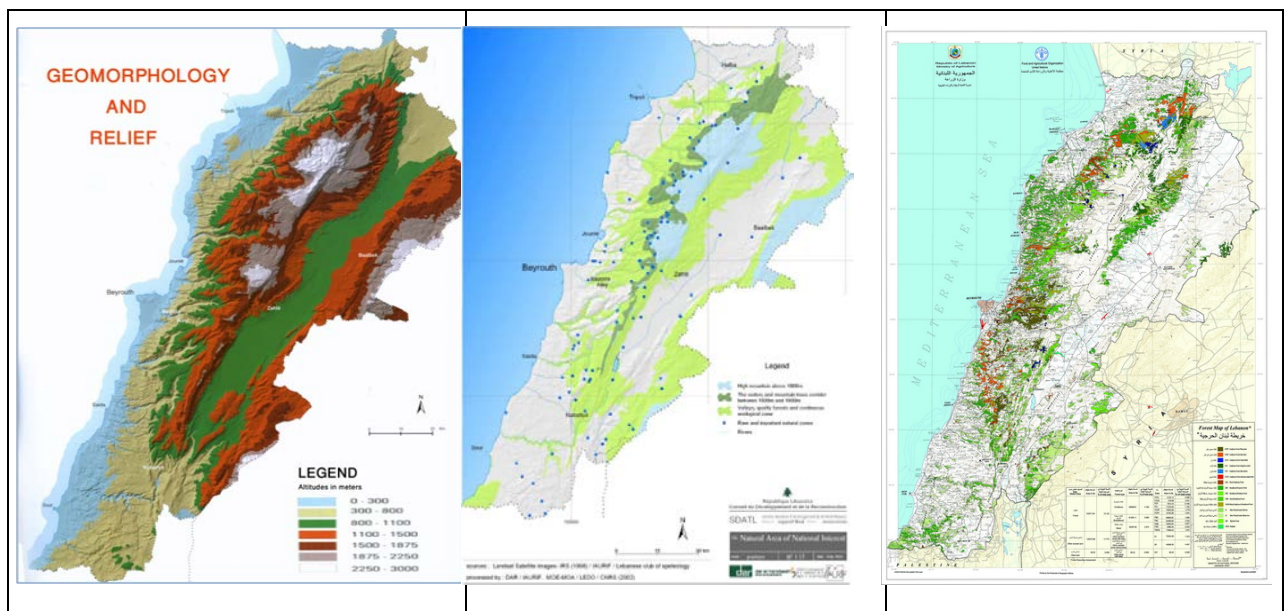
SECTION 1 – PROJECT RATIONALE

1.1 OVERVIEW OF THE PROJECT CONTEXT

1.1.1 Country Context

1. Lebanon is a small republic with a land area of 10,225 km² and is located on the eastern basin of the Mediterranean Sea. Lebanon's complex geomorphology with northern and southern coastal plains and two parallel mountain ranges, which are separated by the Bekaa valley, produces a great deal of diversity in climatic variability at small distances and a rich biodiversity. Lebanon is divided into four topographic systems: (i) the flat, narrow coastal strip parallel to the Mediterranean Sea; (ii) the Lebanon Mountains; (iii) the Bekaa Valley; and (iv) the Anti-Lebanon mountainous chain that reaches Jabal es Sheikh in the South. The country's soil is mainly red clayey soil, with some parts made up of sandy soils. The land structure consists of high sloping and steep lands, which are prone to water erosion causing loss of top-soil and the capacity to retain water. Degraded sandy soils contribute to dust and sand storms, which are hazardous to humans and livestock (NPMPLT, 2005).¹

Figure 1: Lebanon Geomorphology, Forest Corridors and Forest Cover



Source: NPMPLT (2005); and Ministry of Agriculture.

2. Lebanon is an upper-middle income country with a gross domestic product (GDP) per capita of USD 9 928 in 2013. Real GDP growth dramatically slowed from 8 percent per annum in 2010, to 1.5 percent in 2014 (WDI, 2015)² due largely to the impact of the regional and notably the Syrian crisis. Lebanon is highly populated with more than 6 million inhabitants, out of which almost 1.5 million are refugees from neighboring countries (WDI, 2015; UNCHR; and UNWRA). The population is unevenly distributed among the country's six administrative regions (*mohafazat*).

¹ Council for Reconstruction and Development website: www.cdr.gov.lb

² World Bank website: www.worldbank.org.

3. About 88 percent of the resident population is urban, with 50 percent living in Beirut and Mount Lebanon, while 21 percent lives in North Lebanon, 13 percent in Bekaa, and 16 percent in the South (CAS, 2009).³ There are large inequalities in Lebanon (GINI coefficient of 0.32 in 2011-12) and important pockets of poverty (27 percent of total population in 2011-12) concentrated in some suburban and rural areas, especially in the North. Development efforts since the end of the Civil War have focused on post-conflict urban reconstruction to the detriment of rural areas where for instance, the highest poverty count is observed in Mount Lebanon, North Lebanon and Bekaa which account for about 77 percent of all poor people in the country in 2011-12 (World Bank and CAS, 2015).

1.1.2 Forests, forest ecosystems and forest ecosystem services

4. Forests in Lebanon have long been subject to intense human intervention and exploitation and suffered mostly due to urbanization, agriculture, overharvesting, and to damages deriving from overgrazing and wildfires. As a result, during the last fifty years, a substantial part of these forests was lost. The optimistic estimates refer to a loss equivalent to 35 percent of the forest cover or 7 percent of the country and area (Europe Aid, 2014).

5. At present *Forests* occupy 13.4 percent of the territory equivalent to 137 060 ha while *Other Wooded Land* covers 10 percent (FAO, 2010). About 65 percent of the total canopy coverage is considered dense with the highest concentrations found in Mount Lebanon (37 percent) and North Lebanon (30 percent), followed by South Lebanon (9 percent) and Nabatiyeh (6 percent) (MOA, 2003). Coniferous forests constitute approximately 43 000 ha, broadleaved almost 61 300 ha, and the remaining are mixed forests. The most dominant species are the evergreen oak with more than 44 400 ha, followed by Deciduous oaks with 17 000 ha, and Brutia pine (13 000 ha). Note that the Lebanese cedar groves cover only 2 125 ha (MOA, 2003).⁴

6. Lebanon is known for its rich forest biodiversity that is available in a very limited area of land. Indeed, Lebanon covers 0.007 percent of the world's land surface area and hosts about 0.8 percent of the world's recorded and catalogued tree species. Lebanon encompasses important components of the Mediterranean vegetation (madrone, St. John's bread, Palestine pistachio, Brutia pine, Black oak and laurel) which are relicts from the ancient forests that dominated the Mediterranean Basin two million years ago (5th CBD, 2015).⁵ Mediterranean forests have been identified by the Millennium Ecosystem Assessment (MEA) as one of the world's most threatened terrestrial ecosystems: Mediterranean forests are one of the two 14 major biomes, of which more than two thirds of the area has been converted (primarily to agriculture), by 1990.

7. Several tenure systems are applied in the forests in Lebanon. However, cadastre is not always updated and surface areas and boundaries are not always clearly set. The different land tenure systems are the following:

- *Mulk* - private lands, owned by individuals, and are usually situated within the boundaries of a municipality;
- *Amiri* - lands owned by the state, normally managed by the MoA or MoE, but

³ Central Administration for Statistics website: <www.cas.gov.lb>.

⁴ MOA website: www.agriculture.gov.lb

⁵ MOE website: www.moe.gov.lb

sometimes their management is transferred to communities. All protected areas are amiri land;

- *Macha'a* - communal lands owned by a municipality and managed by the municipal council. The land can be rented to local communities and is mostly used for grazing, but some *macha'a* are forests used for wood production; and
- *Waqf* (endowments) - lands owned by religious communities (often monasteries) or charitable trusts. They are managed by individuals assigned by the group of owners or by the community. Especially some monasteries own some large forest areas in Lebanon.

8. The users of the forest areas are not always the owners. Rentals, usufructs, customs and agreements are used to regulate this system. Forest workers, private rural companies or shepherds may be allowed to use the space under these usage systems. Usually, land owners receive 30% of the value of the product whether it is charcoal or pine nuts. If charcoal exploiters are not organized and work in small groups of 4 to 7 persons, pine nut exploiters are organized into a syndicate of pine nut exploiters.
9. If the land is communal, the municipality is the authority who exploit the forest through a bidding process. The municipality usually gets at least 30% of the total value of the product. The users (who won the bid) get the remaining two-third of the real value of the nuts or charcoal. In general, women are not involved in these activities, unless they are represented in the municipal council or they are the land owners (private land).
10. In Lebanon, the forestry sector's contribution to GDP has not been assessed since the end of the Civil War in 1989 and is usually amalgamated with the agricultural sector: 4 percent contribution to the economic output employing 4.2 percent of labor in 2013 (World Bank and CAS, 2015). Forests contribute in providing direct employment to around 7 000 Full Time Equivalent Years (FRA, 2010).
11. The Forest Resources Assessment (FRA) 2010 provides some figures about the importance of forests for the livelihood of rural communities and national economy. With protective policies and laws on conifers, wood removal is valued at USD 5 million approximately, while only six Non Wood Forest Products are valued at almost USD 55 million (estimations for 2005 for number of NWFP including pine nuts, oregano, carob molasses, sage and laurel oil and leaves). Local communities, and notably women, depend upon forests for a variety of goods and services including: (i) the collection of edible fruits, flowers, tubers, roots and leaves for food and medicines; (ii) firewood for cooking, heating, and sale; (iii) materials for agricultural implements, house construction and fencing; (iv) grazing of livestock; and (v) collection by women of a range of marketable non-wood forest products (AFDC, 2007).
12. Forest services and social values have barely been assessed, although Lebanon's eco-tourism and other recreational activities are growing in importance. Three forest and biodiversity valuations were attempted in Lebanon over the years:
 - A contingent valuation (95 percent Confidence Level and ± 4 percent Confidence Interval) was applied to assess the economic value of cedar relics in order to: (i) conserve cedar forests in Lebanon; to increase their surface areas; (ii) promote sustainable activities; and (iii) explore the degree of importance of their attributes and of the opportunity, bequest and existence values as perceived by the Lebanese population. The open-ended

willingness-to-pay (WTP) was elicited from three main cities in Lebanon (Tripoli, Beirut and Sidon) and in villages surrounding two nature reserves, i.e., Ehden Reserve in the North and Shouf Biosphere Reserve in Mount Lebanon. The mean WTP was USD 43.4 per household per year. The difference in the individual WTP value for forest users and non-users was approximately USD 20 per household for both villagers and city dwellers with 28.3 percent suggesting *USD 0 or not knowing* going all the way up to 39 percent and 44.4 percent among city and villager non-users respectively hence confirming non-user poor knowledge regarding forest and ecosystem services in Lebanon.⁶ The mean WTP was used to derive the perceived value per ha by multiplying the mean WTP with the number of Lebanese resident households in 2007 (888,811 –CAS, 2007) and dividing it with the overall reserve, protected and un-protected areas planted with cedars combined with other mixed forest (56,850 ha). The total amount reaches USD 678.5 per ha in 2007 and USD 742.3 per ha when adjusted for 2015 prices. Hence, the stated preference is much higher than the change in production/change in behavior valuation attempted below.

- Lebanon total economic value (TEV) of forest, which included wood forest products, non-wood forest products, grazing, recreation, hunting, carbon sequestration and passive value, amounted to USD 161 per ha in 2007. This is under-valued, as watershed protection was not valued, and the bulk of the TEV was associated with hunting (USD 114 per ha)⁷, banned since 2004 but not enforced.
- The Shouf Biosphere Reserve (SBR) is the largest nature reserve in Lebanon (550 km²) and is home to 24 tree species, notably cedar and oaks, and the valuation of its biodiversity was attempted in 2015. The valuation of the biodiversity benefits, which focused on carbon sequestration, fuel provision (briquettes production), water provision, food provision, tourism, cultural services and patrimonial value, ranged from USD 16.7 to 21.3 million per year with a midpoint of USD 19 million, or nineteen times the operational budget of the SBR (SBR, 2015) or the equivalent of USD 345 per ha in 2015.⁸

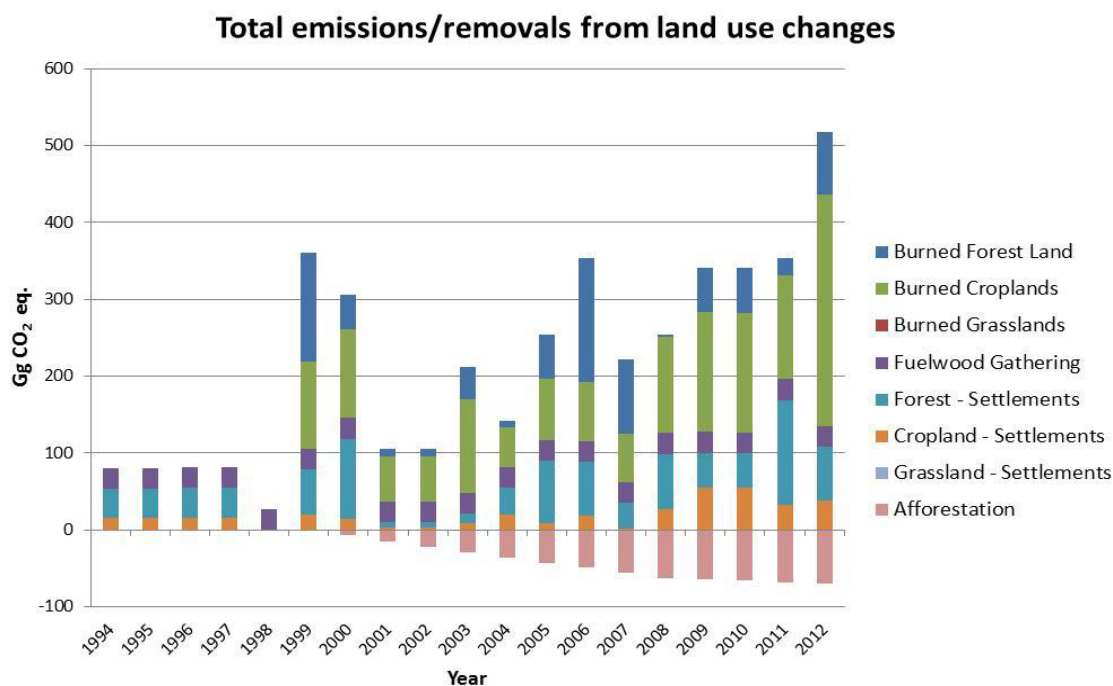
13. Lebanon's wide forest cover still represents a significant CO₂ sink, although current deforestation rates, increased forest fire incidents and most importantly urbanization have resulted in a downward trend in sink capacity. Yet, the MOA and MOE afforestation that was launched since the early 1990s started offsetting a portion of land-based emissions (TNC, 2016).

⁶ Sattout, E.J., S.N. Talhouk, and P.D.S. Caligari. 2007. "Economic value of cedar relics in Lebanon: An application of contingent valuation method for conservation." *Ecological Economics*, Volume 61, Issues 2–3, 1 March 2007, Pages 315–322.

⁷ Croitoru, L. 2011. Value of Mediterranean forests: <www.eoearth.org/view/article/156822>.

⁸ Shouf Biosphere Reserve website: <www.shoufcedar.org>.

Figure 2: CO₂ emissions/removals from the changes in the LULUCF sector



Source: MOE-GEF-UNDP. 2013. Background document to the Lebanon Third Communication to the UNFCCC: National Greenhouse Gas Inventory Report and Mitigation Analysis for the Land Use, Land Use Change and Forestry Sector. Beirut.

1.1.3 Climate variability and climate change

14. A 50 km cross section from the sea shows climate variations: a subtropical coastal climate followed by a typically Mediterranean climate at low elevations and a cold climate at higher elevations covered with snow during the winter, reaching a semi-desert plain, too dry to allow agriculture. This variety means a great diversity in ecosystems and landscapes in a limited surface area (see Figure 1 above).
15. Lebanon's Mediterranean climate, which has a long dry period extending from May to October with a hyperthermic soil temperature regime and a xeric soil moisture regime, is also prone to desertification (21 percent of Lebanon's area is vulnerable to land degradation from high to very high risks especially in Baalbeck-Hermel in the northwest; 46 percent faces moderate risk; and 33 percent faces low to very low risk). Yet, the country possesses relatively ample water resources compared to neighboring countries, with annual precipitation varying from 700 to 1000 mm along the coastal zones and from 1 000 to 1 500 mm on the high mountains with a snow cover for 2 to 3 months, decreasing to 600 mm in the eastern parts and to less than 200 mm in the northeast. Lebanon's general average temperature is 20.5° Celsius with a minimum average in January of 7° Celsius and a maximum average of 33° Celsius between July and August (NPMPLT, 2005; and MOE SOER, 2011).⁹

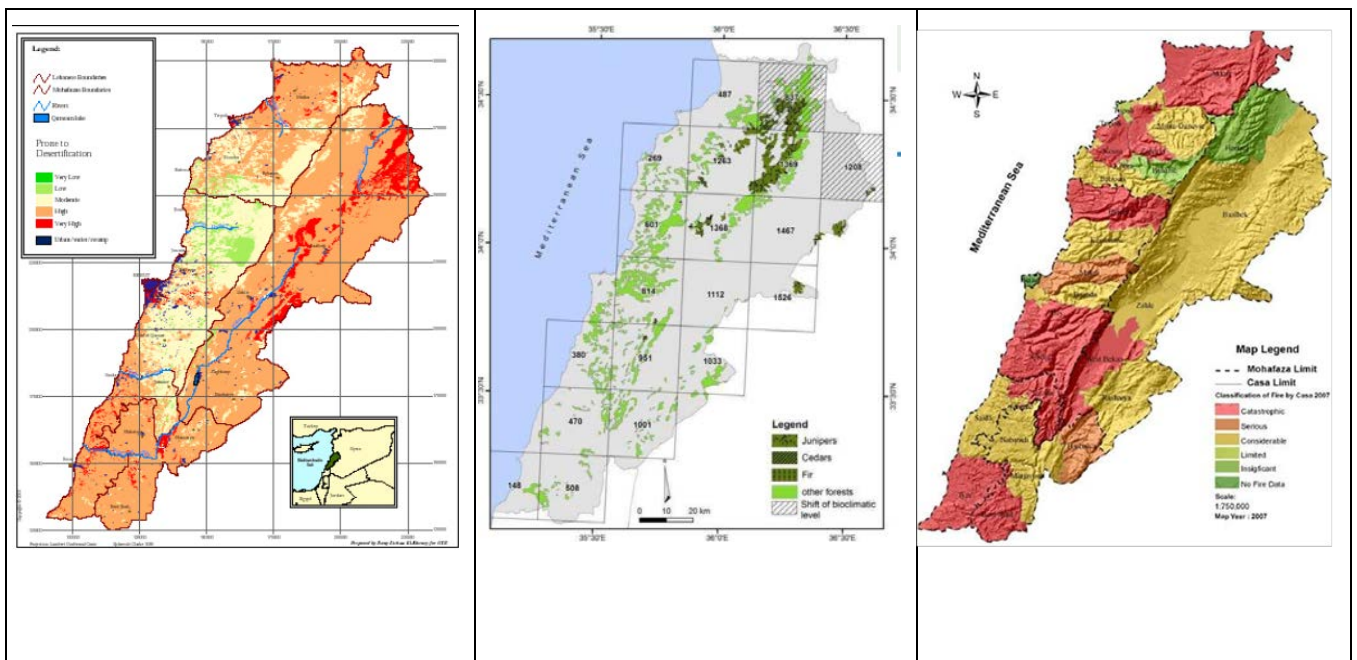
⁹ Ibid.; and MOE website: <www.moe.gov.lb>.

16. The main climate change projection patterns for Lebanon could be derived from the IPCC 5 South Mediterranean and North Africa models, concluding that: annual rainfall is likely to decrease; maximum summer temperatures are likely to increase; risk of summer drought is likely to increase; and the duration of the snow season is very likely to be shortened.¹⁰

1.1.4 Climate change induced problems and vulnerability of forests and forest ecosystems

17. Lebanon’s forest and biodiversity threats include: (i) cover loss, conversion, and degradation of forests and other natural habitats; (ii) overharvesting of selected species; (iii) exotic invasive species; and (iv) pollution of aquatic ecosystems. These threats are exacerbated by climate change as argued in the forthcoming TNC (2016). By 2040, rainfall is projected to decrease by 10-20 percent and temperatures to increase by 1-2°C. Extreme events (i.e., heavy rainfall, storms, frost, heat waves, floods, etc.) are expected to intensify, with drought periods projected to become 9 days longer by 2040. This combination of significantly less wet and substantially warmer conditions will result in a higher water stress on plants, water shortages, and higher risk of forest fire. The TNC highlights the vulnerability of some forest ecosystems, namely those with smaller distribution range, and related to cool and humid climate conditions (i.e., juniper, cedar, fir, and Turkish oak and other rare species) or even species tolerating warmer and drier conditions (i.e., pines). Direct impact of climate change would be manifested through recurrent, larger and more intense forest fires, pest outbreaks, die-back of trees, and reduced regeneration. Some bioclimatic zones and habitats would disappear by the end of the century, namely those found on higher altitudes.

Figure 3: Lebanon Desertification Vulnerability, Forest Vulnerable Hot Spots and Forest Fire Risk



Source: MOA/GTZ Combating Desertification in Lebanon, 2004; Lebanon TNC, 2015 (draft); and MOE and AFDC: 2009 National Strategy for Forest Fire Management in Lebanon.

¹⁰ Web sites of the: IPCC <www.ipcc.ch>; and the World Bank Climate Change Lebanon Country Profile, 2015. <http://sdwebx.worldbank.org/climateportalb/home.cfm?page=country_profile&CCCode=LBN>.

18. The increasing risk of forest fires, forest infestation, water runoff and soil erosion, exacerbated by climate change are therefore compromising ecosystem health and delivery of services while increasing the vulnerability and eroding the income of communities living in mountainous areas.
19. The climate change and human activities nexus is accelerating the pace of forest and land degradation as well as the depletion of natural resources. Poor rural populations and the growing number of Syrian refugees are the most vulnerable to climate change. These communities and refugees rely on fuel wood for heating, and on non-wood forest products for their livelihood (pine nuts, honey, aromatic and medicinal plants, ecotourism, etc.). Forest fire, pest outbreaks, is likely to increase in the future reducing availability of wood and non-wood forest products, whereas the demand on forest resources is sustained, if not increased (Box 1).

Box 1: Effects of Climate Change on Rural Communities Relying on Pine Nut Collection

Climate change would negatively affect rural communities relying on forest resources for their livelihood, as the capacity of forest ecosystems to produce woody biomass will be reduced. A good example of combined effect of anthropogenic activities and climate would be the stone pine cone drop problem, caused by an insect outbreak and exacerbated by mismanagement practices of the harvesting, pruning and undergrowth suppression and the ban of conifer cutting. Pine nut production has drastically dropped for the last few years, resulting in lower incomes for producers despite a hike of the price of Lebanese pine nuts (≈USD 70 per kg) due to the contraction of the supply and its export as it fetches higher prices on the global market.

1.1.4.1 Forest fire intensity, extension and frequency

20. Fire is the main cause of the destruction of forests, other wooded lands and other lands in the countries of the Mediterranean Basin in general and in Lebanon in particular, causing enormous economic and ecological damage as well as loss of human life. A forest fire map that was produced by AFDC in 2007 shows that 28 percent of the total surface area of Lebanon is severely threatened by fires. In 2007 fires burned across 4,031 hectares including 1,810 hectares of forest and 1,995 of other wooded lands. The forest fire situation in Lebanon is significantly determined by predominating climatic conditions with prolonged summers (extending from June to October and sometimes even longer), virtually no rain and average daytime temperatures well in excess of 30°C, reducing the moisture content of forest litter to below 5 percent. Under these conditions, lightning, sparks from machinery or a match can be enough to ignite a fire that can become damaging and large. The steep slopes, the summer and eastern dry autumn winds characterized by high speed and consequently strong desiccating power aggravate the situation by drying out live and dead vegetation. Among the factors that threaten the forests in Lebanon, fire constitutes the most dangerous factor and causes severe ecological, economic losses and, sometimes, human injuries. Within some hours fire destroys what has naturally grown over years and centuries. An increase of wildfire frequency is being experienced, reaching catastrophic dimensions at times, and serious action to reduce the negative impacts of fire should be taken. This was demonstrated in October 2007, when more than 200 fires were declared in less than 24 hours, destroying thousands of hectares of forests and Other Wooded Lands (OWL). It must be noted however, that the fire may not destroy the forest completely. Fires might have some positive roles if they occur at a very low frequency and intensity. After the fire, some forest species have the ability to regenerate. Therefore, the forest is not lost, but it is temporarily unstocked. Natural regeneration, assisted regeneration or reforestation will enable the land to restore its role in the land use and land cover of the country.

21. Forest fires that occurred during the period 2007-2008, have resulted in the loss of 4 200 ha of Lebanon's vegetation cover. According to the NGO AFDC, during one day in October 2007, the total burned area was equivalent to three times the area afforested during the previous 17 years. These fires are the main reason behind forest fragmentation and loss of related ecosystem services.

1.1.4.2 Forest pest outbreaks

22. In Lebanon, pest outbreaks in forest ecosystems are highly affected by climate variability (SNC). Increased levels of CO² in the atmosphere are prompting an increase in the C/N balance of plant tissues, which in turn results in lower food quality for many defoliating insects which respond by increasing the level of the leaf consumption, consequently damaging trees. In addition, increase in temperatures is altering the mechanism by which the insects adjust their cycles to the local climate (diapause), resulting in faster development and higher feeding rate. This has been witnessed in Lebanon with the attack of Cedar stands in Tannourine forest by *Cephalcia tannourinensis*. *Cephalcia tannourinensis*. These insects were first observed and identified in Tannourine cedar grove, had a massive outbreak in 1996-1997 and caused the die back of trees. FAO and MOA joined efforts to control the outbreak through biological means and monitoring of the pest enabled the recovery of the forest grove starting in 2004. The forest is now a natural reserve.

23. Other cedar groves and pine forests are also subject to pest outbreaks. The mismanagement of stone pine stands has led to a decrease in nut production. Outbreak of different insects including *Tomicus* spp and *Leptoglossus occidentalis*, a major causing agent for the conelet drop and the loss of nut production, badly affected the livelihood of rural families in stone pine forest areas. The causing agent of pine cone drop has been identified (FAO support), and an action plan has been prepared and plans for further monitoring of pest outbreaks made.

24. Another emerging outbreak is the dwarf mistletoe (*Arceuthobium oxycedreti*), a parasite causing the dieback of the Syrian Juniper (*Juniperus drupacea*) in the majority of forest stands of this rare species. A team of experts from the Lebanese University is studying the causal agent of this outbreak. Initial observations suggest that the outbreak is severe on sites with limited soil moisture.

25. Finally, *Thaumetopia wilkensonii* is a lepidoptera causing the defoliation of *Brutia* and Aleppo pine degraded stands. Severe attacks are witnessed in years with mild winter and reduced rainfall. The MOA along with the Lebanese Army and the municipalities try to limit the outbreak through arial or ground spraying.

1.1.4.3 Soil erosion and siltation of waterways

26. Land degradation vulnerability, particularly caused by water erosion, is expected to worsen through time if natural resource mismanagement remains unaddressed. Although central Mount Lebanon is characterized by a relatively low vulnerability to desertification and a growing population density, 6 percent of its territory is prone to very high water erosion with 88 percent is considered moderate and 6 percent low. Hence, the process starts with soil erosion due to water erosion and could lead with time to soil degradation, ecosystem degradation and

eventually desertification. Proper settlement policies, the gradual introduction of more resilient native tree species and the improvement of water harvesting practices appear necessary to combat soil sealing and with time desertification (MOA/GtZ CoDel, 2004).¹¹

27. Forest ecosystems play a crucial role in soil and water conservation that is essential for the resilience of natural ecosystems and rural communities towards climate change. The degradation of forest cover would reduce water and soil conservation, and consequently would deprive the communities from these essential and scarce resources, and put at stake vulnerable ecosystems such as wetlands. Moreover, urban sprawl, and land reclamation for agriculture or other uses aggravate the situation with accelerated rates of habitat destruction and fragmentation, leading to more isolated and vulnerable forests. Conversely, detrimental changes in hydrology have been observed over recent decades. The decrease in groundwater levels and the drying up of springs and wetlands where rivers no longer flow in the dry season; the reduction of the infiltration rates, the increase of runoff and soil erosion, and a decline in groundwater recharge are all caused by deforestation, overgrazing, low rainfall, and poor surface management of cultivated lands.¹²

1.1.5 Policy and institutional context for climate change adaptation and forest management

28. Legally the forest sector depends on the Forest Law of 1949. The major stakeholder remains the *Ministry of Agriculture (MOA)*¹³ which has the prerogative to set up policies, formulate strategies and propose forest law amendments. Through its Rural Development and Natural Resources Directorate (RDNRD) and the related technical staff and forest guards, MOA ensures the control of wood cutting and charcoal production, provision of seedlings for reforestation, control forest illegal practices, reforestation planning, range management, forest pest and disease control, export licensing for some medicinal plants, forest fire control and prevention, etc. The MOA's RDNRD has a reforestation department which i) undertakes forestry projects, ii) protects, supervises and manages the natural resources in state, communal and private lands, in close collaboration with the respective authorities managing these lands (i.e., Ministry of Finance, municipalities, federation of municipalities or communal lands committees, land owners, and land users), and iii) provides assistance to other institutions whenever necessary.
29. The MOA 2015-19 Strategy calls for the reduction of the impacts of climate change and greenhouse gas (GHG) emissions in the agricultural sector by: introducing adaptation measures to climate change; conducting studies to estimate GHG emissions from the agricultural sector, land use changes and forestry.
30. Moreover, the Green Plan (GP) is under the tutelage of the MOA and is responsible for the construction of hill lakes, irrigation schemes and rural roads as well as providing seed funds for the restoration of landscape (terraces).

¹¹ MOA website: <www.agriculture.gov.lb>.

¹² Karam, Fadi. 2002. *Climate Change and Variability in Lebanon: Impact on Land Use and Sustainable Agriculture Development*. Beirut.

¹³ MOA website: <www.agriculture.gov.lb>.

31. The Ministry of Environment (MOE)¹⁴ has the prerogative to supervise the activities within the natural reserves. Being the umbrella of the United Nations Convention on Biodiversity (UNCBD), the United Nations Convention to Combat Desertification (UNCCD) and the United Nations Framework Convention on Climate Change (UNFCCC), the MOE provides coordination, reporting of activities and elaboration of strategies related to the three Rio Conventions.
32. Lebanon has signed and ratified the UNCCD and is committed to combating land degradation and dealing with the root causes of the problem at the national and local levels. To fulfill its obligations to the UNCCD, the Government of Lebanon developed a National Action Program (NAP) to serve as an umbrella, a guiding framework for the UNCCD long-term implementation. MoA in partnership with the UNEP and the Association for Forests, Development and Conservation (AFDC), is currently working to align the NAP with the UNCCD ten years strategy, involvement in land resources management and mitigation of land degradation in the context of the SDG 15. Moreover, after preparing the Intended Nationally Determined Contribution and the 5th Convention on Biodiversity (CBD), the MOE is finalizing the TNC and the National Biodiversity Strategy and Action Plan (NBSAP).
33. Since 2001, the MOE was assigned the role to implement the National Reforestation Plan (NRP) aiming at the restoration of the country's green cover loss in communal lands, through memorandum of understanding with municipalities, using public funds as well as donations from international donors.
34. Five years later, in 2014, MOA initiated with the support of the FAO the process of developing the National Afforestation / Reforestation Program (NARP), also known as the 40 million trees program. It aims at increasing the forest cover 70,000 hectares from the current 13 percent to 20 percent by 2030, adapting the natural ecosystems to a changing climate. NARP embeds all planting activities all over the country by the MOA with responsibilities shared by other stakeholders as well.
35. In June 2015 MOA launched the first National Forest Program (NFP) with the support of the German Agency for International Development GIZ and the Forests Sciences Center of Catalonia. This is the main instrument of the national forest policy for the decade 2015-2025. NFP constitutes and identifies the government's interventions in the forest sector and beyond, aiming at sustainably managing the Lebanese Forest Resources, while defining the coordination and cooperation mechanisms among all public and private sectors.
36. In 2005 the Council for Development and Reconstruction (CDR) elaborated the National Physical Master Plan of the Lebanese Territory (NPMPLT / SDATL). A Land Use Planning Scheme was developed in order to alleviate the disparities of development between the regions and to seek a rational use of the limited natural resources and public funds. It was approved by the Government in 2009 and is considered as a guideline for all stakeholders participating in the national and land use development. National natural resources were identified to be mainly water, soil, vegetation, as well as climate and landscapes. Landscapes were considered as an economic and a social national asset. Among the main types of landscapes which required restoration efforts, the "Cedar and Fruit Tree Corridor" between 1 400 and 1 900m altitude on the western slopes of Mount Lebanon was identified. The vision of the corridor is to enhance the

¹⁴ MOE website: <www.moe.gov.lb>.

engagement of private landowners into reforestation of the national emblem tree next to their fruit orchards, in order to sustain biological corridors, increase forest cover while sustaining livelihoods, reduce pressure on forest resources and mitigate land degradation.

37. Over the past 20 years, several NGOs and CBOs were established with the aim to conserve forest cover through reforestation activities that are carried out in partnership with government agencies and the support of local and international donors. Between 2005 and 2010, NGOs and CBOs reforested 150 ha (FRA 2010). The objectives of these reforestation campaigns were initially focusing on increasing the green cover and raising environmental awareness on the importance of conserving forest resources while improving the livelihood of rural communities through the plantation of stone pine. Along the years, these objectives evolved to tackling broader environmental issues through an ecosystem restoration approach; restoring ecosystems degraded by forest fires, overexploitation, floods and desertification, promoting native forest tree species, quarry rehabilitation, and restoring ecological corridors.
38. In terms of Sustainable Forest Management practices, the Association for Forests, Development and Conservation (AFDC) has been the only local NGO specialized in addressing issues that pertain to forest fires since 1992. The founders of the organization were forest guards themselves. This environmental group often conducts research on forest fires and reforestation issues. It developed strong relations with other institutions and regularly conducts training sessions for forest fire fighting with the Civil Defense and the Lebanese Armed Forces.
39. Regarding pest management, NGOs and CBOs play an important role in addressing any eventual outbreak to the concerned stakeholders (local and central authorities, scientific community). This is the case of the Lebanese Mountain Trail Association following up activities related to the control of the dwarf mistletoe outbreak in Ehmej on the Syrian Juniper, or the Pine nuts producers association following up the conelets drop of the stone pine with the MOA, FAO and scientific communities. Nonetheless, municipalities remain the key authority to detect the problem, raise it to both the MOA and scientific community to address it, and further implement measures to limit the outbreak and recover the forest.

