



Global Environment Facility

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August 11, 2008

Dear Council Member,

The International Fund for Agricultural Development as the Implementing Agency for the project entitled: ***Tunisia: MENARID – Support to Sustainable Land Management in the Siliana Governorate*** under the ***MENARID Programme***, has submitted the attached proposed project document for CEO endorsement prior to final Agency approval of the project document in accordance with the International Fund for Agricultural Development procedures.

The Secretariat has reviewed the project document. It is consistent with the project concept approved by the Council in April 2008 and the proposed project remains consistent with the Instrument and GEF policies and procedures. The attached explanation prepared by the International Fund for Agricultural Development satisfactorily details how Council's comments and those of the STAP have been addressed.

If by September 8, 2008, I have not received requests from at least four Council Members to have the proposed project reviewed at a Council meeting because in the Member's view the project is not consistent with the Instrument or GEF policies and procedures, I will complete the Secretariat's assessment with a view to endorsing the proposed project document.

We have today posted the proposed project document on the GEF website at www.TheGEF.org. If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

A handwritten signature in black ink, appearing to read 'Monique Barbut', written over a horizontal line.

Attachment: Project Document

cc: Alternates, GEF Agencies, STAP, Trustee



GEF

REQUEST FOR CEO ENDORSEMENT/APPROVAL

PROJECT TYPE: Full-sized Project

THE GEF TRUST FUND

Submission Date: 11 July 2008

Re-submission Date:

PART I: PROJECT INFORMATION

GEFSEC PROJECT ID: 2709

GEF AGENCY PROJECT ID:

COUNTRY(IES): Tunisia

PROJECT TITLE: Support to Sustainable Land Management in the Siliana Governorate

GEF AGENCY(IES): IFAD

OTHER EXECUTING PARTNER(S): MoA

GEF FOCAL AREA(S): LD & BD

GEF-4 STRATEGIC PROGRAM(S): LD/SP1 & BD/SP3

NAME OF PARENT PROGRAM/UMBRELLA PROJECT:

MENARID

INDICATIVE CALENDAR	
Milestones	Expected Dates
Work Program (for FSP)	Apr 08
CEO Endorsement/Approval	Sept 08
GEF Agency Approval	Oct 08
Implementation Start	Dec 09
Mid-term Review (if planned)	Jun 12
Implementation Completion	Dec 14

PROJECT FRAMEWORK

Project Objective: The project goal is to address the processes of land degradation and of biodiversity losses affecting the country's northern ecosystems by achieving the following objectives: (i) adopting integrated land use planning and improved water management, (ii) enhancing the protection of examples of the mountainous-forest ecosystem which form presently part of the national protected area system and (iii) up-scaling SLM investments in productive areas, while improving the living conditions of low- and average-income households.

Project Components	Investment TA or STA	Expected Outcomes	Expected Outputs	Indicative GEF Financing		Indicative Co-financing*		Total (\$ '000)
				(\$ '000)	%	(\$ '000)	%	
<i>Strengthening the Policy and Planning Frameworks for SLM Mainstreaming</i>	TA, STA	Reasonable influence to improve country legal framework is exerted A national multi-stakeholder environmental and SLM information and knowledge management (KM) system is being set in place, including environmental M&E Country's strategy to implement a pluralistic advisory system is strengthened Land users actual participation to planning and assessing value of ecosystems and sustainable development is evident Alignment with foreseen MENARID outcomes	1-2 proposals for SLM barriers amendment developed and acknowledged at policy level A KM system designed and most of its components are operational (2 databases and 1 web architecture developed, national environmental M&E system upgraded and nation-wide awareness campaign undertaken) 50 staff from the, MOAWR, MESD, Commissariat Régional du Développement Agricole (CRDA), 3-5 NGOs and 10-15 CBOs trained to mainstream SLM and ecosystem management in their work 15 Local development Plans (LDP) developed, 5 participatory annual reviews done, and 4-6 studies performed	1,390	38.1	2,259	61.9	3,649
<i>Mainstreaming SLM in Agricultural</i>	Investment and TA	Impact-oriented and locally adapted SLM incentives are promoted in rain-fed crop	SLM practices (Conservation Agric., Organic Farming, Evapotranspiration reduction	1,520	7.5	18,800	92.5	20,320

<i>Activities</i>		<p>areas to reduce pressure on land resources</p> <p>Land resources' value added by linking SLM in land re-grouping activities and by consolidating Soil and Water Conservation (SWC) works</p> <p>Local land users' livelihoods improved</p> <p>Alignment with foreseen MENARID outcomes</p>	<p>, IPM, etc.) tested on more than 6000 ha, and 6000 farming households targeted</p> <p>1500 ha re-grouped and 1600 ha with consolidated SWC works</p> <p>5-6 best farmer awarding annual events on SLM practices celebrated</p>					
<i>Mainstreaming SLM in Sylvo-Pastoral Activities</i>	Investment and TA	<p>Sustainable sylvo-pastoral management systems and organizational forms are identified</p> <p>Impact-oriented and locally adapted SLM investments are promoted in rangelands;</p> <p>Degradation and unsustainable use of common-rights land is reduced;</p> <p>Local land users' livelihoods improved</p> <p>Micro-enterprises of natural and environmentally friendly activities developed to reduce pressure on rangelands</p> <p>Alignment with foreseen MENARID outcomes</p>	<p>1 participatory sylvo-pastoral management plan developed</p> <p>Range improvement SLM practices adopted over 1200 ha in family-managed pastureland, and 50 water harvesting and spring rehabilitation systems put in place</p> <p>Range improvement SLM practices undertaken over 500 ha of common-rights land;</p> <p>Production capacity of 4 sylvo-pastoral nurseries enhanced;</p> <p>At least 5 group micro-enterprises developed</p> <p>7500 livestock herders targeted and trained on range SLM</p>	1,255	22.9	4,205	77.1	5,460
<i>Conserving BioDiversity in Jebel Esserj</i>	Investment and TA	<p>A National Park created and its biotope management plan developed with regulations that include possibilities for eco-tourism enjoyment</p> <p>Capacity for PA management and sustainable NRM developed and information disseminated</p> <p>Endangered bio-diversity conserved and asset management ensured in a sustainable manner</p>	<p>1 Specific Park(Jebel Esserj) legal act negotiated and approved and one management plan developed</p> <p>1 500 families involved</p> <p>5 Park staff trained and the Park M&E and information dissemination system in place, including impact and process indicators monitoring, production of leaflets and publishing of park documentation</p> <p>Minimum park infrastructure developed including: tourist welcoming facilities; eco-museum; water systems; solar power system; user itinerary signs; bird watching posts; and animal management systems</p>	400	78	114	22	514
<i>Project management</i>				435	18	1,977	82	2,412
Total costs				5,000	15	27,355	85	32,355

B. FINANCING PLAN SUMMARY FOR THE PROJECT (\$)

	Project Preparation * a	Project Grant b	Total c=a+b	Agency Fee**	For the record Project Grant at PIF
GEF	350,000	5,000,000	5,350,000	531,500	5,881,500
Co-financing	322,441	27,355,000	27,677,441		22,684,000
Total	672,441	32,355,000	33,027,441	531,500	28,565,500

* PDFB funded under GEF-3.

** 10% fee rate applicable only on project grant with 9% advance received at preparatory grant.

C. SOURCES OF CONFIRMED CO-FINANCING, including co-financing for project preparation for both the PDFs and PPG.

Name of co-financier (source)	Classification	Type	Project Preparation	Project	Total	%*
GOT	Nat'l Gov't	Grant	190,000 in kind -	6,066,000	6,256,000	22.6
Bilateral Aid Agency	Bilateral Agency	Soft-loan	-	4,555,000	4,555,000	16.45
IFAD	Multilat. Agency	In-kind and loan	132,441 in kind and cash	10,998,000	11,130,441	40.21
Others	Beneficiaries	In Kind	-	5,736,000	5,736,000	22.23
Total Co-financing			322,441	27,355,000	27,677,441	100%

D. GEF RESOURCES REQUESTED BY FOCAL AREA(S), AGENCY(IES) OR COUNTRY(IES)

GEF Agency	Focal Area	Country Name/ Global	(in \$)			
			PDFB* (a)	Project (b)	Agency Fee** (c)	Total d=a+b+c
IFAD	Land Degradation	Tunisia	350,000	4,600,000	491,500	5,441,500
IFAD	Biodiversity	Tunisia		400,000	40,000	440,000
Total GEF Resources			350,000	5,000,000	531,500	5,881,500

* PDFB funded under GEF-3.

** 10% fee rate applicable only on project grant with 9% advance received at preparatory grant.

E. PROJECT MANAGEMENT BUDGET/COST

Cost Items	Total Estimated person weeks	GEF (\$)	Other sources (\$)	Project total (\$)
<i>Local consultants*</i>				1,254,462
- Project coordinator	260	120,000		
- Administration and finance	260	60,000		
- Programming Unit	780		128,308	
- Implementation Unit ¹	2860		349,385	
- M&E Unit	780		596,769	
<i>International consultants*</i>	0	0		0
<i>Office facilities, equipment, travel, vehicles and communications**</i>		90,000	712,477	802,477
<i>Workshops and supervision</i>		165,000	190,060	355,060
Total	-	435,000	1,977,000	2,412,000

¹ Including 5 drivers and 2 secretaries

F. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

<i>Component</i>	<i>Estimated person weeks</i>	<i>GEF(\$)</i>	<i>Other sources (\$)</i>	<i>Project total (\$)</i>
<i>Local consultants*</i>	1 820	600 000	1 500 000	2 100 000
<i>International consultants*</i>	30	75 000	0	75 000
Total	1850	675 000	1 500 000	2 175 000

G. DESCRIBE THE BUDGETED M&E PLAN:

Project monitoring and evaluation will be conducted by the project team in conformity with GEF M&E procedures and within the M&E framework of the January 2006 loan agreement between IFAD and the Government of Tunisia. The Logical Framework Matrix in Annex A provides *impact* and *performance* indicators for project implementation along with their corresponding *means of verification*. These will form the basis on which the project's Monitoring and Evaluation system will be built. A detailed M&E Plan is presented at the detailed Project Document Appendix D. Below is a brief description of the Plan.