1.2 THE CURRENT SITUATION

1.2.1 Baseline context and investments

1.2.1.1 Forest, Ecosystem and Landscape Restoration Initiatives

40. Forest and ecosystem initiatives that were conducted in Lebanon targeted initially the increase of the forest cover of the country (Figure 1), and later the restoration of degraded forest ecosystems, namely after fire. However, these initiatives have not considered imminent and future climate change effects, and how to increase the resilience of communities by building up adaptive capacity and by climate proofing reforestation activities, forest management and water conservation. Yet, it is expected that the formulation and implementation of the Nationally Appropriate Mitigation Actions NAMA (still under preparation and across sectors) will help address some of these shortcomings.
41. Between the sixties and mid-seventies, the Government of Lebanon (GOL) initiated afforestation/reforestation activities, mainly through the Green Plan. Further, after the end of the Civil War in 1989, the MOA RDNRD took over the activities of the Green Plan, albeit with a

reduced budget. The MOA established its own nurseries and undertook several forestation activities between 1990 and 2001. Several stakeholders were involved in reforestation activities, combining governmental agencies (MOA, MOE), NGOs, CBOs and the private sector. It is noteworthy that most of the reforestation activities have been conducted on communal lands, managed by Municipalities and Unions of Municipalities. According to FRA 2010, Lebanon has achieved some 10 500 ha of reforestation, of which governmental institutions, NGOs and CBOs including international support reforested about 4 000 ha. It is estimated that municipalities and private entities including waqfs (religious trusts) and farmers account for more than half of the total reforested areas. However, the majority of reforestation by these municipalities and private actors favored planting pine nut-producing trees.

42. As of today, MOA nurseries are still providing NGOs, CBOs, cooperatives, municipalities, and privates with forest tree seedlings and supervising municipalities in conducting reforestation activities. MOA is also managing the revolving reforestation fund that is provisioned by a share of the usufruct from the exploitation of natural resources in municipal communal lands. Currently, MOA has the biggest capacity of seedling production with more than 6 million seedlings per year. Yet, under the World Bank SALMA project, a National Center for Forestry Seeds of Lebanon was sought to ensure successful adaptive reforestation campaigns under the NARP. Alternative funding was secured at the end of 2015. With a grant from the Embassy of Norway (USD 350 000) a seed bank will be implemented (detailed design carried out under the 2015 World Bank PROFOR). This seed bank will be housed at the Lebanese Agriculture Research Institute (LARI) under the MOA tutelage, with the following objectives: (i) ensuring the proliferation of native tree species diversity by collecting, selling, distributing and registering quality seeds of species used for reforestation; and (ii) preserving native tree species' diversity against human-made disasters, disease, natural disasters and climate change effects. Hence, the seed bank is an essential complementary activity for the integrated adaptive reforestation drive that will be initiated under SALMA to be scaled up over the next years through tapping new funding from Lebanese emigrants, development partners and the private sector seeking to adopt a green corporate social responsibility as a code of conduct.

1.2.1.2 Baseline investments (co-financing)

SALMA will engage with the following co-financing programmes and projects:

43. **The Lebanon Reforestation Initiative (LRI).** In 2010, the United States Forest Service (USFS), through the support and funding of the United States Agency for International Development (USAID), launched the Lebanon Reforestation Initiative. The LRI works in collaboration with local NGOs and local communities to promote sustainable reforestation activities and wildfire prevention in Lebanon. By the end of 2014, LRI disbursed USD 12 million, and enabled the partnering NGOs as well as the committees managing the natural reserves, to support reforestation and fire prevention activities. It has reforested approximately 600 ha in different areas of the country with, however, at a very high cost per ha reaching more than USD 7 000 per hectare¹⁵ (at a density of 800 seedlings/Ha – costs ranging from USD 4 400 to USD 10 000 per hectare, which is notably higher than in other countries). SALMA's objective is to reduce this cost to around USD 2 500 per hectare, also building upon and complementing findings from the

¹⁵ Safeguarding and Restoring Lebanon's Woodland Resources Project, Technical Report, Dec 2014

“Safeguarding and Restoring Lebanon’s Woodland Resources Project”.

44. The LRI has been extended until the end of 2018 with three identified goals for communities:
- protecting existing planting sites so they become thriving forests;
 - promoting community-led initiatives that replicate tree planting sites on private and municipal lands, especially on site-adjacent lands; and
 - supporting a community “multiplier effect” from the tree planting sites, such as eco-tourism, environmental education, parks and recreation activities.
45. Coordination between SALMA and LRI was convened during SALMA preparation to increase synergies and knowledge sharing. The GEF will leverage LRI’s efforts in expanding participatory reforestation activities in the Northern and Eastern slopes of Mount Lebanon by climate proofing community-based reforestation plans while making reforestation more cost-effective, and by training forest communities on diversified sustainable livelihoods options. In addition SALMA will complement LRI’s Firewise Component by introducing silviculture practices for the prevention and management of pest outbreaks as well as sustainable forest management. Total co-financing volume is USD 6.9 million.
46. The **National Reforestation Plan (NRP)**. In 2001, the GOL provided MOE with USD 16.7 million to implement the National Reforestation Plan (NRP). The main objective was to restore the country’s forest cover. Between 2001 and 2006, MOE reforested 583 ha through 2 phases in degraded rangelands and abandoned lands in all Lebanese regions (FRA 2010). A new reforestation phase is about to be launched in 2016 and will be considered as SALMA co-financing to the tune of USD 11 million. Still, the NRP, which needs to determine the next phase focus areas, only targeted Municipalities and achieved uneven rates of success, as communities were not engaged in the process. Discussions were engaged with MOE as to adopt SALMA participatory and cost-effective approach and close coordination in site selection for its next reforestation phase.
47. The **Hilly Areas Sustainable Agricultural Development (HASAD)** project (2009-2015, after MTR project extended until June 2018) is implemented by the Green Plan and financed by the Government of Lebanon, the International Fund for Agricultural Development (IFAD) and the OPEC Fund for International Development (OFID). GP/HASAD will provide co-financing equaling USD 6 568 000. HASAD targets 4500 farmers in Lebanon’s hilly areas, its main goal is to alleviate poverty and increase production through: (i) improved water and soil management in rain-fed areas; (ii) improved quality and quantity of agricultural products as well as improving marketing services; and (iii) capacity building for stakeholders and farmer groups.
48. The component on construction of hill lakes under HASAD is particularly relevant to SALMA. The construction of medium-sized hill lakes is part of the water and soil conservation strategies that HASAD wishes to promote as the former are used to store runoff rainwater and existing permanent sources of water such as springs for supplemental irrigation of nearby trees. The HASAD project will increase water availability by 868 750 m³ through water harvesting works, constructing i) 18 small lakes with storage capacity ranging between 20 000 to 50 000m³; ii) 2 medium size lakes with storage capacity between 50 000 to 150 000 m³; and iii) 50 earth and 50 concrete reservoirs. SALMA will have a positive impact on HASAD deliverables introducing a sustainable forest management dimension to ongoing activities.

49. The hill lake-construction record of accomplishment of the Green Plan is very good. Private consulting firms and contractors are solicited to bid to carry out the design, the environmental and social safeguards and the construction of the hill lakes where a sustainable built-in operations and maintenance scheme allows the hill lake trained water management association to use a share of the stored volume to defray the cost of operations and maintenance. Unlike SALMA's objective to increase forest fire preparedness, none of the existing hill lakes was meant for forest fires. The GEF grant will leverage infrastructure investments in water harvesting and mobilization and soil conservation works and will build on the project's capacity building efforts, especially in relation to sustainable forest management adding particular emphasis on technologies and practices to enhance adaptation interventions in fragile forest ecosystems.
50. The Restoration of Terraces project financed by the Government of Lebanon and implemented by the Green Plan, provides seed money (about USD 10,000 per application for any holding of more than 0.3 Ha) for community-based or community-supervised construction activities that will increase adaptation through better land use and water table recharge. The co-financing to SALMA totals USD 1 773 000. Terracing would allow not only land reclamation for agriculture on mountain slopes, but it also helps to limit erosion on these slopes. Terraces are hence a major tool for soil and water conservation. The limited surface water runoff, would enhance water infiltration and consequently improve table recharge. Terraces allow small farmers to improve their livelihood and their resilience to climate extremes and related risks (floods, drought landslides). The project is therefore a complement to SALMA, working towards achieving a shared development objective.
51. FAO supported projects that are co-financing the SALMA project are i) Piloting the Forest and Landscape Restoration Mechanism (FLRM) in Lebanon, and ii) Strengthening the Coordination of the NARP in Lebanon.
52. The FAO Forest and Landscape Restoration Mechanism, a global initiative developed in the context of the Bonn Challenge and the Aichi Targets, has included Lebanon as a pilot country. This piloted initiative in Lebanon will co-finance SALMA for a total of USD 400 000 up until the end of 2018. The main objective of the initiative is that FLR programs are implemented in Lebanon with an integrated landscape approach taking into consideration the multiple land uses and the diverse interests of the local stakeholders. The work plan 2016-2018 of the FLRM pilot program in Lebanon is focused on three outputs:
- governance, institutional support to the Ministry of Agriculture and enabling environment of Forest and Landscape Restoration (FLR);
 - facilitate the access of national institutions to sustainable financing for FLR; and
 - pilot actions focused on the implementation of new methodological models potentially replicable in other Lebanese regions.
53. These three FLRM outputs will contribute to achieving SALMA's objective to enhancing resilience of fragile forest ecosystems and vulnerable communities in forested mountain areas.
54. The piloted FAO FLRM program will also support Lebanon to meet its obligation towards the Strategic Framework on Mediterranean Forests (SFMF), which aims to:

- Develop and promote goods and services through: (i) improving sustainable production of goods and services from Mediterranean forests; (ii) enhancing the role of the Mediterranean forests in rural development; and (iii) promoting forest governance and land tenure reform at the landscape level.
- Promote resilience under global changes through: (i) promoting wildfire prevention in the context of global changes; (ii) managing forest generic resources and biodiversity to enhance adaptation of the Mediterranean forest to climate change; and (iii) restoring degraded Mediterranean forests to climate change.
- Enhance capacities and mobilizing resources through: (i) developing knowledge, training and communication on Mediterranean forests; (ii) reinforcing international cooperation; and (iii) adopting existing financing schemes and develop innovative mechanisms to support implementation of forest policies and programs.

55. This in turn will lead to the creation of a conducive environment for the implementation of the SALMA project.

56. The MOA requested FAO to launch a Reforestation Programme Coordination Unit which will allow the different stakeholders to integrate and mainstream their activities in order to achieve the NARP in the most effective and efficient manner. The project *Strengthening the Coordination of the NARP in Lebanon (2015-2017)* will co-finance SALMA for a total of USD240 000. The expected long-term impact of the project is to enhance the Lebanese forestry sector for the provision of environmental goods and services, contributing to improved livelihoods. To achieve this long-term goal, the project will work with all relevant stakeholders (government, civil society, scientific/research/educational institutions and the private sector) to plan and implement reforestation projects and promote sustainable forest management. This will be pursued through applying an ecosystem management approach, while developing capacity of institutions, improving governance and legislation, developing planning and monitoring tools and establishing fund raising mechanisms. The project will provide a conducive enabling environment for SALMA and will help ensuring sustainability and outscaling of project results. SALMA's project management unit will be housed within the Reforestation Programme Coordination Unit where all the tools developed under SALMA will be deployed, fine-tuned and mainstreamed in this one-stop-shop.

1.2.2 Remaining barriers to achieve climate smart forest landscapes

Barrier # 1 - Lack of a cohesive strategy to address forest fragmentation at the landscape level

57. Despite an overarching reforestation strategy (NARP) and a National Forest Program (2015-2025) aimed at sustainably managing the Lebanese forest resources, ongoing interventions in the forest sector are implemented on a piece-meal basis with isolated, stand-alone activities in small plots of forest scattered over a large area – a recipe for long term ecological decline.

58. While much attention has been placed on increasing the forest cover through the protection of existing forest, afforestation and reforestation, much less attention has been placed in implementing sustainable forest management at the landscape level through coordinated and integrated actions. Lack of cross-sectoral coordination and planning amongst key players involved in forest related activities remains a major constraint to adaptive forest management. The different sectors (e.g. forestry, agriculture, grazing, water) either compete with each other,

or have contradictory aims, thus leading to uncoordinated planning and actions. The result is that government actions and investments aimed at strengthening the resilience of forest ecosystems occur with limited regard to impact at the landscape level.

59. Although some national initiatives, such as the Lebanon Reforestation Initiative (LRI), the Lebanon National Forest Program (LNFP), as well as activities supported by NGOs (AFDC, Jouzour Loubnan) are adopting an ecosystem approach to reforestation, resources and costs to promote integrated adaptation measures, are underestimated and do not sufficiently account for different extra actions aimed at the economic and social development of forest reliant communities. As argued in Lebanon's Second National Communication (SNC), adaptation actions fall short in including the costs of pest management to fight pest infestation resulting from climate change implications on nature reserves.
60. Moreover, legal constraints give little economic incentives for sustainable use of forests at the landscape level. Local communities and even private persons are not allowed to use their wood resources, even though the trees grow on their own land. Tree-felling is prohibited throughout the country. This ban has helped a lot in conserving the existing forest resources, but at the same time, it has also lead to a decreased interest in planting trees and conducting afforestation measures, or to adoption of a "prevention" ethic for forests, and thus represents a perverse incentive for sustainable forest management and landscape restoration.

SALMA's additionality

61. SALMA seeks to initiate a drive to restore, preserve and sustainably manage forest ecosystems while creating ecological corridors between fragmented forests patches to ensure forest landscape connectivity. The project will mainly target mountain slopes owned by the state, local communities and religious waqfs. The landscape approach promoted by SALMA will ensure that the planning and management of forest ecosystems and their services are done at the scale needed for effective and climate resilient forest fire and forest pest control. To enhance cross-sectoral coordination and upscale integrated approaches required to achieve adaptation benefits, SALMA will promote a coordinated multi stakeholder and multi-disciplinary approach that acknowledges the fact that local action planning increases ownership, institutional capacities and coordination. This will be demonstrated using practical and participatory approaches and tools such as the participatory reforestation plan and the sustainable forest management plan developed in the context of this project.

Barrier # 2 - Lack of awareness at community and decision-making levels of the ecosystem services provided by the forests and climate change induced impacts in order to fully harness benefits accruing to communities and the environment

62. Forest ecosystem services are not properly perceived, assessed and valued in Lebanon. There is a general lack of awareness of climate change and the importance of forest cover and the multiple roles that forests play in the country and there is no reliable statistics to allow careful planning and implementation to properly apply ecosystem restoration.
63. The lack of control and appropriate legislation in the last few years, the growing needs of the population and ignorance of the negative impacts of poor natural resource management have resulted in a general reduction of forest functions. Lowered water tables, soil erosion and changes in unique micro-climate are some of the consequences of this rapid deterioration

coupled with insufficient forest management, land abandonment, over-exploitation of wood, intended and unintended forest fires (inadequate prevention measures), grazing in cut areas and agricultural expansion.

64. The lack of actionable knowledge and information on the economic benefits derived from forests, leads to a weak inclination to get involved in reforestation and forest management activities on privately owned, religiously-owned and state owned/communal land as investments are considered of low profitability when compared to construction opportunities, especially since logging is forbidden in Lebanon. The deterioration of the economic situation in the country since 2011 induced the rural population to increase their dependency on the natural resources including land reclamation for agriculture, water allocation for irrigation, grazing, fuel wood collection, and other types of exploitation that are significantly increasing although there is no quantitative data to substantiate these altered consumption patterns. As a result, rural communities are reluctant to initiate reforestation activities in their land lots, and municipalities are tailoring reforestation plans solely based on their direct economic return (mainly targeting *Pinus pinea*).
65. Moreover, in Lebanon, once an area has been deprived from its natural forest cover (for whatever reason), it is rarely replanted, and usually becomes wasteland or rangeland. The lack of rehabilitation of degraded woodland results from a lack of stewardship.

SALMA's additionality

66. SALMA will show case community-based sustainable activities in communal land, religious endowments and state land that investing in reforestation and forest management could outweigh forest degradation and abandonment in the future while improving the livelihood of mountain rural communities prone to climate change effects.
67. The project will capitalize on available quantitative analyses and complement existing data on forest ecosystem services that have not been valued yet to show case the overall benefits to communities. Furthermore, SALMA will promote uptake of available information on forest goods and services into policies and plans through capacity development at MOA. SALMA together with partner projects (ARDP) and co-financing projects and programmes will particularly target technical staff of concerned authorities at central level (Council for Reconstruction and Development, MOA, MOE, etc.) as well as local level (municipalities and their unions) as well as forest users and forest engineers and local forestry officers, to assess forest environmental services. This will inform decision making on broader level planning.

1.3 THE GEF ALTERNATIVE

1.3.1 Project objective and expected results

68. Lebanon aims to embark on a long-term low-emission and climate resilient development trajectory to ensure a sustainable future for its population, despite its current challenging national circumstances (Lebanon's INDC, 2015). The SALMA project will contribute to this long-term trajectory, targeting some of the poorest communities and most fragile ecosystems to strengthen their resilience to climate change.
69. The **development objective** is to contribute to the achievement of the National Afforestation and Reforestation Program (NARP) expected outcome of 20 percent of forest cover in 2030 (from 13.5 percent in 2015) through the promotion of a climate resilient and participative sustainable forest management approach aimed at maintaining and restoring connectivity within ecological corridors. SALMA has the advantage of federating, integrating, harmonizing and fine-tuning available knowledge, practices and experience acquired through piece-meal reforestation, forest management, ecosystem and water conservation interventions. The approach promoted by SALMA ensures a participatory and climate-proof implementation of forest management actions and NARP while preventing the expected income erosion of the poor living in mountainous areas.
70. The **project objective** is to enhance the resilience of vulnerable rural communities and their livelihoods in mountain areas through sustainable forest management. SALMA is believed to contribute to the achievement of reduced soil and water erosion, forest fire prevention and control, pest management, diversification of livelihood income (from ecosystem services) of 24 vulnerable communities, and improved adaptive capacity of these communities through reforestation (1 000 ha) and sustainable and participative forest management at the landscape level (1 000 ha). Through its three integrated project components, the SALMA project proposes to contribute to the following LDCF-SCCF objectives:
- CCA-1: Reducing vulnerability: Reduce vulnerability to the adverse impacts of climate change (Outcome 1.3: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas)
 - CCA-2: Increasing adaptive capacity: Increase adaptive capacity to respond to the impacts of climate change, including variability at different levels (Outcome 2.1: Increased knowledge and understanding of climate variability and change-induced risks at country level and in targeted vulnerable areas; Outcome 2.2: Strengthened adaptive capacity to reduce risks to climate-induced economic losses; Outcome 2.3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level)
 - CCA-3: Adaptation technology transfer: Promote transfer and adoption of adaptation technology (Outcome 3.1: Successful demonstration, deployment, and transfer of relevant adaptation technology in targeted areas; Outcome 3.2: Enhanced enabling environment to support adaptation-related technology transfer)

1.3.2 Project Area

71. The selection of project areas was informed by a large number of criteria, including: (i) presence of climate change vulnerable communities representative of Lebanon's socio-cultural diversity; (ii) availability of municipal communal land; (iii) presence of engaged and responsive communities, Municipalities or Unions of Municipalities; (iv) presence of strong baseline initiatives; (v) presence of fragile forest ecosystems with native tree species that have been documented to be particularly vulnerable to current and future climate change (pest and fire prone); and (vi) areas bordering natural reserves or protected areas.
72. The project area selection was guided by: i) the forest map elaborated by FAO and MOA in 2005, which identifies the degree of fragmentation of forests in Lebanon; ii) the National Land Use Master Plan for Lebanon (SDATL) that recognizes the importance of landscape management and the establishment of ecological corridors to strengthen resilience of vulnerable forest stands and reduce forest fragmentation. The SDATL identifies conifer forests as the most vulnerable ecosystems - associating pine forest vulnerabilities to CC induced threats including fire and pest outbreaks and cedar and juniper forests vulnerabilities to pest outbreaks, and other CC- induced threats (habitat loss, reduced regeneration, etc.) - this explains why the project focuses on pest outbreaks, forest fire and the cedar corridor which would allow to reduce fragmentation of cedar groves and increase the cedar resilience to climate change by increasing the gene flow amongst the isolated populations; and iii) the Pilot Master Plan for Reforestation developed in the context of the ARDP project. Furthermore, the selection was carried out in consultation with the Municipalities, Unions of Municipalities, local authorities and community groups. The following additional criteria were applied: (i) absence of any litige on land ownership; (ii) presence of non-forest areas within the communal land, suitable for reforestation; (iii) willingness of Municipalities to conduct reforestation activities and guarantee maintenance of the seedlings over a minimum of 2 years.
73. Based on the above mentioned selection criteria, long-lists of project areas have been retained (Annex 8), which are recapped in the table 1 below.

Table 1: Long-list of areas for potential project implementation (sites will be determined on a demand-driven basis)

Landscape	Caza/Protected area/Reserve	Name Village	Potential area for reforestation (Ha)	Forest restoration and sustainable forest management		Population	
				Pest outbreak prone tree species and pests	Fire prone dominant tree species	Total	Poor
	Akkar	Mechmech		Syrian Juniper - Die back		5,808	2,091
		El Bireh			Mixed forest	1,888	680
West Anti Leb. Forest/Ecological Corridor	Rachaya	Aiha	16.5		Mixed conifers	2,672	1,015
		Kfardines	70			3,171	698
		El Bire	28.2			2,672	1,015
		Aita Foukhar	39.3			1,044	397
		Bakka	36.6			1,711	650
		Kaoukaba (Abou Arab)	93.6			1,753	666
		Kfar Kouk	15			569	216
		Rachaya Al Wadi			Mixed conifers	6,353	2,414
	Zahle	Anjar	94			884	336
	Bekaa	Lala			Mixed conifers	2,769	1,052
		Baaloul				1,438	547
Sultan Yacoub				2,286		869	
Bekaa	Saghbine			1,949		741	
	Ain Zebdeh			1,108		421	
East Mount Leb. Forest/Ecological Corridor	Anjar	Bouerij	43			2,665	1,013
	Baalbeck	Ainata PRP	889		8,267	3,141	
West Mount Leb. Forest/Ecological Corridor	Kesrewan	Aintoura			Brutia pine	2,097	461
		Mristi			Mixed conifers	1,246	274
	Chouf	Bater				2,288	503
		Khreibeh				1,609	354
		Falougha			2,121	467	

Jbeil	Saqi Rechmaya		Syrian Juniper - Die back		76	17
	Ehmej				1,534	337
	Qamez				1,100	242
Keserwan	Jabal Moussa Biosphere		Syrian Juniper - Die back		15,434	3,396
Baabda	Hammana	87			3,198	704
	Kornayel/ Kfar Selwan & Touate				3,163	696
	Bentael Reserve			Mixed conifers	514	113
Shouf Biosphere	Niha PRP	100			2,156	474
Nabatiyeh	Kfar Remmane	135.5			1,627	618
Denniyeh	Bkarsouna	54			3,352	1,207
	Nemrine & Bakoura	7			3,709	1,335
	Kfar Chlane	2.8			1,592	573
	Azzqi	40.7			481	173
	Jayroun		Syrian Juniper - Die back		635	229
	Qemmamine				526	189
	Btehline			Mixed forest	899	324
Bcharreh	Bcharreh		Cedar - defoliation		442	159
Tannourine	Tannourine Reserve				1,937	697
Koura	Kfar Hazir			Mixed conifers or pure stands of Cedar, Cypress, or Brutia pine	2,012	724
	Fih				1,288	464
	Kousba				4,350	1,566
Zgharta	Daraiya-Bchenine				798	287

74. From the long-list of project areas, the selection of pilot sites and the targeting of project beneficiaries will follow the selection process of the participatory sustainable forest management and reforestation plans. The communities/municipalities involved will decide on resources use, access, restrictions and alternatives, through a fully inclusive decision making process as outlined in the *Participatory Reforestation Plans Manual* (Annex 7). The process will actively involve women, youth, seasonal workers, natural resources users (i.e transhumance shepherds), amongst others.
75. **Gender Mainstreaming** strategy for SALMA is adopted to ensure that project benefits accrue equitably to rural women and men. Concrete measures to achieve this include: (i) participation of women in the selection of reforestation areas and of the appropriate technical options for sustainable forest management; (ii) the beneficiary selection will systematically verify whether women landowners are eligible for project services; (iii) participation in forest management and reforestation committees will ensure gender balance; (iv) extension advise will ensure gender equity throughout its activities; (v) recruitment of a gender specialist will ensure knowledge of gender concepts and practice of gender sensitive participatory methods; and (vi) priority will be given to women for trainings in diversified livelihoods options.

1.3.2.1 Working at the landscape level

76. Since in the Mediterranean region, the human interaction with the natural environment dates to several millennia, the landscape level provides a holistic vision of land management, and the interaction of both natural ecosystems, agriculture land and human settlements.
77. In 2009, the Lebanese government approved the National Physical Master Plan for the Lebanese Territory (NPMPLT) which provides an initial scheme of land use planning at national level. The master plan foresees different ecological corridors allowing to link together the fragmented natural ecosystems (as illustrated in Figure 1) in order to improve their resilience towards different risks, including biodiversity loss and land degradation.
78. Three ecological corridors are of particular interest to SALMA, and these include:
- (i) The ecological corridor of the western slopes of Mount Lebanon, which on its highest section includes the fruit trees and cedar corridor, and on its lowest section it embeds pine forests and oak woodlands;
 - (ii) The ecological corridor of the eastern slopes of Mount Lebanon which is parallel to the previous, from North to South, and includes oak and juniper woodlands; and
 - (iii) The ecological corridor of the western slopes of Anti-Lebanon Range, also parallel to the two other corridors and embeds oak and juniper woodlands.
79. The project seeks to enhance the implementation of these ecological corridors through pilot reforestation activities that would ensure the linkage between the NARP and the NPMPLT. The selected segments of these corridors on which reforestation activities will take place, would respond to the criteria provided by the ARDP project within MOA, concentrating on villages where the participatory approach was conducted, and the willingness of communities to implement these corridors is guaranteed.

1.3.3 Project components, outcomes and outputs

Component 1: Climate proof forest management for enhanced ecosystem services and livelihoods

80. Component 1 will adopt a multi-stakeholder, multi-disciplinary approach for forest management, combining a joint participatory and community driven methodology along with site-specific vulnerability and risk assessments targeting the most vulnerable forest stands, including Akkar in Northern Lebanon. The project will support ecological vulnerability assessments including the analysis of current forest dynamics and potential evolution in light of ongoing and expected changes (targeted forestry profiles, identification of threat indicators, assessment of forests inherent resilience, etc.) and forests vitality assessment based on pest surveys. Activities will include the preparation of forest management plans with due consideration to the following needs: i) implement effective fire management strategies through forest management; ii) promote integrated pest management practices; and iii) adopt an ecosystem/community driven approach for landscape restoration activities.
81. Interventions will focus on reducing the risk from forest fires with the adoption of improved and innovative integrated management practices (fire prevention, improved firefighting techniques, pre and post fire management, sustainable grazing within forest areas, etc.), as well as reducing the risk of pest outbreaks by promoting integrated forest management and landscape restoration techniques (cleaning, pruning and thinning), without relying on pesticide use.

Outcome 1.1: improved forest pest and fire management

82. This outcome aims at reducing risks to forests from fire and pest attacks through participatory forest planning and management. In terms of fire management, the project will build on the AFDC Forest Fire Management Strategy supported by FAO and MOA, focusing resources on risk reduction and prevention while placing greater emphasis on the underlying causes of fires. Resources will be redirected to support fire data collection and analysis in the project target areas, improving the understanding of fire causes, identifying existing management practices that encourage harmful fires and promoting management systems that take advantage of well-established fire use. Key stakeholders and local communities will be involved in fire management planning through the establishment of Participatory Sustainable Forest Management Plans (PSFMP) for pest and fire smart landscapes. The PSFM plans will outline sustainable solutions that incorporate the five essential elements of fire management (the 5 Rs) namely: 1) Research - through fire data collection and analysis; 2) Risk Reduction – focusing on the underlying causes of fires; 3) Readiness – preparing to fight fires including constructing water points/hill lakes near vulnerable forest reserves (Qamouaa in the North) and the largest stone pine forest in the country (Bkassine in the South) both rich in biodiversity and economic value; 4) Response – ensuring appropriate responses to unwanted damaging fires; and 5) Recovery – restoration of fire damaged landscapes.
83. Pest management will be conducted in parallel to fire management actions. Interventions will focus on shifting current reactive pest management practices mainly based on the use of pesticides, to more integrated solutions geared towards pest prevention. The PSFMP will promote activities to contain pest outbreaks and proration through Integrated Pest Management (IPM) with the aim of increasing the vitality of forest trees against pest and diseases.

Indicators:

- i) Updated risk and vulnerability assessment (AMAT 2.1.1.1)
- ii) Risk and vulnerability assessment conducted (AMAT 2.1.1.2)
- iii) # of Participatory Sustainable Forest Management (PSFM) plans validated and implemented

Targets:

- i) Fire data collection and analysis in up to 20 selected sites
- ii) Pest surveys conducted on up to 20 selected sites
- iii) 16 PSFMs validated and implemented

Output 1.1.1: Pest outbreak and forest fire risk and vulnerability assessments

84. Vulnerability assessments will focus on selected project sites to complement past and ongoing evidence on fire and pest outbreak occurrence and to guide the forest management plans. At present stone pine and juniper pest surveys are being conducted at a national scale, forest fire vulnerability maps show that low altitude pine forests are the most vulnerable. The project will expand the scope and coverage of existing risk assessments to collect quantitative and qualitative data with a focus on assessing environmental and social vulnerabilities. This includes expanding the scope and coverage to capture current vulnerability in a systematic way by looking at different assets such as the livelihood, human, social and natural capitals, the drivers of change, the differentiated exposure and impacts, and the social capital and collective action as enablers of adaptive capacity. A gendered approach will be used throughout the information and data collection process, as vulnerability to climate change is shaped by gender roles and relations, with poor, rural women in developing countries generally being considered to be the most vulnerable to climate change (Brown 2011; Djoudi and Brockhaus 2011). This implies adopting systematically gender-specific research questions to capture men's and women's specific knowledge and priorities for forests and forest goods and services, to sort out differential access rights, capabilities and vulnerability to climate changes, and to be sure men, women and other disadvantaged social groups have been taken into account. The assessments will provide an analysis of the fire and pest issue and identification of options for positive change.

Output 1.1.2: Participatory and Sustainable Forest management (PSFM) plans with a focus on pest and fire management

85. Forest management plans will be formulated and validated through multi-stakeholder consultations under the overall guidance of the MoA. Guidelines on how to develop the PSFM will be produced based on the priorities identified in the Forest Management Guidelines (FMG) for sustainable management of stone pine in Lebanon (2015) developed by the FAO, and adapted to the targeted forest systems. The plans, informed by the guidelines and the site specific vulnerability assessments (output 1.1.1), will be gender sensitive and will look into local knowledge and the needs of vulnerable groups.

Output 1.1.3: Enhance the capacity of local communities to apply climate-proof forest management practices

86. Activities under this output will include climate-proof election of native species for restoration/reforestation guided by local knowledge and by Research & Development (R&D) to ensure the participatory selection of species with high adaptive capacity. To outscale capacities in sustainable forest management at the local level, training on Forest Management Guidelines (FMG) conducted by MOA will be provided to forest guards and engineers who will in turn conduct on site practical training for the communities.

Output 1.1.4: Apply sustainable forest management practices

87. Sustainable forest management plans will look into the environmental, social and economic dimensions of the targeted project sites. The plans will prescribe the silvicultural actions such as management of natural regeneration, transplanting, pruning, thinning to reduce fire and pest risks. Community groups will be trained on the application of the SFMP's by local forest authorities that in turn, will be trained by the project.

Output 1.1.5: Construction of 2 hill lakes for forest fire control

88. To improve the readiness to firefighting, fenced hill lakes will be constructed near vulnerable and extensive forest reserves, namely Qamouaa in the North and Bkassine in the South. The site selection is based on the AFDC map for areas prone to forest fire (see Figure 3), the presence of forests in the surrounding zone, the accessibility to the site for both civil defense trucks and army helicopters, the geotechnical feasibility of the hill lake, and the willingness of owners to provide the land for this use. With support from the World Bank ESAs were prepared to comply with the law of the land. The hill lakes will be implemented by, and according to, the Green Plan procedures and the day-to-day operation and maintenance will be the responsibility of the beneficiaries. The project will provide training for members on the proper management and maintenance. The respective responsibilities will be spelled out in a Memorandum of Understanding (MoU) to be signed prior to the launching of the works by the Green Plan and the Municipalities. The MoU will also define the share of available water to be used by communities for other purposes as compensation in lieu of operating and maintaining the hill lakes. Additional livestock water points will be constructed next to the hill lake to avoid animals damaging the infrastructure. The project will also support innovative ways of reducing evaporation and algae proliferation as well as water contamination of the hill lakes.

Outcome 1.2: Diversified and sustainable sources of income for vulnerable communities

89. At present, forest dependent communities have limited options to use wood and non-wood forest resources. The project will finance livelihoods support activities to sustain the livelihoods of community members who might be affected by reforestation and forest management activities (such as shepherds who might face reduced economic opportunity to raise animals) and other activities including work related to pest and fire management and alternative income generation activities.

Indicators:

- i) Level of access to livelihood assets by households and communities

Targets:

- i) Secure access to livelihoods resources (from Level 2 to Level 4, AMAT 1.3.1)

Output 1.2.1 Identification of sustainable and innovative use of wood and non-wood forest products (community projects) and

Output 1.2.2 Implementation of community projects

90. SALMA will provide grants to selected community groups, to support ecosystem based activities and businesses aimed at improving the livelihoods and employment opportunities of targeted municipalities, including for instance, setting up community run businesses on forest waste to produce wood briquettes and/or supporting community groups in developing and setting the basis for Wood and Non Wood Forest Products (NWFP) value chains, production, processing and marketing of nuts, honey or/and aromatic plants. Community groups will be supported in planning for proposals thorough FAO's RuralInvest toolkit, that will provide guidance on the participatory identification of investment needs and assess natural resources, economic and social activities, institutions and infrastructures in the area to determine opportunities and constraints, future priorities and resulting investment needs. Applicants will be trained through Ruralinvest in preparing and appraising their investment proposals and seeking or extending funds (through grants or credit) to support rural investments and business development. The project will ensure that proposed investments are climate proof, gender sensitive and inclusive. Priority will be given to women groups and cooperatives and to the most marginalized community members such as refugees. In each community, one or two such community projects will be sustained and followed-up with through time in collaboration with local NGOs/CBOs.