Project Inception Phase

A Project Inception Workshop (IW) will be conducted with the IADP-II project team, including National Coordinator (from MAWR) and Task Coordinator (for all project activities under the MESD), relevant government counterparts, IFAD and co-financing partners. The main objective of this workshop will be to increase the project team's ownership of the project's goals and objectives, as well as finalize preparation of the project's first annual work plan on the basis of the project's logframe matrix. This will include fine-tuning the methodology for measuring the logframe indicators, imparting additional detail as needed, and on the basis of this exercise, finalize the Annual Work Plan (AWP) with precise and measurable performance indicators, and in a manner consistent with the expected outcomes for the project. For an indicative M&E Work Plan for the whole project implementation period, see Appendix D of detailed Project Document.

Additionally, IW will provide a detailed overview of IFAD-GEF reporting and monitoring and evaluation (M&E) requirements, with particular emphasis on the Annual Project Implementation Reviews (PIRs) required by GEF, the bi-annual and annual reporting requirements for IFAD, the bi-annual supervisory missions, the occasional supervisory missions of IFAD as well as mid-term and final evaluations. Equally, the IW will provide an opportunity to inform the project team on IFAD project-related budgetary planning, budget reviews, and mandatory budget re-phasing.

The IW will also provide an opportunity for all parties to understand their roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff and decision-making structures will be re-discussed, as needed, in order to clarify for all, each party's responsibilities during the project's implementation phase.

Monitoring responsibilities and events

A detailed schedule of project reviews meetings will be developed by the project management, in consultation with project implementation partners and stakeholder representatives and incorporated in the Project Inception Report. Such a schedule will include: (i) tentative time frames for, Bi-annual Supervisory Missions and meetings of the National Coordination committee, the Regional Advisory Council and the Delegation-level Advisory Councils, and; (ii) project related Monitoring and Evaluation activities.

Day to day monitoring of implementation progress will be the responsibility of the Regional Coordinator for regional level activities and the National Coordinator and Task Coordinator for national-level activities based on the project's Annual Work Plan and its indicators. The Project Team will inform the IFAD-GEF of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion.

The National Coordinator, the Task Coordinator and the Regional Coordinator will fine-tune the methodology for measuring progress and performance/impact indicators of the project in consultation with the full project team in consultation with IFAD. Specific targets for the first year implementation progress indicators together with their means of verification will be developed at this Workshop. The local implementing agencies will also take part in the Inception Workshop in which a common vision of overall project goals will be established. Targets and indicators for subsequent years would be defined annually as part of the internal evaluation and planning processes undertaken by the project team.

Measurement of impact indicators related to national and global benefits will occur according to the schedules defined in the IW and tentatively outlined in the indicative Impact Measurement Template. The measurement of some of the impact indicators will be undertaken through subcontracts or retainers with relevant institutions or through specific studies that are to form part of the projects activities or periodic sampling.

Reporting

The Regional, National and Task Coordinators, in conjunction with MAWR and MESD, will be responsible for the preparation and submission of the following reports that form part of the monitoring process. As the project is based in the Region, the Regional Coordinator will have lead responsibility for their compilation:

(a) Inception Report (IR)

A Project Inception Report will be prepared immediately following the Inception Workshop. It will include a detailed First Year/ Annual Work Plan divided in quarterly time-frames detailing the activities and progress indicators that will guide implementation during the first year of the project. This Work Plan would include the dates of specific field visits and project activities, support missions from IFAD or supervision institution or consultants, as well as time-frames for meetings of the project's decision making structures. The Report will also include the detailed project budget for the first full year of implementation, prepared on the basis of the Annual Work Plan, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted 12 months time-frame. Moreover, the IR will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may effect project implementation. Upon IFAD's review, the final report will be circulated to project counterparts who will be given a period of one calendar month in which to respond with comments or queries.

(b) Bi-annual Project Reports

Bi-annual reports will be submitted to IFAD by MAWR a minimum of two weeks prior to the scheduled bi-annual supervisory missions. The bi-annual reports will include: a) quantitative and qualitative assessments of progress towards project objective and outcomes; b) problems encountered during the reporting period; c) measures taken or proposed to resolve these problems, and; d) activities to be undertaken during the subsequent reporting period.

(c) *Annual Project Implementation Review (PIR) PAREI AQUI*

The PIR, following GEF and IFAD requirements, will be the main vehicle for extracting lessons from ongoing projects. It will be completed by the IFAD together with the project team. It will be scheduled in conformity with the timing of project start-up and in line with IFAD reporting requirement.

(d) *Project Completion Report*

The Project Completion Report will be prepared by the National Coordinator and MAWR during the last three months of the project. It will include: a) an analysis of the costs and benefits of the project; b) an analysis of the degree of achievement of the project objective and outcomes; c) a report on project execution by the implementing parties, and; d) lessons learned; e) recommendations on any further steps that may be needed to ensure sustainability and replicability of the Project's activities.

Independent Evaluations

The project will be subjected to at least two independent external evaluations as follows:-

(i) *Mid-Term Evaluation*

The Mid-Term Evaluation will determine progress being made towards the achievement of outcomes and will identify course corrections if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document.

(ii) *Final Evaluation*

An independent Final Evaluation will take place during the last three months of the project, and will focus on the same aspects as the mid-term evaluation. The final evaluation will also look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. The Final Evaluation should also provide recommendations for follow-up activities.

Estimated M&E Budget

(For a detailed indicative M&E work plan and budget, please see Project Document Appendix D)

PART II: PROJECT JUSTIFICATION

A. DESCRIBE THE PROJECT RATIONALE AND THE EXPECTED MEASURABLE GLOBAL ENVIRONMENTAL BENEFITS:

The vast majority of Tunisia's total land area (15 million ha) is classified as desert-type with a predominantly hyper-arid climate, while steep lands amount to 46%. Only 14% of the area is considered arable but the proportion of land that is actually used for agricultural purposes goes well beyond its real potential, to an extent of about 150%. As a result, land degradation is severe amounting to some 50% of the total country area, and among the highest in the Middle East North Africa (MENA) region.

Due to geographical location and climatic characteristics, Tunisia is considered very sensitive to adverse effects of CC² being a country which already faces a hydrous stress situation with only about 500 m3 of water/capita/year. The average surface water volume available annually is of 2700 Mm3 but with ample

² See Ministry of Environment and Sustainable Development (MESD) communication (2001) to the United Nations Framework Convention for Climate Change.

variations (from 2230 Mm³ once every two years to 1250 Mm³ once every ten years), which obviously affects water resources dependent ecosystems and agricultural based livelihoods. Modification of evaporation and precipitation rates by global warming will likely affect the hydrous climate balance of Tunisia. Rain pattern changes in terms of frequency and distribution would also worsen inherent erodibility conditions of soils.

The GOT has made substantial achievements by implementing its social and economic policies, which have facilitated the decrease of the national poverty rate to only 5% of the population (total population 10.2 million, 2006), and have allowed an average GDP annual growth rate of over 4% (1996-2006). In addition, the public investment in favour of the agricultural amounts to 7% of the national budget targeting productivity development and, at the same time, addressing conservation and management needs of the natural resources (which absorb about 14% of sector-dedicated investments). Unemployment is however still high at 15% and the primary source of income for a large segment (77%) of the rural population of the country (37% of the total) depends on the crop and livestock output. The agricultural sector, in turn, has an annual productivity that is subject to the high variability of the dry sub-humid/semi-arid climate, which has worsened due to global climate change, and which has suffered from further degradation of the natural resource base due to unsustainable agricultural and sylvo-pastoral practices. The sector is also characterized by a number of structural constraints comprising: (a) inadequate holding sizes (out of a total 471 000 farm enterprises, 53% are not larger than 5 ha occupying 9% of the agricultural land area, while only 3% are larger than 50 ha and hold more than 90% of the land); (b) an over-fragmented land tenancy structure (40% of the cultivated land is held by 85% of the enterprises); (c) lack of access to financial resources to maintain bulk investments that protect and manage natural resources; and (d) insufficient farmers' up-to-date technical know-how particularly, on sustainable use of the natural resource base due to an inadequate and limited extension system. Furthermore, notwithstanding the GOT efforts and policies in favour of less endowed areas in terms of social and economic basic infrastructure, regional disparities are still significant.

The Governorate of Siliana (north-western region of the country - Upper Tell) still ranks negative in terms of development indicators including low incomes, unemployment and high migration rates. The region remains an area of high priority for the government's rural development and natural resources management policies in the current 11th Social and Economic Development Plan (2007-2011). The 11th plan also includes the second phase of the Integrated Agricultural Development Project (IADP-II) to be implemented in the Siliana Governorate, which is financed by the GOT, the International Fund for Agricultural Development (IFAD), the Agence Française de Développement (AFD), the beneficiaries and other private sector financing agencies. The IADP-II targets for support twelve (in *toto* or in part) Delegations of the Siliana Governorate and 54 Sectors/Imadats (comprising 140 000 total population and 28 000 families; 12 600 agricultural enterprises on 175 000 ha of cultivated area and 92 000 ha of range and forest land; 177 000 sheep, 21 000 goats, and 9000 cattle), comprising 63% of the Governorate. The area has been selected based on prevalence of small landholding sizes, erosion vulnerability, underemployment, migration rates, and deficit of infrastructures. A supplementary assessment by IFAD has narrowed down the project scope in terms of poverty issues to 15 000 households that by the end of the project life would need to be targeted directly through project activities. The Siliana region is also characterized by gender inequality features as other parts of Tunisia. Major issues consist in lower access to the labor market (women active population accounts only for 20% of the total) and education (illiteracy is prevalent among 29 % of women as opposed to 15 % for men). In addition, cultural restrictions to women's physical mobility is still very high in this region and few if any rural-agricultural-sylvopastoral development activities try to address the specific concern of women.

Until the middle of the 19th Century, the predominant land use in Siliana was extensive grazing on common lands. As population grew strongly in the past century, and with it, sedentary agriculture, more marginal lands (in terms of soil conditions and steepness) and rangelands highly unsuited for annual cultivation, have been converted to cereal crops. Ever since, land degradation and desertification are increasing problems in Siliana that are leading to widespread soil erosion, impairment of hydrological functions, degradation of vegetation cover, biodiversity loss and habitat fragmentation through deforestation, overgrazing of rangelands, and changes in the vegetation structure in pastoral areas. Out of the total area of Siliana (467,000 ha), about 300,000 ha (65%) are considered subject to or affected by water erosion. During the last thirty years, the GOT has made an outstanding effort in terms of physical Soil and Water Conservation (SWC) investments

improving some 186,000 ha. However, SWC works are costly investments which need sustained maintenance and on their own they do not constitute a sufficient condition to halt erosion. Land degradation processes continue because of the high pressure on the resources by the local populations. These need to seek more sustainable uses of the limited resources that form the basis for their livelihoods. Experience in Africa and elsewhere has shown that land users are induced to adopt a holistic approach known as Sustainable Land Management (SLM) when they perceive that investments on their own resource base improve return to land and labour. Thereafter, they also become prime players for the conservation and maintenance of SWC works.

Customary land tenure and inheritance systems have induced widespread landholding fragmentation. This has resulted in a proliferation of long, narrow fields, which essentially oblige farmers to plough up and down the slopes, increasing the rate of erosion. Unsuitable tillage operations have increased soil inherent erodibility contributing to further land degradation. Long term cereal quasi-monocropping, inadequate rotations, and insufficient nutrient replenishment have all together impoverished fertility leading to de-structured soils. Declining or stagnant crop yields constitute a first sensible indicator of the land degradation process.

Overtime, ample segments of forestland have been deforested with major implications on bio-diversity and production of wood and non-wood forest products. This has also negatively affected ground water table recharging, and the discharge pattern of springs and wadis. Springs have reduced discharge or have dried up threatening, at times impeding, the economic profitability of the downstream established fruit tree orchards. Catchment areas have modified their hydrology and wadi courses are subject to over-flooding or have been deviated disrupting re-charge of man-made reservoirs.

Crop expansion has also greatly reduced natural rangeland to only 4.8% of the total agricultural and forest land (about 280,000ha). However, livestock raising continues to provide in Siliana 63% of the value-added as compared to 37% coming from crop output. This has induced overstocking beyond land carrying capacity, and eventually, overgrazing and vegetation quality impoverishment on reduced rangeland areas. Animal grazing occurs by open access to State-owned range and forestlands and on undivided private lands open amongst the members of the extended family/clan that own the lands. There are no agreed control mechanisms on the number or type of livestock or the timing of the use of rangelands. Sylvo-pastoral communities more than others, require assistance and support for them to sustain rangeland management and to identify alternative livelihoods systems that release pressure on land and natural resources.

Jebel Serj, a biotope within the forest-mountainous ecosystem of the Governorate, is a biodiversity sanctuary for rare examples of flora and fauna. Due to high a sylvo-pastoral population density, the biotope is subject to threats such as irrational exploitation in terms of unmanaged or illegal pastoral and forestry extraction activities; opportunistic agriculture expansion; erosion; hunting; and introduction of alien species or varietal modifications. The GOT has established and gazetted in the early nineties a Natural Reserve area (about 100 ha) but the bio-diversity richness of the biotope goes well beyond the current small-protected area. Examples of flora include the Maple of Montpellier, Cypress of Makthar, Cork Oak, Cotoneaster, Sorbus, Rosa Canina, and the Carub. In terms of fauna, Jebel Esserj hosts the Hyaena, Wild Boar, Jackal, Porcupine, Pilgrim Falcon, Booted Eagle. The area is also characterized by archaeological sites and features of cultural heritage including a traditional form of cattle raising whereas the animals are left to grow wild in mountainous areas and eventually re-captured through bloodless hunting systems. In line with the commitments under the Convention on Biological Diversity (CBD) and the 11th Plan, the GOT intends to expand the protected area to about 3000 ha of State-lands, and to upgrade the status of the Reserve into that of a National Park. This would include areas to be designated as restrictive protected zones, and large buffer and transition zones to be jointly managed with local populations under SLM and sustainable use of biodiversity conditions.

The current policy and strategic framework of Tunisia related to NRM is substantially robust. The country is endowed with a list of strategies encompassing soil and water conservation; forestry and pastoralism development; rural and agricultural integrated development programmes; water resources' management; and rangeland maintenance. Major efforts have been made in terms of SWC investments. Policies in the forestry sector have allowed moving the forested area from 4 to 12%. Biodiversity has been conserved by creating protected areas in terms of parks and reserves. However, the legal framework is not in always tune, and at times conflicts with the evolved national strategic and policy package. This situation makes the case for a careful review of the country's legal framework related to the management of natural resources and for proposals to be made (even in terms of pilot waivers for subsequent up scaling) to overcome existing barriers

to the mainstreaming of sustainable NRM and SLM activities. For instance, the involvement of concerned populations in the management of natural resources is foreseen in the prevailing policies but, in the case of commercial use of forestry products by local populations, there is an apparent contradiction between such indications and the existing Forest Code (which otherwise protects and regulates local populations' common rights only for subsistence purposes) that merits further examination. Furthermore, in order to mitigate the land fragmentation consequences of the prevailing inheritance system, the government has promoted and supported an ambitious programme for land re-grouping (known as "Remembrement"). The programme however requires, through appropriate incentives, the integration of SLM practices on newly re-grouped lands.

The national environmental monitoring system for improving land use environmental management and for measuring effectiveness of environmental programs is still underdeveloped. The GOT intends putting in place a sophisticated system, which is still at an initial stage and requires further resources for its continuation and completion. The Ministry of Environment and Sustainable Development (MESD) is the key institution on top of the initiative. System establishment and testing has started in one Governorate (Tataouine) comprising capacity building and training of key administrative, which now needs to be up scaled in other Governorates. In addition, project-M&E systems, including the one adopted by the IADP-II, require integration work and resources to include LD and SLM parameters, which are to be organized at the community level in order to involve the local communities in the measurement and evaluation exercises. A comprehensive and multi-stakeholder Knowledge Management system is also not in place. Information related to lessons-learned on development and NRM projects/programs, best approaches on current Good Agricultural Practices (GAPs) and SLM in Tunisia and elsewhere, technologies, SWC investments and experiences, availability of advisory services and service providers, etc. are not organized to the benefit of users at different levels.

The national strategy foresees the establishment of a pluralistic demand-driven, effective and sustainable NRM and agricultural advisory system. In Siliana however, the current system has limited institutional diversification. The *Commissariat Régional du Développement Agricole* (CRDA) under the Ministry of Agriculture and Water Resources (MAWR) is the sole extension service provider in Siliana; the private sector inputs suppliers play almost no role; farmers associations are insufficiently trained (though the IADP-II is supporting their strengthening); and the NGO sector has not been targeted with incentives for its involvement in extension activities. The current system has a top-down structure with little farmer involvement in problem identification, and development of the extension approaches. There is the need to update information on GAPs, SLM and NRM and on coordination roles for the public sector service providers; establish renewable, performance-based contracts with private sector service providers for SLM related services; assist private sector suppliers of inputs to provide basic extension materials to their clients; help the Community-Based Organizations (CBOs) to develop basic capacities for service provision to small farmers; involve farmers and sylvo-pastoral families and CBOs in the participatory development of new, diversified agricultural extension packages that integrate sustainable agricultural practices.

The project would address the above issues by:

A) Strengthening Policy and Planning Frameworks for SLM Mainstreaming by (1) reviewing the legal framework and making proposals for its alignment to the prevailing strategies and policies of the country and to improve the context for SLM and BD conservation adoption and mainstreaming; (2) putting in place the conditions for the creation of comprehensive and integrated (among all concerned institutional partners) Knowledge Management System (on LL from the relevant completed/on-going and pipeline projects/programmes; best SLM practices and technologies; advisory systems; etc), which ought to network national stakeholders at different levels among themselves and with the regional and other international contexts. Such a KM system should be linked and thus contribute to the building of the national M&E system on environmental issues; (3) strengthening the institutional framework in the direction of the existing national strategy for a modern and sustainable advisory system that integrates the public sector, the private and NGO service providers, and includes in service provision activities the community-based organizations such as the GDAs and GFICs; and (4) integrating SLM issues in participatory planning (by contributing to the development of at least 15 Local Development Plans with a special focus on SLM issues to be reviewed annually) and M&E system being established by the IADP-II.

B) supporting Siliana farmers to **Mainstreaming SLM in Agricultural Activities** by (1) implementing demonstrative SLM on-the-ground Investments (including farmer training) to be identified during the preparation of the participatory Local Development Plans envisaged adopted by over 6000 farming households with direct on-the ground investments in about 6000 ha, which would include improving farmers' profitability in the "clarières forestiers" also through conservation of agro-biodiversity by enhancing plantation (over about 200ha) of local fruit species (e.g. the Bargou Peach, the Kesra Fig, the Bigaro Cherry); promoting introduction and certification of formal organic farming in earmarked cluster areas for bio-agriculture (about 1000 ha); implementing participatory extension on IPM and GAPs (with 200 farmer groups capable of a cascading positive effect on about 25 000 ha); experimenting (on about 1500 ha) diverse Conservation Agriculture techniques (including direct sowing); utilizing soil water deficit mitigating measures like productive shelterbelt plot fencing (about 200 ha); (2) integrating SLM norms on Land re-grouping operations (over about 1500 ha); (3) Green Consolidation of Existing SWC bunds through Crop Diversification (over about 1600 ha); (4) improving knowledge and perception of benefic effects of SWC investments to induce farmer-led maintenance, and introduction of farmer awarding events for best SLM practices as a means to develop SLM incentives for farmers.

C) supporting NR livelihood-based families in Siliana to **Mainstreaming SLM in Sylvo-pastoral activities** comprising 7500 livestock herders, by (1) developing participatory NR and rangeland/forestry management systems assisting also 'company' registration of GFIC and other CBO forms to allow for commercial enterprising; (2) developing SLM on-the-ground investments (with community training), which may include (over 1000 ha) rangeland vegetation (fodder bushes and herbaceous plants) improvement (which also brings bio-diversity benefits); spring water management/rehabilitation and implementation of water harvesting investments (on some 50 spots, as a means to induce also rational rangeland rotation); Green Consolidation of Existing SWC bunds (on about 200 ha); (3) rangeland improvement on common-rights sylvo-pastoral highly degraded areas (about 500 ha) including support to specialized nurseries; and (4) development of Micro-Enterprises (about 5 to be actually established) for natural products (e.g. medicinal, aromatic and nutritious food) and environment-friendly activities, which can compensate loss of range and animal productivity. Actual activities and common-interest groups would be identified during the elaboration of the Local Development Plans.