Component 2: Participatory reforestation for increased adaptive capacity of fragile forest ecosystems and rural mountain forest communities

91. Component 2 will expand and climate proof the area under reforestation in the targeted project areas to counteract soil erosion and desertification. The project will assist municipalities and reforestation partners such as NGOs to form reforestation consortiums based on participatory reforestation plans prepared by the consortiums with assistance from the project.
92. This component will finance: (i) the planting, maintenance and protection of trees for reforestation of around 1 000 ha of land on selected pilot sites on communal land owned by municipalities; (ii) preparation of participatory reforestation plans; (iii) research on potential impacts from reforestation on soil erosion, sedimentation levels and land use along the targeted ecological corridors; (iv) capacity building and technical assistance for MOA and Green Plan staff, municipalities and local communities.

Outcome 2.1: Reduced soil erosion, fragmentation of forest resources and biodiversity loss for more resilient forest and rural mountain forest communities

93. At present, evidence of the impact of reforestation activities on soil quality, forest fragmentation and biodiversity conservation is limited. The project will conduct innovative studies to monitor, measure and assess the impact of reforestation and sustainable forest management activities on forest fragmentation and soil health. It will also finance studies on the impacts of severe soil erosion and its intensification due to the impact of climate change on mountain forest communities in the targeted ecological corridors.

Indicators:

- i) % change of soil erosion
- ii) change in fragmentation index
- iii) # of participatory reforestation plans

Targets:

- i) TBD during Project Year 1
- ii) TBD during Project Year 1
- iii) 8 plans

Output 2.1.1: Study of the sedimentation levels in selected hill lakes

94. A study will be conducted to estimate the soil erosion control potential of upstream reforested land by comparing sedimentation levels of hill lakes and/or other waterbodies in similar geomorphological, geological and hydrological areas. Data collection will be repeated every year over 3 years, to measure the impact of sustainable forest management and reforestation in targeted watersheds.

Output 2.1.2: Analysis of land use and land cover changes along the ecological corridors based on remote sensing data

95. Data on land use patterns will be collected and analyzed to monitor SALMA's progress and to improve available national data on forest land cover. Innovative tools such as CollectEarth developed by the FAO will be employed to analyze high and very high resolution satellite imagery that will be used to support multi-phase National Forest Inventories, validation of existing maps, collection of spatially explicit socio-economic data in targeted sites and quantifying deforestation, reforestation and desertification along the ecological corridors.

Output 2.1.3: Prepare and implement Participatory Reforestation Plans (PRF)

96. Building on the reforestation suitability maps which are being developed in the country, SALMA will identify potential reforestation sites and the municipalities by overlaying the administration boundaries. The project will ensure climate proofing of site selection so that the reforested land will deliver the expected ecosystem services (reduce forest fragmentation, biodiversity loss and soil erosion and improve water provision).
97. Municipalities and NGOs wishing to form a partnership with the project would make applications for reforestation activities under a tripartite consortium agreement (i.e the SALMA project, NGO, Municipality). The MOA would then select sites based on a list of criteria including: (i) the presence of communal lands (managed by municipalities) and not state land; (ii) the absence of any litigate on land ownership; (iii) the presence of non-forest areas within the communal land, suitable for reforestation; (iv) the willingness of municipalities to conduct reforestation activities and guarantee maintenance of the seedlings over a minimum of 2 years.
98. Subsequently, in consultation with the MOA and the support from the project, the municipality or consortium will prepare a participatory reforestation plan (PRP) guided by the available Participatory Reforestation Plan Manual (PRPM) developed under the MOA's Program on Forests (PROFOR). The PRPM provides the stages, framework and format to prepare, implement and report on a PRP on specific sites in selected communities within SALMA.

99. The PRP will include a mapping of the site; selection of species; and design of the reforestation, tree planting and maintenance plans. The local community would be fully consulted during this process. The Municipality and/or Union of Municipalities would then be responsible for organizing the land preparation including hole-digging, planting and maintenance (for the first three years) including planting, fencing, weeding, and fire break formation, while the project will ensure close monitoring and technical assistance.
100. The consortia that are applying include Municipalities as a key partner, not only because of their responsibility over communal land, but also because Municipal Councils represent the community itself. If the Municipality is willing to conduct reforestation, it would be because it guarantees the ownership of the communities to such plans. Locals would be involved not only in delineating the parcels dedicated for reforestation, but also in the selection of species. Since reforestation responds not only to an environmental need but also to socio-economic objectives allowing the community to benefit from the future forest. Therefore, communities would engage if their interests are accounted in these plans (i.e. recreational area, ecotourism, collection of edible or medicinal plants, fuel wood, honey production, hunting, increased job opportunities, etc.). The only reluctance that might exist would originate eventually from shepherds whose need for rangeland is at stake. Hence, the first component of the project should take these into consideration in order to provide alternatives in terms of diversification of the income of affected families, and provide proper rangeland management and animal husbandry services. Component 2 activities will draw on lessons learned from the GEF/UNDP/MOE led *Safeguarding and restoring Lebanon's woodland resources* (SRLWR), particularly on: (1) decreases in costs when new reforestation techniques are adopted; and (2) appropriate management modalities for reforestation (municipalities, or contractors, or civil society, etc.).

Component 3: Enhanced enabling environment for climate proof forest management

101. This component aims at increasing the awareness on forest ecosystem services and climate change to key target groups such as government agencies and forest engineers in the central administration and in the targeted regions. Training on environmental and social best practices to reforestation and sustainable forest management based on greater community participation will be provided to key stakeholders to enhance up and out scaling of the approach at a national scale. Component 3 will also finance the project communication strategy that aims at enhancing awareness of all stakeholders about forests and forestry, their challenges, threats and opportunities, raising their interest in forest development and mobilising resources in SFM and climate-proof and participatory reforestation initiatives.

Outcome 3.1: Increased technical and institutional capacity at national level to replicate participatory climate proof forest management (upscaling community –based reforestation and forest management)

Indicators:

- i) Number of trained MoA staff at central and local level participating in SALMA implementation

Targets: 23 people including MoA staff and local forest authorities trained.

Output 3.1.1: Enhanced capacity on sustainable forest management of the Reforestation Programme Coordination Unit (RPCU) in MoA

102. Institutional and technical capacity will be built both through a training programme and on the job training. More details are provided in section 2.6 of this document. SALMA will support the capacity development of the newly created RPCU through deployment of 3 full-time experts and a number of training activities including one on CollectEarth for monitoring purposes of reforestation activities.

Output 3.1.2 Updated and extended assessments of existing ecosystem services in selected forests

103. The aim is to support result-oriented research based on demand and on identified needs of the forest sector. Valuations of ecosystem services have already been done for a selection of ecosystem services provided by the forests in the Shouf Biosphere reserve. This and other valuations (referenced in section 1.1.2) will be updated and complemented.

Outcome 3.2: Project monitoring and communication

104. The project will finance the establishment of a project M&E system that will allow for adaptive project management. SALMA's communication strategy will include awareness campaigns to facilitate the dialogue between project promoters at the municipality/local levels and potential investors (public and private).

Indicators and Targets :

i) 1 M&E system established

ii) 1 Communication and awareness strategy developed and implemented

Output 3.2.1 Develop and implement a monitoring and evaluation plan for adaptive project management and lessons learnt

Output 3.2.2 Develop and implement a communication and public awareness raising strategy

105. Section 4.6 of this document provides details on the communication and public awareness raising strategy that is planned to be implemented.

1.3.4 Stakeholders

Primary stakeholders include:

106. By local communities, the groups of people in rural mountain areas depending at least in part on forest resources (products and services) are intended. These groups of people include poor households living largely on remittances, shepherds and forest dwellers and refugees from neighboring countries with limited access to decent jobs and livelihoods. They are amongst the most vulnerable groups in Lebanese rural mountain communities. These groups of people from the local communities will be directly involved in project activities thanks to the participatory approaches adopted by SALMA. Detailed assessments of the communities involved in project

activities will be done during project implementation (see output 1.1.1). Indeed, the specific intervention sites will be determined with local communities on a demand driven basis (see selection process in the *Participatory Reforestation Plan Manual* as well as the *Guidelines for Participatory Reforestation*) and per selected site a detailed vulnerability assessment will be conducted. Land resource users (local communities) such as farmers, shepherds, beekeepers, or other persons at grass-root level will be included during the whole process to circumvent conflict of interests and ensure the sustainability of the project.

Box 2: Women and youth engagement

Women and youth engagement - During PPG field missions it has been observed that women engagement in reforestation projects in Lebanon is limited. Reasons for this low level of engagement include (i) the poor involvement of women in decision-making (lack of voice of women is often interpreted as ‘reserved nature of women’), and (ii) therefore also the limited relevance of reforestation efforts to women’s needs. Youth associations on the other hand appear to be relatively active in preliminary consultation meetings held at the municipal and community levels.

Women and youth engagement in decision-making, participatory mapping, implementation of forests and other phases, will continue to be actively pursued during the project life, if needed in separate sessions. In particular, activities aiming at improving income generation will be targeting women and women associations.

107. Civil society organisations (NGOs and CBOs): there are a number of organisations that promote and implement forest conservation/management and reforestation activities, while also delivering on education, training and awareness raising. These include the committees of protected areas, biosphere reserves and natural reserves. The largest NGOs and committees in the project areas are: AFDC, LRI, Jouzour Loubnan, IBSAR, “Amis des Cèdres de Bcharreh”, Association pour la Protection de Jabal Moussa, committees of Shouf Cedar Reserve, Tannourine Cedar Reserve, Ehden Reserve, etc. In many cases these organizations have their own nurseries, plans, approaches, stakeholders, mission, and more.
108. From PPG activities, it became evident that NGO participation in SALMA activities is essential for a successful and sustainable project, as they are able to mobilise, engage and empower local communities and municipalities. Therefore, NGOs are a partner in the project and not a mere sub-contractor. They play a key role in project implementation, while they are also fully engaged in the sites identification and forest management and reforestation planning and implementation. They contribute to enhance the seedlings production and provide assistance in technical issues to municipalities since they are more experienced in reforestation, not to mention planning and implementation.
109. The local authorities (Municipalities, Unions of Municipalities, and Communal Land Committees): are the primary stakeholders responsible for the management of natural resources. In Lebanon, communal land refers to lands that is commonly owned by the totality of the members of a village, town or city. In most cases Municipalities, and sometimes their federations (Unions of Municipalities), are responsible for the management of communal land within their administrative borders. In villages where Municipalities do not exist, or are dissolved, the Qaem-maqam (the administrator at County level) or a committee for managing communal lands is acting as managing

entity. Local authorities provide the reforestation management plans and exploitation permits for the communal lands, under the supervision of MOA.

110. Community forestry has succeeded in countries where the local government is weak. The Municipalities' capacity in Lebanon is relatively strong compared to other developing countries. Therefore, the best way to ensure communities' participation lies in the participatory reforestation planning under the leadership of Municipalities. Moreover, reforestation contracts have to be developed upon agreements with communities and constitute an integral part of the participatory plans (see selection process in the *Participatory Reforestation Plan Manual* as well as the *Guidelines for Participatory Reforestation*). Municipalities should play a focal point, and to ensure Municipalities' participation in the project, municipalities will need to be involved in planning from the outset.
111. The Ministry of Agriculture (MOA): is one of the main stakeholders. It has the responsibility of preparing a national strategy for reforestation and forest management, coordinating reforestation activities, implementing reforestation plans along with local authorities, providing the necessary technical assistance to other stakeholders, suggesting the incumbent legislative framework for forest management and protection, ensuring law enforcement through forest guards, and providing seedlings if needed from its own nurseries. Since MOA holds the mandate of forest policies and strategies, the ministry has launched the National Action Reforestation Programme (NARP) to "Planting 40 million forest trees", which will integrate all the reforestation activities that are implemented by the different stakeholders at national level.
112. The Green Plan (GP): The Green Plan is a government body under the Ministry of Agriculture, Lebanon. The Green Plan was established in 1963, its mandate is to execute agriculture infrastructure projects, including: land terracing, development and conservation, water harvesting and watershed management, agricultural roads construction, reforestation and seedling distribution. The GP works on a demand-driven basis, assisting farmers (or groups of farmers, or Municipalities).
113. Ministry of Environment (MOE): The Ministry of state for the Environment was established in 1981 in order to combat pollution and forest fires, to limit deforestation, to set the conditions and standards on how to use pesticides and waste water disposal, and to define the guidelines for plants and animal protection. In 1993, the Ministry of Environment was founded and identified its tasks, i.e. environmental management, protection and sustainable conservation of natural resources. Lebanon became engaged in multilateral environmental agreements, including the Rio Conventions for which MOE is the focal point. The Minister of Environment is also the GEF focal point in Lebanon. It has been involved in forest management, including reforestation, through a number of reforestation and forest management projects. The MOE supervises also reforestation and ecosystem restoration activities conducted in Natural Reserves.
114. Research and academia: Universities are recently getting more involved into forest management and reforestation planning and activities, especially acting in consortium with NGOs and Municipalities. The American University of Beirut and University of Saint Joseph, but also the Lebanese University and the University of Balamand, hold most experience.

Secondary stakeholders include:

115. Ministry of Interior & Municipalities (MOIM): is the umbrella Ministry supervising, funding and auditing Municipalities and the Unions of Municipalities. The MOIM is also responsible for forest fire fighting and law enforcement, through its Civil Defense and Interior Security Forces respectively.
116. Ministry of Finance (MoF): besides its major role in budget preparation for the Government of Lebanon, the Ministry is responsible for all state land, and therefore involved in all reforestation activity or cadastral delineation in reforested areas.
117. Ministry of Water and Energy (MOWE): is responsible for water resources, and water basins management plans.

Stakeholder engagement

118. The project preparation team engaged in robust **public consultations** at all levels throughout the preparation of the project. Technical and consultative workshops, focus groups, brainstorming consultation as well as semi-structured interviews were carried out at different stages over a timeframe of approximately two years. Some of these consultations were carried out by the World Bank and/or FAO staff, individual consultants, as well as by/and with the support of the MOA, namely the Green Plan and the RDNRD.
119. The first round of consultations on the SALMA project was carried out in March 2013, it took the form of a technical stocktaking workshop. A consultation meeting was carried out six months later in November 2013 launching the preparation phase of the participatory reforestation planning guidelines (PRPG). The meeting aimed at presenting the project's objectives and to ensure adequate information was made available to Municipalities and NGOs regarding the specifics of the project (the types of activities expected to be financed). It largely focused on the identification of past experiences and lessons learnt to refine the project design.
120. Further consultations were carried out in March and April 2014, during the preparation of the PRPG. These consultations sought to ensure the greatest representation of potentially negatively affected stakeholders to ensure issues raised would be addressed in the PRPG and project structure. Representatives from Municipalities and Municipal Councils from the targeted project areas were invited to discuss their interest in and make observation on the project. In and around the same period there were follow up meetings with the NGOs identified during previous meetings/workshops. Field based stakeholder consultations consisting of NGOs, shepherds and academics were held in the Municipalities of Akroum and Niha. Another round of consultations with key partners and selected Municipalities were held in July and September 2015, particularly in order to conduct the Environmental and Social Assessment Impact Framework and the Environmental and Social Impact Assessments for the forest fire hill lakes in compliance with the Law of the Land. All these documents are now with the MOE and are expected to be published on their website within the coming months. A validation workshop was organized, inviting key partners, in March 2016.
121. Several issues were raised in the course of this two-year consultation process. Few of them were consistently raised at different levels, including:
- Communities are highly supportive of the project and appreciate the opportunity to present their feedback. They particularly highlighted the need to have participatory planning processes involving youth and youth associations.

- Overgrazing and the presence of shepherds in some areas needs to be accounted for in forest management and reforestation planning and implementation activities. Shepherds representatives suggested involving neighboring Municipalities in the discussions concerning reforested area protection and access to water sources to ensure the protection of seedlings.
- Need for training (Municipalities, forest guards and community groups involved in forest management and reforestation) in order to help with the correct maintenance of reforested areas.

Grievance Mechanism

122. FAO facilitates the resolution of concerns of beneficiaries/stakeholders of FAO projects and programs regarding alleged or potential violations of FAO's social and environmental commitments. For this purpose, concerns may be communicated in accordance with the eligibility criteria, which apply to all FAO programmes and projects.¹

123. The grievance mechanism that was adopted is the one built-in in the national ESIA system that is compatible with the World Bank's system (World Bank. 2011. Republic of Lebanon Country Environmental Analysis). During the already conducted hill lake ESIA and in the Environmental and Social Impact Assessment Framework (ESIAF) that will be used for the demand-based reforestation, clean up and pest management, stakeholders have already been and will get familiarized respectively with the grievance system at the MOE. This was conveyed and will be conveyed respectively during public consultation.

Disclosure

124. Disclosure of relevant project information helps stakeholders to effectively participate. FAO will disclose information in a timely manner, before appraisal formally begins, that is accessible and culturally appropriate, placing due attention to the specific needs of community groups which may be affected by project implementation (such as literacy, gender, differences in language or accessibility of technical information or connectivity).

125. The validation of the project was organized in mid-January 2016 in Beirut where representatives of municipalities and civil society organizations from targeted areas for hill lakes, reforestation, forest clean up and forest pest management (Table 1) were invited to get familiarized with the project objective and scope. The workshop was held in Arabic and SALMA was welcomed by all participants.

¹ See "Compliance Reviews Following Complaints Related to the Organization's Environmental and Social Standards" <http://www.fao.org/aud/42564-03173af392b352dc16b6cec72fa7ab27f.pdf>

1.4 ALIGNMENT AND STRATEGIC FIT

1.4.1 Alignment with national development goals and policies

126. At the national level the project is in line with the 2005 *National Physical Master Plan for the Lebanese Territory* (NPMPLT) adopted in 2009 by the Government of Lebanon, which promotes forest corridors in mountainous areas. It is aligned with the 2014 *National Afforestation and Reforestation Programme* (NARP), which aims at reaching 20% forest cover by 2030, and the *MOA and MOE 2015-2019 Strategies*.

1.4.2 Alignment with NAP, NBSAP, NIP and NAMA

127. Sustainable forest management and reforestation are a major component of the implementation plans of the 3 Rio Conventions signed by the Government of Lebanon, i.e. the United Nations Convention on Biodiversity (UNCBD), United Nations Convention to Combat Desertification (UNCCD) and the United Nations Framework Convention on Climate Change (UNFCCC). The country reports for UNCBD and UNCCD highlight forests as a major contribution for achieving the convention goals and objectives in Lebanon.

128. The National Action Plan to Combat Desertification (NAP) mapped the risk of desertification in Lebanon and developed a guiding document for land degradation in forest areas and scrublands and adopted a participatory approach involving communities of affected areas and concerned stakeholders. An institutional framework was put in place to ensure the implementation and mainstreaming across sectors of the NAP based on two principles: (i) implementing appropriate land use planning based on soil capability and land suitability to sustain soil and water conservation; and (ii) limiting the risks of desertification and ensuring economic and social development based on sustainable production and safe environment.

129. The MOE is currently finalizing its National Biodiversity Strategy and Action Plan (NBSAP), embedding Aichi targets within the plan. The NBSAP will contribute to restoration of degraded and fragmented forest habitats and will be in line with the Aichi targets for biodiversity, as it will focus on expanding the cover of fragmented forest ecosystems. Consequently, the project will be reducing the threats affecting biodiversity in Lebanon, and would be in line with the UNCBD.

130. Although there is no national strategy or plan on climate change adaptation or mitigation in Lebanon, the 2013-16 EU ClimaSouth program is helping Lebanon improve data management, vulnerability assessments, national adaptation strategies and plans. Moreover, Decision 196/1 of 2013 initiated the Nationally Appropriate Mitigation Actions (NAMA) process in Lebanon. The Second National Communication (SNC) conducted a vulnerability and impact assessment of climate change on different sectors, including agriculture, water, human settlements and natural ecosystems. Pine forests on lowlands were identified as vulnerable due to the high forest fire risk, while the high altitude forest ecosystems such as cedar, junipers are vulnerable through habitat loss and pest outbreaks. The SNC suggested a list of adaptation measures focusing mainly on forest management, pest monitoring and control, and the implementation of the national strategy for forest fire fighting. The Third National Communication is still under review and a number of potential elements for Lebanon's Intended Nationally Determined Contribution have already been prepared for several sectors including biodiversity where the target by 2030 calls for vulnerable ecosystems to climate change to be identified and adaptation plans to be

developed and implemented. Specific actions include: (i) identifying key ecosystems vulnerable to climate change and their adaptation needs; and (ii) piloting national monitoring sites and species, representing the various ecosystems, to monitor medium and long-term effects of climate change and implement pilot action to adapt natural ecosystems to climate change.

131. TNC adaptation measures are targeted to assist the natural resilience of forests, anticipate future changes and promote landscape scale and include: (i) strengthening the legal and institutional framework to integrate climate change needs; (ii) integrating landscape level planning in local/regional development plans; (iii) strengthening awareness, education and support research; and (iv) developing forest management plans for most vulnerable ecosystems. The TNC suggests the following actions, to which SALMA aligned itself:

- In order to maintain and increase Lebanon's forests and other wooded land cover, an integrated approach involving improved legislation and law enforcement, land use planning, education and awareness, economic valuation of forests, and funding is necessary. Lebanon will reduce the extent of new losses of forests due to urbanization and compensate it through afforestation/reforestation activities. In addition, Lebanon will implement the National Strategy for Forest Fire Management, specifically through modifying fire risk through fire vulnerability reduction and prevention of harmful fires and facilitating the natural post-fire recovery of vegetation.
- Economic instruments such as payment for environmental services, conservation payment programs for land conversion, establishment of community forests and subsidy for reforestation will be used for maintaining and increasing the forest cover in Lebanon. The lack of vocational training, the weakness of the training programs, the scarcity of applied research, and the lack of information on ecosystem services and the forest values are only aggravated by the chronic lack of funding.
- Agro-forestry and indigenous tree production as a potential socio-economic co-benefit of environmentally integral planting regimes, and tree breeding as an adaptive response to changing landscape conditions will also be encouraged.

1.4.3 Alignment with GEF LDCF/SCCF strategy

132. SALMA is in line with GEF-5 Programming Strategy on adaptation to climate change, and relates particularly to objectives CCA-1, CCA-2 and CCA-3 as the project will achieve successful demonstration, deployment, and transfer of relevant adaptation technologies/practices related to forestry, forest management and reforestation, reduce the vulnerability of local communities in rural areas, and improve the capacity of national stakeholders in achieving climate proof reforestation and forest management plans at the landscape level. Therefore, the SALMA project aims at contributing to the desired outcomes of the GEF 2010-2013 adaptation strategy by reducing biodiversity and ecosystem services losses provided by forests due to climate change, involving communities in planning, preparedness and prevention through inclusive and participatory forest management plans, diversifying and strengthening livelihoods of vulnerable mountain people, and enhancing climate resilience of the forestry sector and fragile forest ecosystems.

1.4.4 Alignment with FAO Country Programming Framework and FAO Strategic Framework

133. The project will mainly contribute to the results of FAO's Strategic Objectives 2 related to increasing the provision of goods and services from forestry in a sustainable manner. It will also contribute to Strategic Objective 5 by increasing the resilience of livelihoods to threats and crises while decreasing forest fire risk and occurrence.
134. The CPF Lebanon (2012-2015) has been finalized in 2012 and the FAO is currently elaborating its CPF Lebanon (2016-2019), in close collaboration with the MOA. The FAO-GEF project will contribute to the CPF Priority Areas C: Sustainable management and use of natural resources, fisheries and aquaculture resources for food security. The CPF priorities are aligned with the latest UNDAF priorities and outcomes which was extended until 2016: Environmental Sustainability - Improved accessibility, management of natural resources, enhanced response to national and global environmental challenges and Socio-Economic Development/Regional Disparities. The involvement of FAO in the previous projects that lead to the preparation of the NARP, makes this project in line with FAO Country Programming Framework and FAO Strategic Framework.
135. FAO through its national, regional and headquarter offices will also provide technical assistance and capacity building for the authorities involved in reforestation and forest management, and enhance coordination amongst national actors and mainstream different reforestation and forest management projects in order to achieve the NARP. This is being currently concretized through the elaboration of a reforestation field manual, as well as different training activities related to reforestation planning in selected sites under different projects.
136. Another comparative advantage of FAO is that the organization has been involved in the setting up of the national policies and strategies regarding forest resources. Back in 2004, FAO achieved with the MOA the first national forest resources assessment. Further the organization was involved in the setting up of a national strategy for forest fire fighting (in 2009) bringing together all the national stakeholders. Several projects followed aiming at strengthening the different institutions and NGOs in forest fire fighting. Since 2010, FAO has been assisting the MOA in setting up the institutional and organizational framework for reforestation activities in Lebanon through different TCPs and missions, leading to the elaboration of the NARP, and the creation of a National Reforestation Coordination Unit at the MOA. A reforestation register system is to be developed, allowing all actors to align their activities with the NARP, and stimulating coordination between these stakeholders.

SECTION 2 – INNOVATIVENESS, POTENTIAL FOR SCALING UP AND SUSTAINABILITY

2.1 INNOVATIVENESS

136. This project intends to achieve climate resilience of both vulnerable **forest ecosystems and rural mountain communities**. Reforestation initiatives in Lebanon have been addressing either environmental or economic aspects; some projects were targeting the increase of forest cover, biodiversity conservation, or ecosystem restoration, while others were focusing on the livelihoods of rural communities through the increase of the production of pine nuts, carob molasses, or creation of employment opportunities through reforestation activities. SALMA will address both environmental and economic priorities jointly, through the promotion of environmental governance integrating community-based and ecosystem-based adaptation approaches.
137. **Community-based approaches to adaptation** will be adopted and guidelines for participatory forest restoration and reforestation have been developed during the PPG phase (see annex 7). These guidelines provide a frame of principles and environmental and social best practices and recommended actions that need to be adopted to achieve greater community participation, restore forest landscapes and adopt more active maintenance, protection and management in reforestation. The guidelines encourage consortium partners to improve work norms, reduce operating costs and enhance benefits to local communities and rural livelihoods.
138. Through its community-based approaches to planning and management of forests and forest resources at the landscape level (corridors and watersheds), SALMA recognizes the importance of cultural aspects, the linkages between culture and the environment, and promotes dialogue and exchange between technical knowledge and traditional and ancestral knowledge. The expressions, values and socio-cultural traditions of ethnic communities are properly valued.
139. SALMA promotes an **ecosystem-based approach to adaptation**, through the restoration and sustainable management of forests and forest services and products as part of the adaptation strategy of poor rural mountain communities.
140. SALMA offers to work at a scale that goes beyond administrative borders and focuses on **ecological corridors and watersheds** in order to achieve climate change adaptation benefits through the reduction of forest fragmentation and soil erosion. Ecological corridors, connecting core zones such as the neighboring Biosphere and natural reserves, help maintain and recover cohesion in the fragmented forest ecosystems in the intervention areas. It is believed that through the connection of fragmented habitats, the viability of animal and plant species is improved. The ecological corridor landscape has been introduced into the SALMA project, and will be achieved particularly through its reforestation component, as it is believed to help build more climate change resilient forest ecosystems. Indeed, because of climate change, the borders of suitable habitats are continuously changing. It is therefore important for many species to be able to migrate over greater distances. Watersheds are being considered when determining the potential impact of the reforestation activities on soil erosion and siltation of waterbodies and waterways. To this end, preferred locations for restoration and reforestation activities will be informed by open source **remote sensing data** (obtained via the application of CollectEarth on the intervention areas), which will complement the rich data already available at MOA.

2.2 POTENTIAL FOR SCALING UP AND SCALING OUT

141. The NARP aims at planting 40 million forest trees, in order to reach 20% forest cover of the total surface of the country, by 2030. This ambitious program requires reforestation over 70,000 hectares. SALMA will be the first effective implementation of reforestation actions coordinated by the newly created **National Reforestation Coordination Unit (NRCU)** of the NARP. Project activities, complemented by baseline investments, will increase the unit's capacity to guide, plan and manage reforestation activities in Lebanon. The SALMA project is likely to become a reference for future reforestation projects coordinated through the NRCU, as it offers cost-effective (cost of reforestation is reduced sensibly), relevant (restoration and reforestation plans are identified together with the concerned communities, while also aligned with the National Physical Master Plan of the Lebanese Territory) and informed (scientific knowledge and technology made available) guidance and approaches/processes for reforestation and forest management resilient to climate change.

2.3 SUSTAINABILITY

2.3.1 Environmental sustainability

142. The **Lebanon National Forest Program 2015-2025** is the framework for the forest sector in Lebanon, and it acknowledges the multifunctional nature of the Mediterranean forests, understands the need to mainstream forest conservation in national policies, strategies and action plans and realizes the need to update and modernize existing laws and regulations and align them with emerging issues. The NFP is driven by the principles of sovereignty, good governance, community participation and ecosystem-based management. SALMA is fully aligned with this national framework and embraces its driving principles in order to maximize benefits and ensure sustainability (environmental, economic and social) of investments made in the forest sector.

143. SALMA is designed to promote **environmental sustainability**. It particularly focuses on fragile forest ecosystems in mountain areas and aims at conserving native tree species in healthy, resilient and thriving forests through a suit of approaches (e.g. criteria for reforestation site selection to reduce forest fragmentation, enhance soil moisture and soil quality, criteria for selection of species for reforestation and restoration, forest fire and forest pest outbreak preventive actions, and more) and techniques (e.g. hardening seedlings for better drought resistance, combining plant species for increased pest outbreak resistance, and more).

144. **Economic sustainability** is ensured through the maintenance and full use of forest wood and non-wood products and ecosystem services upon which livelihoods of poor community groups rely. Forest restoration and reforestation management plans are designed and implemented with the communities in order to ensure that the needs and the aspirations of these communities are met. SALMA will furthermore assess the feasibility and sustainability of community-driven 'projects' through cost-benefit and market analyses using the Rural Invest tool developed by the FAO Investment Centre.

145. **Equity/equality** (the social dimension of sustainability) is included in SALMA thanks to its focus on rural poor and the groups within mountain communities more reliant on forests and most negatively impacted by climate change and climate variability (the following section 2.3.2 focuses on gender equality particularly). The highly participatory, community-driven approach adopted

in SALMA ensures that for each selected plot for restoration and/or reforestation, a complete socio-economic diagnosis is carried out, mapping out the multiple functions carried out by forests and providing alternatives for functions that are being impacted by project activities (e.g. pastoralists may need other land for grazing, or can play a vital role in keeping forest understory clean, making forests less prone to fires).

2.3.2 Gender equality

146. In the context of the PPG phase, a social analysis was carried out, in order to make the proposed project interventions more people-centered, socially inclusive, equitable and sustainable by ensuring a close fit with local contexts, culture and livelihoods, and to safeguard the interests of the weaker sections of the population, including women.
147. The main concern that was raised by project beneficiaries (including women) during interviews and focus groups carried out during the social analysis was the **potentially restricted access** to the selected areas for restoration and/or reforestation, and its impact on activities such as wood collection, grazing, access to water sources, and more. As a response to this shared concern, SALMA suggests to directly engage local communities, and in particular women and local youth, in participatory planning, management and reforestation activities, not the least to recommend resources use and restrictions. Suggested participatory planning processes include the identification of the reforestation sites, pathways for herds, alternative grazing areas, or areas for wood collection and honey production, among others. As mentioned above, Participatory Reforestation Guidelines and Manual have been prepared in the context of the SALMA PPG phase, and will be shared with Consortia of communities and NGOs that are participating in SALMA activities. These guidelines and manual describe in detail how the civil society can be involved in the planning, implementation, and maintenance of the reforestation sites (Annex 7).
148. During the PPG social analysis different levels of women representation in different communities were observed. As a response, SALMA suggests to organize **separate sessions for women** in those communities where women have a lesser voice, guaranteeing their inputs in decision-making, planning and management activities proposed by SALMA. These separate sessions, at first, hope to enhance the sense of ownership of women over the restored and reforested areas and the project in general.
149. In conclusion, resulting from the social analysis, SALMA project activities have been designed so to create an enabling environment for women to: (i) **participate in and benefit from** project implementation and results; and (ii) increase their **capacity to adapt** and respond to climate and environmental changes. Particularly, the project aims at generating opportunities for additional income from forest wood and non-wood products (e.g. wood bricks, honey, medicinal and aromatic plants, etc.) and equal opportunities to benefit from these opportunities will be ensured, fully accounting for the different needs of women and men. In order to monitor progress on gender equality in the project and its results, gender-sensitive indicators have been included in the results matrix, and during the first 3 months of the project, a gender expert will be working with the M&E expert in order to ensure the set-up of an M&E system that facilitates gender mainstreaming.

2.4 INDIGENOUS PEOPLES

150. N/A

2.5 HUMAN RIGHTS BASED APPROACHES (HRBA)

151. SALMA applies a nuanced notion of **rights to forest resources** instead of focusing on ‘ownership’ (tenure rights), particularly as SALMA will implement its activities on communal land and not on privately owned land. This more nuanced notion of rights to forest resources helps empower individuals and communities to access forest resources. This notion further helps emphasize the diversity of forest values beyond timber.
152. As hinted at under section 2.3.2 *Gender Equality*, the social analysis showed that some individuals and community groups have rights (to forest resources) over the communal lands that are being considered for restoration and reforestation. Only with the right incentives in place, these individuals and groups will support the conservation/sustainable management of forests that is being promoted by SALMA. Through its truly participatory and community driven approach, SALMA will **empower local communities** to becoming more effective in asserting their rights to negotiate and implement decisions about how conservation and development needs are balanced across their landscapes.
153. SALMA aims at the progressive realization of the right to **Decent Work** for rural people, and in particular the rural poor that are partially or in full reliant on forest resources for their incomes. Not only promotes SALMA job creation directly through its forest restoration and reforestation activities under components 1 and 2, but it includes an output (1.2) on green job creation in particular. Green jobs are being described as *decent jobs that contribute to preserve or restore the environment, be they in traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency*². For this, community projects will be evaluated and their feasibility and sustainability will be estimated. For potentially successful community projects, SALMA will provide seed funding. Among the selection criteria of these community projects that eventually aim at green job creation, vulnerability features centrally, meaning that the projects will address the needs and aspirations of the most vulnerable sections of the rural mountain communities, including women and refugees.