D) launching the creation of the new national park for the **Conservation of Bio-diversity in Jebel Esserj**, and including (1) as a first step the elaboration of a full-sized Park Participatory Management Plan involving also 1 500 families and their livelihoods improved in buffer/transition zones of Jebel Esserj Park; (2) Park Staff capacity building and training activities; the establishment of a specific M&E system and the promotional actions such as an awareness campaign and dissemination publications; and (3) the implementation of specific ecotourism infrastructure investments (eco-museum, tourist welcoming interventions, children facilities, water management, renewable energy devices, animal gathering and bird watching facilities, guided itinerary signs, etc.). And

E) contributing to the **Project Management**

The project will target the most severely degraded areas in one of the most degraded regions of the country. The GEF incremental funding would be targeting through "on-the-ground" and training investments about 6 000 farming households, the entire herding population of 7 500 families in the 54 target districts, and all 1 500 families living or making a livelihood in the Jebel Esserj concerned area. In such terms, the same number of beneficiaries of the IADP II (15,000 households) would be covered by the GEF activities. In addition, a number of 'soft' activities and induced effects (policy research, M&E, Knowledge Management, resource use planning, institutional development, improvement of ecosystem services, and biodiversity protection) would also have a broader national as well as global benefit.

In parallel with the baseline project, the GEF incremental investments would contribute addressing gender issues through different activities including the preparation of the LDPs (highlighting women's roles and needs); earmarking specific indicators in both project and national M&E systems; considering gender differentiation in the engineering of the Knowledge Management system; improving the advisory support services; and facilitating women's full involvement in training activities and in micro-enterprise promotion. SLM technologies and systems developed in Siliana will have broad application in Tunisia and beyond.

Through the GEF investment, in Siliana about 8000 ha will adopt immediately SLM techniques and further 25 000 ha will follow due to the resource users' capacity built by the investment. SLM technologies and systems developed in Siliana would also have have broad application in Tunisia and beyond. The main global benefits generated by the project interventions include: protection and re-integration of agricultural-forestry-range ecosystems functional capacity (components 1, 2 and 3); contribution to carbon sequestration over about 8000 ha (Component 2 and 3); conservation, protection and enhancement of bio-diversity (component 4; 2 and 3 for agro-biodiversity); adaptation to climate change (component 2 and 3); protection of socio-cultural diversity and valorization of local knowledge (components 1, 2, 3 and 4). In terms of biodiversity conservation the project will protect habitats of forest-mountainous ecosystem of the project area, hence leading to the conservation of severely threatened species of global value such as: *Acer monspessulanum.*, *Cupressus semervirens f. numidica*, rare outlier population of *Quercus suber* and exceptional populations of *Cotoneaster racemiflora var tomentella*, *Sorbus aria* subsp *meridionalis*, and *Rosa canina* subsp *pouzini*. Among the fauna, the Pilgrim Falcon and the Booted Eagle.

B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL PRIORITIES/PLANS:

The sustainable use of natural resources is the basis for Tunisia's development strategy since the conception of the 9th Economic and Social Development Plan (ESDP, 1997-2001). The interventions aimed at up-scaling SLM mainstreaming at national and local level are aligned with National Action Plan to Combat Desertification (NAPCD) approved in 1998. Since approval, the NAPCD has become a national priority which is anchored to the ESDP process. The project is in line with the current GOT strategies and policies for the protection and sustainable utilisation of biological, forestry, rangeland, agricultural land, and livestock resources, with full involvement of the concerned populations. All such goals are confirmed in the current 11th ESDP (2007-2011). Interventions that seek to adequately manage ecosystems and integrate biodiversity in sectoral strategies as well as promote compatible SLM in the buffer-zone of protected areas under threat by agricultural and pastoral activities are among the country priorities established under the National Biodiversity Strategic Action Plan (NBSAP). Therefore, the project will assist Tunisia to meet its international commitments under the UNCCD and the CBD. The proposed project is also an incremental investment to IFAD's and GOT's baseline IADP-II in the governorate of Siliana. The region remains an area of high priority for the government's rural development and natural resources management policies for the initiated 11th Plan. The projects/programmes concerning Siliana, and which are included in the 11th Plan encompass interventions for (a) water management (US \$32 million); (b) forest and rangeland improvement (US \$16 million); (c) soil and water conservation (US \$ 7 million); (d) integrated rural and agricultural development (US \$ 40 million); and (e) environment; and other issues (US \$ 3 million).

C. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH [GEF STRATEGIES](#) AND STRATEGIC PROGRAMS:

The dry sub-humid agro-ecological zones such as those occurring in Siliana are considered high priority zones for GEF-4 investment in the LD focal area. The project specifically addresses the two strategic objectives and one strategic program enlisted in the Land Degradation GEF-4 strategy, namely, LDSO1, LDSO2, and LD-SP1. SO1 will be addressed through (a) efforts to target the policy and institutional bottlenecks by reviewing the legal framework and proposing alignments with the current strategic an policy package, and (b) mainstreaming of SLM objectives into the national planning, M&E, Knowledge Management frameworks; and by (c) capacity building within key institutions responsible for SLM. SO2 will be accommodated through investments in the field aimed at adapting and up scaling SLM (in agricultural and sylvo-pastoral integrated

ecosystems), and mining and generating lessons and good management practices through the cross-cutting platform on knowledge management, which would produce indications for up scaling at local, national and global level. LD-SP1 will be targeted by applying the aforementioned SO1 and SO2-related efforts to rain-fed crop and rangeland management areas, where the natural resources will be managed in an integrated way.

While remaining mainly a SLM initiative, the project focuses BD conservation in a specific biotope. The Biodiversity GEF strategy is addressed in terms of BDSO1 and its BD-SP3 directly through the creation of the Jebel Esserj Park, to increase the representation of this park main ecosystem (forest-mountainous) in the national protected areas, hence filling an important gap in the system.

Priority is similarly accorded to integrated approaches across GEF focal areas where multiple benefits may be generated through cross focal areas linkages such as with sustainable sylvo-pastoral management. Such inter-linkages may include protection of groundwater recharge zones or to reduce erosion and soil loss in watersheds with benefits in flow regulation and the hydrological balance of upper watersheds.

D. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:

The GEF project would be considered as an individual project of the overall MENARID pipeline initiative. In 2005, the regional level anchoring of the NAPCD was launched through the drawing up of 12 regional action plans to combat desertification with support from the Global Mechanism (GM), UNDP, and GTZ. MENARID is a natural follow on initiative to this regional perspective. MENARID intends to be a programming framework with the objective of promoting integrated SLM and BD in the drylands of the MENA region while improving the economic and social well-being of the targeted communities through the restoration and maintenance of ecosystem functions and productivity. Actions will mainly contribute to the systematic large-scale application and dissemination of sustainable, community-based farming, rangeland management and forest management systems in critical ecosystems of local and global importance in the MENA. Specifically, the GEF project foreseen outputs are aligned with the results intended through the MENARID programme i.e. (a) harmonized approaches and coordinated SLM investments; (b) SLM mainstreamed, enabling environment promoted and good practices up-scaled/disseminated; and (c) restored ecosystem integrity and improved livelihoods.

The project will also liaise with other relevant initiatives such as the World Bank/GEF-funded Protected Areas Project (on agro- and natural- biodiversity conservation matters) and the regional UNEP/GEF/FAO Land Degradation Assessment in Drylands Project (LADA) (on SLM mainstreaming and Knowledge Management systems). In addition, IFAD with others, is supporting the MASHREQ and MAGHREB project, which includes Tunisia, for the development of integrated crop-livestock production systems in low rainfed areas. This practice has revealed itself as good mechanism also to promote training and exchange of experience and expertise specifically, on animal nutrition, policy research and property rights, small ruminant and rangeland management. Lessons would be drawn from the achievements of this Project³ specifically, through the policy research studies on institutional options for rangeland management and the participatory technology development and adoption experiences. In this regard, the Tunisian (Zoghmar, Central Tunisia) experience of this project is very relevant showing the positive partnerships that have established between international and national development and research organizations, regional public institutions (CRDA, OEP), NGOs (LANCER and ACT) and farmers/herder community institutions.

E. DESCRIBE THE INCREMENTAL REASONING OF THE PROJECT:

Activities around the thematic areas of land degradation control, land-use planning and biodiversity conservation are strategic for the GOT and there are baseline activities at both national and local level that match the GEF project outcomes. The total baseline is approximately 90 USD million, the Government of Tunisia will contribute to the baseline with approximately 20 USD million, IFAD with 15.5 USD million, other multilateral and bilateral financing institution with 52 USD million (including the GoT contribution in these projects), beneficiaries with 2.5USD million. There is also a stock draw down from the past budget plan that include two main projects financed by the UE and the WB. The overall GEF incremental investment will

³ See <http://www.mashreq-maghreb.org/> and <http://www.ifad.org/lrkm/tans/9.htm>

be 5 USD million. The project area coincides with the target area of PDAI-II project. The main value-added of the GEF involvement will be linking SLM practices and approaches, with the broader land degradation mitigation and poverty reduction objectives of the baseline. In addition, the GEF investment will strongly contribute to the increase of protected areas for bio-diversity conservation (bringing the number of national parks from the current 8 to 9).

In the absence of the GEF investment a number of opportunities would not occur. The GEF investment will enhance the participatory planning process of the IADP-II by involving the farming and sylvo-pastoral populations in the selection of SLM practices and investments to be tested. This constitutes a unique occasion for the land users to choose first, then test, acknowledge and eventually determine the conditions to upscale appropriate SLM practices most of which also have a climate change adaptation value (e.g Conservation Agriculture, Evapotranspiration reduction). Pilots on Good Agricultural Practices (GAPs), IPM, organic farming would show how sustainable practices are able to increase return to land and labour, and in turn, enterprise profitability of environment-friendly investments. Demonstrations on sustainable rangeland management (on private and public land) supported by the project would mark evidence on relationship between pasture and livestock productivity. Agro- and natural biodiversity conservation (by enhancing local fruit species, improving vegetation quality of rangelands and protecting unique flora and fauna in Jebel Esserj) are a value-added *per se* but also constitute an opportunity to decrease pressure on land resources (because productivity of land improves diminishing horizontal expansion, and because alternative sources of income are created with park-triggered tourism). Furthermore, the project through the foreseen measures for a SLM mainstreaming enabling environment would also move forward substantially the building of a national Knowledge Management and environmental M&E system, which would comprehend otherwise insufficiently considered, LD and SLM matters. Finally, the GEF project will strengthen considerably interaction and coordination between the MAWR and MESD.

F. INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED AND OUTLINE RISK MANAGEMENT MEASURES:

Risk	Mitigation
<p>Legal framework cannot be amended in time to allow the proposed innovations.</p> <p>M&E and KM systems are inadequate.</p>	<p>Time action plans will be required and included in legal amendment proposals. Further assessment of risks and mitigations for proposed innovations will be required.</p> <p>The project contributes to a system that is being built by GOT through the MESD. It is considered a national priority.</p>
<p>Low capacity of local, national and regional institutions to efficiently contribute to project objectives and drive its implementation processes.</p>	<p>Institutional strengthening is recognized as a priority, and so is the need to build up a pluralistic and sustainable system. Capacity building will be targeted in order to ensure cost-effectiveness.</p>
<p>Interagency coordination and integration fails.</p>	<p>Integration and interaction has proven somewhat successful during PDF-B stage. The project's institutional and organizational arrangements have been discussed and agreed upon.</p>
<p>The GEF project is all about changing methods/approaches/ways of doing things. The project has a special focus on participatory processes executed by the local administration. Involved agencies fail to internalize innovation of new approaches.</p>	<p>The baseline IADP-II project put a lot of emphasis and resources on participatory approaches. Local implementers are well-aware that a change in mind set is a national and governmental commitment.</p>
<p>Climate change increases risk of low land productivity and of further pressure on resources in terms of horizontal expansion at the expense of other uses (pastures, forests).</p>	<p>The on-the ground demonstration investments of the GEF project are centered to showing effectiveness of SLM as a means that enhances return to land and labour while promoting techniques for adaptation to climate change increasing agricultural (through conservation agriculture, organic farming, IPM and windbreak planting) and rangeland resilience (water harvesting, vegetation improvement). Positive experiences would enable local, national and regional up scaling.</p>

Risk	Mitigation
Climate change increases risk of low land productivity and of further pressure on resources in terms of horizontal expansion at the expense of other uses (pastures, forests).	The on-the-ground demonstration investments of the GEF project are centered to showing effectiveness of SLM as a means that enhances return to land and labour while promoting techniques for adaptation to climate change increasing agricultural (through conservation agriculture, organic farming, IPM and evapotranspiration mitigation) and rangeland resilience (water harvesting, vegetation improvement). Positive experiences would enable local, national and regional up scaling. GHG emissions balance is also improved.
Legal framework cannot be amended in time to allow the proposed innovations. M&E and KM systems are inadequate.	Time action plans will be required and included in legal amendment proposals. Further assessment of risks and mitigations for proposed innovations will be required. The project contributes to a system that is being built by GOT through the MESD. It is considered a national priority.
Low capacity of local, national and regional institutions to efficiently contribute to project objectives and drive its implementation processes.	Institutional strengthening is recognized as a priority, and so is the need to build up a pluralistic and sustainable system. Capacity building will be targeted in order to ensure cost-effectiveness.
Interagency coordination and integration fails.	Integration and interaction has proven somewhat successful during PDF-B stage. The project's institutional and organizational arrangements have been discussed and agreed upon.
The GEF project is all about changing methods, approaches and ways of doing things. The project has a special focus on participatory processes executed by the local administration. Involved agencies fail to internalize innovation of new approaches.	The baseline IADP-II project put a lot of emphasis and resources on participatory approaches. Local implementers are well-aware that a change in mind set is a national and governmental commitment.

G. EXPLAIN HOW COST-EFFECTIVENESS IS REFLECTED IN THE PROJECT DESIGN:

The project primarily looks at cost-effectiveness options that would lead to a maximum impact for each GEF dollar. Considering that the baseline/GEF incremental investment ratio is 5:1, the effectiveness of the GEF investment is highest by reaching an equal number of beneficiaries allowing for additional and more sustainable benefits. The investments will support targeted capacity building, training, studies in order to foster the local, and national capacity to handle and promote the best SLM practises. Other interventions will be for demonstration, and pilot sites in agriculture and rangelands. The GEF intervention is fully blended with the IFAD project and interventions in order to reduce transaction and management cost for the GEF side. The GEF investment will benefit from the overall IFAD project organisation and first year experience for related investments. In addition, the demand driven nature of the project (land user investments are identified through the participatory LDPs) will lead to targeted investments and increased sustainability. Foreseen linkages with MENARID Medium Size Project (MSP) interventions will also improve the harmonisation and efficiency of GEF intervention in targeted areas. Cost-effectiveness is pursued for M&E functions through the foreseen linkages with the national M&E system on environment under the responsibility of the MESD but also through the actions of the MENARID MSP on Knowledge Management and M&E. The intervention for conserving biodiversity in Jebel Eserj will be linked to the planned creation of the National Park and would benefit from the linkages with the national policies on natural parks and bio-diversity conservation. The GEF impact will include increasing the conservation area from the current 100 ha to about 2500-3000 ha with a minimum allocation for capacity building and training.

In terms of global benefit the GEF investment would also allow for a contribution to improved carbon storage change⁴ (through plantation of tree crops; GAPs; reduced erosion/leaching/runoff; restitution to grassland of forest cleared areas (@ 0-5 t carbon/ha); conservation agriculture and zero tillage, etc) on about 8000 ha, which would have a positive effect on CC due to decreased GHG emissions (reducing NO₂ emissions through lower nitrification; reduced use of nitrogenous fertilizers; decreased mineralization of organic materials, etc.).

PART III: INSTITUTIONAL COORDINATION AND SUPPORT

A. PROJECT IMPLEMENTATION ARRANGEMENT:

The GEF implementing agency (IA) for this project will be the IFAD. The implementation modalities will be in line and tied to those for the IADP II umbrella-project with few integrations. The Ministry of Agriculture and Water Resources (MAWR) of the Government of Tunisia (GOT) will have overall oversight and authority for project execution. The MAWR will appoint a National Coordinator (NC), and the other concerned government authority, the Ministry of Environment and Sustainable Development (MESD), will appoint a special Task Coordinator (TC) in charge of the coordination for specific project activities under this Ministry.

The actual executing agency will be the *Commissariat Régional du Développement Agricole* (CRDA) in Siliiana. The General Director of the CRDA will be the Project Director (PD). The PD will have direct, overall responsibilities for project execution, including both technical and financial management of the project. The PD will have direct responsibility for overall supervision and guidance of all of the CRDA professional staff. He will have direct responsibility for the awarding of contracts and the management, maintenance and inventory of project goods and equipment. The PD will be the official representative of the project before the regional administration and other government bodies.

The administrative units below the Governorate are the delegations and the districts or *imadats* (lowest level). Field activities will be planned and executed primarily at the *imadat* level. The population of each *imadat* is represented by a District Development Committee (DDC). The project will assist each DDC to prepare a participatory Local Development Plan (LDP) for the *imadat*. The DDC will become formally registered as Groupement de Développement Agricole (GDA). The project will be implemented largely through the annual Work Program Contracts (*contrats programmes*) or WPC that will be established each year between the GDA and the CRDA. The staff of the technical units (*arrondissements*) of the CRDA will have participated in the development of the LDP and the WPC and will establish the work plans and budgets of their technical units in conformity with the WPC.

The project will be executed primarily by the existing personnel of the CRDA. The staff of the technical units will be responsible for the implementation of the activities identified in the WPC in line with their established responsibilities as defined in the 1989 decree defining the organization of the CRDA. The technical units will be reinforced with additional personnel and equipment as needed to properly implement the additional activities generated by the project.

A Project Team called the Local Planning and Coordination Unit (LPCU) is created under the direction of the PD as a new technical unit (*arrondissement*) within the CRDA to implement new functions not presently covered under the existing CRDA organigramme (such as local development planning, M&E and training). If this unit proves its merits, it may become a permanent part of the CRDA structure. Other activities that do not fall directly under the mandate of the CRDA may be subcontracted to other specialized operators in the region. The creation of the National Park at Jebel Esserj, the conservation of its biodiversity and all activities related to knowledge management and environmental monitoring will be the responsibility of the MESD.

⁴ Available inventories (following IPCC approved methodology and guidelines) show net GHG anthropogenic emissions of Tunisia at 23.4 million tons equivalent (TEq) CO₂; absorption totaled at 5.5 million TEq CO₂; and agricultural contribution representing 6 million TEq CO₂ (projected to become 8.7 million in 2020 however with a decreased influence (14%) to the foreseen overall net gas emissions (62.4 million TEq CO₂).

The LPCU is a cross-cutting, multi-sectoral support unit under the direction of the PD. LPCU will be charged with the coordination of all project activities and will be headed by the Regional Coordinator (RC). The main tasks of the LPCU will be the following:

- Develop annual work plans and budgets, coordination with the CRDA and the preparation of call for bids and contracts with service providers;
- Conceptual development of the project approach and methodological tools; initial conception, capitalization of experiences and lessons learned, development of adaptive management tools, fine tuning of project approach and tools;
- Promotion and development of partnerships, support to project partners in the development of the project approach; development of a spirit of teamwork amongst the network of project partners;
- Communications

The RC is assisted by a multi-disciplinary support staff of mid-level professionals whose profiles are carefully selected to provide expertise that is not already found in the existing CRDA staff. Five positions are foreseen:

- Participatory planning and programming
- Operations
- Monitoring and Evaluation
- Sustainable land management

A new position to the current IADP-II structure will be created to coordinate activities under the present project:

- GEF activities coordination

The GEF Coordinator will be the one full-time, GEF-funded position on the project. He/she⁵ will have the following responsibilities for GEF-related activities:

- drafting of the annual work plans with budgets;
- Lead author for the drafting of reporting as foreseen by the monitoring and evaluation system;
- Lead author for the drafting of TOR and contracts for all national and international consultants and for all grants and competitively awarded contracts to service providers;
- Coordinate the selection process for recruitment and outsourcing;
- Lead responsibility for the development of new partnerships with participating institutions;
- Lead responsibility for ensuring the effective coordination of project activities between the local, *Governorate* and national levels.

The NC appointed by MAWR will:

- Coordinate all donor missions during the life of the project;
- Coordination with all national-level agencies;
- Support as needed to the regional level units;
- Serve as interface between the donors and the executing agencies;

The TC appointed by MESD will:

- Coordinate the biodiversity conservation at Jebel Esserj;

⁵ The Regional Coordinator shall have a university degree in a field directly related to sustainable land management (agriculture, forestry or range management) and biodiversity conservation, and at least 10 years experiences in these fields. He/she shall also have the following qualifications: i) Excellent interpersonal and communication skills; ii) Proven experience in coordinating complex initiatives involving a diverse range of government and non-government entities; iii) Excellent writing skills; iv) Proficient in word processing and spreadsheets; v) Good analytic capacities

- Support the development and the functioning of the Knowledge Management Network;
- Coordinate the national environmental monitoring;

A National Coordination Committee (NCC) will be chaired by the Minister of Agriculture or his representative and will meet at least twice a year. The committee will ensure oversight, overall coordination, and will approve the AWP. MESD will act as a *primus inter pares* member of the NCC. This committee will also include the main general directorates of MAWR, the Office of Support for Rural Women in MAWR, the National Agency for Employment and Private Sector Work (ANETI), the Ministries of Finance; of Economic Development and International Cooperation; and Tourism and Artisanat. This committee will monitor project progress, will analyze problems of resource mobilization as they arise and will facilitate the coordination between all agencies concerned with project execution. Likewise, at regional level a consultative Regional Coordination Committee (RCC) will be chaired by the General Director of CRDA, which will also meet twice a year and will include amongst its members the directors of the CRDA arrondissements, the Office du Développement du Nord Ouest, and regional representatives of ANETI, private sector and rural / farmer organizations.

PART IV: EXPLAIN THE ALIGNMENT OF PROJECT DESIGN WITH THE ORIGINAL PIF:

There have been no major changes to the project design as compared to the approved Project Information Form

PART V: AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for CEO Endorsement.	
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Please do not forget to copy the IFAD/GECC Registry on all official communications, GECCregistry@ifad.org	

ANNEX A: PROJECT RESULTS FRAMEWORK –

Narrative Summary	Verifiable Indicators	Means of Verification	Assumption/ Risks
<p>PROJECT DEVELOPMENT OBJECTIVE</p> <p>The project goal is to address the processes of land degradation that are threatening the biodiversity of the country's northern ecosystems by achieving the following objectives: (i) adopting integrated land use [an water management] planning, (ii) enhancing the protection of examples of the montane-forest system presently in the national protected area system and (iii) up-scaling SLM investments in productive areas, while improving the living conditions of low- and average-income households.</p>	<p>Impact Indicators</p> <ul style="list-style-type: none"> • Increase of 8000 ha in areas where best practices of sustainable agriculture and rangeland management are applied. (out of a total 140 000 ha cropped land and 13 400 ha rangeland) • Further 25000 ha will incorporate GAPs through farmers' specific training. • Increase in resilience to climate rigor is manifested (sustained productivity) in the same area of 8-9000 ha • About 15 000 resource user families improve livelihoods (income, production, enterprises) (out of a total 28 000 house holds) gender disaggregated when possible • 2,500 - 3,000 ha increase of under-represented sylvo-pastoral mountainous ecosystem in the national PA system (the current protected area in Tunisia is of about 22, 000 ha) (100 ha for the baseline) • Number of poor households whose income and/or asset accumulation index are increased (gender disaggregated when possible) • A national SLM and BD friendly Information and KM system, including environmental M&E, is operational by PY2 and is harmonized w/ MENARID M&E and KM's supported approaches (none at baseline) • By end-of-project, the national extension/advisory system is adopting SLM and BD conservation approaches that reflect ecosystem principles (none at baseline) 	<ul style="list-style-type: none"> • Baseline surveys conducted by MAWR and MESD • Mid-term and ex-post evaluations • Basic statistics by the National Agricultural Studies Centre (CNEA) • Parliamentary act • Analysis of land use information • Use of field surveys • Project management reports 	<ul style="list-style-type: none"> • GOT and Donors assistance and support materialized and maintained • Implementation of economic and social plans continue • Policy Dialogue leading to positive results • Political stability • Implementation of Government strategy for poverty alleviation as well as environmental strategies would continue
<p>OUTCOMES (Component Purposes)</p>	<p>Outcome Indicators</p>	<p>Means of Verification</p>	<p>Assumption/Risks</p>
<p>Component 1: Strengthening Policy and Planning Frameworks for SLM Mainstreaming</p> <ul style="list-style-type: none"> • Reasonable influence to improve country legal framework is exerted • A national multi-stakeholder environmental and SLM information and knowledge management (KM) system is being set in place, including environmental M&E • Country's strategy to implement a pluralistic advisory system is strengthened • Land users actual participation to planning and assessing value of ecosystem and sustainable development 	<ul style="list-style-type: none"> • By PY3, 1-2 proposals for SLM barriers amendment developed and acknowledged at policy level (none at baseline) • A national SLM and BD friendly Information and KM system designed in PY1 and operational at the project area (PY2) and national (PY4) levels, and aligned with MENARID (none at baseline) • By end-of-project, the national extension/advisory system is adopting SLM and BD conservation approaches that reflect ecosystem principles • Number of on-going Integrated Agricultural/Rural Development Projects including SLM, IWRM and BD (if feasible) approaches and measures among their key components and activities • 15 Local Development Plans (LDP) formulated during PY1 (10) and PY2 (5), including ecosystem principles and with strong participation of land and water users (a total of 54 LDPs are foreseen under the IADP II) (6 at baseline) 	<ul style="list-style-type: none"> • Project monitoring and evaluation reports • Participatory impact monitoring • Project management reports <p>Baseline surveys</p> <ul style="list-style-type: none"> • Mid-term and ex-post evaluations • Project monitoring and evaluation reports • Participatory impact monitoring 	<ul style="list-style-type: none"> • LDPs continue operational • Community leaders and elites do not dominate community participation • The GDA and GFIC (DDCs) associations remain operational beyond project life

<p>is evident</p> <ul style="list-style-type: none"> • Harmonization and alignment with MENARID's enabling environment activities 			
<p>Component 2: Mainstreaming SLM in Agricultural Activities</p> <ul style="list-style-type: none"> • Impact-oriented and locally adapted SLM incentives are promoted in rain-fed crop areas to reduce pressure on land resources • Land resources' value added by linking SLM in land re-grouping activities and by consolidating Soil and Water Conservation (SWC) works • Local land users' livelihoods improved • Alignment with foreseen MENARID outcome 	<ul style="list-style-type: none"> • Impact-oriented and locally adapted SLM incentives are promoted in rain-fed crop areas to reduce pressure on land resources and best SLM practices adopted by over 6000 farming households with direct on-the-ground investments in about 6000 ha; including: <ul style="list-style-type: none"> ▪ Specific SLM investments are made on 1000 ha in terms of organic farming practices; conservation agricultural approaches on 1500 ha; agro-biodiversity conservation on 200 ha; and evapo-transpiration mitigation on further 200 ha; ▪ Land resources' value is added by linking SLM in land re-grouping activities and by consolidating SWC works; 1500 ha of land re-grouped and 1600 ha with consolidated SWC works; ▪ Local land users' livelihoods improved; 5-6 best farmer awarding annual events on SLM practices celebrated; CRDA, NGO and GDA staff/members extending SLM approaches beyond project activities; (awarding by gender disaggregate) ▪ GAPs promoted through training of 200 farmer groups capable of a cascading positive effect on about 25 000 ha; (including number of women trained) • Alignment with foreseen MENARID outcome. 	<ul style="list-style-type: none"> • Project monitoring and evaluation reports • Participatory impact monitoring • Baseline and mid-term surveys using PRA tools and focused group discussions • Use of PRA tools on an annual basis 	<ul style="list-style-type: none"> • Institutions implement the recommendations • Training motivates land users, communities, extension and other trained staff to engage in project community development and SLM/BD approaches • Extension staff training is adequate for the tasks required • Small farmers engaged in SLM adoption and actively participate in construction and maintenance of soil and water conservation measures
<p>Component 3: Mainstreaming SLM in Sylvo-Pastoral Activities</p> <ul style="list-style-type: none"> • Sustainable sylvo-pastoral management systems and organizational forms are identified • Impact-oriented and locally adapted SLM investments are promoted in rangelands; • Degradation and unsustainable use of common-rights land is reduced • Local land users' livelihoods improved • Micro-enterprises of natural and environmentally friendly activities developed to reduce pressure on rangelands 	<ul style="list-style-type: none"> • Sustainable sylvo-pastoral management systems and organizational forms are identified and sylvo-pastoral area (on private and public/common rights land) is being managed following SLM practices as a result of project range improvement practices adopted over some 1700 ha; • Impact-oriented and locally adapted SLM investments are promoted in rangelands; 50 water harvesting and spring rehabilitation investments carried out; 7500 livestock herders trained on range SLM; • Degradation and unsustainable use of common-rights land is reduced and local land users' livelihoods improved Sylvo-pastoralists with improved livelihoods in terms of income and/or asset accumulation • Micro-enterprises of natural and environmentally friendly activities developed to reduce pressure on rangelands and at least 5 group micro-enterprises of natural and environmentally friendly activities developed to reduce pressure on rangelands. 	<ul style="list-style-type: none"> • Baseline surveys • Mid-term review evaluation and ex-post reports • Participatory impact monitoring • Sample surveys • Project monitoring and evaluation reports • Project management reports 	<ul style="list-style-type: none"> • Continuity of governmental actions, particularly to the rural extension and research institutions • Appropriate extension messages developed and disseminated • Small farmers engaged in SLM adoption • Communities interested in implementing alternative livelihoods
<p>Component 4: Conserving Biodiversity Jebel Esserj</p> <ul style="list-style-type: none"> • Improved coverage of under-represented forest-mountainous ecosystem in the 	<ul style="list-style-type: none"> • A National Park of 2500-3000 ha created and its biotope management plan developed in PY1, with regulations that include possibilities for eco-tourism enjoyment (currently the Jebel Esserj reserve area is less than 100 ha; the total protected area in Tunisia amounts to some 22 000 ha encompassing 8 National Parks and 16 Reserve Areas) • 1 500 families involved and their livelihoods improved in 	<ul style="list-style-type: none"> • Project monitoring and evaluation reports • Participatory impact monitoring 	<ul style="list-style-type: none"> • MESD coordination effective • Law to create park enacted • CRDA, GFIC trained • NGOs available