2.6 CAPACITY DEVELOPMENT

154. Capacity development plays a central role in SALMA and is built in into all 3 components. SALMA foresees capacity development activities at the local level and at the central level, resulting in strengthened human and institutional capacities and creating a more conducive enabling environment for sustainable forest management and reforestation in Lebanon.
155. At the central level, SALMA will aim at strengthening the Reforestation Programme Coordination Unit (RCMU), complementing the capacity development support already provided

² ILO definition of Green Jobs ([http://www.ilo.org/global/topics/green-jobs/news/WCMS_220248/lang--en/index.htm](http://www.ilo.org/global/topics/green-jobs/news/WCMS_220248/lang-en/index.htm))

through the baseline investments. This newly created unit within the Ministry of Agriculture is responsible for managing the NARP and will benefit from SALMA support through a number of training activities and the deployment of 3 full-time experts in the RCMU. These 3 experts will train MOA staff at central and local levels, follow-up project activities, monitor progress and results, and work closely with beneficiaries in such a way that their capacities are enhanced.

156. At the local level, forest engineers from the MOA will receive training on sustainable forest management and will attend a 2-week study visit to Morocco's National Forest Engineers School (*École nationale forestière d'ingénieurs*). Also MOA forest guards will receive necessary training (Training of Trainers) and will become the agents of change at the community level, acting as trainers in on-site practical workshops targeting community groups involved in the forest management and reforestation activities under SALMA and beyond.

SECTION 3 – INSTITUTIONAL AND IMPLEMENTATION ARRANGEMENTS

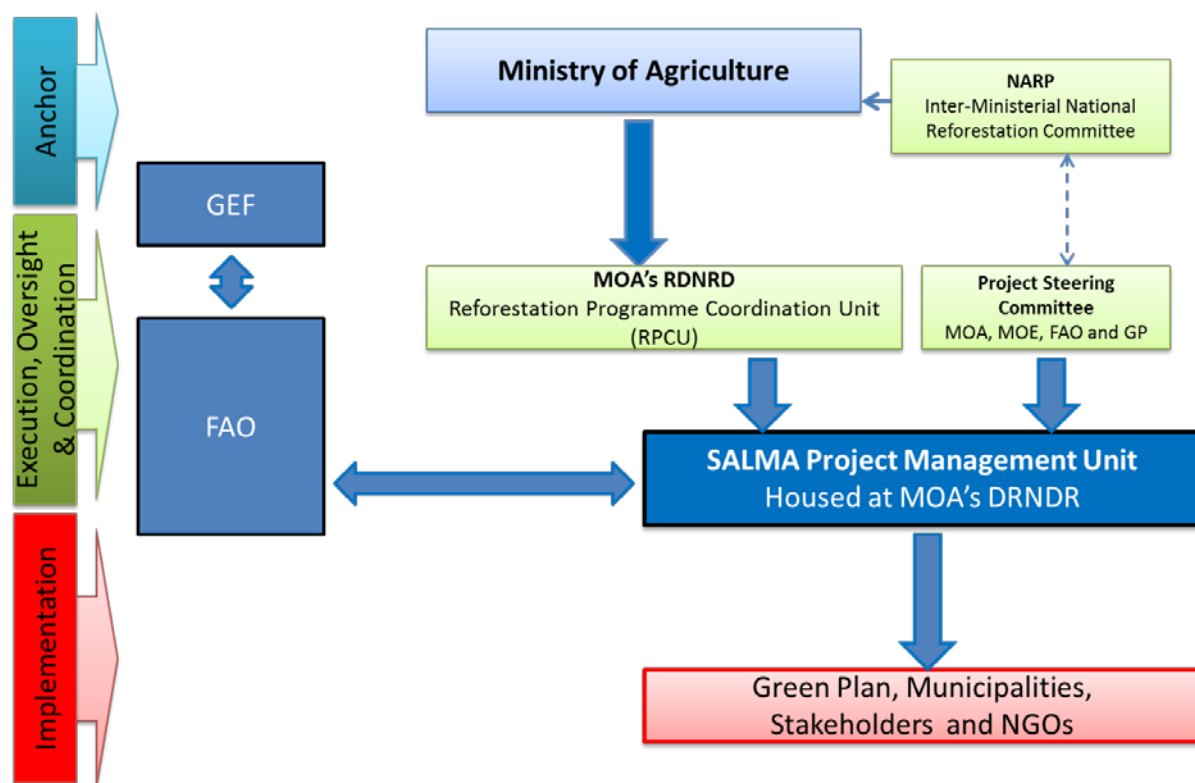
3.1 INSTITUTIONAL ARRANGEMENTS

157. As described earlier in this document, the **Ministry of Agriculture** is in charge of managing Lebanese forests, which it does through its numerous forest centers and forest guards. The forest guards are expected to enforce forests legislation and protect forests from offenders. The Ministry of Agriculture, and particularly its Rural Development and Natural Resources Directorate (RNDRD/MOA), will provide support to the technical execution of SALMA. As co-executing partner, MOA will house the SALMA project management unit (PMU).
158. Sector-wide coordination with other international and national entities involved in landscape and water management activities will be achieved through the **Reforestation Program Coordination Unit** headed by the National Program Coordinator who is also the RDNRD Director, where the MOE, MOIM, and MOF will be represented along with MOA.
159. The **Ministry of Environment** (MOE) is in charge of the budget allocated for reforestation but does not hold a mandate for reforestation. Furthermore, the MOE is the chair of the National Technical Committee on Forest Fires and supervises reforestation and ecosystem restoration activities conducted within the Natural Reserves. The MOE hosts the GEF Operational Focal Point in Lebanon and the Rio Conventions Focal Points.
160. The **local authorities** provide the reforestation management plans and exploitation permits for the communal lands, under the supervision of MOA.
161. The role of **NGOs and CSOs** is fundamental so as to forge new partnerships and enhance collaboration. In addition, the MOA aims at coordinating activities undertaken by NGOs, Municipalities, communities and the private sector, i.e. playing a facilitating and a leading policy role rather than a dictating role. Some NGOs have longstanding and nationally recognized reforestation and forest management capacities and capabilities.

3.2 IMPLEMENTATION ARRANGEMENTS

162. The institutional arrangements are illustrated in Figure 4.

Figure 4: Institutional set-up of the project



3.2.1 The institutional anchor

163. The **Ministry of Agriculture** is the institutional anchor of SALMA, and this in the following ways:

- Through its **Rural Development and Natural Resources Directorate (RNRD/MOA)**, MOA will provide policy, planning and technical guidance to the SALMA PMU. The RNRD/MOA will also play a liaison role between PMU, the IMC and the Project Steering Committee of SALMA. Nurseries under the RNRD/MOA will provide free seedlings and/or seeds to the project, if requested and available. RNRD/MOA will also be responsible to coordinate with MOA nurseries through liaising with the PMU in transporting seedlings to reforestation sites. Forest guides under the regional RNRD will provide support to the project in terms of monitoring and evaluation of reforestation activities and technical support to reforestation NGO-Community Consortia.
- The Minister of Agriculture heads the **Inter-Ministerial National Reforestation Committee (IMC)** which coordinates the NARP nationally. This Committee includes members from the following entities: Ministry of Agriculture, Ministry of Environment, Ministry of Interior and Municipalities (MOIM), Ministry of Finance (MOF), Ministry of Defense, Ministry of Education and Higher Education, Ministry of Youth and Sports, Ministry of Justice, Ministry of Energy and Water, Green Plan, Lebanese University (Agriculture Department), American University of Beirut (Agriculture Department), Université St. Joseph (Agriculture Department), NGOs (AFDC and SBR) and 5 members from the private sector. The modus operandi (administration and financial) of this Committee is still under preparation and the Minister of Agriculture has the authority to endorse a reforestation initiative such as SALMA if the Committee does not meet.
- The Ministry of Agriculture will also be represented in the **Project Steering Committee** of the SALMA project. This guiding entity is discussed in detail below.

3.2.2 Execution, oversight and coordination

164. **FAO** will be the GEF Agency responsible for supervision and provision of technical guidance during the project implementation. In addition, FAO will act as executing agency (Direct Execution implementation modality), and will deliver procurement and contracting services to the project using FAO rules and procedures, as well as financial services to manage GEF/SCCF resources. FAO will be responsible for project oversight to ensure that GEF/SCCF policies and criteria are adhered to and that the project meets its objectives and achieves expected outcomes and outputs as established in the project document in an efficient and effective manner. FAO will report on the project progress to the GEF Secretariat and financial reporting will be done to the GEF Trustee. FAO will closely supervise and carry out supervision missions, and monitor project progress and provide technical support.

- **Executing Responsibilities (Budget Holder).** Under the FAO's Direct Execution modality, the FAO Representative in Lebanon will be the Budget Holder (BH) of this project. The BH, working in close consultation with the Lead Technical Officer (LTO), will be responsible for the timely operational, administrative and financial management of the project. The BH will head the multidisciplinary Project Management Unit (see below) that will be established to support the implementation of the project and will ensure that technical support and inputs are provided in a timely manner. The BH will be responsible for financial reporting, procurement of goods and contracting of services for project activities in accordance with FAO rules and procedures. Final approval of the use of GEF resources rests with the BH, also in accordance with FAO rules and procedures.
- Specifically, working in close collaboration with the LTO, the BH will: (i) clear and monitor annual work plans and budgets; (ii) schedule technical backstopping and monitoring missions; (iii) authorize the disbursement of the project's GEF resources; (iv) give final approval of procurement, project staff recruitment, Letters of Agreement (LoAs), and financial transactions in accordance with FAO's clearance/approval procedures; (v) review procurement and subcontracting material and documentation of processes and obtain internal approvals; (vi) be responsible for the management of project resources and all aspects in the agreements between FAO and the various executing partners; (vii) provide operational oversight of activities to be carried out by project partners; (viii) monitor all areas of work and suggest corrective measures as required; (ix) submit to the GEF Coordination Unit, the TCID Budget Group semi-annual budget revisions that have been prepared in close consultation with the LTO (due in August and February); (x) be accountable for safeguarding resources from inappropriate use, loss, or damage; (xi) be responsible for addressing recommendations from oversight offices, such as Audit and Evaluation; and (xii) establish a multi-disciplinary FAO Project Task Force to support the project.
- **FAO Lead Technical Officer (LTO):** The Senior Forestry Officer of the Regional Office for the Near East and North Africa (RNE, Cairo) will be the LTO for this project. The LTO will provide technical guidance to the project team to ensure delivery of quality technical outputs. The primary areas of LTO support to the project include: (i) review and ensure clearance by the relevant FAO technical officers of all the technical Terms of Reference (ToR) of the project team and consultants; (ii) ensure clearance by the relevant FAO technical officers of the technical terms of reference of the Letters of Agreement (LoA) and contracts; (iii) review and ensure clearance by the relevant FAO technical officers of all the technical Terms of Reference (ToR) of Mid Term Review (MTR) report and Final

Evaluation Report (FER); (vi) in close consultation with TCID (FAO/Rome), BH and MoA (Lebanon), lead the selection of the project staff, consultants and other institutions to be contracted or with whom an LoA will be signed; (v) review and clear technical reports, publications, papers, training material, manuals, etc.; (vi) monitor technical implementation as established in the project results framework (conducting annual monitoring missions to the field); (vii) review the Project Progress Reports (PPRs) and prepare the annual Project Implementation Review (PIR).

- Within FAO, a **multidisciplinary Project Task Force** (PTF) will be established by the Budget Holder which is mandated to ensure that the project is implemented in a coherent and consistent manner and complies with the organization's goals and policies, as well as with the provision of adequate levels of technical, operational and administrative support throughout the project cycle. The PTF comprises of the BH (Head of the PTF), Lead Technical Officer (RNE) and the GEF/TCID Coordination Unit.
- **FAO/TCID GEF Coordination Unit** will review and approve project progress reports, annual project implementation reviews, financial reports and budget revisions. The GEF Coordination Unit will provide project oversight, organize annual supervision missions, and participate as a member in the FAO Project Task Force and as an observer in the project steering committee meetings, as necessary. The Unit will participate in the selection process of key consultants to be recruited by the project, including the Project Manager. The GEF Coordination Unit will also assist in the organization of, as well as be a key stakeholder in, the mid-term review and final evaluation. It will contribute to the development of corrective actions in the project implementation strategy in the case needed to mitigate eventual risks affecting the timely and effective implementation of the project. The GEF Coordination Unit will in collaboration with the FAO Finance Division, request the transfer of project funds from the GEF Trustee based on six-monthly projections of funds needed.
- The Investment Centre Division Budget Group (TCID) will provide final clearance of any budget revisions.
- The FAO Finance Division will provide annual Financial Reports to the GEF Trustee and, in collaboration with the GEF Coordination Unit and the TCID Budget Group, call for project funds on a six-monthly basis from the GEF Trustee.

165. A **Project Steering Committee** (PSC) will be established. It will be comprised of representatives from MOA, MOE, FAO and Green Plan and chaired by the National Project Coordinator who is also representing MOA. The MOE PSC member will be appointed by their relevant respective entities, prior to project effectiveness, while the FAO PSC member will be the FAO Representative to Lebanon. The PSC will meet at least twice a year to: (i) monitor the progress of the project and the results achieved such as those presented in the twice-yearly progress report; (ii) facilitate cooperation between the project and other pertinent projects and programs underway; (ii) ensure the sustainability of the key results of the project, in particularly tailoring the actions to other contexts and (iv) supervise efficient coordination between implementation partners. The members of the PSC will each fill the role of focal point for the project in their respective agencies. As a result, and as such a focal point, they will ensure: (i) the technical supervision of the activities in their sector; (ii) a fluid two-way exchange of information and of knowledge between their agency and the project; (iii) coordination and communication between the activities of the project and the work plan of their agency; and (iv) the provision of co-financing for the project.

166. SALMA's **Project Management Unit** (PMU) will be housed under RPCU and will rely on the following human resources:

- GEF-funded (1 full time Project Manager and 1 full time Project Assistant, 1 full time Gender and Participatory Planning Specialist, 1 full time Forest Engineer and 1 full time GIS Specialist)
- MOA-funded (1 full time National Project Coordinator with expertise in forestry and 8 part time facilitators from the MOA RDNRD central and regional offices) – The National Project Coordinator will take the overall responsibility and provide policy guidance to the project through his/her participation in the PSC. The NPC will provide operational support for project implementation and work closely with the FAO recruited consultant, in particular the Reforestation Program Coordinator.
- FAO-funded through baseline investment (1 full time Reforestation Program Coordinator RPC) - The proposed RPC will work in close collaboration with the NPC. The authorities at MOA will assign a team from the RDNRD, namely from the forestry department and regional offices to follow up the different outputs of the project. The NPC, RPC and the team will form the Reforestation Program Coordination Unit (RPCU) that will be hosted by the MOA.

167. The GEF-funded staff at the PCU will be recruited by the project and will report to the Budget Holder (BH) and will work in close collaboration with the main technical officer of the FAO (LTO). The PCU will be responsible for the daily operations of the project and will carry out their functions conforming to the rules of the FAO. ToRs of the GEF-funded consultants are provided in Annex 6. PMU staff will be supported by national and international consultants who will be recruited during project implementation as need be. Also the list and ToRs of required consultants are presented in Annex 6.

168. Some key functions of the PMU are: (i) technically identify, plan, design and support all activities; (ii) liaise with selected consortia and municipalities and regularly advocate on behalf of the project; (iii) prepare the Annual Work Plan and Budget (AWP/B) and monitoring plan; (iv) be responsible for day-to-day implementation of the project in line with the AWP/B; (v) ensure a results-based approach to project implementation, including maintaining a focus on project results and impacts as defined by the results framework indicators; (vi) coordinate project interventions with other ongoing activities; (vii) monitor project progress; (viii) be responsible for the elaboration of FAO Project Progress Reports (PPR) and the annual Project Implementation Review (PIR); and (ix) facilitate and support the mid-term review and final evaluation of the project.

3.2.3 Implementation

169. Letters of agreement (LoAs) will be signed between the FAO and several service providers. FAO-Lebanon, together with the Lead Technical Officer in the Regional Office for the Near East and North Africa (RNE-Cairo), will be responsible for setting up all necessary LOAs with Executing Partners to be defined at the inception phase of project implementation. They will be administratively managed by the project budget holder, and the funds received by the service providers, as part of the LoA, will be used to carry out project activities conforming to the rules and procedures of FAO. These LoAs are listed under the budget section 'Contracts' of the project budget in Annex 2. The LoAs proposed are summarised in the table below.

Table 2: Preliminary Letters of Agreement for SALMA implementation

Description of LOA	Potential Partner Institution
Construction of Hill Lake Bezbina and Deir el Moukhaless (Component 1)	Private Sector
Technical Assistance for hill lake construction bidding and supervision (Component 1)	Green Plan
Vulnerability Assessment Studies (Component 1)	Academia
SFM Planning (Component 1)	TBD
SFM Implementation (Component 1)	TBD
Community Projects for SFM and Reforestation (Component 1 and 2)	Several NGOs
Reforestation planning and implementation (Component 2)	NGOs
Awareness and Communication Campaigns (Component 3)	Media/Private Sector
Ecosystem Services Study (Component 3)	Academia
Soil erosion Study (Component 2)	Academia
Morocco Training of Forest Engineers at ENFI (Component 3)	Ecole Nationale des Ingénieurs Forestiers ENFI, Morocco

3.3 COORDINATION WITH OTHER ONGOING AND PLANNED INITIATIVES

170. SALMA PMU will collaborate with GEF, FAO, other projects funded by GOL, development partners and NGOs to identify and facilitate synergies. Collaboration will be undertaken through: (i) informal communications among GEF agencies and implementing partners of other programs and projects; and (ii) exchange of information and dissemination materials between projects. In order to guarantee an effective coordination and collaboration between different initiatives, specific coordination responsibilities have been assigned to the Project Management Unit (see below) and included in the terms of reference of the Project Manager, whose results shall be explicitly reflected in the Project Progress Reports (PPRs).
171. Currently MOA is carrying out rural development activities within the EU-funded project **Agricultural and Rural Development Programme (ARDP)** (total EUR 14 000 000, now concluding). The ARDP provided a contract to 5 consortia jointly created between municipalities and NGOs and/or research institutions to carry out reforestation activities in different areas of Lebanon. The overall envelope of these reforestation activities is EUR 1 959 000 and aims at 112 ha of reforested land in 2015. The Grant scheme encourages participatory reforestation activities all over Lebanon fostering the cooperation between Non-State Actors and Municipalities. It also aims at setting “pilot” replicable examples of good practice for planting, technical planning and management of forested areas; at promoting rural and local development, creating opportunities for improved socio-economic livelihoods and poverty reduction through sustainable forestry management; at providing direct and tangible benefits to the more vulnerable population. For this purpose, the ARDP used the Participatory Reforestation Plan Manual developed in the context of the SALMA PPG phase.
172. ARDP also assists MoA in the elaboration of a Pilot Master Plan (PMP) for Reforestation. The PMP is identifying local needs through consultations with local communities; developing a scientific approach for locating publicly-owned planting sites throughout Lebanon, assessing field conditions, attributing functions to the forest areas to be planted, selecting suitable native

species, elaborating appropriate planting techniques, programming adapted maintenance and the follow-up and evaluation of practices for the successful implementation of reforestation activities. The Master Plan is hoped to pave the way for the implementation of the “40 Million Trees” programme, while it will help MoA to attract external contributions for the implementation of the “40 Million Trees” programme. SALMA intervention areas were selected using ARDP Pilot Master Plan.

173. Other projects SALMA will coordinate with and complement include:

- The Norwegian Embassy is supporting the Lebanese Agriculture Research Institute (LARI) with the set up of the Seed Bank.
- EU/UNDP/CEDRO 4 initiative is an effort to improve the energy supply throughout Lebanon. It aims to develop and implement a national sustainable energy strategy that can both provide more reliable energy as well as mitigate climate change. For instance, CEDRO 4 implements diesel-solar hybrid systems for schools, or it creates a geothermal energy system that will provide power for a facility that provides services for drug addiction and elder care. The CEDRO 4 Inventory and Management Plans of the Bkessine and Andket Forests (2015) has informed the development of management plans and processing of briquettes that could be used to develop SALMA’s forest management manual and the developing of the briquette value chain.³
- AFDC (Forest fire strategy) has developed National Strategy for Forest Fire Management, and acquired extensive experience in forest clean up to prevent forest fires that could be included in SALMA’s forest management manual.
- Jouzour Loubnan (ecosystem approach and seedlings) has developed competency in increasing the resilience of native tree species and seedlings necessary to adapt to climate change effects – knowledge that is instrumental to the NARP in general and SALMA in particular.
- The GEF project for ecosystem restoration in the Shouf Biosphere Reserve is seeking to achieve the balance between restoring ecosystem services and productive functions of land by piloting a number of activities that could inform and be informed by SALMA.
- The recently PIF approved UNDP/GEF project Sustainable Land Management in the Qaroun Watershed.
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3.4 RISK MANAGEMENT

3.4.1 Significant risks facing the project

174. SALMA presents moderate risks as its approach is anchored in community-based forest and ecosystem planning, management and reforestation, aiming to increase ownership of communities over the sustainable management and use of forest resources and services.

175. Among the risks facing the project that lie outside SALMA’s control to provide mitigation measures, there are:

- A lack of responsiveness from various stakeholders due to the **deterioration of the political and economic situation** in Lebanon. This risk is believed to be moderately likely

³ CEDRO website: <www.cedro-undp.org>.

to impact SALMA results, even though there was a firm demand and commitment from the government and communities to implement the project.

- The project design emphasizes improved governance in close collaboration with co-financing partners. Therefore the success of SALMA is partially reliant on the success of **co-financing projects and programmes**. The risks identified by these projects and programmes (which are in part risks to SALMA and therefore described under section 3.4.3) have different levels of likelihood to occur.

3.4.2 Environmental and social risks

176. The project actively promotes an ecosystem-based approach to adaptation, which is believed to have direct and indirect positive impacts on the environment, but also on the communities through more resilient and diversified livelihoods and sources of income.

177. As per the Project Environmental and Social Screening (of which the checklist has been included in Annex 6) the project falls into category Low of FAO's environmental and social risk classification's system. Therefore, the project is believed not to produce negative environmental nor social impacts and an Environmental and Social Analysis or Impact Assessment is not required. Indeed, environmental and social analyses in selected project intervention areas carried during project PPG phase informed the identification of project activities. For instance, the project will not trigger any involuntary resettlement or involuntary economic displacement, as retained sites for reforestation will use this argument as a criterion for site selection. Still, the Lebanese Law of the land governing the construction of hill lakes and carrying out forest activities required to conduct an Environmental and Social Impact Assessment for the hill lakes and prepare the Environmental and Social Impact Assessment Framework for the forest management and reforestation activities planned under SALMA. The 2 ESIA and ESIAF were reviewed and endorsed by the MOE and were uploaded on the MOE website and the Green Plan website.

3.4.3 Risk management strategy

178. See Risk Log in Annex 4

3.5 FINANCIAL MANAGEMENT

3.5.1 Financial planning

179. The total cost of the project will be USD 34 127 635, to be financed through a USD 7 147 635 SCCF grant and USD 26 980 000 cofinancing from:

- a) LRI/USAID (USD6 900 000 grant);
- b) MOE/GOL (USD11 000 000 grant);
- c) Green Plan/HASAD IFAD (USD8 340 000 grant); and
- d) FAO contribution (USD 740 000 – USD100 000 in kind and USD640 000 grant).

180. Table 3 below shows the cost by component and by sources of financing. The FAO will, as GEF Agency, only be responsible for the execution of the GEF resources and the FAO cofinancing.

Table 3: Financial Planning (USD)

Component	GEF	Cofinancing					Total	GEF %
		LRI/USAID	MOE/GOL	Green Plan Hasad/IFAD	FAO	Total Cofinancing		
Component 1 - Climate proof forest management for enhanced ecosystem services and livelihoods	2,892,240			6,570,000	400,000	6,970,000	9,862,240	29%
Component 2 - Participatory reforestation for increased adaptive capacity of fragile forest ecosystems and rural mountain forest communities	3,232,000	6,900,000	11,000,000	1,770,000		19,670,000	22,902,000	14%
Component 3 - Enhanced enabling environment for climate proof forest management	683,031				240,000	240,000	923,031	74%
PMC	340,364				100,000	100,000	440,364	77%
Total	7,147,635	6,900,000	11,000,000	8,340,000	740,000	26,980,000	34,127,635	21%

181. **GEF input** - The present Project Document details how the GEF/SCCF grant will be utilized and to what end. A detailed results-based budget is attached in Annex 3 and provides expected expense details per outcome and per year.

182. **Government inputs** - The Government will provide co-financing support to SALMA both through in-kind contributions and through grants from parallel projects, as follows:

- In-kind contributions (which need to be estimated still) include staff time of government officials at the central and local levels (from MOA mainly), office space and utilities (PMU will be hosted in fully functional offices within MOA premises), and support for local travel.
- The parallel projects (baseline initiatives) managed by the government, whether Green Plan or MOE, have been detailed in section 1.2. Grant contribution by government amounts to USD 19 340 000.

183. **NGO/CBO inputs** – The baseline investment, USD 6 900 000 from LRI has been detailed in section 1.2.

184. **FAO input** - The representation of the FAO to Lebanon as the Budget Holder (BH) will co-finance the project, in kind, mainly through staff time, service and logistic support for field activities for a total amount of USD 100 000. The SCCF project will also be co-financed by 2 projects currently being launched, i.e. Piloting the Forest and Landscape Restoration Mechanism in Lebanon and Strengthening the coordination of the NARP in Lebanon for a total of USD 640 000.

3.5.2 Financial management and reporting

185. **Financial Records.** FAO shall maintain a separate account in United States dollars for the project's GEF resources showing all income and expenditures. Expenditures incurred in a currency other than United States dollars shall be converted into United States dollars at the United Nations operational rate of exchange on the date of the transaction. FAO shall administer the project in accordance with its regulations, rules and directives.

186. **Financial Reports.** The BH shall prepare six-monthly project expenditure accounts and final accounts for the project, showing amount budgeted for the year, amount expended since the beginning of the year, and separately, the un-liquidated obligations as follows:

1. Details of project expenditures on a component-by-component and output-by-output basis, reported in line with project budget codes as set out in the project document, as at 30 June and 31 December each year.
2. Final accounts on completion of the project on a component-by-component and output-by-output basis, reported in line with project budget codes as set out in the project document.
3. A final statement of account in line with FAO Oracle project budget codes, reflecting actual final expenditures under the project, when all obligations have been liquidated.

187. The BH will submit the above financial reports for review and monitoring by the LTO and the FAO GEF Coordination Unit. Financial reports for submission to the donor (GEF) will be prepared in accordance with the provisions in the GEF Financial Procedures Agreement and submitted by the FAO Finance Division.

188. **Budget Revisions.** Semi-annual budget revisions will be prepared by the BH in accordance with FAO standard guidelines and procedures.

189. **Responsibility for Cost Overruns.** The BH is authorized to enter into commitments or incur expenditures up to a maximum of 20 percent over and above the annual amount foreseen in the project budget under any budget sub-line provided the total cost of the annual budget is not exceeded.

190. Any cost overrun (expenditure in excess of the budgeted amount) on a specific budget sub-line over and above the 20 percent flexibility should be discussed with the GEF Coordination Unit with a view to ascertaining whether it will involve a major change in project scope or design. If it is deemed to be a minor change, the BH shall prepare a budget revision in accordance with FAO standard procedures. If it involves a major change in the project's objectives or scope, a budget revision and justification should be prepared by the BH for discussion with the GEF Secretariat.

191. Savings in one budget sub-line may not be applied to overruns of more than 20 percent in other sub-lines even if the total cost remains unchanged, unless this is specifically authorized by the GEF Coordination Unit upon presentation of the request. In such a case, a revision to the project document amending the budget will be prepared by the BH.
192. Under no circumstances can expenditures exceed the approved total project budget or be approved beyond the NTE date of the project. **Any over-expenditure is the responsibility of the BH.**
193. **Audit.** The project shall be subject to the internal and external auditing procedures provided for in FAO financial regulations, rules and directives and in keeping with the Financial Procedures Agreement between the GEF Trustee and FAO.
194. The audit regime at FAO consists of an external audit provided by the Auditor-General (or persons exercising an equivalent function) of a member nation appointed by the Governing Bodies of the Organization and reporting directly to them, and an internal audit function headed by the FAO Inspector-General who reports directly to the Director-General. This function operates as an integral part of the Organization under policies established by senior management, and furthermore has a reporting line to the governing bodies. Both functions are required under the Basic Texts of FAO which establish a framework for the terms of reference of each. Internal audits of *imprest* accounts, records, bank reconciliation and asset verification take place at FAO field and liaison offices on a cyclical basis.
195. **Procurement.** Careful procurement planning is necessary for securing goods, services and works in a timely manner, on a “Best Value for Money” basis. It requires analysis of needs and constraints, including forecast of the reasonable timeframe required to execute the procurement process. Procurement and delivery of inputs in technical cooperation projects will follow FAO’s rules and regulations for the procurement of supplies, equipment and services (i.e. Manual Sections 502 and 507). *Manual Section 502: “Procurement of Goods, Works and Services”* establishes the principles and procedures that apply to procurement of all goods, works and services on behalf of the Organization, in all offices and in all locations, with the exception of the procurement actions described in Procurement Not Governed by Manual Section 502. *Manual Section 507* establishes the principles and rules that govern the use of Letters of Agreement (LoA) by FAO for the timely acquisition of services from eligible entities in a transparent and impartial manner, taking into consideration economy and efficiency to achieve an optimum combination of expected whole life costs and benefits.
196. As per the guidance in FAO’s Project Cycle Guide, the BH will draw up an annual procurement plan for major items, which will be the basis of requests for procurement actions during implementation. The first procurement plan will be prepared at the time of project start-up, if not sooner, in close consultation with the CTA/NPC and LTU. The plan will include a description of the goods, works, or services to be procured, estimated budget and source of funding, schedule of procurement activities and proposed method of procurement. In situations where exact information is not yet available, the procurement plan should at least contain reasonable projections that will be corrected as information becomes available.
197. The procurement plan shall be updated every 12 months and submitted to FAO BH and LTO for clearance, together with the AWP/B and annual financial statement of expenditures report for the next installment of funds.

198. The BH, in close collaboration with the CTA/NPC, the LTO and the Budget and Operations Officer will procure the equipment and services provided for in the detailed budget in Annex 3, in line with the AWO and Budget and in accordance with FAO's rules and regulations.

SECTION 4 – MONITORING, REPORTING AND EVALUATION

4.1. OVERSIGHT

199. Project oversight will be carried out by the SALMA Project Steering Committee (PSC), the FAO GEF Coordination Unit and relevant Technical Units in HQ. Oversight will ensure that: (i) project outputs are produced in accordance with the project results framework and leading to the achievement of project outcomes; (ii) project outcomes are leading to the achievement of the project objective; (iii) risks are continuously identified and monitored and appropriate mitigation strategies are applied; and (iv) agreed project global environmental benefits/adaptation benefits are being delivered.
200. The FAO GEF Unit and HQ Technical Units will provide oversight of GEF financed activities, outputs and outcomes largely through the annual Project Implementation Reports (PIRs), periodic backstopping and supervision missions.

4.2 MONITORING

201. Project monitoring will be carried out by the Project Management Unit (PMU) and the FAO budget holder. A Project Manager (PM) and an Assistant will be hired full time to run the PMU. Project performance will be monitored using the project results matrix, including indicators (baseline and targets) and annual work plans and budgets. At inception the results matrix will be reviewed to finalize identification of: (i) outputs (ii) indicators; and (iii) missing baseline information and targets. A detailed M&E plan, which builds on the results matrix and defines specific requirements for each indicator (data collection methods, frequency, responsibilities for data collection and analysis, etc), will also be developed during project inception by the M&E specialist.

4.3 REPORTING

202. Specific reports that will be prepared under the M&E program are: (i) Project inception report; (ii) Annual Work Plan and Budget (AWP/B); (iii) Project Progress Reports (PPRs); (iv) annual Project Implementation Review (PIR); (v) Technical Reports; (vi) co-financing reports; and (vii) Terminal Report. In addition, assessment of the GEF Monitoring Evaluation Tracking Tools against the baseline (completed during project preparation) will be required at midterm and final project evaluation.
203. **Project Inception Report.** It is recommended that the PMU prepares a draft project inception report in consultation with the LTO, BH and other project partners. Elements of this report should be discussed during the Project Inception Workshop and the report subsequently finalized. The report will include a narrative on the institutional roles and responsibilities and coordinating action of project partners, progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. It will also include a detailed first year AWP/B, a detailed project monitoring plan. The draft inception report will be circulated to the PSC for review and comments before its finalization, no later than

one month after project start-up. The report should be cleared by the FAO BH, LTO and the FAO GEF Coordination Unit and uploaded in FPMIS by the BH.

204. **Results-based Annual Work Plan and Budget (AWP/B)**. The draft of the first AWP/B will be prepared by the PMU in consultation with the FAO Project Task Force and reviewed at the project Inception Workshop. The Inception Workshop (IW) inputs will be incorporated and the PMU will submit a final draft AWP/B within two weeks of the IW to the BH. For subsequent AWP/B, the PMU will organize a project progress review and planning meeting for its review. Once comments have been incorporated, the BH will circulate the AWP/B to the LTO and the GEF Coordination Unit for comments/clearance prior to uploading in FPMIS by the BH. The AWP/B must be linked to the project's Results Framework indicators so that the project's work is contributing to the achievement of the indicators. The AWP/B should include detailed activities to be implemented to achieve the project outputs and output targets and divided into monthly timeframes and targets and milestone dates for output indicators to be achieved during the year. A detailed project budget for the activities to be implemented during the year should also be included together with all monitoring and supervision activities required during the year. The AWP/B should be approved by the PSC and uploaded on the FPMIS by the BH.

205. **Project Progress Reports (PPR)**: PPRs will be prepared by the PMU based on the systematic monitoring of output and outcome indicators identified in the project's Results Framework (Annex 1). The purpose of the PPR is to identify constraints, problems or bottlenecks that impede timely implementation and to take appropriate remedial action in a timely manner. They will also report on projects risks and implementation of the risk mitigation plan. The PPR will be submitted to the BH and LTO for comments and clearance. The BH will upload the PPR on the FPMIS.

206. **Annual Project Implementation Review (PIR)**: The LTO (in collaboration with the PMU) will prepare an annual PIR covering the period July (the previous year) through June (current year) to be submitted to the BH and the TCI GEF Funding Liaison Officer (FLO) for review and approval **no later than (check each year with GEF Unit but roughly end June/early July each year)**. The FAO GEF Coordination Unit will submit the PIR to the GEF Secretariat and GEF Evaluation Office as part of the Annual Monitoring Review report of the FAO-GEF portfolio. PIRs will be uploaded on the FPMIS by the TCI GEF Coordination Unit.

207. Key milestones for the PIR process:

- **Early July**: the LTOs submit the draft PIRs (after consultations with BHs, project teams) to the GEF Coordination Unit (faogef@fao.org , copying respective GEF Unit officer) for initial review;
- **Mid July**: GEF Unit responsible officers review main elements of PIR and discuss with LTO as required;
- **Early/mid-August**: GEF Coordination Unit prepares and finalizes the FAO Summary Tables and sends to the GEF Secretariat by (date is communicated each year by the GEF Secretariat through the FAO GEF Unit);
- **September/October**: PIRs are finalized. PIRs carefully and thoroughly reviewed by the GEF Coordination Unit and discussed with the LTOs for final review and clearance;
- **Mid November 17**: (date to be confirmed by the GEF): the GEF Coordination Unit submits the final PIR reports -cleared by the LTU and approved by the GEF Unit- to the GEF Secretariat and the GEF Independent Evaluation Office.

208. **Technical Reports:** Technical reports will be prepared by national, international consultants (partner organizations under LOAs) as part of project outputs and to document and share project outcomes and lessons learned. The drafts of any technical reports must be submitted by the PMU to the BH who will share it with the LTO. The LTO will be responsible for ensuring appropriate technical review and clearance of said report. The BH will upload the final cleared reports onto the FPMIS. Copies of the technical reports will be distributed to project partners and the Project Steering Committee as appropriate.
203. **Co-financing Reports:** The BH, with support from the PMU, will be responsible for collecting the required information and reporting on co-financing as indicated in the Project Document/CEO Request. The PMU will compile the information received from the executing partners and transmit it in a timely manner to the LTO and BH. The report, which covers the period 1 July through 30 June, is to be submitted on or before 31 July and will be incorporated into the annual PIR. The format and tables to report on co-financing can be found in the PIR.
209. **GEF Tracking Tools:** Following the GEF policies and procedures, the relevant tracking tools for full sized projects will be submitted at three moments: (i) with the project document at CEO endorsement; (ii) at the project's mid-term review/evaluation; and (iii) with the project's terminal evaluation or final completion report. The TT will be uploaded in FPMIS by the GEF Unit. The TT are developed by the Project Design Specialist, in close collaboration with the FAO Project Task Force. They are filled in by the PMU and made available for the mid-term review and again for the final evaluation.
210. **Terminal Report:** Within two months before the end date of the project, and one month before the Final Evaluation, the PMU will submit to the BH and LTO a draft Terminal Report. The main purpose of the Terminal Report is to give guidance at ministerial or senior government level on the policy decisions required for the follow-up of the project, and to provide the donor with information on how the funds were utilized. The Terminal Report is accordingly a concise account of the main products, results, conclusions and recommendations of the project, without unnecessary background, narrative or technical details. The target readership consists of persons who are not necessarily technical specialists but who need to understand the policy implications of technical findings and needs for insuring sustainability of project results.

4.4 EVALUATION

211. For SALMA, a Mid-Term Review will be undertaken at project mid-term to review progress and effectiveness of implementation in terms of achieving the project objectives, outcomes and outputs. Findings and recommendations of this review will be instrumental for bringing improvement in the overall project design and execution strategy for the remaining period of the project's term. FAO will arrange for the mid-term review in consultation with the project partners. The evaluation will, *inter alia*:
- (i) review the effectiveness, efficiency and timeliness of project implementation;
 - (ii) analyze effectiveness of partnership arrangements;
 - (iii) identify issues requiring decisions and remedial actions;
 - (iv) propose any mid-course corrections and/or adjustments to the implementation strategy as necessary; and
 - (v) highlight technical achievements and lessons learned derived from project design, implementation and management.

212. It is recommended that an independent Final Evaluation be carried out three months prior to the terminal review meeting of the project partners. The Final Evaluation will aim to identify the project impacts and sustainability of project results and the degree of achievement of long-term results. This evaluation will also have the purpose of indicating future actions needed to sustain project results and disseminate products and best-practices within the country and to neighboring countries.

4.5 M&E PLAN

213. Table 4 provides a summary of the main M&E activities and budgeted costs.

Table 4: Summary of the budgeted monitoring and evaluation plan

Type of M&E Activity	Responsible Parties	Time-frame	Budget
Inception Workshop (IW)	PMU in consultation with the LTO, BH, PSC	Within 1 month after Start-up	USD 3 000
Results-based Annual Work Plan and Budget (AWP/B)	PMU in consultation with the FAO Project Task Force	3 weeks after Start-up and annually with the reporting period July to June	Project staff time
Project Inception Report	-PMU in consultation with the LTO, BH, TTC, FAO-Lebanon -Report cleared by the FAO BH, LTO and the FAO GEF Coordination Unit and uploaded in FPMIS by the BH	1 month after Start-up	Project staff time
Project M&E Expert	Short Term Consultant	1 month after Start-up	USD 38 500
Supervision Visits	FAO	Mid-term	Project staff time
Project Progress Reports (PPR)	-PMU based on the systematic monitoring of output and outcome indicators identified in the project's Results Framework - The PPR will be submitted to the BH and LTO for comments and clearance. BH to upload the PPR on the FPMIS.	No later than one month after the end of each six-monthly reporting period (30 June and 31 December)	Project staff time
Project Implementation Review report (PIR)	LTO (in collaboration with the PMU) will prepare an annual PIR covering the period July (the previous year) through June (current year) to be submitted to the BH and the TCI GEF Funding Liaison Officer	August 1, of each reporting year	Project staff time
Co-financing Reports (Disbursement, Output)	PMU	On a semi-annual basis, and will be considered as part of the semiannual PPRs	Project staff time
GEF Tracking Tools	PM and reviewed by FAO LTU	At mid-point and end of project	Project staff time

Type of M&E Activity	Responsible Parties	Time-frame	Budget
Technical Reports	Project staff and consultants, with peer review as appropriate	As appropriate	Project time + consultant costs
Mid-term Review	External consultant, FAO Office of Evaluation in consultation with PMU, GEF Coordination Unit and other partners.	6 months before end of project implementation	USD 30 000
Independent Final Evaluation	External consultant, FAO Office of Evaluation in consultation with PMU, GEF Coordination Unit and other partner	3 months prior to terminal review meeting	USD 50 000
Terminal Report	PMU with assistance of other project staff and the FAO LTU	2 months before project end	USD 7 000
Lessons Learned	Project Staff, short-term consultants and FAO	As appropriate	
Overall estimated cost of project staff time for M&E			USD 49 000
Total Budget			USD 177 500

4.6 COMMUNICATION

214. As argued in the description of Component 3 of the GEF alternative in section 1.3, communication and visibility are of key importance to this project.

215. A communication strategy will be developed up during the inception phase of the project and it is expected that communication will take place at four levels:

- At the grassroots (Caza) level: supported by local NGOs and local media the project will engage in awareness raising and communication campaigns (for instance on forest fire prevention) in order to mobilise the local communities and engage them in project activities;
- At the district (Mohafaza) level: through awareness raising and communication campaigns, workshops and other outreach activities, the PMU with the support of the partner organizations, will be working with local administrations in order to engage them in project activities and increase their ownership over project results;
- At the national level: SALMA's PMU will work closely with its co-financing and co-executing partners in order to obtain financial and political support that eventually ensures sustainability and continuity of project results and lessons; and
- Internationally: SALMA's achievements, lessons, best practices and more will be documented and shared through a dedicated space on the MOA website.

216. The project allocates a budget for:

- a national communications expert (part time) – this person will develop the communication strategy at project inception and spend a limited amount of time each year for the follow-up on this strategy. This person will work closely with the Project

Assistant who will be in charge of keeping the website updated and with the Project Manager who will be engaging with consultants (Contracts) for campaigns, publications and more;

- various awareness raising and communication campaigns – campaigns will be targeting different stakeholder groups and different levels and for different purposes, as described above;
- visibility materials – project branding is important in order to connect the people, individuals and various stakeholder groups, to the project, as it creates an image of the project in people’s minds while also promising to deliver on outcomes and benefits to the stakeholders; and
- publications – these will range from technical publications to manuals and others.

ANNEXES

ANNEX 1: RESULTS MATRIX

Results Chain	Indicators	Baseline	Mid-term milestone	Target	Means of Verification (MOV)	Assumptions
Objective: Enhance resilience of fragile forest ecosystems and vulnerable communities in forested mountain areas	i) # Ha of climate resilient forest ecosystems (restored and reforested)	0	1000	2000	Participatory reforestation plans Participatory forest management plans	Buy in by the national authorities and the local communities
	ii) # of communities with increased adaptive capacity to reduce risks of and response to climate variability (AMAT 2.2.1)	0	12	24		
	iii) # vulnerable communities with diversified sources of income	0	12	24		
Component 1: Climate proof forest management for enhanced ecosystem services and livelihoods						
Outcome 1.1 Improved forest pest and fire management	i) Updated risk and vulnerability assessment (AMAT 2.1.1.1)	AFDC national mapping of forest fires no localized fire risk maps	Fire data collection and analysis in up to 20 selected sites		Assessment reports	
	ii) Risk and vulnerability assessment conducted (AMAT 2.1.1.2)	No systematic assessments of forest pest outbreaks	Pest surveys conducted on up to 20 selected sites		Assessment reports	
	iii) # of participatory and sustainable forest management plans	No sustainable forest management plans	16 plans		Sustainable forest management Plans	

Results Chain	Indicators	Baseline	Mid-term milestone	Target	Means of Verification (MOV)	Assumptions
Output 1.1.1 Pest outbreak and forest fire risk and vulnerability assessments Output 1.1.2 Participatory forest management plans with a focus on pest and fire management Output 1.1.3 Enhance the capacity of local communities to apply climate-proof forest management practices Output 1.1.4 Apply sustainable forest management practices Output 1.1.5 Construction of 2 hill lakes for forest fire control						
Outcome 1.2: Diversified and sustainable sources of income for vulnerable communities	i) Households and communities have more secure access to livelihood assets	Poor access to livelihoods access (poverty is amongst the selection criteria of targeted community groups) (Level 2, AMAT 1.3.1)		Secure access to livelihoods resources (Level 4, AMAT 1.3.1)		
Output 1.2.1 Identification of sustainable and innovative use of wood and non-wood forest products (community projects) Output 1.2.2 Implementation of community projects						
Component 2: Participatory reforestation for increased adaptive capacity of fragile forest ecosystems and rural mountain forest communities						
Outcome 2.1 Reduced soil erosion, fragmentation of forest resources and biodiversity loss for more resilient forest and rural mountain forest communities	i) % change of soil erosion ii) change in fragmentation index iii) # of participatory reforestation plans	0% TBD 0	TBD 8	TBD	Soil erosion study report Remote sensing imagery, geo-spatial information	
Output 2.1.1 Study of the sedimentation levels in selected hill lakes Output 2.1.2 Analysis of land use and land cover changes along the ecological corridors based on remote sensing data Output 2.1.3 implement community – based participatory reforestation plans						
Component 3: Enhanced enabling environment for climate proof forest management						
Outcome 3.1 Increased technical and institutional capacity at national level to replicate participatory climate proof forest management (upscaling community –based	i) Number of trained MoA staff at central and local level participating in SALMA implementation	0	23		Work plans Participatory reforestation plans Project reports	Qualified candidates and transparent recruitment process

Results Chain	Indicators	Baseline	Mid-term milestone	Target	Means of Verification (MOV)	Assumptions
reforestation and forest management)						
Output 3.1.1 Enhanced capacity on sustainable forest management of the Reforestation Programme Coordination Unit (RPCU) in MoA						
Output 3.1.2 Updated and extended assessments of existing eco-system services in selected forests						
Outcome 3.2 Project monitoring and communication	i) M&E system established	0	1			
	ii) Communication and awareness strategy developed and implemented	0		1		
Output 3.2.1 Develop and implement a monitoring and evaluation plan for adaptive project management and lessons learnt						
Output 3.2.2 Develop and implement a communication and public awareness raising strategy						

ANNEX 2: RESULTS BASED BUDGET

Oracle code and description	Input Description	Unit	No. of units	Unit cost	BUDGET								EXPENDITURES BY YEAR						
					Component 1			Component 2		Component 3			PMC	Total GEF	Year 1	Year 2	Year 3	Year 4	Year 5
					Outcomes			Outcomes		Outcomes									
					1.1	1.2	Total	2.1	Total	3.1	3.2	Total							
5300 Salaries professionals																			
	Operations and Administrative Officer (NAT)	Lumpsum	1	\$ 340,364									\$ 340,364	\$ 340,364	\$ 68,073	\$ 68,073	\$ 68,073	\$ 68,073	\$ 68,073
5300 Sub-total salaries professionals					\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 340,364	\$ 340,364	\$ 68,073	\$ 68,073	\$ 68,073	\$ 68,073	\$ 68,073
5570 Consultants																			
International Consultants																			
	SFM Expert	Day	180	\$ 400	\$ 72,000		\$ 72,000		\$ -			\$ -	\$ 72,000	\$ 24,000	\$ 24,000	\$ 24,000			
	Mid Term Reviewer	Lumpsum	1	\$ 30,000		\$ -		\$ -		\$ 30,000	\$ 30,000		\$ 30,000			\$ 30,000			
	Final Evaluation	Lumpsum	1	\$ 50,000		\$ -		\$ -		\$ 50,000	\$ 50,000		\$ 50,000						\$ 50,000
Sub-total international Consultants					\$ 72,000	\$ -	\$ 72,000	\$ -	\$ -	\$ -	\$ 80,000	\$ 80,000	\$ -	\$ 152,000	\$ 24,000	\$ 24,000	\$ 54,000	\$ -	\$ 50,000
National Consultants																			
	Project Manager	Year	5	\$ 54,000	\$ 54,000	\$ 54,000	\$ 108,000	\$ 54,000	\$ 54,000	\$ 54,000	\$ 54,000	\$ 108,000	\$ 270,000	\$ 54,000	\$ 54,000	\$ 54,000	\$ 54,000	\$ 54,000	\$ 54,000
	Project Assitant	Year	5	\$ 30,000	\$ 30,000	\$ 30,000	\$ 60,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 60,000	\$ 150,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000
	Participatory Planning and Gender Specialist	Year	5	\$ 42,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 70,000	\$ 70,000			\$ -	\$ 210,000	\$ 42,000	\$ 42,000	\$ 42,000	\$ 42,000	\$ 42,000	\$ 42,000

	Forest Engineer	Year	5	\$ 42,000	\$ 140,000	\$ 140,000	\$ 70,000	\$ 70,000			\$ -		\$ 210,000	\$ 42,000	\$ 42,000	\$ 42,000	\$ 42,000	\$ 42,000	
	GIS Specialist	Year	5	\$ 42,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000		\$ 210,000	\$ 42,000	\$ 42,000	\$ 42,000	\$ 42,000	\$ 42,000	
	M&E and Reporting Expert	Month	11	\$ 3,500		\$ -	\$ -	\$ -		\$ 38,500	\$ 38,500		\$ 38,500	\$ 10,500	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	
	Communication Expert(s)	Month	6	\$ 3,500		\$ -	\$ -	\$ -		\$ 21,000	\$ 21,000		\$ 21,000	\$ 7,000	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500	
	Driver	Month	60	\$ 1,500	\$ 22,500	\$ 45,000	\$ 45,000	\$ 45,000		\$ -	\$ -		\$ 90,000	\$ 18,000	\$ 18,000	\$ 18,000	\$ 18,000	\$ 18,000	
Sub-total National Consultants					\$ 456,500	\$ 106,500	\$ 563,000	\$ 339,000	\$ 339,000	\$ 154,000	\$ 143,500	\$ 297,500	\$ 1,199,500	\$ 245,500	\$ 238,500	\$ 238,500	\$ 238,500	\$ 238,500	
5570 Sub-total Consultants					\$ 528,500	\$ 106,500	\$ 635,000	\$ 339,000	\$ 339,000	\$ 154,000	\$ 223,500	\$ 377,500	\$ 1,351,500	\$ 269,500	\$ 262,500	\$ 292,500	\$ 238,500	\$ 288,500	
5650 Contracts																			
	Hill Lake Bezbina	Lumpsum	1	\$ 485,000	\$ 485,000	\$ 485,000	\$ -	\$ -		\$ -			\$ 485,000	\$ 242,500	\$ 242,500				
	Hill Lake Deir el Moukhaless	Lumpsum	1	\$ 485,000	\$ 485,000	\$ 485,000	\$ -	\$ -		\$ -			\$ 485,000	\$ 242,500	\$ 242,500				
	Green Plan TA for Lake bidding and Supervision	Lumpsum	1	\$ 30,000	\$ 30,000	\$ 30,000	\$ -	\$ -		\$ -			\$ 30,000	\$ 15,000	\$ 15,000				
	Vulnerability Assessment Studies	Lumpsum	1	\$ 30,000	\$ 30,000	\$ 30,000	\$ -	\$ -		\$ -			\$ 30,000	\$ 30,000				\$ -	
	SFM Planning	Lumpsum	16	\$ 6,000	\$ 96,000	\$ 96,000	\$ -	\$ -		\$ -			\$ 96,000	\$ 24,000	\$ 24,000	\$ 24,000	\$ 24,000		
	SFM Implementation	Ha	1000	\$ 384	\$ 384,000	\$ 384,000	\$ -	\$ -		\$ -			\$ 384,000	\$ 96,000	\$ 96,000	\$ 96,000	\$ 96,000		
	Community Projects (SFM and	Lumpsum	1	\$ 740,000	\$ 500,000	\$ 500,000	\$ 240,000	\$ 240,000		\$ -			\$ 740,000		\$ 185,000	\$ 185,000	\$ 185,000	\$ 185,000	

	Reforestation)																		
	Reforestation (planning and implementation)	Ha	1000	\$ 2,600		\$ -	\$ 2,600,000	\$ 2,600,000		\$ -		\$ 2,600,000	\$ 650,000	\$ 650,000	\$ 650,000	\$ 650,000	\$ 650,000		
	Awareness and Communication Campaigns	Lumps um	1	\$ 80,000		\$ -	\$ -	\$ -	\$ 80,000	\$ 80,000		\$ 80,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000
	Ecosystem Services Study	Lumps um	1	\$ 25,000		\$ -	\$ -	\$ 25,000	\$ 25,000		\$ 25,000		\$ 12,500	\$ 12,500					
	Soil erosion Study	Lumps um	1	\$ 20,000		\$ -	\$ 20,000	\$ 20,000		\$ -		\$ 20,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000		
	Morocco Training of Forest Engineers at ENFI	Lumps um	1	\$ 40,000		\$ -	\$ -	\$ 40,000	\$ 40,000		\$ 40,000		\$ 40,000						
5650 Sub-total Contracts					\$ 1,510,000	\$ 500,000	\$ 2,010,000	\$ 2,860,000	\$ 2,860,000	\$ 65,000	\$ 80,000	\$ 145,000	\$ 5,015,000	\$ 1,361,000	\$ 1,488,500	\$ 988,500	\$ 976,000	\$ 201,000	
5900 Travel																			
	Travel SFM Expert (International consultant)	Lumps um	1	\$ 57,240	\$ 57,240	\$ 57,240	\$ -	\$ -		\$ -		\$ 57,240	\$ 19,080	\$ 19,080	\$ 19,080				
	Travel GIS Expert (National consultant)	Lumps um	1	\$ 3,400		\$ -	\$ -	\$ 3,400		\$ 3,400		\$ 3,400	\$ 3,400						
	Travel Forest Engineers	Lumps um	1	\$ 47,500		\$ -	\$ -	\$ 47,500		\$ 47,500		\$ 47,500	\$ 47,500						
5900 Sub-total travel					\$ 57,240	\$ -	\$ 57,240	\$ -	\$ -	\$ 50,900	\$ -	\$ 50,900	\$ 108,140	\$ 69,980	\$ 19,080	\$ 19,080	\$ -	\$ -	
5023 Training																			
	Rural-Invest & training	Lumps um	1	\$ 60,000		\$ 60,000	\$ -	\$ -		\$ -		\$ 60,000	\$ 30,000	\$ 30,000					

	Workshops	Lumps um	5	\$ 3,000			\$ -		\$ -		\$ 15,000	\$ 15,000		\$ 15,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000
	Local Communities Training	Lumps um	14	\$ 5,000	\$ 70,000		\$ 70,000		\$ -			\$ -		\$ 70,000	\$ 70,000				
5023 Sub-total training					\$ 70,000	\$ 60,000	\$ 130,000	\$ -	\$ -	\$ -	\$ 15,000	\$ 15,000	\$ -	\$ 145,000	\$ 103,000	\$ 33,000	\$ 3,000	\$ 3,000	\$ 3,000
6000 Expendable procurement																			
	Office supplies	Year	5	\$ 2,000			\$ -		\$ -		\$ 10,000	\$ 10,000		\$ 10,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000
6000 Sub-total expendable procurement					\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,000	\$ 10,000	\$ -	\$ 10,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000
6100 Non-expendable procurement																			
	Car	Lumps um	1	\$ 20,000	\$ 5,000	\$ 5,000	\$ 10,000	\$ 10,000	\$ 10,000			\$ -		\$ 20,000	\$ 20,000				
	Forest Inventory and Management Equipment	Lumps um	1	\$ 25,000	\$ 25,000		\$ 25,000		\$ -			\$ -		\$ 25,000	\$ 25,000				
	Office Equipment	Lumps um	1	\$ 10,000	\$ 2,000	\$ 2,000	\$ 4,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 4,000		\$ 10,000	\$ 10,000				
6100 Sub-total non-expendable procurement					\$ 32,000	\$ 7,000	\$ 39,000	\$ 12,000	\$ 12,000	\$ 2,000	\$ 2,000	\$ 4,000	\$ -	\$ 55,000	\$ 55,000	\$ -	\$ -	\$ -	\$ -
6300 GOE budget																			
	Other GEO	Lumps um	1	\$ 25,631			\$ -		\$ -		\$ 25,631	\$ 25,631		\$ 25,631	\$ 5,126	\$ 5,126	\$ 5,126	\$ 5,126	\$ 5,126
	Car Operations and Maintenance	Month	60	\$ 700	\$ 10,500	\$ 10,500	\$ 21,000	\$ 21,000	\$ 21,000			\$ -		\$ 42,000	\$ 8,400	\$ 8,400	\$ 8,400	\$ 8,400	\$ 8,400
	Communicati ons and Visibility Materials	Year	5	\$ 5,000			\$ -				\$ 25,000	\$ 25,000		\$ 25,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000

	Publications	Lumps um	2	\$ 15,000		\$ -	\$ -	\$ 30,000	\$ 30,000		\$ 30,000						\$ 30,000	
6300 Sub-total GOE budget				\$ 10,500	\$ 10,500	\$ 21,000	\$ 21,000	\$ 21,000	\$ -	\$ 80,631	\$ 80,631	\$ -	\$ 122,631	\$ 18,526	\$ 18,526	\$ 18,526	\$ 18,526	\$ 48,526
TOTAL				\$ 2,208,240	\$ 684,000	\$ 2,892,240	\$ 3,232,000	\$ 3,232,000	\$ 271,900	\$ 411,131	\$ 683,031	\$ 340,364	\$ 7,147,635	\$ 1,947,079	\$ 1,891,679	\$ 1,391,679	\$ 1,306,099	\$ 611,099
SUBTOTAL Comp 1		\$2,892,240																
SUBTOTAL Comp 2		\$3,232,000																
SUBTOTAL Comp 3		\$ 683,031																
Subtotal		\$6,807,271																
Project Management Cost (PMC)		\$ 340,364																
TOTAL GEF		\$7,147,635																

ANNEX 3: THE PROJECT RISK LOG

A. Risks

Risk No.	Risk statement	Impact	Likelihood	Overall ranking	Mitigating action	Action owner
1.	Political instability may focus the public interest to areas other than environmental issues	Medium-low	Low		Despite the fact that the country is situated in a difficult political situation, no direct influence on the activities of ongoing environmental projects is noted.	PMU
2.	Local populations are not interested in engaging in reforestation and sustainable forest management activities	Medium-High	Low		PPG studies evidenced that local needs for improving sustainable forest management and reforestation are so high that this is unlikely. In addition, as local communities will be directly involved in planning for reforestation and sustainable forest management activities, it is assumed that their interests will be reflected and accounted for in the participatory management plans. Moreover, for potentially successful community projects, SALMA will provide seed funding. This will incentivise the wider community to participate to project activities.	PMU
3.	Limited capacity at central and local levels on sustainable forest management, fire management and pest management	Medium-High	Low		SALMA will aim at strengthening the Reforestation Programme Coordination Unit (RCMU), complementing the capacity development support already provided through the baseline investments. At the central level, SALMA will build capacity through a number of training activities and the deployment of 3 full-time experts in the RCMU. These 3 experts will in turn train MOA staff at central and local levels, follow-up project activities, monitor progress and results, and work closely with beneficiaries in such a way that their capacities are enhanced.	PMU
4.	Heavy administrative procedures, mainly related to expenditures modalities and processing	Medium-Low	Medium		The project will build on the experiences and modalities developed for other GEF projects in the country.	FAO BH
5.	Current climate and seasonal variability and/or	Medium-Low	Medium		Consider current climatic variability during the implementation process; focus on climate-resilient species and techniques to: i) assist	PMU

	<p>hazard events prevent implementation of planned activities. Risks include: economic loss or physical damage to project activities; the implementation timing of the project is delayed.</p>				<p>plant growth particularly in the seedling/sapling phase; and ii) reduce risk of damage from hazard events; take meteorological predictions and seasonal variability into account to reduce the risk of income erosion and to plants/trees.</p>	
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B. Environmental and Social risks

N/A

ANNEX 4: RISK CLASSIFICATION CERTIFICATION FORM

After completing the E&S screening checklist, the LTO completes and certifies this certification form.

Project symbol: NTT638666 Project title: Smart Adaptation of Forest Landscapes in Mountain Areas (SALMA)

A. RISK CLASSIFICATION

Low
 Moderate
 High

1. Record key risk impacts from the E&S Screening Checklist

A. None
C. _____
 B. _____
 D. _____

2. Has the project site and surrounding area been visited by the compiler of this form?

Yes
 No

B. STAKEHOLDER CONSULTATION/ ENGAGEMENT

Identification of stakeholder(s)	Date	Participants	Location
Ministry of Agriculture and Haddata community	13/03/2014	7	MoA
Ministry of Agriculture and Rachaya community	13/03/2014	7	MoA
Ministry of Agriculture and Deir el Ahmar community	13/03/2014	4	MoA
Municipalities and communities ^{1/}	01/01/2015-31/12/2015	Participants from 30 municipalities	Municipalities
Municipality and communities	20/11/ 2015	12	Bezbin

Municipality and communities	27/11/ 2015	16	Deir el Moukhaless
Government ministries especially the Ministry of Agriculture and Mistry of Environment, Green Plan, and Lebanon Agriculture Research Institute (LARI).	24/03/2016	Staff from MOA & MOE and other listed entities	MOA premises, Beirut.

Note: ¹⁷ Consultations carried out by the EU-funded Agriculture and Rural Development Project, ARDP) in 2015 where 30 minutes of meeting were signed among them the 18-long list of potential project areas for reforestation as illustrated in Table A8-1.

1. Summarize key risks and impacts identified from the stakeholder engagement

- A. None C. _____
 B. _____ D. _____

2. Have any of the stakeholders raised concerns about the project?

The only concern was whether the project will encounter some additional delays because municipalities and communities alike were keen on initiating the activities given current Lebanon's sluggish economic performance.

The LTO confirms the information above

Date 4/5/2016

Signature [Signature]

ANNEX 5: PROJECT ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST

Would the project, if implemented?	NA	No	Yes	Unknown
I. FAO VISION/STRATEGIC OBJECTIVES				
Be in line with FAO's vision?			X	
Be supportive of FAO's strategic objectives?			X	
II. FAO KEY PRINCIPLES FOR SUSTAINABILITY IN FOOD AND AGRICULTURE				
Improve efficiency in the use of resources?			X	
Conserve, protect and enhance natural resources?			X	
Protect and improve rural livelihoods and social well-being?			X	
Enhance resilience of people, communities and ecosystems?			X	
Include responsible and effective governance mechanisms?			X	
ESS 1 NATURAL RESOURCES MANAGEMENT				
<input checked="" type="checkbox"/> Management of water resources and small dams				
Include an irrigation scheme that is more than 20 hectares or withdraws more than 1000 m ³ /day of water?		X		
Include an irrigation scheme that is more than 100 hectares or withdraws more than 5000 m ³ /day of water?		X		
Include an existing irrigation scheme?		X		
Include an area known or expected to have water quality problems?		X		
Include usage of non-conventional sources of water (i.e. wastewater)?		X		
Include a dam that is more than 5 m. in height?		X		
Include a dam that is more than 15 m. in height?		X		
Include measures that build resilience to climate change?			X	
<input type="checkbox"/> Tenure				
Negatively affect the legitimate tenure rights of individuals, communities or others ¹⁹ ?		X		
ESS 2 BIODIVERSITY, ECOSYSTEMS AND NATURAL HABITATS				
Make reasonable and feasible effort to avoid practices that could have a negative impact on biodiversity, including agricultural biodiversity and genetic resources?			X	
Have biosafety provisions in place?		X		
Respect access and benefit-sharing measures in force?			X	
Safeguard the relationships between biological and cultural diversity?			X	
<input type="checkbox"/> Protected areas, buffer zones and natural habitats				
Be located such that it poses no risk or impact to protected areas, critical habitats and ecosystem functions?			X	
ESS 3 PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE				

¹⁹ In accordance with Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT) <http://www.fao.org/docrep/016/i2801e/i2801e.pdf>

Would the project, if implemented?	NA	No	Yes	Unknown
Planted forests				
Have a credible forest certification scheme, national forest programmes or equivalent or use the Voluntary Guidelines on Planted Forests (or an equivalent for indigenous forests)?			X	
ESS 4 ANIMAL - LIVESTOCK AND AQUATIC- GENETIC RESOURCES FOR FOOD AND AGRICULTURE				
Involve the procurement or provision of pesticides?		X		
Aquatic genetic resources				
Adhere (Aligned) to the FAO Code of Conduct for Responsible Fisheries (CCRF) and its related negotiated instruments?	X			
Be aligned, where applicable, with FAO's strategic policies established in the FAO Technical Guidelines for Responsible Fisheries (including aquaculture)?	X			
Livestock genetic resources				
Be aligned with the Livestock Sector Strategy including the animal disease, public health and land degradation provisions?	X			
ESS 5 PEST AND PESTICIDES MANAGEMENT				
Involve the procurement or provision of pesticides?				
Result in increased use of pesticides through expansion or intensification of production systems?	X			
Require the disposal of pesticides or pesticide contaminated materials?	X			
ESS 6 INVOLUNTARY RESETTLEMENT AND DISPLACEMENT				
Avoid the physical and economic displacement of people?			X	
ESS 7 DECENT WORK				
Adhere to FAO's guidance on decent rural employment, promoting more and better employment opportunities and working conditions in rural areas and avoiding practices that could increase workers' vulnerability?	X			
Respect the fundamental principles and rights at work and support the effective implementation of other international labor standards, in particular those that are relevant to the agri-food sector?	X			
ESS 8 GENDER EQUALITY				
Have the needs, priorities and constraints of both women and men been taken into consideration?			X	
Promote women's and men's equitable access to and control over productive resources and services?			X (?)	
Foster their equal participation in institutions and decision-making processes?			X	
ESS 9 INDIGENOUS PEOPLES AND CULTURAL HERITAGE				
Are there any indigenous communities in the project area?		X		
Are project activities likely to have adverse effects on indigenous peoples' rights, lands, natural resources, territories, livelihoods, knowledge, social fabric, traditions, governance systems, and culture or heritage (tangible and intangible)?		X		
Are indigenous communities outside the project area likely to be affected by the project?		X		
Designed to be sensitive to cultural heritage issues?			X	

ANNEX 6: TERMS OF REFERENCE OF PROJECT MANAGEMENT UNIT STAFF AND KEY TECHNICAL STAFF

A.6.1 Terms of Reference of the Project Manager (PM)

Duties and Responsibilities

A Project Manager (PM) will be selected jointly by Ministry of Agriculture (MOA), Ministry of Environment (MOE) and FAO through a transparent and open selection process. The PM/Project Management Unit (PMU), which will be under the oversight of the Project Steering Committee (PSC --MOA, MOE and FAO), will be housed at the MOA's Rural Development and Natural Resources Directorate/Reforestation Program Coordination Unit headed by the Reforestation Program Coordinator (NPC). Under the guidance of the NPC representing MOA and the Budget Holder (BH --FAO Representative in Lebanon), and with technical guidance from the FAO Lead Technical Officer (LTO) and HQ Technical Officer (LTU), the PM will be responsible for the day-to-day management of the project. He/she will be responsible for the overall planning, coordination of project activities, and monitoring of project results. Specifically, he/she will carry out the following tasks:

1. Prepare and supervise the implementation of Annual Work Plans and Budget (AWP/B);
2. In accordance with the approved AWP/B, develop detailed TORs for short-term consultants and contracts, assist with their selection and recruitment, then monitor and supervise their work to ensure timely delivery of outputs to an acceptable standard;
3. Monitor and maintain records of actual project expenditures;
4. Assist in the set-up and implementation of the project M&E system;
5. Closely monitor project implementation and results and prepare project progress reports;
6. Collect other co-financing partners' data and consolidate data into the PPR;
7. Facilitate the establishment of the Project Technical Consultative Mechanism and convene regular meetings in order to coordinate project activities with the cofinancing projects, exchange lessons learned and harmonize approaches;
8. Ensure regular communication and promote close collaboration with development partners, collaborating institutions and other stakeholders;
9. Make all necessary arrangements and preparations for the missions of the international consultants and FAO backstopping officers, including domestic logistic support, mission schedule, availability of relevant documents, and meetings with relevant officials as needed;
10. Facilitate the different workshops to be organized during the project period and assume full responsibility in preparing workshop reports/proceedings as applicable;
11. Provide technical advice to ensure that the appropriate approaches are followed during project implementation (participatory and integrated approaches, multi-stakeholder participation, etc.).
12. Perform other duties as may be required in order to ensure that project operations proceed according to schedule and foreseen project results are achieved.

Minimum requirements

Candidates should meet the following criteria:

1. Advance degree in forestry, natural resource management or other relevant specialization.
2. A minimum of 7 years of relevant professional experience, including practical experience in forest project implementation, institutional networking and decision-making advice.
3. Working knowledge in Arabic and English (mandatory). Working knowledge of French would be a plus.
4. Proficiency in Excel, Word, PowerPoint, MS Office.