<p>national PA system</p> <ul style="list-style-type: none"> Capacity for PA management and sustainable NRM developed and information disseminated Endangered bio-diversity conserved and asset management ensured in a sustainable manner 	<p>buffer/transition zones of Jebel Esserj Park; (data by gender disaggregate when possible)</p> <ul style="list-style-type: none"> All Park staff (5) trained and Park information disseminated throughout the project area and at the national level Habitats protection in the forest-mountainous ecosystem of the project area, leading to the conservation of at least 5 priority flora species (<i>Acer monspessulanum.</i>, <i>Cupressus semervirens</i> f. <i>numidica</i>, <i>Quercus suber</i>, <i>Cotoneaster racemiflora</i> var <i>tomentella</i>, <i>Sorbus aria</i> subsp <i>meridionalis</i>, <i>Rosa canina</i> subsp <i>pouzini</i>) and at least 2 fauna species (Pilgrim Falcon, Booted Eagle) 		
<p>Component 5: Project Management</p> <ul style="list-style-type: none"> Project management is sound and integrated with SLM and Biodiversity conservation functions 	<ul style="list-style-type: none"> A model for participatory management (building on the existing IADP-II's management structure) implemented capable of ensuring the achievement of the projects objectives and goals, while ensuring continuity of selected activities for SLM and BD conservation beyond project life. IADP-II PMU/UGP is up-graded in PY1 and qualified personnel re-deployed from other parts of MAWR 	<ul style="list-style-type: none"> Baseline surveys Mid-term review evaluation and ex-post reports Project monitoring and evaluation reports Minutes of project steering committees at all levels 	<ul style="list-style-type: none"> Government counterpart funding is ensured. Full coordination between GEF and IADP-II activities is ensured at the LPCU and field levels Negotiable institutional and financial arrangements are identified and tested

Component 1. Promotion of an Enabling Environment for SLM Mainstreaming

Activities and Outputs (Sub-Component Purposes)	Output Indicators	Means of Verification	Assumption/Risks
<p><i>1.1. Creating an Enabling Environment</i></p> <p>1.1.1 Policy and strategies, and Legal Framework: Assessing major barriers in current legal framework; evaluation of impact of past/ongoing land regrouping;</p> <p>1.1.2 Knowledge management system: creating KM databases; web-based networking; awareness raising on SLM and Biodiversity</p> <p>1.1.3 Upgrading of national M&E system: assessing system needs; and developing system and capacity</p>	<ul style="list-style-type: none"> By PY3, 1-2 proposals for SLM barriers amendment developed and acknowledged at policy level A KM system designed in PY1 and most of its components are operational in PY2 (2 databases and 1 web architecture developed) national environmental M&E system upgraded and nation-wide awareness campaign undertaken) Number of resources' users accessing and having benefit from new KM and M&E systems 	<ul style="list-style-type: none"> Baseline surveys Mid-term review evaluation and ex-post reports Participatory impact monitoring Sample surveys Project monitoring and evaluation reports Project management reports 	<p>same as see above (Component 1)</p>
<p><i>1.2. Institutional Strengthening for SLM</i></p> <p>1.2.1 Upgrading extension and knowledge systems with SLM: assess needs and training plan; strengthening CRDA capacities; capacity building of NGOs; and training GDA/GFIC/CBO organizations</p>	<ul style="list-style-type: none"> 50 staff from MAWR, the Commissariat Régional du Développement Agricole (CRDA), 3-5 NGOs and 10-15 CBOs trained to mainstream SLM and ecosystem in their work (number of participants gender disaggregated) 		
<p><i>1.3. Mainstreaming SLM in Planning and M&E systems at local level</i></p> <p>1.3.1 Support to planning: development of LDPs; conducting annual reviews; and special studies</p> <p>1.3.2 M&E of project activities: SLM and BD activities</p>	<ul style="list-style-type: none"> 15 Local development Plans (LDP) developed, 5 participatory annual reviews done, and 4-6 studies performed (6 LDP at baseline and no annual review at baseline) 		

integrated in IADP-II M&E system	<ul style="list-style-type: none"> Project M&E upgraded to host SLM and BD matters. 		
Component 2: Mainstreaming SLM in Agricultural Activities			
Activities and Outputs (Sub-Component Purposes)	Output Indicators	Means of Verification	Assumption/Risks
<p><i>2.1. SLM on-the-ground investments</i></p> <p>2.1.1 Testing and demonstration with farmer training of SLM practices and management options: rare local fruit species plantations on deforested lands; formal organic farming promotion; Integrated Pest Management (IPM) techniques; Conservation Agriculture techniques; windbreaks to reduce ETp.</p>	<ul style="list-style-type: none"> About 200 ha fruit plantations established including Bargou Peach/Kesra Fig/Bigaro Cherry About 200 farmer groups (of about 20-25 farmers ea, 4500 HH) participated in intensive IPM and other Good Agriculture Practices (GAPs) training courses (equivalent to some 25,000 ha cultivated (gender disaggregated) Around 900 farmers trained on specific SLM practices, including (gender disaggregated) About 1000 ha formally practicing organic farming protocols acknowledged by IFOAM and certification network established. Conservation Agriculture approaches, including direct sowing tested and adopted over about 1500 ha Evapotranspiration reduction techniques for climate change adaptation (through e.g. windbreaks) over 200ha. . 	<ul style="list-style-type: none"> Baseline surveys Mid-term review evaluation and ex-post reports Participatory impact monitoring Sample surveys Project monitoring and evaluation reports Project management reports 	same as see above (Component 2)
<p><i>2.2 Land regrouping</i></p> <p>2.2.1: integrating SLM in land re-grouping activities</p>	<ul style="list-style-type: none"> 1500 ha re-grouped and SLM measures integrated contextually (300 HH) 		
<p><i>2.3 Consolidation of SWC investments</i></p> <p>2.3.1: planting trees along SWC works</p> <p>2.3.2: planting trees between SWC works</p>	<ul style="list-style-type: none"> Consolidation of earth bunds with productive fruit species (along bunds) over 800 ha Consolidation of earth bunds with productive fruit species (between bunds) over 800 ha (total 300 HH) 		
<p><i>2.4 Development of SLM incentives for farmers</i></p> <p>2.4.1 SWC works cost benefit analyses</p> <p>Output 2.4.2 Best practices awards to land users</p>	<ul style="list-style-type: none"> participatory cost/benefit analysis on different SWC works performed with farmer acknowledgement of value and need for maintenance 5-6 best farmer awarding annual events on SLM practices celebrated (gender disaggregated) 		
Component 3: Mainstreaming SLM in Sylvo-Pastoral Activities			
Activities and Outputs (Sub-Component Purposes)	Output Indicators	Means of Verification	Assumption/Risks
<p><i>3.1 Promoting community NRM systems</i></p>	<ul style="list-style-type: none"> 1 participatory sylvo-pastoral management plan developed 	<ul style="list-style-type: none"> Baseline surveys Mid-term review 	same as see above (Component 3)

<p>3.1.1 Tools and systems: developing sylvo-pastoral management system; legal issues solving; support to CBO registration</p> <p>3.1.2 Testing and demonstration of SLM practices: spring water management; water harvesting; consolidation of SWC works; vegetation improvement; training on SLM practices</p>	<ul style="list-style-type: none"> • Range improvement SLM practices adopted over 1000 ha in family-managed pastureland, and • 50 water harvesting and spring rehabilitation systems put in place • SWC works consolidation through tree/bush planting over about 200 ha • 7500 livestock herders trained on range SLM 	<p>evaluation and ex-post reports</p> <ul style="list-style-type: none"> • Participatory impact monitoring • Sample surveys • Project monitoring and evaluation reports • Project management reports 	
<p>3.2 <i>rangeland improvement on common-rights sylvo-pastoral areas</i></p> <p>3.21 Rangeland land improvement</p> <p>3.2.2 Nursery production enhancement</p>	<ul style="list-style-type: none"> • Range improvement SLM practices undertaken over 500 ha of common-rights land; • Production capacity of 4 sylvo-pastoral nurseries enhanced; 		
<p>3.3 <i>Development of micro-enterprises</i></p> <p>3.3.1 Development of marketing and business plans</p> <p>3.3.2 Technical assistance and capacity building of micro-enterprises</p>	<ul style="list-style-type: none"> • At least 5 group micro-enterprises developed 		
<p>Component 4: Conserving Biodiversity in Jebel Esserj</p>			
<p>Activities and Outputs (Sub-Component Purposes)</p>	<p>Output Indicators</p>	<p>Means of Verification</p>	<p>Assumption/Risks</p>
<p>4.1 <i>Development of a participatory management plan for Jebel Esserj National Park</i></p>	<ul style="list-style-type: none"> • 1 Specific Park (Jebel Esserj) legal act negotiated and approved and 1 management plan developed • 1500 families involved in Park Management Plan in participatory manner and improved livelihoods incorporated. (gender disaggregated when possible) • Community participation in the preparation of the management plan (by gender) • # of PDPs integrating compensation schemes if any • Reduction in the number of conflicts around the park fenced areas 	<ul style="list-style-type: none"> • Baseline surveys • Mid-term review evaluation and ex-post reports • Participatory impact monitoring • Sample surveys • Project monitoring and evaluation reports • Project management reports 	
<p>4.2 <i>Capacity building</i></p> <p>4.2.1 Capacity building for Park Staff</p> <p>4.2.2 Development of an M&E system for Park activities supporting the Park Mgmt Plan</p> <p>4.2.3 Ecotourism awareness and dissemination materials</p>	<ul style="list-style-type: none"> • 5 Park staff trained in PA management • Park M&E system in place, including impact and process indicators monitoring, • information dissemination system in place, including production of leaflets and publishing of park documentation 		
<p>4.3 <i>Ecotourism infrastructure</i></p>	<ul style="list-style-type: none"> • Minimum park infrastructure developed including: tourist welcoming facilities; eco- 		

	museum; water systems; solar power system; user itinerary signs; bird watching posts; and animal management systems		
Component 5: Project Management			
Activities and Outputs (Sub-Component Purposes)	Output Indicators	Means of Verification	Assumption/Risks
<i>Integration of PM costs</i> GEF coordinator; additional office facilities; one vehicle; incremental running cost for communications, travel, miscellaneous, and for M&E; MTR and final evaluation	<ul style="list-style-type: none"> • Capable GEF coordinator in place for entire project duration • Office functions improved • M&E reporting showing SLM and BD progress • MTR and FE contemplating SLM and BD 	<ul style="list-style-type: none"> • Baseline surveys • Mid-term review evaluation and ex-post reports • Participatory impact monitoring • Sample surveys • Project monitoring and evaluation reports • Project management reports 	IADP-II LPCU functioning

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF)
STAP REVIEW AT PIF: CONSENT

STAP advises that the global benefits need to be defined more explicitly and that the expected change in global benefits need to be measured and the progress tracked. The proposal states that the “main value-added of the GEF involvement will be linking SLM practices and approaches with the broader land degradation mitigation and poverty reduction objective of the baseline”. The baseline therefore will need careful attention at the outset perhaps as part of component 1 (creation of an enabling environment). The proponent is invited to approach STAP at any time during the development of the project brief prior to submission for CEO endorsement.