Duty Station: Beirut, with extensive travel to the project sites

Duration: Full-time (5 years - full project life)

A.6.2 Terms of Reference of the Project Assistant

Duties and responsibilities

Under the guidance of the NPC representing MOA and the Budget Holder (BH --FAO Representative in Lebanon), and with technical guidance from the FAO Lead Technical Officer (LTO) and HQ Technical Officer (LTU), the PMU Assistant will work under the direct supervision of the Project Management Unit Project Manager. The PMU Assistant will carry out the following duties:

1. Facilitate communications between the PMU, MOA, MOE, FAO and other executing partners and collaborative institutions;
2. Provide assistance to final editing of technical reports;
3. Provide assistance to editing of annual and progress reports;
4. Assist the TPC in the preparation of the documentation for the Project Steering Committee;
5. Attend meetings and assist for organizational matters;
6. Deal with SALAM financial, procurement, M&E and audit matters by liaising with FAO Budget Holder; and
7. Perform other related duties as required.

Minimum requirements

1. Minimum Bachelor Degree in public administration, business or related fields.
2. Financial background would be a plus.
3. At least 7 years of experience in assistance to project manager.
4. Working knowledge in Arabic and English (mandatory). Working knowledge of French would be a plus.
5. Proficiency in Excel, Word, PowerPoint, MS Office.

Selection criteria

Candidates will be assessed against the following criteria:

1. Proficiency in Excel, Word, PowerPoint, MS Office.
2. Ability to work productively and harmoniously with people of different national and cultural backgrounds in a team environment.
3. Flexibility and ability to work under pressure.

Duty Station: Beirut

Duration: Full-time (5 years)

A.6.3 Terms of Reference of the Participatory Planning and Gender Specialist

Duties and responsibilities

Under the guidance of the NPC representing MOA and the Budget Holder (BH-FAO Representative in Lebanon), and with technical guidance from the FAO Lead Technical Officer (LTO) and HQ Technical Officer (LTU), the Participatory Reforestation Planning and Gender Specialist will work under the direct supervision of the NPC and in collaboration with SALMA Project Manager and will be responsible for overall coordination, technical guidance, capacity building and supervision of participatory reforestation planning with Reforestation Consortium (RC), **guarantee adequate gender mainstreaming in project activities and results benefitting women and men alike** and will carry out the following duties as a part of the project activity:

1. Complete, in close collaboration with the M&E expert, the results matrix of the SALMA project in order to guarantee gender mainstreaming, identifying relevant gender-sensitive indicators and targets at the output level.
2. Identify, guide and manage various RPs, assist formation of RCs, and prepare and finalize contracts while building and maintaining relationships with municipalities and RPs;
3. Provide training on participatory reforestation planning;
4. Provide advice on participatory reforestation planning to RCs in preparing participatory reforestation plans;
5. Evaluate proposed reforestation sites and participatory reforestation plans and assist the unit leader to prepare ranking lists of municipalities to be supported by the project;
6. Ensure Lebanon and if need be FAO safeguard policies (which include gender) are reflected in the participatory reforestation plans **and gender issues are fully addressed**;
7. Facilitate community mobilization and evaluate communities' interactions with forests and ensure effective maintenance and protection measures and gender concerns are built into the participatory reforestation plans;
8. Review the reports prepared by the RCs and provide necessary advice;
9. Help RCs to maintain good working relationships with municipalities and RPs;
10. Assist the unit leader in preparing Annual Work Plan and Budget (AWPB) based on the approved participatory reforestation plans;
11. Assist the unit leader in conducting field visits to reforestation sites to evaluate reforestation performance and provide advice to the RCs;
12. Assist the unit leader in identifying issues to be addressed in maintaining and protecting the project supported reforestation sites and propose counter measures;
13. Provide constant review on the participatory reforestation plan manual and update the document based on the field experience;
14. Assist the unit leader in preparing biannual progress reports, **particularly by tracking, monitoring and adapting the gendered approach applied by the SALMA project**;
15. Contribute to compiling lessons learned and ensure that they are shared and integrated as part of the wider NARP knowledge management approach;

16. Contribute to formulating strategies for scaling-up and provide overall recommendations to Inter-ministerial Committee on reforestation activities based on the field lessons learned; and
17. Identify and capitalize the best practices from SALMA on gender mainstreaming for systematic inclusion in SALMA-related technical publications.

Minimum requirements

Candidates should meet the following criteria:

1. University degree in Agriculture/Rural Extension, Socio-economic, development studies, natural resources management or other related fields.
2. Strong knowledge of participatory approaches with at least five years of relevant work experience.
2. Strong prior project/programme management skills are essential.
3. Experience in forestry, agriculture, and natural resources management is an advantage.
4. Working knowledge in Arabic and English (mandatory). Working knowledge of French would be a plus.
5. Proficiency in Excel, Word, PowerPoint, MS Office.

Selection criteria

Candidates will be assessed against the following criteria:

1. Proficiency and knowledge in sociology and natural resources management.
2. Ability to work productively and harmoniously with people of different national and cultural backgrounds in a team environment.
3. Flexibility and ability to work under pressure.

Duty Station: Beirut

Duration: (5 years)

A.6.4 Terms of Reference of the SFM Expert

Duties and responsibilities

The Forest Management Expert will be selected jointly by Ministry of Agriculture (MOA), Ministry of Environment (MOE) and FAO through a transparent and open selection process. The PM/Project Management Unit (PMU), which will be under the oversight of the Project Steering Committee (PSC --MOA, MOE and FAO), will be housed at the MOA's Rural Development and Natural Resources Directorate/Reforestation Program Coordination Unit headed by the Reforestation Program Coordinator (NPC). Under the guidance of the Budget Holder (BH --FAO Representative in Lebanon), and with technical guidance from the FAO Lead Technical Officer (LTO) and the HQ Technical Officer (LTU), the Forest Management Expert will work under the direct supervision of the NPC and in collaboration with SALMA Project Manager, and will be responsible for overall coordination and supervision of reforestation, restoration and forest management activities including the provision of strategic and technical guidance for MOA, municipalities, NGOs and other related actors who will form Reforestation Consortium (RC). The Forest Management Expert d will carry out the following duties as a part of the project activity:

1. Manage the Reforestation Unit (RU) and other RU members, including the provision of strategic and technical guidance for the RU staff and RPs;
2. Ensure coherence and complementarity with other SALMA components;
3. Coordinate with RDNRD/MoA in carrying out reforestation activities;

4. Support the development of forest management plans and supervise and ensure their timely implementation in the field;
5. Provide technical advice and training on reforestation and silviculture to RC in preparing participatory reforestation plans;
6. Monitor and evaluate performance of reforestation sites, especially on seedling survival rates and feed the data into the reforestation registry;
7. Ensure timely implementation of reforestation activities by closely coordinating between municipalities, RPs and nurseries under the management of RDNRD/MoA;
8. Evaluate proposed reforestation and forest management sites and participatory reforestation plans and prepare ranking lists of municipalities to be supported by the project;
9. Prepare Annual Work Plan and Budget (AWPB) based on the approved reforestation and forest management plans;
10. Identify issues to be addressed in maintaining and protecting the project supported reforestation and forest management sites and propose counter measures;
11. Promote cost-saving technologies with the project supported RCs and identify effective measures to reduce reforestation costs;
12. Provide constant review of the POM and update the document based on field experience;
13. Assist the GIS, Mapping and M&E expert in designing the registry system;
14. Coordinate and supervise the reforestation component M&E in close coordination with the GIS, Mapping and M&E expert, including preparing biannual progress reports;
15. Ensure lessons learned are shared and integrated as part of the wider NRP knowledge management approach; and
16. Contribute to formulating strategies for scaling-up and provide overall recommendations to Inter-ministerial Committee on reforestation activities based on the field lessons learned.

Minimum requirements

Candidates should meet the following criteria:

1. Advance University degree in forestry, natural resources management, environmental studies and/or a similar fields with at least seven years relevant work experience in forest management and reforestation programmes.
2. Strong prior project/programme management skills are essential.
3. Experience in nursery management and tree propagation is an advantage.
4. Working knowledge in Arabic and English (mandatory). Working knowledge of French would be a plus.
5. Proficiency in Excel, Word, PowerPoint, MS Office.

Selection criteria

Candidates will be assessed against the following criteria:

1. Proficiency in the field of reforestation, landscape restoration, forest management and ecosystem approach.
2. Ability to work productively and harmoniously with people of different national and cultural backgrounds in a team environment.
3. Flexibility and ability to work under pressure.

Duty Station: Beirut

Duration: (5 years)

A.6.5 Terms of Reference of the GIS Expert

Duties and responsibilities

Under guidance of the Budget Holder (BH --FAO Representative in Lebanon), and with technical guidance from the FAO Lead Technical Officer (LTO) and the HQ Technical Officer (LTU), the GIS and M&E specialist will work under the direct supervision of the NPC and in collaboration with SALMA Project Manager. The GIS and M&E specialist will be responsible for managing project geographic and information management system as well as the reforestation registry to be developed through parallel funding, and will carry out the following duties as a part of the project activity:

1. Design and develop a reforestation registry for the NARP;
2. Develop a TOR for developing the reforestation registry and supervise the contractor and the progress of the development (to be carry out through parallel funding);
3. Conduct field visits to check the progress and quality of reforestation and forest management activities and report the progress to PM;
4. Coordinate with stakeholders who have been engaged in reforestation and forest management activities and collect relevant data to be stored into the reforestation registry;
5. Prepare reforestation and forest management site maps for the all sites planned under the project's activities;
6. Provide training on GPS and geo-tagged photo taking to the RCs who are under Memorandum of understanding between municipalities and NGOs;
7. Maintain the reforestation registry and oversee data entry;
8. Develop a project website and constantly update the contents;
9. Upload the geo-tagged photos of reforestation sites for the evidence of reforestation onto the project website;
10. Provide necessary M&E data to the PM in preparing biannual progress reports;
11. Contribute to compiling lessons learned are shared and integrated as part of the wider NARP knowledge management approach; and
12. Contribute to formulating strategies for scaling-up and provide overall recommendations to Inter-ministerial Committee on reforestation activities based on the field lessons learned.

Minimum requirements

Candidates should meet the following criteria:

1. University degree in GIS and remote sensing with at least five years relevant work experience in GIS, software programming, information management, and/ or monitoring and evaluation of field programmes.
2. GIS databased and mapping knowledge is a must. Java language knowledge is preferable.
3. Strong prior project/programme management skills are essential.
4. Experience in forestry and natural resources management is an advantage.
5. Working knowledge in Arabic and English (mandatory). Working knowledge of French would be a plus.

Selection criteria

Candidates will be assessed against the following criteria:

1. Proficiency and programming in relevant GIS Software as well as in Excel, Word, PowerPoint, MS Office.
2. Ability to work productively and harmoniously with people of different national and cultural backgrounds in a team environment.
3. Flexibility and ability to work under pressure.

Additional information

- Duty Station: Beirut
- Duration: (5 years)

A.6.6 Terms of Reference of the Operations and Administration Officer

Under the general supervision of the FAO Representative in Lebanon (Budget Holder) and the Project Coordinator, and in close collaboration with the project executing partners, the Finance and Operations Assistant will take the operational responsibility for timely delivery of the project outcomes and outputs. In particular, he/she will perform the following main tasks:

- a) Ensure smooth and timely implementation of project activities in support of the results-based workplan, through operational and administrative procedures according to FAO rules and standards;
- b) Coordinate the project operational arrangements through contractual agreements with key project partners;
- c) Arrange the operations needed for signing and executing Letters of Agreement (LoA) and Government Cooperation Programme (GCP) agreement with relevant project partners;
- d) Maintain inter-departmental linkages with FAO units for donor liaison, Finance, Human Resources, and other units as required;
- e) Day-to-day manage the project budget, including the monitoring of cash availability, budget preparation and budget revisions to be reviewed by the Project Coordinator;
- f) Ensure the accurate recording of all data relevant for operational, financial and results-based monitoring;
- g) Ensure that relevant reports on expenditures, forecasts, progress against workplans, project closure, are prepared and submitted in accordance with FAO and GEF defined procedures and reporting formats, schedules and communications channels, as required;
- h) Execute accurate and timely actions on all operational requirements for personnel-related matters, equipment and material procurement, and field disbursements;
- i) Participate and represent the project in collaborative meetings with project partners and the Project Steering Committee, as required;
- j) Initiate travel authorizations for staff and non-staff, prepare travel expense claims and secondment reports using the Organization's computerized travel system;
- k) Assist in the preparation of meetings, workshop and seminars, book meeting rooms and assure that all necessary arrangements are made;
- l) Be responsible for results achieved within her/his area of work and ensure issues affecting project delivery and success are brought to the attention of higher level authorities through the BH in a timely manner,

m) In consultation with the FAO Evaluation Office, and the FAO-GEF Coordination Unit, support the organization of the mid-term and final evaluations, and provide inputs regarding project budgetary matters.

Minimal requirements

1. University Degree in Business Administration, or related fields.
2. Five years of experience in project operation and management related to natural resources management, including field experience in developing countries.
3. Knowledge of FAO's project management systems.

Location: Beirut with field visits to project targeted areas

Duration: 5 years

Language: English and French or Arabic

ANNEX 7: PARTICIPATORY REFORESTATION PLAN MANUAL



PARTICIPATORY REFORESTATION PLAN MANUAL

SUSTAINABLE AGRICULTURAL LIVELIHOODS IN MARGINAL AREAS

PROFOR PROGRAM



TABLE OF CONTENTS

AUTHORS	ii
ABBREVIATIONS	iii
PREFACE	iv
1. Background context	1
1.1. National Afforestation & Reforestation Program: Roadmap 2030	1
1.2. Sustainable Agricultural Livelihoods in Rural Areas Project	1
1.2.1. Guidelines for Participatory Reforestation	2
1.2.2. Project Operation Manual to Implement Participatory Reforestation	2
1.2.3. Participatory Reforestation Plan Manual	2
2. Preparation stages of the Participatory Reforestation Plan	3
Stage 1: Validation and scoping workshop	5
Stage 2: Site & stakeholders diagnosis	7
Stage 3: Decision making process	10
Stage 4: Elaborate Reforestation Plan Components	14
Stage 5: Evaluation and Approval of the Participatory Reforestation Plan	15
Annex 1: Forms of the preparatory stages	16
Annex 2: Example of the methodology	31
Annex 3: Community Appraisal Tools	34
Annex 4: Participatory Reforestation Plan Template	43

AUTHORS

Iria SOTO is a Technician/Researcher at the Forest Sciences Centre of Catalonia (CTFC), she is a Forest Engineer and holds a MSc in Biological Sciences, Masters in International Cooperation and currently she is preparing a Doctorate in Bioeconomics. She has broad experience on participatory process and designing participatory methodologies for Natural Resources Management. Contact: iria.soto@ctfc.es

Jaime COELLO is a forest engineer & researcher at the Forest Sciences Centre of Catalonia (CTFC), holding a MSc in European Forestry. His main field of work is forest restoration in Mediterranean conditions, focused on the development of cost-effective techniques and management schemes. He has also relevant experience on silviculture and forest management and policy. Contact: jaime.coello@ctfc.es

Jim CARLE

Takayuki HAGIWARA (FAO Investment Centre)

CONTRIBUTORS

David SOLANO (Forest Science Centre of Catalonia-CTFC)

Miriam PIQUE (Forest Science Centre of Catalonia-CTFC)

Patricia SFEIR (Forest Science Centre of Catalonia-CTFC)

Berna KARAM (Seeds-Int)

ABBREVIATIONS

DRDNR	Directorate of Rural Development and Natural Resources in the MoA
EPI	Expression of Participation Interest
FAO	The Food and Agriculture Organization of the United Nations
GIS	Geographic Information Systems
GoL	Government of Lebanon
GPR	Guidelines for Participatory Reforestation
GPS	Global Positioning System
M&E	Monitoring and Evaluation
MoA	Ministry of Agriculture
MoU	Memorandum of Understanding
NARP	National Afforestation and Reforestation Plan
NGO	Non-Governmental Organization
NTFP	Non-Timber Forest Products
PMU	Project Management Unit
POM	Project Operational Manual
PRP	Participatory Reforestation Plan
PRPM	Participatory Reforestation Plan Manual
R&D	Research and Development
RIU	Reforestation Implementation Unit
SALMA	Sustainable Agriculture and Livelihoods in Marginal Areas Project

PREFACE

The purpose of this Participatory Reforestation Plan Manual (PRPM) is to provide the stages, framework and format for consortium partners to prepare a Participatory Reforestation Plan (PRP) within the Sustainable Agricultural Livelihoods in Rural Areas (SALMA) Project in Lebanon.

The stages of the preparation process are designed to encourage consortium partners to adopt participatory approaches and use participatory rural appraisal tools with the aim of including the needs and aspirations of communities and special interest groups. Additionally the PRPM provides a consistent and concise framework for detailing reforestation and livelihoods activities, methods and maps for ease of planning, implementation, monitoring and reporting. The PRPM draws upon, complements and supplements the Guidelines for Participatory Reforestation (GPR) and the Project Operation Manual (POM) for implementing the reforestation component of the SALMA Project.

This PRPM has been prepared after extensive consultation with the Government, Municipalities, Non-governmental Organizations and other stakeholder groups that requested a simple, practical and transparent framework for preparation, implementation and monitoring of PRPs. The Annexes provide a series of tools, examples and templates for preparing and submitting the PRP.

Technical and financial support will be available to prepare PRP and to pilot test them in the SALMA Project areas in different institutional, social, environmental and economic settings in the project reforestation sites in the field. The draft PRPM will be revised to incorporate feedback from field testing and from stakeholders.

The PRPM will assist the Ministry of Agriculture (MoA), the Directorate of Rural Development and Natural Resources (DRDNR), the Forest Service, Municipalities, Non-governmental Organizations (NGOs) and other consortium partners in preparing and implementing PRPs within the SALMA Project and within other ongoing or future reforestation initiatives in Lebanon.

1. Background context

1.1. National Afforestation & Reforestation Program: Roadmap 2030

In 2010, the planted forest area in Lebanon was reported as 10,500 hectares, despite planting being undertaken since the 1960's. In 2013, the Government of Lebanon (GoL) approved the National Afforestation and Reforestation Program: Roadmap 2030 (NARP) to increase the 137,000 hectares of forest by planting 70,000 hectares to expand the forest cover from about 13% to 20% land cover by 2030. The aim is to strengthen ecological and community resilience to climate change and socio-economic pressures by adopting approaches that will: i) facilitate participation of key stakeholder groups (including local communities) in planning and implementation; ii) combine traditional and scientific knowledge; iii) integrate watershed management and landscape methods; iv) strengthen adaptation to climate change; v) protect and conserve indigenous forests and species; and vi) enhance social and cultural values.

The reforestation priorities are to improve participatory approaches, genetic stock, seedling quality, nursery practices, site preparation, planting, tending, silviculture, maintenance and forest protection to increase tree survival, growth and vitality; reduce work norms and costs and provide more social, environmental and economic benefits of planted forests.

1.2. Sustainable Agricultural Livelihoods in Rural Areas Project

The World Bank, Global Environment Facility (GEF) and the GoL are partners in the Sustainable Agricultural Livelihoods in Marginal Areas (SALMA) Project to construct hill reservoirs, on-farm irrigation systems and rural roads to access markets and expand reforestation to restore degraded forest landscapes. Some of the poorest communities and most fragile ecosystems will be targeted to strengthen their resilience to climate change. The project aims to plant one million trees as a first pilot phase in supporting implementation of the NARP to protect erosion prone soils, watersheds, biodiversity, agriculture and communities from climate change.

The reforestation component of the project will finance improved seeds, seedling production, site preparation, planting, tending, silviculture and protection of 2,000 hectares of reforestation on selected pilot sites on State or municipal lands. Building upon lessons learned from past reforestation experience, the project will provide technical support to strengthen the capacity of the Ministry of Agriculture (MoA), municipalities, Non-Governmental Organizations (NGOs), private sector and local communities to adopt more integrated, participatory approaches in the planning, financing, mobilizing and monitoring implementation of the reforestation and livelihoods support processes. The aim is to increase stakeholder understanding, ownership and commitment to the planning, implementation and monitoring processes.

There are three inter-related documents for preparation and implementation of reforestation within the SALMA Project:

- Guidelines for Participatory Reforestation (GPR)
- Project Operation Manual for the Reforestation Component (POM)
- Participatory Reforestation Plan Manual (PRPM)

1.2.1. Guidelines for Participatory Reforestation

The Guidelines for Participatory Reforestation (GPR) provide a frame of principles and environmental and social best practices and recommended actions that need to be adopted to achieve greater community participation, restore forest landscapes and adopt more active maintenance, protection and management in reforestation. Additionally the Guidelines encourage consortium partners to improve work norms, reduce operating costs and enhance benefits to local communities and rural livelihoods.

1.2.2. Project Operation Manual to Implement Participatory Reforestation

The Project Operation Manual (POM) provides the project implementation strategy and approach, describes the institutional setting of the project, guides establishment of consortium partners, summarizes grant funding and implementation modalities, details implementation phases and steps and provides the formats for the submission of expressions of participation interest, concept notes and site validation for pre-selection of consortium partners and sites, prior to preparation of a PRP.

1.2.3. Participatory Reforestation Plan Manual

This Participatory Reforestation Plan Manual (PRPM) provides the stages, framework and format for consortium partners to prepare, implement and report on a PRP on specific sites in selected communities within the SALMA Project. Additionally this document provides a consistent and concise framework for detailing the 4 main components of the reforestation plan:

- **Technical reforestation Plan:** activities to implement the reforestation according to the selected Reforestation Scheme.
- **Livelihoods support Plan:** activities that will support the success of the reforestation actions: i) mitigation measures against the identified threats (e.g. improvement of grazing areas out of the reforested sites) and ii) potential activities that reforestation supporters can perform to increase the success of the reforestation by generating synergies.

- **Research & Development Plan:** it is voluntary, and includes the R&D activities to be conducted by University and Research Centers within the reforested area, with the aim of generating know-how leading to enhanced reforestations in the future.
- **Monitoring and evaluation Plan:** methods for reporting of reforestation activities status and follow up.

This document facilitates the preparation process of the PRP by including in all the Forms needed during the elaboration of the Plan (Annex 1). Annex 2 of the document includes an example of the methodology used to characterize the reforestation sites. The PRPM encourages consortium partners to adopt participatory approaches and use participatory rural appraisal tools to include the needs and aspirations of communities and special interest groups. A toolbox of participatory approaches is presented in Annex 3. Finally, the template of the Participatory Reforestation Plan, including the different sections that might be included in the Plan is presented in Annex 4.

2. Preparation stages of the Participatory Reforestation Plan

Preparation of the Participatory Reforestation Plan (PRP) is undertaken after an Orientation Workshop, submission of an Expression of Participation Interest (EPI) and approval of a Concept Note (detailed in the POM) that provides preliminary information about consortium partners, reforestation and livelihoods support proposals. The SALMA Project will provide grant funding of \$100/hectare, up to a maximum of \$10,000, to assist in the preparation of a PRP process. Furthermore, technical support will be available from the Reforestation Implementation Unit (RIU) of the Project Management Unit (PMU) to address preparation, implementation and monitoring issues.

The different stages that shape the preparation of the Participatory Reforestation Plan are showed in the following figure (light green). They are linked to the different steps of the whole reforestation process (explained at the POM document), which includes preparation, implementation and monitoring and evaluation (dark green). These different stages explain the process for the preparation of the Participatory Reforestation Plan. The information gathered in each stage shall be included in the Participatory Reforestation Plan as indicates the PRPM Template (Annex 4).

The following section outlines and describes the stages for the preparation and approval of a Participatory Reforestation Plan.

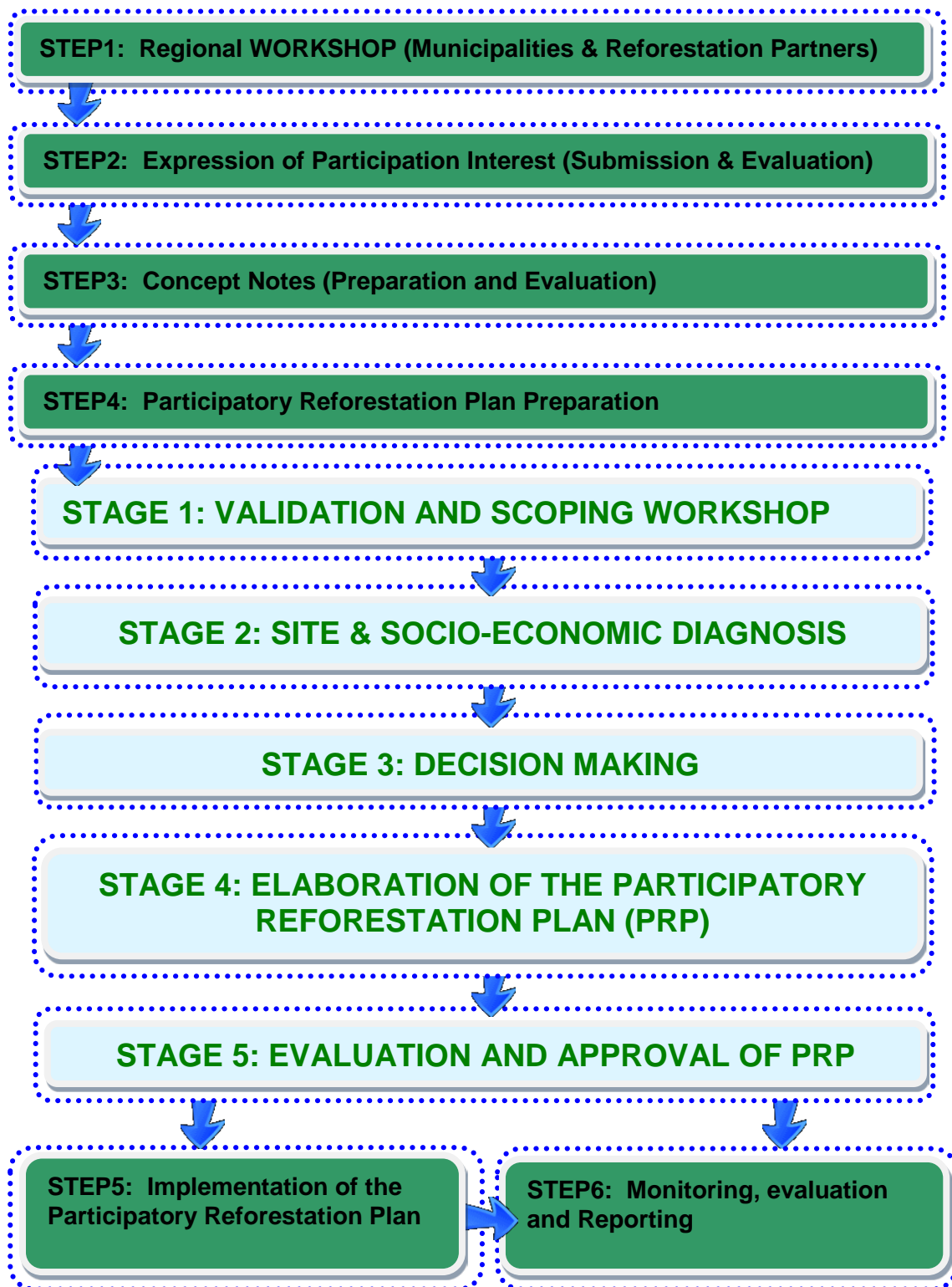


Figure 1: Steps and stages of the Participatory Reforestation Plan

STAGE 1: VALIDATION AND SCOPING WORKSHOP

Who participates?

On approval of the Concept Note, consortium members need to convene a meeting/workshop with the municipality representative, the municipality Environmental Committee²⁰ and the Reforestation Partners (RPs).

Which are the objectives of the workshop?

1. **Joint review of the Participatory Reforestation Plan Manual (PRPM) and the Project Operation Manual (POM)** to solve doubts and have a common view of the work that needs to be done.
2. **Plan the preparatory process** (defining working plan, formalizing the roles of consortium partners and estimating budget for each partner and activity).
3. **Identification of the needs of technical support** to strengthen Reforestation Consortium (RC) capacity to prepare and implement the PRP.
4. **Identification of the Municipality land that can potentially be reforested or afforested.**

How the workshops can be performed?

The work can be conducted during a 1-2 days meeting, held at the Municipality council or other available meeting facilities found at the Municipality.

The working documents that will be needed during the meeting are the following:

- Last version of the PRPM and POM (which should be sent in advance to participants).
- The electronic copy of the cadastral map and the official registration document showing the land ownership of the municipality lands suitable for reforestation.
- A permit of the Ministry of Finance (if the land to be reforested belongs to the state).
- **Form 1: Work-plan for PRP preparation** (Annex 1), by using **Tool 1: Work plan & Budget** if needed.
- **Form 2: Budget** (Annex 1).
- **Form 3: Identification of reforestation consortium needs of technical support** (Annex 1).

²⁰ If there is not Environmental Committee in the Municipality, the first step is to form one following the procedure of each Municipality. Alternative, the Major can designate 2-3 persons from the Board of the Municipality that will acts as Environmental Committee.

- Cadastral map with a preliminary selection of the areas to be reforested (already included in the Concept Note) and assignation of potentially desirable uses (Form 4: Preliminary characterization of the zones to be reforested).

Which are the outputs?

- Minutes of the meeting with deadlines and responsibilities of each partner.
- Work-plan including the responsibilities of each partner, time-line (with deadlines) and budget for each activity and budget (Form 1 and 2 completed).
- Identification of the technical support needed to be requested to the PMU/RIU (Ministry of Agriculture) (Form 3 completed).
- Preliminary assignation of the compartments to be reforested (Cadastral map with the preliminary selected reforestation areas and potential desirable uses and Form 4).

STAGE 2: SITE & STAKEHOLDERS DIAGNOSIS

Who participates?

The Environmental Committee of the Municipality, with the support of the Reforestation Partners will lead the process. For the site-environmental diagnostic, they might consider consulting further Public institutions (e. g. Ministry of Agriculture), Universities and Research Centers to obtain the needed environmental data that might be absent at municipality level. For the stakeholders' diagnosis, RC should involve all the population that uses the land to be reforested (e.g. shepherds), in order to integrate their needs into the reforestation and livelihoods support plans. RC should also promote the participation of all the stakeholders (e.g. public institution, private companies, civil society organizations, NGOs, environmental, women, youth associations, producer organizations, Universities & research centers) and sectors of the population interested in supporting the reforestation process.

Which are the objectives?

1. **Identification of all the stakeholders** that can be involved on the participatory reforestation (i.e. land users and reforestation supporters), inform them about the reforestation process and enhance their participation
2. **Identification and evaluation of previous reforestation experiences** to learn from past successes and failures (e. g. reforestation techniques, suitable species)
3. **Localization of livestock activities** (and other major constraints or factors conditioning reforestation)

4. Zoning of the area to reforest into homogeneous Patches, subsequently aggregated into Reforestation Blocks, which will be the base for reforestation planning

How the diagnosis is done?

1. Identification of stakeholders

Reforestation stakeholders are divided in two main groups: land users and reforestation supporters.

Stakeholders	Description
Land users	They are the population that might be affected by the reforestation (e.g. shepherds, non timber forest products harvesters)
Reforestation supporters	They are the individual or organization entities that can provide support during the reforestation implementation and monitoring process. They can support the reforestation by implementing synergetic activities to reinforce the ownership, visibility and raise awareness of community members towards the reforestation.

Form 5a: Stakeholders group information (Land users) and Form 5b: Stakeholders group information (Reforestation supporters) (Annex 1) provides key information that should be gathered to characterize each stakeholder. When possible, the identification of stakeholders should be done with Municipality representatives by talks, meetings or discussions with stakeholders that are affected or interested in participate in the process. However, in case that the identification of stakeholders is not clear or complete enough the Tool 2: Stakeholder’s mapping (Annex 3) might support their identification.

2. Identification of previous reforestation experiences

This information can be gathered by interviewing or organizing discussions with: i) The institution that implements the reforestation; ii) Municipality leaders; iii) Other actors that might have a remarkable knowledge on previous reforestation activities. Form 6: Previous reforestation experience at Municipality level provides a guide with the information to be gathered and Annex 3 the tools that can be used (e.g. Tool 3: Interview and Tool 4: Focus groups & workshops).

3. Localization of livestock activities (and other major constraints conditioning the reforestation)

It is extremely important to identify shepherds activities and the grazing patterns of the livestock as well as other mayor constrains that can limit the success of the reforestation. This will help us in discriminating the areas that, due to latent conflicts, can not be potentially reforested. It will also allow the identification of areas that can be reforested if mitigation measures (economically and technically feasible) are applied. Additionally to livestock activities, other major constrains (e.g. protected areas, areas devoted to social, cultural or religious purposes that should remain non-reforested, exclusion areas for security reasons), if existing, will be identified in order to either identify mitigation measures or to exclude them from the Reforestation. The

Form 7: Livestock activities characterization might support the identification of the different types of shepherds' activities. A workshop with shepherds will be organized to identify grazing partners (both temporal and spatial). The **Tool 5: Participatory rangeland mapping** can be used to identify the livestock patterns and activities. When the shepherds can not participate in discussion meetings (e. g transhumant from other regions), discussions with experts that know the situation will be held in order to identify the zones to be excluded and discriminate them from the reforestation by using the same approach.

4. Zoning of the areas to be reforested (compartments, Patches and blocks)

This activity is firstly based on the outcomes of the validation workshop and of the stakeholders diagnosis, which are applied to the Cadastral map showing the compartments available for reforestation. After dismissing those compartments or parts of the compartments which have been identified as hosting a conflict that cannot be solved through mitigation measures (i.e. high interest grazing areas), the remaining compartments, numbered from 1 to n, are characterized and zoned based on data collected at both Municipality and Reforestation Patch level:

i) **Municipality data** refer to the variables which are common to all the compartments that will be reforested in the Municipality (e.g. climate, bioclimate, general soil features, species present in the area and surrounding areas). This process is performed at the office. These variables will be considered when designing the reforestation activities. The element filled in this phase is **Form 8: Site diagnosis at Municipal Level** (Annex 1).

ii) **Reforestation Patch data** refers to those features that allow the identification and delimitation of ecologically homogeneous Patches. The whole area of each Patch will be subjected to a particular reforestation purpose in the future. This delimitation is done in two phases: a preliminary one taking place at the office and based on GIS and satellite images: a first zoning is done based on slope, physiography, aspect, spontaneous shrub / tree cover, etc, resulting in a cartography of the area with the preliminary zoning. The second phase, taking place in the field and with the help of the abovementioned cartography, serves to tune the zoning and perform the ultimate delimitation of Patches based on factors such as soil depth, indicative species, stoniness, rockiness, erosion, etc, following **Form 9: Site diagnoses at Reforestation Patch level** (Annex 1). These factors will be of utmost importance to define in the next Stage the means and techniques which can be utilized in the reforestation: a higher precision on species choice and stock type based on soil texture, pH and depth; mechanization and soil preparation options based on rockiness, accessibility to/within the patch, etc. It will also help detecting species which can affect the implementation of reforestation: species indicative of particular ecological conditions (e.g. temporary flooding, high soil salt content, etc) or species of high ecological value: vulnerable or endangered species, etc.

Patches are numbered as "n.m", being n the number of compartment, and m the correlative number of Patch within the compartment. If it was not previously available,

during the field work the limits of the Patches / compartments are drawn with the help of a GPS, and soil samples are collected for analysis in laboratory.

Finally, the resulting Reforestation Patches are further aggregated by the team performing the site diagnose into **Reforestation Blocks**, coded with letters (A, B, C...), which have analogue ecological features. During Stage 3, a set of Reforestation Schemes will be prepared for each Reforestation Block.

The following Table summarizes the concepts, while Annex 2 shows an example of application of this methodology.

Reforestation areas	Description
Reforestation Compartments	Areas within a municipality selected to be reforested at the Concept note.
Reforestation Patches	Areas with homogeneous ecological features, which are distinct to surrounding areas. . All the area to be reforested must be assigned to a Patch of a recommended minimum surface of 1 ha.
Reforestation Blocks	Aggregations of Patches into larger, discontinuous groups with analogous ecological features. A reforestation block is suitable to host a single type of reforestation in terms of range of eligible species, soil preparation, plantation techniques and type of maintenance.
Reforestation Schemes	They are “Menus” of suitable reforestation interventions that can be applied at each reforestation block, describing the species, soil preparation and plantation techniques and tending, density and species composition, protection method, with an estimation of costs. These menus only consider those reforestation options that are coherent with the previous stakeholders and site diagnosis.

Which are the outputs?

- Stakeholders group information completed (Form 5a, 5b), stakeholders are aware of the reforestation process that is taking place at Municipality level.
- Identification of previous reforestation experience at Municipality level (Form 6 completed)
- A GIS map (formats .kmz or shp) with the whole area assigned to Compartments, subsequently zoned in homogeneous Patches, and finally aggregated into Reforestation Blocks (and Form 8 and 9 completed)
- Identification of livestock patterns (Form 7)

STAGE 3: DECISION MAKING PROCESS

Who participates?

Based on the input from the site and stakeholders participatory diagnoses (Stage 2), the Environmental Committee of the Municipality and the Reforestation Partner will come together to draft the characteristics of the reforestation and the livelihood support actions to be implemented. The resulting proposals will be presented to the stakeholders for considering possible amendments. The final reforestation, livelihood support and R&D activities will be transferred into the Participatory Reforestation Plan in Stage 4. Rural-Invest approach can be used during this stage (<http://www.fao.org/investment/ruralinvest/es/>), especially for generating the budget and the economic evaluation of alternatives.

Which are the objectives?

1. **Identification of Reforestation Priorities and proposal of a set of Reforestation Schemes for each Reforestation Block.** After consultation with stakeholders, establishment of specific reforestation activities in the areas available to reforest, considering that the expected reforestation grant is \$2,500-3,000 /ha, up to \$500,000. The final Scheme for each block will be presented as an action plan (Annex 4, section 5).
2. **Identification and final decision-making of livelihood support actions (i.e. mitigation measures and activities to support to the reforestation)** considering that the expected grant for their implementation is a maximum of 20% of reforestation grant.
3. **Identification and final decision-making on the R&D activities** to be implemented, considering that the expected grant for their implementation is a maximum of 10% of the reforestation grant.

How it will be done?

Final decision on reforestation, livelihood support and R&D actions will be taken in an iterative manner consulting the population and other stakeholders. The Municipality, as owners of the resource will take final decision but the process will consist in an iterative consultation with targeted stakeholders. The process will be the following:

1. Prioritization of Reforestation Blocks

Each Reforestation Block is assigned to a category of reforestation priority, based on the expected natural evolution of the site if no reforestation is applied:

- **Priority 1** (urgent and obligatory): the natural evolution of the ecosystem would lead to a worsening of its condition: erosion problems, further degradation.
- **Priority 2** (non-urgent and obligatory): the natural evolution of the ecosystem is not expected to provide a significant change of condition in the short term, but its reclamation requires active restoration effort.
- **Priority 3** (non-urgent and optional): the ecosystem would recover itself spontaneously without human intervention. It would be necessary to intervene in

the case that it is intended to accelerate the recovery or if it is considered necessary to add further species that are not present in the area.

- **Priority 4** (unable to be reforested): it is not possible to intervene because of technical limitations: extremely high rockiness / stoniness, permanently flooded area, other constraints found during site diagnoses (e.g. inability to prevent grazing).

2. Identification and pre-selection of eligible Reforestation Schemes for each Reforestation Block

For each Reforestation Block a group of **Reforestation Schemes** (preferably 2 to 6) will be proposed, based on **Form 10: Reforestation Scheme** (Annex 1), which integrates the information on site diagnoses at Municipality (Form 8) and Patch (Form 9) level, the input from stakeholders (Form 5a and 5b), previous reforestation experiences (Form 6), livestock patterns (Form 7) and the prioritization of Blocks done in the previous phase. Each Scheme includes a synthetic description of species, the objectives of the reforestation, the main technical aspects and an estimation of the cost of implementation in 1 ha (Form 10).

The reforestation Schemes will be coded as X.n, where X is the letter of the Block and n is the correlative number of Scheme.

Those proposing the set of Reforestation Schemes for each Reforestation Block will also make a pre-selection of which Scheme should be applied to each Block (or Patch, if necessary), taking into account the need for balancing the different stakeholders' demands and the funds available. This process can be supported by Rural-Invest toolkit.

3. Identification and pre-selection of Mitigation measures and Reforestation Support measures

Mitigation measures are all those activities that will help to ensure the success of the reforestation actions by minimizing the conflicts that could emerge owing to the reforestation activities. These measures aim at generating alternatives to the land users of the areas that have been selected for reforestation (e.g. pasture-land improvement measures). Potential mitigation measures will be jointly (i.e. land users with Reforestation Consortium) identified and include in the **Form 11a: Mitigation measures (livelihood support action)** which specifies the main features of the measures, the partners that will be involved and an estimation of the costs. The identification process can be done by using Rural-Invest and/or having consultations interviews (Tool 3) and/or discussions (Tool 4) with each interested stakeholder. The prioritization and pre-selection of the Mitigation activities will be done by Municipality leaders with the assistance of the Environmental Committee. They could also request the services of experts to quantify the impact of the Reforestation and define mitigation measures well adapted to the conflict.

Reforestation Support measures are synergetic initiatives that can be performed by stakeholders that are willing, voluntarily, to support the reforestation process. Those activities might help to enhance the success of the reforestation. Examples of those

activities are: i) activities that would potentially improve the survival rate of planted trees; ii) activities for reducing forest fire and other risks that can threaten reforestations; iii) activities that can reinforce the ownership, visibility and awareness rising of community (local) members; iv) activities that can generate forest related income for vulnerable community members linked to forest resources. Those activities might represent an opportunity to both community members and the Municipality. Community members will actively participate on the reforestation while the Municipality will benefit by increasing the success of the reforestation.

Innovative techniques (e. g. involving famous people in planting, planting contest) should be used to encourage the participation of Reforestation Supporters. Financial support (for the implementation of the activities) should also be considered to encourage the participation of reforestation supporters. The identification of those activities will be done by consultation workshop with interested stakeholders or by meetings and consultations with each interested stakeholder. The potential activities to support the reforestation that have been identified will be included in the [Form 11b: Activities to support the reforestation \(livelihood support action\)](#).

The criteria to prioritize the Mitigation and Reforestation support activities (e.g. number of beneficiaries, importance in ensuring the success of reforestation actions) will be selected by the Reforestation Consortium. However, they should consider the technical and financial feasibility of the measures. When possible, RC should also try to balance the demands of different stakeholders, considering that Mitigation measures should be prioritized over Reforestation Support activities. [Tool 6: Preferences ranking](#) can be use for the prioritization.

4. Workshop to share the pre-selection Schemes, Mitigations and Reforestation Support measures with stakeholders

The pre-selected Reforestation Schemes Mitigation and Reforestation Support measures will be presented to municipality stakeholders during a workshop. Those actors will have the chance to contribute with their views and opinions. They should also validate or request modifications to the proposed pre-selected activities and measures. All amendments, modifications and comments for improvement proposed by the stakeholders will be considered by the Municipality leaders in the next step.

5. Final decision on Reforestation activities, Mitigation and Reforestation Support measures

The final selection of Reforestation activities, Mitigation and Reforestation Support measures (which might be an improved version of the initially proposed Reforestation Schemes and Mitigation measures) will be done by Municipality leaders with the assistance of the Environmental Committee and the Reforestation Partners. This selection must consider the amendments and recommendations exposed by Municipality Stakeholders. Additionally, the approval or rejection of those amendments must be justified. These final decisions will be exposed publicly at the Municipality town hall. After 15 days, the documents will be considered as approved.

Additionally and in order to increase the success of the reforestation and the Mitigation measures the Municipality and land users (e.g. shepherds) would sign a

“rights and obligations” document (or Memorandum of Understanding) in which both partners commit themselves to comply with their compromises. Reforestation Supporters might also sign a MoA in case a budget is allocated to implement their activities.

6. Proposal and pre-selection of R&D activities

RCs together with Research Centers and Universities may identify Research & Development potential activities to be implemented in the reforestation area. The Municipality will decide upon the convenience and resources available for their implementation. The procedure can be performed as follows:

- Preparation of a list of R&D activities by the University, Research Centre or RCs, including the objective of the experience, description of the activities including the location and experimental design, monitoring plan, budget.
- Approval and/or amendment of the R&D activities by the Municipality
- The University and Research Centers involved in the research will sign a MoU with the Municipality.

In case that the Reforestation Consortium considers it appropriate, certain elements of this stage (e.g. points 6 and 7) can be merged in order to facilitate the process and save time and resources.

7. Assessment of risks and proposition of contingency actions

The identification of possible risks which may arise during the reforestation process (including the ones related to the implementation of the Mitigation and Reforestation Support measures) can be conducted by means of the participatory [Tool 7 problems tree: cause and effect diagram](#) (Annex 3). The identification of those risks will be done for the general reforestation process and if appropriate also for each selected Reforestation Scheme. For each risk, a contingency plan (i.e. solutions) should be provided. Tool 6 and/or [Tool 8: solution tree](#) (among other participatory tools) can be applied. Risks and contingency actions will be included in [Form 12: Risks and Contingency plan](#).

Which are the outputs?

- A map of the reforestation patches, with the assignment of a well-defined Reforestation Scheme to each Block or Patch
- Definition of livelihood support activities (Mitigation and Reforestation Support measures) (Form 11a and Form 11b)
- Definition of R&D activities
- A Memorandum of understanding (MoA) between the Municipality and: i) land users, ii) all the stakeholders interested in supporting the reforestation process, iii) Universities or Research Centers.

- A Risk & Contingency plan (Form 12)

STAGE 4: ELABORATE REFORESTATION PLAN COMPONENTS

Who participates?

The Reforestation Partners, in cooperation with the Environmental Committee (and the Universities and Research Centers if a R&D plan is proposed).

Which are the objectives?

To develop a Reforestation Plan (based on the previous stages 1, 2 and the decisions taken at Stage 3), providing details regarding the Reforestation, Livelihood support and R&D activities that will be performed (i.e. which activities, how they will be performed, when, by whom).

How the Plans will be elaborated?

The outcomes of Stage 3 (i.e. selection of activities) will be turned into the Participatory Reforestation Plan describing in details the Reforestation, Livelihood support, R&D and Monitoring and Evaluation activities. These four elements form the Participatory Reforestation Plan together with the information gathered during the diagnosis process (A template of the Participatory Reforestation Plan can be found in Annex 3). The main elements of the plan are the following:

1. Reforestation executive implementation Plan

This plan consists on turning the site diagnosis and the plantation Scheme selection into an executive document that will define the details on how to implement the reforestation, including its components, work plan, timeline and budget.

2. Livelihood support Plan

This plan consists on detailing the activities, both Mitigation measures and activities to support the reforestation, which have been prioritized by communities and decision makers. It will include activities that: prevent, mitigate and compensate the negative impacts of reforestation activities; prevent the risk that might threaten the reforestation; valorize the utilization of forest products; promote the ownership, visibility, awareness rising of community members; and that mobilize the involvement of community members on the reforestation.

3. Research and Development Plan

A small-scale R&D fund will facilitate transfer of scientific knowledge and technology into reforestation and livelihoods support practices. Its utilization is optional. Consortium partners are encouraged to submit R&D proposals and to work in close collaboration with research institutions, universities and other appropriate institutions to provide these R&D services.

4. Monitoring and Reporting Plan

This plan will consist in actions, designed by the consortium partners to ensure that the PRP activities detailed in the Reforestation Plan, Livelihoods Support Plan and Research and Development Proposal are undertaken. The plan should consider that 6 reports should be delivered:

- After planting or establishment of the reforestation site (report 1);
- End of the first summer after planting (report 2);
- Before the second year summer after planting (report 3);
- End of the second summer after planting (report 4);
- Before the third year summer after planting (report 5); and
- Final report after the end of third year summer after planting (report 6).

The inclusion of stakeholders during the process (i.e. discussion, meetings, agreements, activities) should be documented during the whole reforestation process in order to highlight and justify that reforestation took place in a participatory manner (e.g. assistant sheets, pictures, minutes of meetings).

Which are the outputs or products that need to be delivered?

- Participatory Reforestation Plan Template completed (Annex 3).

STAGE 5: EVALUATION AND APPROVAL OF THE PARTICIPATORY REFORESTATION PLAN

Who participates?

The PRP (containing the Reforestation, Livelihoods support, R&D and Monitoring, evaluation and reporting Plan) prepared by each consortium, will be submitted to the Reforestation Unit (RU) and the Project Management Unit (PMU), copied to the DRDNR/MoA. They will evaluate and approve the proposed Plan.

Which are the objectives?

- To evaluate the Participatory Reforestation Plan
- To propose recommendations for the improvement of the document and reforestation activities

How it will be done?

The scope, activities, outputs, outcomes, inputs and the technical and financial characteristics of the Participatory Reforestation will be evaluated by the RU and recommendations made to the PMU and the DRDNR/MoA.

The PRP may be subject to technical or financial review in a negotiation between the PMU and the consortium partners. On approval of the PRP by the DRDNR/MoA, a MoU will be entered into between the PMU and the consortium partners.

The PRP will serve as the basis of the MoU for planning, implementation and monitoring and evaluation of the reforestation, livelihoods support and research and development activities to be financed by the project. The approved PRP will be an Annex to the MoU.

Which are the outputs or products that need to be delivered?

- Memorandum of Understanding between the PMU and the consortium partners including the compromises acquired.

ANNEX 1: Forms of the preparatory stages

FORM 1: Work plan for PRP preparation (Stages 1-4)

ACTIVITY	SUB-ACTIVITY	PERSON (ENTITY) RESPONSIBLE Indicate further participants, if relevant	ESTIMATED COSTS (RESOURCES NEEDED)	EXPECTED OUTPUT	DEADLINE (at sub-activity level)	COMMENTS

FORM 2: Budget template*

ACTIVITY/SUB-ACTIVITY	UNITS type	Number of UNITS	UNIT COST (\$)	TOTAL COST (\$)	OWNED RESOURCES	RESOURCES NEEDED
A.1. (description of the activity)						
Labour						
Materials/Equipment (include maintenance costs)						
Other direct costs (e.g. travel, telephone, consumables)						
Subcontracting						
Indirect costs (i.e. overhead/operating resources)						
TOTAL COST A.1.						
A.2 (description of the activity)						
Labour						
Materials/Equipment (include maintenance costs)						
Other direct costs (e.g. travel, telephone, consumables)						
Subcontracting						
Indirect costs (i.e. overhead/operating resources)						
TOTAL COST A.2						
A.3 (description of the activity)						
Labour						
Materials/Equipment (include maintenance costs)						
Other direct costs (e.g. travel, telephone, consumables)						
Subcontracting						
Indirect costs (i.e. overhead/operating resources)						
TOTAL COST A.3.						

* The costs of the Livelihood support activities can be calculated by using the Rural-Invest toolkit (<http://www.fao.org/investment/ruralinvest/es/>)

FORM 3: Identification of the technical support needed

THEMATIC FOR TECHNICAL SUPPORT	SUPPORT REQUIRED BY THE CONSORTIUM (fill only for those items where the consortium need support)	
	Responsible person to search support and to follow up	Estimated cost
Analysis of satellite images		
GPS Utilization, demarcation of reforestation Blocks		
GIS Software utilization (Prepare Digitized Maps)		
Identification of the soil and on-site characteristics		
Participatory methodologies and tools (e.g. focus groups, SWOT analysis, stakeholders mapping)		
Planning tools (e.g. budget, work-plans, timelines, logical framework)		
Planning R&D Activities		
Site preparation, plantation and maintenance techniques (e.g. species selection, seedling transport, seed sowing, seedling, planting, mulching, irrigation, weeding)		
Livestock Protection/Improvement Measures		
Monitoring & Evaluation (Survival Rate Check, reporting)		
Others (specify):		
Others (specify):		
Others (specify):		

FORM 4: Preliminary characterization of the zones to be reforested

The Form must be accompanied by a localization map of the potential zones to be reforested.

	Cadastral Nb. *	Area (ha)	Current Use**	preferable uses***	Potential conflicts/threats
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
(*) N.R (not registered) (**) Abandoned land, agriculture, urbanized, rented for grazing, "opens" grazing, rock quarries, sand quarries (***) timber production, fuel-wood production, NTFP, pine nuts production, other nuts production (specify), landscape, recreation, ecotourism, control erosion, desertification protection, cultural, social, religious					

FORM 5.a: Stakeholders group information (LAND USERS)

LAND USERS: Please include the requested information for all user of the natural resources that exist at Municipality level (e.g. shepherds, beekeepers, aromatic plants harvesters...)								
GROUP NAME & CONTACT DETAILS	NUMBER of them	Which are the CURRENT ACTIVITIES they do (related to Natural Resources)? (Short description of it)	Which REFORESTATION zone will affect their livelihoods? How the REFORESTATION will affect their activities?	Are they interested in PARTICIPATING during the Reforestation Process? How can they PARTICIPATE during the reforestation process?	Which POTENTIAL MITIGATION MEASURES could be implemented (to prevent conflict)?	DESIRED USE of the reforestation (i.e. recreational, production, protection, prevent erosion, honey production)	DESIRED SPECIES	UNDESIRED SPECIES

FORM 5.b: Stakeholders group information (REFORESTATION SUPPORTERS)

REFORESTATION SUPPORTERS: Voluntary stakeholders that are interested to participate during the reforestation process (e.g. associations)						
GROUP AND REPRESENTING NAME and TLF (if appropriate)	NUMBER (of members)	CURRENT FUNCTIONS and ACTIVITIES (related to Natural Resources) that can reinforce the Reforestation	POTENTIAL ROLE (during the reforestation)?	DESIRED USE of the reforestation (i.e. recreational, production, protection, prevent erosion, honey production)	DESIRED SPECIES	UNDESIRED SPECIES

FORM 6: Previous reforestation experience in the Municipality

It is important to learn the lessons of the past and prevent the same failures to happen again. Additionally, the success of past experience can provide us insight to base the new reforestation on. In this Form, a “guide of questions” and items are presented to learn from them before starting the implementation of the reforestation process.

When possible, pictures of the previous reforestation experiences could be used during the interview/discussion. Pictures might help in recalling the interviewee about the action and obtaining more accurate information.

Questions	Answers (to be filled)
General description of previous experience	
Funding source	
Implementing entity	
Main site features (slope, aspect, altitude, physiography)	
Surface reforested (ha)	
Vegetative material used (species, age, format, nursery)	
Plantation techniques used (soil preparation, irrigation, weeding)	
Survival rate for each species	
Measures undertaken to prevent grazing damage	
Which actors (i.e. land users, associations) were involved during the planning, implementation and monitoring process of the reforestation? Which was their role?	
Which were the POSITIVE LESSONS LEARNED that you consider should be replicated	<ul style="list-style-type: none"> • • • • •
Which were the techniques or technical processes that you consider should be avoided	<ul style="list-style-type: none"> • • • • •
Other relevant information:	

FORM 7: Characterization of livestock activity

This table presents a selection of topics and questions, as a guideline for the rangeland mapping discussion, which might provide elements to take decisions concerning the areas to be reforested. The objective of this characterization is to identify potential constrains to the initially proposed reforestation areas due to the grazing activities and initial identification of potential activities to mitigate those constrains.

Livestock activity	Local		External*	
	Please indicate # of herds and total estimated number of animals			
Type of Herds	Permanent	Seasonal	Permanent	Seasonal
Goats				
Sheep				
If seasonal, which is the length of the season (specify which months)?				
Do they have any type of arrangement/agreement with the municipality (e.g. contract)? If yes, specify the agreement characteristics.				
Which are the resources they use and where are they located on the cadastral map? (e.g. fodder, water, shelter). Specify the seasonal changes, if any.				
Are there any other locations/areas/resources at municipality level or beyond that can be used alternatively (providing similar services)?				
Which are the tracks they use (daily pattern)? (mark them on the map)				
Are there any other alternative paths they can use?				
Could you explain the potential impact that the reforestation will have on your livestock activity? (try to quantify it)				
Is there any manner in which this impact could be reduced?				

*For the shepherd workshop, shepherds from both the region and outside will be invited to the workshop. If the shepherds are not the owners of the cattle, cattle owners should also participate in the discussion workshop. When not possible to assemble shepherds from outside the community, key stakeholders which knowledge on their grazing patterns will be assemble instead.

FORM 8: Summary of Physical data at Municipal level

Name of the Municipality													
BIOCLIMATIC INFORMATION													
¿Which are the Bioclimatic step/s and series of vegetation present in your municipality?													
Bioclimates: Mediterranean: thermomediterranean; Eumediterranean; Supramediterranean; Montane-Mediterranean; Oromediterranean; Presteppic: Mediterranean Presteppic; Presteppic supramediterranean; Presteppic montane Mediterranean; Presteppic oromediterranean													
Vegetation series													
CLIMATE INFORMATION													
Annual average rainfall (mm)													
Monthly rainfall (mm)	1	2	3	4	5	6	7	8	9	10	11	12	
During which months does the snow cover the ground normally?													
Is there any other particular climate event (e.g. strong prevailing wind, moving fogs)? If so, describe													
SOIL													
pH													
Texture													
Are active limestone, gypsum or salinity a problem?													
FLORA													
Tree and shrub species (see list below*) currently present in the area to reforest													
Tree and shrub species (see list below*) in surrounding areas (including neighboring municipalities) with similar features													
Tree and shrub species (see list below*) previously present in the area and surrounding areas with similar features (historical records) ¹													
OTHERS													
Water collection and/or storage facilities (mapped)													

*Species list: *Abies cilicica*; *Acer monspessulanum*; *Acer syriacum*; *Acer tauricum*; *Adenocarpus complicatus*; *Alnus orientalis*; *Amygdalus communis*; *Amygdalus korschinskii*; *Arbutus andrachne*; *Arceuthos drupacea*; *Berberis libanotica*; *Castanea sativa*; *Cedrus libani*; *Celtis australis*; *Ceratonia siliqua*; *Cerasus microcarpa*; *Cercis siliquastrum*; *Coryllus avellana*; *Crataegus spp*; *Cupressus sempervirens*; *Ficus carica*; *Ficus opuntia*; *Fraxinus ornus*; *Fraxinus syriaca*; *Juglans regia*; *Juniperus drupacea*; *Juniperus excelsa*; *Juniperus foetidissima*; *Juniperus oxycedrus*; *Laurus nobilis*; *Malus trilobata*; *Myrtus communis*; *Olea europaea*; *Onionis spp*; *Ostrya carpinifolia*; *Phillyrea spp*; *Phlomis spp.*; *Pinus brutia*; *Pinus halepensis*; *Pinus nigra*; *Pinus pinea*; *Pistacia lentiscus*; *Pistacia palaestina*; *Platanus orientalis*; *Populus alba*; *Populus nigra*; *Prunus amygdalis*; *Prunus ursina*; *Pyrus syriaca*; *Quercus brantii*; *Quercus calliprinos*; *Quercus cerris*; *Quercus infectoria*; *Rhamnus spp*; *Rhus coriaria*; *Rosa canina*; *Rubus spp.*; *Salix alba*; *Salix libani*; *Sorbus torminalis*; *Sorbus umbellatus*; *Spartium junceum*; *Styrax officinalis*; Other species

¹If the environmental committee is not aware of it, this identification can be done through interviews with key actors of the Municipality (e.g. elderly, middle-aged, former leaders, historians, representative members of the community) or, in case the information is contradictory, by using focus groups with those key actors. This information can be supplement by historical literature which might allows tracking the previous species used in the community.

FORM 9: Summary of Physical data at Reforestation Patch level

Name of the Municipality																					
Reforestation Compartment																					
Reforestation Patch²¹																					
GPS track / code																					
PHYSIOGRAPHIC INFORMATION (GIS, confirmed with on-field work)																					
Average altitude																					
Position at the slope (Figure adapted from Gonin et al, 2013)	<table border="1" style="margin-top: 10px;"> <tr> <td>Water balance: runoff input vs runoff losses</td> <td>Crest</td> <td>Upper slope - convex</td> <td>Terrace</td> <td>Mid slope</td> <td>Low slope</td> <td>Valley bottom</td> <td>Terrace</td> <td>Ravine</td> <td>Plateau</td> </tr> <tr> <td></td> <td>-</td> <td>0</td> <td>+</td> <td>0</td> <td>+</td> <td>+/0</td> <td>+/0</td> <td>0</td> <td>0</td> </tr> </table>	Water balance: runoff input vs runoff losses	Crest	Upper slope - convex	Terrace	Mid slope	Low slope	Valley bottom	Terrace	Ravine	Plateau		-	0	+	0	+	+/0	+/0	0	0
Water balance: runoff input vs runoff losses	Crest	Upper slope - convex	Terrace	Mid slope	Low slope	Valley bottom	Terrace	Ravine	Plateau												
	-	0	+	0	+	+/0	+/0	0	0												
Prevailing Aspect/s	N / NW / W / SW / S / SE / E / NE / flat																				
Steepness range (%)	0-10 / 10-30 / 30-60 / +60																				
SOIL (field work)																					
Depth (cm)	<30 / 30-50 / 50-80 / >80																				
Stoniness (sized 0,2-20 cm Ø) (%)	0-15 / 15-40 / >40																				
Rockiness (%)	0 / 1-15 / 15-40 / >40																				
FLORA (field work + consultation)																					
Current land-use																					
Previous land-use																					
Present species																					
Previous species																					
OTHERS (during field work + GIS + consultation)																					
Traces / evidences of livestock	Severe / Present / Absent																				
Accessibility to the perimeter of the patch	All vehicles / 4x4 & caterpillars / inaccessible																				
Accessibility within the Patch	All vehicles / 4x4 & caterpillars / inaccessible																				
Signs of erosion	No / slight / moderate / severe																				
Key remarks (signs of flooding, average height or density of shrubs, vulnerable / indicative species, type of landscape – grassland, shrubland)																					

²¹ Attached a map with the location of each patch

Form 10: Reforestation Schemes drafting

This Form, ideally consisting on 2 to 6 Reforestation Schemes, will be prepared for each Reforestation Block.

Reforestation Block (X)	Scheme X.1	Scheme X.2	Scheme X.3	Scheme X.n
Reforestation aim (production, protection, landscape, cultural...)				
Species				
Suitable densities (number of trees/ha)				
Soil preparation (manual or mechanized pit digging, , sub-soiling, micro-terracing)				
Irrigation (drippers + deposits, tanker + hose, no)				
Tree Protection description (no protection, individual shelters, fencing)				
Plantation techniques (e.g. Mulching, soil conditioners)				
Maintenance during first 5 years (weeding, pruning, grafting at year X)				
Foreseen management during first 25 years (rough description of management activities)				
Estimation of implementation costs during first year (\$/ha)				
Estimation of implementation costs during years 2-5 (\$/ha)				

Additional modifications of Schemes: in order not to create many Schemes with small differences between them, it is possible to add (quantified economically) some modifications common for all Schemes (e.g. how much it would imply to add a perimeter fence instead of individual shelters)

FORM 11a: Identification of potential livelihood support actions (MITIGATION MEASURES)

The aim of this Form is to propose actions that that will help to ensure the success of the reforestation actions by minimizing the threats to reforestation activities and generating alternatives to the land users of the areas that have been selected for reforestation (e.g. shepherds improvement measures, non timber forest products users). The list of activities should include the following items:

Description of the activity*	Target beneficiaries	Stakeholders involved	Describe the impact the activity will have on the beneficiaries	Describe the impact the activity will have on the reforestation (if any)**	Estimated budget***	Ranking (by preferences)

* Improve livestock pasture; improve livestock access to water, improve the dairy product processing and storage; improve the access to financial services

** Examples are control for animal grazing, increase the survival rate of the reforestation

*** To calculate the cost of each livelihood support activity and take final decision on which implement, Rural-Invest toolkit

(<http://www.fao.org/investment/ruralinvest/es/>) or the budget template of Form 2 could be used.

FORM 11b: Identification of potential livelihood support actions (ACTIVITIES TO SUPPORT REFORESTATION)

The aim of this Form is to propose activities that can be performed by stakeholders that are willing, voluntarily, to support the reforestation process. Those activities might help to prevent the risks and threats related to the future reforestation that were identified on the previous section. Therefore, they should be ideally oriented towards the support of the contingency plan. The list should include the following items:

Description of the activity	Stakeholders involved	Describe the impact the activity will have on the reforestation**	Describe the need of support ***	Ranking (by preferences)

** Examples of potential impacts are control for illegal harvest, uncontrolled fires prevent pest and diseases, monitor the survival of the trees, increase the visibility of the reforestation.

*** In case there is a need of economic support, Rural-Invest toolkit (<http://www.fao.org/investment/ruralinvest/es/>) or the budget template of Form 2 could be used.

Form 12: Risks and contingency Plan

The aim of this table is to identify risks associated to each Reforestation Scheme to be able to manage it. This table should be considered and filled during the whole reforestation planning process in order to prevent failure by pre-defining an action plan to be implemented in case that an identified risk occurs (contingency plan).

GENERAL RISKS

GENERAL RISKS	
RISK	CONTINGENCY PLAN

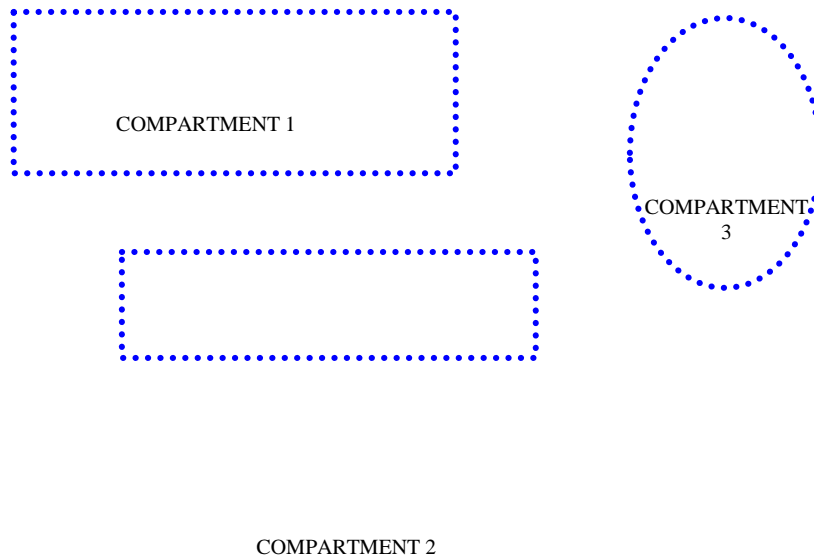
RISKS SPECIFIC TO EACH REFORESTATION SCHEME

Reforestation Scheme 1:	
RISKS	CONTINGENCY PLAN
Reforestation Scheme 2:	
RISKS	CONTINGENCY PLAN
Reforestation Scheme 3:	
RISKS	CONTINGENCY PLAN
Reforestation Scheme X:	
RISKS	CONTINGENCY PLAN

ANNEX 2: Example of the methodology

Example of the Methodology to characterize the reforestation sites

The Municipality X has 3 areas to reforest (3 compartments).



Stage 1: pre-assignment of preferential zones / biotic/abiotic factors that may influence the reforestation (communicated by the Municipality to the NGO)

E.g:

Compartment 1 shows a steep slope and some ongoing erosion processes

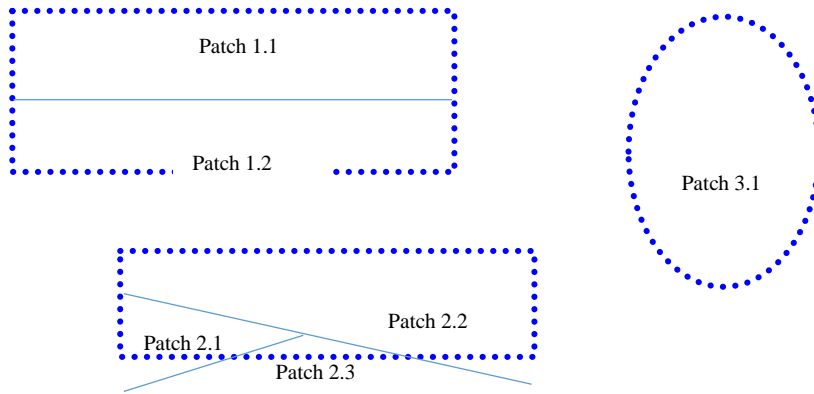
Compartment 2 is an irregular area with various slopes and aspects, and there is a water reservoir at the western part and interest to make an income generation land-use here

Compartment 3 is a slope with constant steepness and aspect

Stage 2: Site diagnosis

- ➔ **Diagnosis at Municipality level (common to all 3 Compartment - done at the office)**
- ➔ **Diagnosis at Patch level (office + on-field): identifying homogeneous Patches within each compartment (physiography, steepness, soil features (depth, stoniness, rockiness), current land use, accessibility, ongoing erosion)**

After walking in the area and doing some soil samples the field team identifies homogeneous Patches within each compartment:



- Patch 1.1: area of Compartment 1 with mild slope (20-40%), heading NE to NW, without erosion problems and with some scattered vegetation
- Patch 1.2: area of Compartment 1 with steep slope (>40%) heading NE to N, with ongoing erosion problems)
- Patch 2.1: flat area besides the water reservoir, easy to mechanize and to irrigate
- Patch 2.2: area with gentle slope (10-30%), heading N
- Patch 2.3: area with steep slope (40-60%), heading E to NE, with incipient erosion problems
- Patch 3.1: area with gentle slope (20-40%), heading E to NW

All Patches with similar features are assigned to Reforestation Blocks:

Patch 1.1, Patch 2.2 and Patch 3.1 are similar → Reforestation Block A

Patch 1.2 & Patch 2.3 are similar → Reforestation Block B

Patch 2.1 → Reforestation Block C

Each reforestation block receives a Priority category: block B is urgent and necessary to be reforested (Priority 1); blocks A & C are non-urgent and necessary to be reforested (Priority 2). There are no blocks under other priorities.

→ Putting together Municipality Diagnosis and Site Diagnosis: Assignment of suitable Reforestation Schemes for each Reforestation Block (2 to 6 reforestation Schemes, with some further open options):

Block A: reforestation Schemes, with rough economic estimation per hectare:

	Reforestation Scheme A1	Reforestation Scheme A2	Reforestation Scheme A3	Reforestation Scheme A4
Reforestation aim	Production	Production	Production + protection / landscape	Protection / landscape
Species	<i>Pinus pinea</i>	<i>Pinus pinea</i> grafted on <i>Pinus brutia</i>	<i>Pinus pinea</i> , <i>Juniperus excelsa</i> , <i>Pyrus syriaca</i>	<i>Juniperus excelsa</i> , <i>Pyrus syriaca</i> , <i>Malus trilobata</i> , <i>Acer tauricum</i>
Suitable densities	600 trees/ha, pure plantation	400 trees/ha, pure plantation	600-800 trees/ha, mixed plantation	800-1000 trees/ha, mixed plantation
Soil preparation	Manual	Manual	Manual	Manual
Irrigation	No	No	No	No
Protection	Individual shelters	Individual shelters	Individual shelters	Individual shelters
Plantation techniques	Mulching, soil conditioners	Mulching, soil conditioners, grafting at year 3	Mulching	-
Estimation of costs during 1 st year, ~\$/ha	800 - 1000	600 - 700	700 - 900	800-1000
Estimation of costs during years 2-5, \$/ha	200 - 300	800 - 1000	200 - 300	300 - 400

Further options for block A:

- mechanical soil preparation instead of manual: +\$500
- fencing instead of individual shelters: +\$2000

Block B: Reforestation Schemes, with rough economic estimation per hectare:

	Reforestation Scheme B1	Reforestation Scheme B2
Reforestation aim	Protection / landscape	Protection / landscape
Species	<i>Juniperus excelsa</i>	<i>Juniperus excelsa</i> Legumes seeding
Suitable densities	1000 trees/ha	1000 trees/ha
Soil preparation	Manual	Manual
Irrigation	No	No

Protection	No	No
Plantation techniques	Soil conditioners	No
Estimation of costs during 1 st year, ~\$/ha	800 - 1000	1100 - 1300
Estimation of costs during years 2-5, \$/ha	200 - 300	300 - 400

Further options for block 2:

- installing tree shelters: +\$1000/ha

Block 3: Reforestation Schemes, with rough economic estimation per hectare:

	Reforestation Scheme 1	Reforestation Scheme 2	Reforestation Scheme 3	Reforestation Scheme 4
Reforestation aim	Production of pine nut	Production of pine nut	Production of fruit	Landscaping / Orchard for local population
Species	<i>Pinus pinea</i>	<i>Pinus pinea</i> grafted on <i>Pinus brutia</i> on year 3	Various fruit trees: walnut, almond, pear, apple	Various fruit trees: walnut, almond, pear, apple, aromatic & medicinal plants
Suitable densities	600 trees/ha	400 trees/ha	600 trees/ha	800 trees/ha
Soil preparation	Crossed sub-soiling	Crossed sub-soiling	Crossed sub-soiling	Crossed sub-soiling
Irrigation	Drippers	Drippers	Drippers	Manual
Protection	Fencing	Fencing	Fencing	Fencing
Plantation techniques	Mulching	Mulching	Mulching	No
Estimation of costs during 1 st year, ~\$/ha	2000 - 3000	2000 - 2500	3500-4000	2000-2500
Estimation of costs during years 2-5, \$/ha	200 - 300	800 - 1000	300-400	1000-1500

Further options for block 3:

no fencing: -\$1500

Stage 3: Participatory mapping

Participatory selection and assignation of a unique reforestation Scheme to each reforestation block (and to each Patch if necessary)

ANNEX 3: Community Appraisal Tools

Tool 1: WORK-PLAN, TIMELINE & BUDGET

Description and objectives

The work plan is a planning document that includes the actions, goals, persons in charge, and timelines needed to execute the action. Additionally, a budget estimates the cost of each activity. The idea is to mobilize the people's ability to design a plan of action. The participatory action plan should be drawn up on the basis of criteria that are easy to understand; the matrix is a graphic representation of the plan and must be clear to everyone, since it will be used as the basis for follow-up and evaluation.

Methodology

The participants have a list of objectives, activities, sub-activities (if they need to be subdivided), and goals (outputs of each activity or sub-activity). Everyone involved should take part in drawing up the matrix.

Step 1: Present and reach consensus on a methodology
Agree on the matrix format and on symbols to be used for activities and sub-activities, as well as the time frames to be used (they should be convenient for the people). A proposed work-plan matrix can be found in Annex 1-Form 1a, proposed timeline in Annex 1-Form 1b and proposed budget in Annex 1-Form 2.
Step 2: Identify specific tasks that need to be done
Define and review the activities and sub-activities needed to reach the established goals. The work-plan matrix has to identify the different activities and sub-activities necessary to reach the goals proposed.
Step 3: Decide on responsibilities.
Who will do what? Indicate who will be responsible for each sub-activity.
Step 4: Timeline
Indicate how much time is foreseen for carrying out each activity (the best way is to make a graph showing when the activity starts and when the goal must be completed). The graphic timeline makes it possible to determine if all the activities planned can actually be done; for each period, make sure that the plan does not include too many activities. It is good to establish a deadline for each activity.
Step 5: Estimate Costs for Each Task (activity or sub-activity).
There are essentially four major types of costs associated with any activity: Labour; Materials; Other direct costs (travel, telephone etc.); Indirect costs (i.e. overheads – office rental, utilities, administrative costs). For most tasks in environmental projects, the largest expense will be labour (e.g. staff, consultants or partners) which is why it is important to identify who is responsible and estimate how long each activity will take before estimating the financial cost.
Step 6 Review the work-plan and budget.
Both documents are essential for the success implementation of the plan. It will guide project implementation and monitoring. The matrix proposed should be reviewed and discussed by all actors involved before it is approved.

Resources required for leading a focus group

Abilities of the staff responsible for the activity

- A facilitator patient and with listening skills, able to synthesize and moderate the work plan drawing.

Material required

- Blackboard, markers.

Time required

- Depends on the complexity of the plan but should not take longer than 2-3 hours

Tool 2: Stakeholders mapping

Description and aims of stakeholder mapping

Stakeholder mapping helps to identify the stakeholders affected by the reforestation (either users of the land or actors that have an interest in participate actively in the reforestation process). It helps on identifying their interests, abilities and potential role during the reforestation process (planning, implementation, monitoring and evaluation). Stakeholder mapping begins at the start of the diagnosis phase, as it helps identify sources of information and resource people, and it is continued and supplemented throughout the process, given that new data is integrated and that new stakeholders may join the initiative.

Methodology to produce the stakeholder map

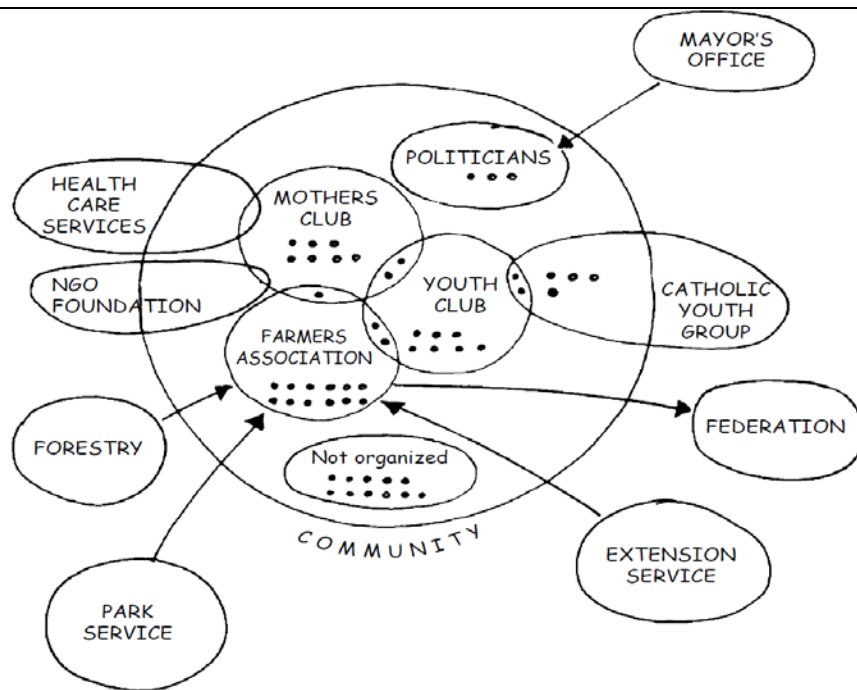
Step 1. Specify the objectives for stakeholder participation

Clarify the objectives and the reasons for stakeholder involvement

- Why is it desirable to involve stakeholders in the process?
- What is expected from this participation?
- What is the added value of this participation?

Step 2. Identify key stakeholders affected for the reforestation (land user)

- Perform brainstorming sessions through focus groups (Tool 4, Annex 2), or individual interviews (Tool 3, Annex 2), with associations, public and private institutions, research centers and universities involved in the sector.
- Build up a Venn diagram of stakeholders by initially identifying the major groups concerned by the reforestation towards the centre of the diagram, then detailing these groups toward the periphery of the image. Where necessary, use color codes and annotations, symbols, etc.



Source: IICA, 2008.

- Fill the Form 5a: Stakeholders group information (LAND USERS)
- Take time to assess the initial lists of stakeholders and decide if there are less well known or less obvious stakeholders still to be identified.
- Supplement the initial list from secondary sources (such as historical documents or local newspapers, etc.), government statistics and data, lists of organizations, etc.

Step 3. Identify reforestation supporters (stakeholder interest in the reforestation)

As well as for land users, stakeholders interested to actively participate on the reforestation can be identified via a focus group and meetings or interviews. Stakeholders are classed according to their interest in the proposed objective or activity and the impact its participation will have on the reforestation. The Form 5b: Stakeholders group information (REFORESTATION SUPPORTERS) can be used as a guide.

Step 4. Assess the influence and significance of those stakeholders participating in the activities (optional)

Assessing the importance of the participation of different stakeholders might be needed in case there are a large number of stakeholders in the territory. The following matrix can be used to prioritize the participation of stakeholders.

Criteria	stakeholder 1	stakeholder 2	stakeholder 3	...
Influence. What is the influence of stakeholder X in the reforestation?				
Significance. What is the significance (importance) of stakeholder X's participation in the reforestation?				
...(other criteria)				

This information will provide tools to prioritize the participation and define a participation strategy. Individual meetings and negotiations with stakeholders will be also helpful during this process.

Resources required to perform stakeholder mapping

Abilities of the staff responsible for the activity

- Excellent facilitation skills are required.

Equipment required

- Flipchart, post-it notes, pencils and, for group discussions, a suitable comfortable meeting room, along with participant incentives (such as refreshments).

Time required

- Once the stakeholders have been identified, each step may take an hour or two. A complete analysis may take a whole day or more

Sources of useful information for stakeholder mapping

Forestry Commission, 2011. Public engagement in forestry: A toolbox for public engagement in forest and woodland planning <http://www.forestry.gov.uk/>

FAO, 2013. Website. Stakeholder analysis

http://www.fao.org/Participation/english_web_new/content_en/stakehold.html

Tool 3: INTERVIEWS

Description and objectives of the interviews

- Interviews are techniques for collecting “live” data (i.e. data from stakeholders, which is then analyzed).
- Are conversational meetings, giving insight into stakeholders’ points of view and providing relatively qualitative data
- Aim to elucidate various opinions and experiences on specific subjects.
- Are directed to specific people and may be performed face to face or by telephone (although the latter is inadvisable).
- Are called “in depth” when topics are discussed as the questions arise, “semi-structured” when they use a flexible framework and “structured” when they follow a rigid structure.

Methods to perform interviews

- Identify the aims of the interviews
- Produce the interview guidelines and select the sample
- Start the interview (present the interviewer, state the purpose of the interview, mention the confidentiality agreement, and thank those present...)
- Perform the interview using the guidelines
- Analyze the results of interviews

Resources required to perform interviews

Abilities of the staff responsible for the activity

- Ability to generate an atmosphere of trust for the interviewee.
- Good ability to listen and openness to new ideas.
- Ability to perform relevant and efficient interviews to obtain the desired information

Equipment required

- A recording device can be useful in certain situations however it can affect the quality of the data gathered.

Time required

- The interviews usually take between 20 minutes and an hour.

Sources of useful information about interviews

FAO, 1990. The Community's toolbox: The idea, methods and tools for participatory assessment, monitoring and evaluation in community forestry. FAO Regional Wood Energy Development Programme in Asia, Bangkok, Thailand.

<http://www.fao.org/docrep/x5307e/x5307e00.htm>

Tool 4: DISCUSSION TECHNIQUES (FOCUS GROUPS & WORKSHOPS)

Description and objectives of focus groups & workshops

This is a technique where participants discuss specific questions and topics in depth, with the help of a qualified facilitator. Focus groups often comprise 5- 15 people, who represent various points of view and stakeholder interests. The tool can be applied with groups of experts who have knowledge of the topic under consideration or with representatives of a specific sector of society.

Methodology to organize a focus group

Prior to the discussion	During the discussion
<ul style="list-style-type: none">• Decide the purpose of the discussion• Decide who should be invited due to their knowledge of the topic• Specify the characteristics of the meeting (date, duration, number of groups, etc.)• Produce the invitations• Choose a technique to use (games and graphic tools improve the results of the discussions)	<ul style="list-style-type: none">• Thank the participants for coming and participating• Explain the purpose of the focus group and the aims of the meeting• Explain how the meeting will take place and how members can contribute• Specify the rules of debate• Encourage open participation• Set the tone by asking an opening question and ensuring that all opinions on this question are heard• Ask other questions generally• When all questions have been asked, ask if anyone has further comments• Explain to the group the next steps which will occur• Thank the group for coming and actively participating

Resources required for leading a focus group

Abilities of the staff responsible for the activity

- A coordinator able to stimulate and moderate the debate and ensure compliance with speaking times, which is preferably independent and neutral with respect to the topic.
- Someone to take notes on the significant questions and answers, and on factors that could help in understanding the information.

Equipment required

- Facilities that enable convenient, welcoming meetings.
- Incentives for participants, such as a breakfast.
- Audio recording devices.

Time required

- The discussions should take an hour or two.

Sources of useful information about focus groups

Elliott J, Heesterbeek S, Lukensmeyer CJ and Slocum N. 2005 Participatory Methods Toolkit. *A practitioner's manual*. Slocum Nikki, *Participatory Methods Toolkit: A Practitioner's Manual*, 2nd edition, in collaboration with ViWTA and King Baudoin Foundation, Brussels, 210 p. (available in English and French). [http://www.cris.unu.edu/sbook.175.0.html?cHash=4fd03ade56&tx_ttnews\[tt_news\]=467](http://www.cris.unu.edu/sbook.175.0.html?cHash=4fd03ade56&tx_ttnews[tt_news]=467)

The Community Toolbox. 2013. Chapter 3. Assessing Community Needs and Resources. Section 6. Conducting focus groups. http://ctb.ku.edu/en/tablecontents/sub_section_main_1018.aspx

Tool 5: Participatory rangeland mapping

Description and objectives

In the broad sense, participatory mapping is a tool to generate maps with the support of local communities. It is an interactive approach that draws on local people's knowledge, enabling participants to create visual and non-visual data to explore social problems, opportunities and questions. In the context of the PRPM, participatory mapping will be used to localize grazing areas, map grazing patterns, and routes. Thus, identifying important areas or resources to be excluded from reforestation and/or proposing mitigation alternatives to modify ranging patterns in areas suitable for reforestation.

Methodology of the participatory mapping

The methodology used in Tool 4 (discussion techniques) might also be appropriate to plan the discussion both prior and during discussion (e.g. setting the objective, establishing the facilitation team, identifying the participants who should be invited, choosing the appropriate techniques to use based on the context of the population, the facilities and the resources). The process of producing the participatory rangeland map could take place in two steps:

Mapping rangeland resources and uses

- Investigate and locate the resources of interest of herds (resource mapping) including pastures and its different types, water source and other elements of interest.
- Investigate and describe the patterns of uses and tracks (including different times of the year)
- Identify and locate alternative resources of interest for the herd and rangers.
- A general map will be generated at first and more details will be added to the map

Negotiating alternatives

- Identify the use arrangements of the land that is currently being used by the shepherds.
- Classify and localize 3 types of uses: i) territory extremely important for shepherds, therefore that locations will not be included on the reforestation; ii) territory that might be used for reforestation purposes if alternatives are provided and, iii) zones where reforestation is possible without any threat or danger.

Report back to the interested stakeholders (i.e. shepherds)

- Write the mapping report and explain the decision to the affected stakeholders.

Resources required

Abilities of the staff responsible for the activity

- An animator to stimulate and moderate the debate and ensure compliance with speaking times, reaching the objectives of the discussion.
- At least one member of the Municipality to lead the negotiation process (or supervise it)
- Someone to coordinate the drawing on the map and take notes on the significant questions.

Equipment required

- Printed map with references (e.g. rivers, water sources, villages, peak) that are known by all the participants.
- Markers, post its, pins or other elements to mark on the map.
- Incentives for participants, such food and beverages.

Time required

- The discussions should take from one to four hours.

Sources of useful information about focus groups

IFAD. 2009. Good practices in participatory mapping, A review prepared for the IFAD.
http://www.ifad.org/pub/map/pm_web.pdf

Tool 6: Preferences ranking

Description and aims

The objective is to take decision or stated preferences in a systematic manner by comparing different options (e.g. activities, Reforestation Schemes) based on a series of criteria.

Methodology

Step 1. Determine and reach consensus on evaluation criteria

Depending on the nature of the alternative, the criteria might include the following:

- Benefits for the municipality (e.g. productivity/income-generating capacity)
- Sustainability of the alternative (can we do it with little external aid and continue doing it after the aid is withdrawn?)
- Technical and social feasibility (can it be done, and is it acceptable?)
- Waiting time: When will we start to see the benefits?
- Cost

Step 2. Prepare a ranking matrix

With the rows headed by the different solutions (or alternatives) to be evaluated and the columns headed by the evaluation criteria. Additionally, participants should agree on the scoring method (eg. 1-5)

SOLUTION	Benefit	Help needed	Everybody benefits	Feasible	Do we have to wait?	Cost?	Score	Priority
Try other varieties	☺	☹	☺	☺	☹	☹	6	4
Plant later	☺	☺	☺	☹	☹	☺	9	2
Keep residues in the soil	☺	☺	☺	☺	☺	☺	12	1
Plant beans as fertilizer	☺	☹	☹	☺	☹	☹	7	3

☹ = 0 ☺ = 1 ☺ = 2

Source: IICA, 2008.

Step 3. For each alternative, review the different criteria and write down a score for each one.

The facilitator should avoid a common mistake: confusing positive and negative scores, e.g., using 3 for “highly beneficial” and 3 for “long wait” or “cost too high”. To avoid this mistake, it is a good idea to express all the criteria in positive terms (e.g., speed of impact, need for financing). Once the matrix has been completed, the scores can be added or combined to prioritize the different alternative

Resources required

Abilities of the staff responsible for the activity

An experienced facilitator who should take a proactive role in all steps.

Equipment required

Paper, cards, markers, blackboard

Time required

Maximum 3 hours, depending on the complexity of the issue and the number of participants.

Tool 7: Problems tree: cause and effect diagram

Description and aims

A problem or threats tree provides an overview of all the problems that can rise during the reforestation. It also helps to identify the known causes and effect to an identified problem. This is important in planning an action as it establishes the context in which a project is to occur. Understanding the context helps reveal the complexity of life and this is essential in planning a successful actions.

A problem tree involves writing causes in a negative form (e. g. lack of knowledge, not enough money etc). Reversing the problem tree, by replacing negative statements with positive ones, creates a solution tree. A solution tree identifies means-end relationships as opposed to cause-effects. This provides an overview of the range of projects or interventions that need to occur to solve the core problem.

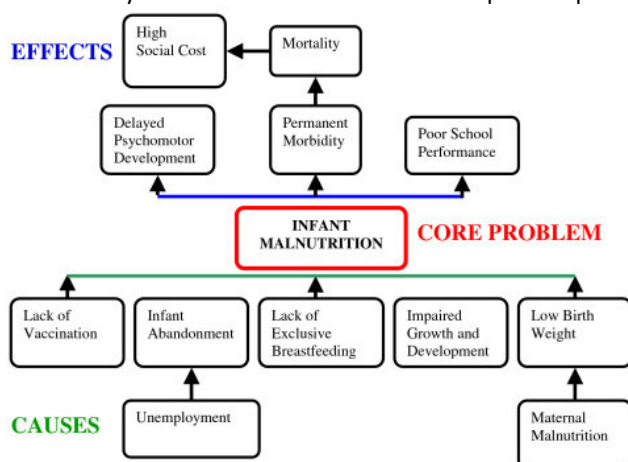
Methodology

Step 1. Review the problems identified and list each one on a separate card/post it

Brainstorming with all participants identifying the problems that can affect the reforestation process. Each participant should write one problem per card/post it.

Step 2. Identify a major problem and related causes and effects

Ask them to identify a problem they consider very important. Place the card/post-it in the middle of the blackboard or paper. Identify the causes and effects of that problem from the other problems- cards. Brainstorm to see if they can identify other causes It is convenient to provide participants with an example.



Step 3. Identify the other central problems

Repeat the exercise to identify other problems that might be a “consequence” of problems already placed on the board.

Step 4: Review not used cards

Review all the cards that have not been put up, to see if there might not be a relationship between them and some of the cards already placed on the board.

Step 5. Verify the problem-tree

At the end, there should be one or more problem “trees”. It is very important to be able to determine if there is a “central” problem on the tree or trees that leads to most of the other problems. Ask the participants what they think of the exercise. Write down the result and give the paper or a copy of the results to the group

Resources required

Abilities of the staff responsible for the activity

- A facilitator with excellent coordination skills, able to stimulate and moderate the different stages and ensure compliance with times

Equipment required

- Cards or post-it, blackboard to stick the post-its or the cards, markers.

Time required

- 1-3 hours, depending on the complexity of the issue and the number of participants

Tool 8: Solutions tree

Description and aims

A solution (or objectives) tree is developed by reversing the negative statements that form the problem tree (previous tool) into positive ones. For example, a cause (problem tree) such as “lack of knowledge” would become a means such as “increased knowledge”. In this document, the solution tree might be used to identify a contingency plan (i.e. solutions) for each of the problems, risk and threats that might hamper the reforestation success.

Methodology

The solution tree is based on the problem tree. Additionally to it, to identify the feasibility and select the adequate solution a Solution Matrix might be used. The methodology to develop the Solution matrix and select the best solution might be the following:

Step 1. Reach consensus on evaluation criteria				
The criteria might be defined by the group elements that might be included are: Cost, technical feasibility, social acceptability among others				
Step 2. Prepare a Matrix				
Generate a Matrix where the criteria are represented by columns and the different solutions in rows as the table below:				
SOLUTION	COST (score)	TECHNICAL FEASIBILITY (score)	SOCIAL ACCEPTABILITY (score)	TOTAL SCORES
Solution 1	3	1	2	6
Solution 2	2	3	3	8
Solution 3	1	2	1	4
Score each solution by using Tool 6 or other method considered appropriate.				
Step 3. Final prioritization				
Explain and synthesize the solutions that have been prioritized. It might be adequate to identify the next steps of the process that will follow.				

Resources required

Abilities of the staff responsible for the activity

- A facilitator with excellent coordination skills, able to stimulate and moderate the different stages and ensure compliance with times

Equipment required

- Cards or post-it, blackboard to stick the post-its or the cards, markers.

Time required

- 1-3 hours, depending on the complexity of the issue and the number of participants

ANNEX 4: Participatory Reforestation Plan Template

This Annex proposes the different sections that might be included in a Participatory Reforestation Plan. The stakeholders that should be involved in each section are indicated in green using the following code (M: Municipality, RP: Reforestation Partners, RC: Reforestation Consortia, LU: Land Users; RF: Reforestation supporters). A description of the information that should be included in each section is described after each title section. The document also specifies in which stage the information is gathered. Additionally, it specifies, by using the acronym CN, which information has already been gathered by means of the concept note (either partial or complete).

1. BACKGROUND AND JUSTIFICATION (RC)

Include the scope, rationale of the reforestation and the livelihood support actions (e.g. Why the Municipality wants to perform reforestation activities? What issues will be solved by it? What will be the general benefits of the reforestation? How livelihood support activities will increase the success of reforestation activities? This information can be gathered from the Concept Note (Maximum 1 page).

2. OBJECTIVES OF THE REFORESTATION (RC)

Include the overall long term goal of the reforestation and the specific goals that the Municipality wants to achieve by means of the reforestation and the livelihood support actions (e.g. generate employment, production of goods and services, income opportunities). This information can be gathered from the Concept Note (Maximum 1 page).

3. PREVIOUS REFORESTATION EXPERIENCES (RC)

Include a short description of the previous reforestation experiences that have taken place in the Municipality as indicated in Form 6 at the Stage 2 (Maximum 1 page).

4. SITE & STAKEHOLDERS DESCRIPTION (RC)

Include the information that has been gathered during the Stage 2: Site and Socioeconomic Diagnosis organized as follows.

4.1. MUNICIPALITY PHYSICAL DESCRIPTION (RC)

Include the information of Form 8: Summary of physical data at Municipality level organized as follows.

4.1.1. CLIMATE SUMMARY

4.1.2. SOIL

4.1.3. FLORA & PHYSIOGRAPHIC INFORMATION

4.1.4. HYDROLOGY, EROSION PROBLEMS AND OTHER ISSUES

4.2. REFORESTATION COMPARTMENT IDENTIFIED (RC, LU, RS)

Include the information that has been gathered during the first part of the Stage 2: Site and Socioeconomic Diagnosis.

4.2.1. MAP OF LIVESTOCK ACTIVITIES (RC, LU)

Include the information of Form 7: Livestock activities characterization and the map resulted of the participatory rangeland mapping process.

4.2.2. MAP OF OTHER MAJOR CONSTRAINTS (RC, LU)

In case that there are other major elements conditioning the reforestation process (e.g. areas of social, cultural or religious interest) include a map and a description of those activities by following the example of Form 7 and rangeland mapping process of the previous section.

4.2.3. MAP OF REFORESTATION BLOCKS (RP)

Include the map resulted of the identification of the reforestation blocks.

4.2.4. DESCRIPTION OF REFORESTATION PATCHES (RC)

Include the information of Form 9: Summary of physical data at Reforestation Patch level organized as follows.

4.2.4.1. PHYSIOGRAPHIC INFORMATION

4.2.4.2. SOIL

4.2.4.3. LAND USE (past, current and potential)

4.2.4.4. OTHERS

4.3. POTENTIAL SCHEMES IDENTIFIED FOR EACH BLOCK (RP)

Include the information gathered during the focus groups discussion by using Form 10: Reforestation Schemes drafting.

4.4. STAKEHOLDERS DESCRIPTION (RP, LU, SS)

Include the information of Form 5a and 5b: Stakeholders group identification organized as follows.

4.4.1. LAND USERS

4.4.2. REFORESTATION SUPPORTERS

4.5. ECONOMIC ACTIVITIES LINKED TO FOREST RESOURCES (RP, LU, SS)

Briefly describe which are the main economic activities that different stakeholders carry out in relation with the forest resource, specify which actors are involved as well as the socioeconomic impact of those activities) organized as follows. (Maximum 2 page).

4.5.1. LIVESTOCK ACTIVITIES

4.5.2. NON-TIMBER FOREST PRODUCTS UTILIZATION

4.5.3. OTHER HARVESTING ACTIVITIES

5. ACTION PLAN (RP)

The action plan includes a description of all the activities that have been selected to be implemented during Stage 3. The information will be organized as follow:

5.1. REFORESTATION EXECUTIVE IMPLEMENTATION PLAN (RP)

Include a description, working plan and budget for the activities that will be conducted to implement the reforestation according to the selected Scheme.

5.1.1. ACTIVITIES DESCRIPTION

5.1.2. WORK-PLAN

5.1.3. BUDGET

5.2. LIVELIHOOD SUPPORT PLAN (RP)

Include a description, working plan and budget for the activities that will be conducted with both land users and reforestation supporters. When possible, organize the information by using the Logical Framework approach.

5.2.1. ACTIVITIES DESCRIPTION

5.2.2. WORK-PLAN

5.2.3. BUDGET

5.3. RESEARCH & DEVELOPMENT PLAN (RP, Research Institutions)

The research and development plan is optional; therefore it is up to the Municipality to develop or not this section. Include a description, working plan and budget for the R&D activities that will be conducted in the reforestation.

5.3.1. ACTIVITIES DESCRIPTION

5.3.2. WORK-PLAN

5.3.3. BUDGET

5.4. RISKS AND CONTINGENCY PLAN (RP)

Describe all the risks that should be considered during the implementation and maintenance of reforestation areas and during the implementation of the livelihood support actions and propose a Contingency plan to mitigate them. The mitigation actions of the reforestation activities might consist of the activities of the livelihood support plan (Form 12: Risk and Contingency Plan).

5.5. MONITORING, EVALUATION AND REPORTING PLAN (RP, LU, SS)

Include a description, working plan and budget for the monitoring and reporting activities that will be conducted to evaluate the result of the Reforestation, Livelihood support and R&D Plan (as specified in Stage 4).

5.5.1. ACTIVITIES DESCRIPTION

5.5.2. WORK-PLAN

5.5.3. BUDGET

ANNEX 8: LONG-LISTS OF SELECTED PROJECT AREAS

Table A.8.1: Long-list of potential project areas for reforestation

Mohafaza	Landscape	Caza & Protected Area/ Reserves	Population		Potential Village Area		Potential Area for reforestation
			Total	Poor	Name	Ha	Ha
North Leb.	West Mount Leb. Forest/Ecological Corridor	Denniyeh	3,352	1,207	Bkarsouna	54.0	105
			3,709	1,335	Nemrine & Bakoura	7.0	
			1,592	573	Kfar Chlane	2.8	
			481	173	Azzqi	40.7	
Mount Leb.	West Mount Leb. Forest/Ecological Corridor	Baabda	3,198	704	Hammana	87.0	87
	West Mount Leb. Forest/Ecological Corridor	Shouf <i>Biosphere</i>	3,163	696	Kornayel/ Kfar Selwan & Touate	TBD	
Bekaa	Jabal Es Sheik Forest/Ecological Corridor	Rachaya	290	110	Aiha	16.5	284
			3,171	698	Kfardines	70.0	
			2,672	1,015	El Bire	28.2	
			1,044	397	Aita Foukhar	39.3	
			1,711	650	Bakka	36.6	
			1,753	666	Kaoukaba (Abou Arab)	93.6	
			569	216	Kfar Kouk	15.0	
	West Anti Leb. Forest/Ecological Corridor	Zahle <i>Anjar</i>	884	336	Anjar	94.0	107
2,665	1,013	Bouerij	43.0				
Baalbeck Hermel	East Mount Leb. Forest/Ecological Corridor	Baalbeck	8,267	3,141	Ainata PRP	889.0	889
Nabatiyeh	West Mount Leb. Forest/Ecological Corridor	Nabatiyeh	1,627	618	Kfar Remmane	135.5	136

Table A.8.2 Long-list of potential project sites with communal forest areas affected by pest outbreaks

Mohafaza	Caza	Village Protected Area/Reserves	Population		Tree species	Pest impact
			Total	Poor		
Akkar	Akkar	Mechmech	5,808	2,091	Syrian Juniper	Die back
North Leb.	Denniyeh	Jayroun	635	229	Syrian Juniper	Die back
	Denniyeh	Qemmamine	526	189	Syrian Juniper	Die back
	Bcharreh	Bcharreh	442	159	Cedar	Defoliation
	Tannourine	<i>Tannourine Reserve</i>	1,937	697	Cedar	Defoliation
Mount Leb.	Jbeil	Saqi Rechmaya	76	17	Syrian Juniper	Die back
	Jbeil	Ehmej	1,534	337	Syrian Juniper	Die back
	Jbeil	Qamez	1,100	242	Syrian Juniper	Die back
	Keserwan	<i>Jabal Moussa Biosphere</i>	15,434	3,396	Syrian Juniper	Die back

Source: Central Administration for Statistics and World Bank. 2015. Snapshot of Poverty and Labor Market Outcomes in Lebanon. Beirut.

Table A.8.3: Long-list of potential project areas for forest restoration and SFM activities

Mohafaza	Caza	Village Protected Area/Reserves	Population		Tree species
			Total	Poor	
Akkar	Akkar	El Bireh	1,888	680	Mixed forest
North Lebanon	Denniyeh	Btehline	899	324	Mixed forest
	Koura	Kfar Hazir	2,012	724	Mixed conifers or pure stands of Cedar, Cypress, or Brutia pine
	Koura	Fih	1,288	464	
	Koura	Kousba	4,350	1,566	
	Zgharta	Daraiya-Bchenine	798	287	
Mount Leb.	Kesrewan	Aintoura	2,097	461	Brutia pine
	Chouf	Mristi	1,246	274	Mixed conifers
	Chouf	Bater	2,288	503	
	Chouf	Khreibeh	1,609	354	
	Baabda	Falougha	2,121	467	
	Jbeil	Bentael Reserve	514	113	
Beqaa	Rachaya	Rachaya Al Wadi	6,353	2,414	Mixed conifers
	Rachaya	Aiha	2,672	1,015	
	Beqaa	Lala	2,769	1,052	
	Beqaa	Baaloul	1,438	547	
	Beqaa	Saghbine	1,949	741	
	Beqaa	Ain Zebdeh	1,108	421	
	Beqaa	Sultan Yacoub	2,286	869	
Nabatiyeh	Nabatiyeh	Zefta	2,649	662	Mixed conifers
	Marjeyoun	Ibl el Saqi Protected	2,085	521	Mixed conifers
South Leb.	Jezzine	Bkessine Protected	931	289	Stone pine

Note: The extent of the affected areas (in Ha) needs to be determined for each of the pre-selected areas

Source: Central Administration for Statistics and World Bank. 2015. Snapshot of Poverty and Labor Market Outcomes in Lebanon. Beirut.