Response:

- Global benefits are further defined and indicators to track progress are included – please refer to Box 3 pages 38 and 39 of the project brief (PB) and sections IV (page 36) as well as paragraph 16 (page 69) and paragraphs 25 to 29 (pp 71&72). Also Annex C on incremental cost analysis provides a comprehensive identification of global benefits that are likely to be yielded from each component of the project. The log frame (Annex A) also provides a comprehensive set of indicators that will track progress (along with the biodiversity tracking tool). Examples of indicators that would measure such progress is the Habitats protection in the mountainous ecosystem of Djebel esserj, leading to the conservation of at least 5 priority flora species (*Acer monspessulanum.*, *Cupressus semervirens f. numidica*, *Quercus suber*, *Cotoneaster racemiflora var tomentella*, *Sorbus aria subsp meridionalis*, *Rosa canina subsp pouzini*) and at least 2 fauna species (Pilgrim Falcon, Booted Eagle).
- Careful attention was paid to baseline assessment during project design. Please refer to section IV pages (17 to 24) in the project brief. Furthermore, the project brief includes an Annex (Annex E in the PB) offering a detailed assessment of the baseline gaps and roots causes for land degradation and biodiversity loss in the Siliana region. The assessment was used to carefully identify the entry points for an added value of the GEF interventions as suggested by the STAP review the added-value of the GFE intervention is further demonstrated in Annex C as well.

ANNEX C: CONSULTANTS TO BE HIRED FOR THE PROJECT

<i>Position Titles</i>	<i>\$/ person week</i>	<i>Estimated person weeks</i>	<i>Tasks to be performed</i>
For Project Management			
Local			
Project coordinator	460	260	<ul style="list-style-type: none"> Oversee the overall implementation of the daily GEF project management activities , in close coordination and consultation with the Project Steering Committee; Ensure that project annual implementation plans are prepared budgeted, implemented and duly monitored Ensure overall supervision of subcontractors/consultants; Supervise the procurement and maintenance of project equipment Maintain close coordination/linkages with the other participating Ministries and relevant agencies; Ensure that all project required evaluation reports and financial records are prepared in time and provided in due course drafting of the annual work plans with budgets; Lead author for the drafting of reporting as foreseen by the monitoring and evaluation system; Lead author for the drafting of TOR and contracts for all national and international consultants and for all grants and competitively awarded contracts to service providers; Lead responsibility for ensuring the effective coordination of project activities between the local, Governorate and national levels.
Assistant administration and finance	230	260	<ul style="list-style-type: none"> Ensure that project financial data and records are prepared and submitted in due course. Provide administrative assistance to the project coordinator
For Technical Assistance			
Local			
Consultant	1153*	1820	<ul style="list-style-type: none"> TA on SLM in: Agriculture, Sylvo-Pastoral, M&E. TA on MSE and on Biodiversity. With specific reference to conservation agriculture, organic agriculture production and diversification. Specific TA on biodiversity would be required in the preparation of the park management plans and their implementation and monitoring/evaluation
International			
Technical supervision	2500	30	<ul style="list-style-type: none"> Technical project supervision and monitoring of innovative aspects such as implementation of conservation agriculture technologies or rangeland conservation modules using innovative technologies (i.e. cactus technology, rotations, reseeding etc) Expertise will be also required for the design and implementation of innovative conservation efforts in Djebel Esserj and to provide training to the selected park staff.

(*) including co-financing sources

**ANNEX D: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS
MOST PPG ACTIVITIES ARE IMPLEMENTED.**

A. EXPLAIN IF THE PPG OBJECTIVE HAS BEEN ACHIEVED THROUGH THE PPG ACTIVITIES UNDERTAKEN.

The PPG phase has entailed a very participatory project design process. It has involved representatives of all key stakeholders at all levels. At national level participants from the Ministry of Agriculture and Water Resources, Ministry of the Environment and Sustainable Development as well as their respective local representatives were involved in project design through workshops and consultation meetings. The planned PPG studies were undertaken by national consultants and helped in a better understanding of the root causes for land degradation and biodiversity loss in Siliana while suggesting possible options for project interventions in priority areas in Siliana. The project design is based on a strong barrier analysis and has been therefore comprehensive in offering a comprehensive package of activities that would help in removing institutional barriers and land tenure constraints while envisaging specific and well designed targeted investments that will be driven by local demand through the PDPs. The PPG phase has significantly helped in raising awareness and provided training for selected NGOs and private service providers in terms of SLM mainstreaming in local development plans (PDPs). Six PDPs were developed and have proven innovative as they have integrated SLM in the local development exercise which has offered an excellent basis for the forthcoming project start up. Continuous consultations with the government have been instrumental in designing a project that is aligned with the country priorities and vision and reflects its needs in terms of development and environmental protection in Siliana.

An important achievement of the PPG phase is a good quality of project design that captures lessons learned but also intends to be innovative notably in terms of mainstreaming biodiversity in Djebel Esserj and the co-management through the participatory local planning. The PPG phase has allowed for discussions with relevant stakeholders on what could work in terms of SLM and sustainable agricultural activities that could lead to win-win options (reducing poverty and increasing environmental sustainability while combating land degradation and biodiversity loss). The intensive consultation process during the PPG phase has also allowed for a better integration of this GEF component within its baseline IFAD project ensuring that operations are complementary and mutually leading to local development and global environmental objectives.

**B. DESCRIBE IF ANY FINDINGS THAT MIGHT AFFECT THE PROJECT DESIGN OR ANY CONCERNS ON
PROJECT IMPLEMENTATION.**

Please see section F above

C. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES AND THEIR IMPLEMENTATION STATUS IN THE TABLE BELOW:

<i>Project Preparation Activities Approved</i>	<i>Implementation Status</i>	<i>GEF Amount (\$)</i>				<i>Co-financing (\$)</i>
		<i>Amount Approved</i>	<i>Amount Spent To-date</i>	<i>Amount Committed</i>	<i>Uncommitted Amount*</i>	
Stakeholders system and institutional assessment for SLM	Completed	10 000	9 831	-	-	6 622
Integrating SLM in the 11th National and Regional Developments Plans	Completed	10 000	8 174	-	-	6 622
Design, train and test tools for integrating SLM in community development planning	Completed	130 000	98 084	-	-	13 244
Demonstrate environmental value of diversifying economic activities	Completed	10 000	5 741	-	-	6 622
Design the management systems of communally-owned forests and rangelands in Jebel El Sarj to ensure sustainable use of its resources	Under completion	30 000	16 475	22 509	-	6 622
Analyze and design the information baseline of the project	Completed	10 000	8 498	-	-	6 622
Project design, preparation and stakeholder consultation	Under completion	87 000	106 402	5 000	-	33 110
Project management and coordination	Completed	63 000	69 286	-	-	52 977
Total		350 000	322 491	27 509	-	132 441
* Uncommitted amount should be returned to the GEF Trust Fund. Please indicate expected date of refund transaction to Trustee						

Government of the Republic of Tunisia
The International Fund for Agricultural Development - IFAD

THE REPUBLIC OF TUNISIA
MAINSTREAMING SUSTAINABLE LAND MANAGEMENT IN SILIANA

Project Proposal for obtaining funding from the Global Environment Facility

PROJECT REPORT

Global Environment Facility Unit
Programme Management Department

July 2008

IDENTIFIERS

AGENCY'S PROJECT ID: [IFAD Project number to be assigned]

GEFSEC PROJECT ID: **2709**

COUNTRY: Tunisia

PROJECT TITLE: **Support to Sustainable Land Management in the Siliana Governorate**

GEF AGENCY: IFAD – International Fund for Agricultural Development

NATIONAL EXECUTING AGENCY: Ministry of Agriculture and Water Resources – MAWR
Ministry of Environment and Sustainable Development

DURATION: 5 Years

GEF FOCAL AREA: Land Degradation (LD) and Biodiversity (BD)

GEF-4 STRATEGIC PROGRAM: LD-SP1; BD-SP3

**NAME OF PARENT PROGRAM/
UMBRELLA PROJECT:** Integrated Agricultural Development Project in the Governorate of Siliana (IADP II) / **MENARID** Program Framework

COSTS AND FINANCING (US\$)

FINANCING PLAN SUMMARY FOR THE PROJECT (\$)

	Project Preparation	Project	Agency Fee	Total
GEF	350,000	5,000,000	531,500	5,881,500
Co-financing	322,441	27,355,000		22,684,000
Total	672,441	32,355,000	531,500	28,565,500

SOURCES OF CONFIRMED CO-FINANCING:

Sources of Co-financing	Type of Co-financing	Amount
GOT	Grant	6,256,000
Bilateral Aid Agency (AFD)	Soft Loan	4,555,000
Multilateral Agency (IFAD)	In-kind and loan	11,130,441
Others	In-kind	5,736,000
Total co-financing		27,677,441

GEF AGENCY CONTACT

EXA CONTACT:

Kevin Cleaver

Assistant President

Programme Management Department

IFAD

EXA PROJECT CONTACT PERSON:

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For all official communications, please do not forget to copy the IFAD/GECC Registry, geccregistry@ifad.org

**TUNISIA: MAINSTREAMING SUSTAINABLE LAND MANAGEMENT IN SILIANA
PROJECT REPORT**

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GOVERNMENT OF THE REPUBLIC OF TUNISIA

Fiscal Year

1st January – 31st December

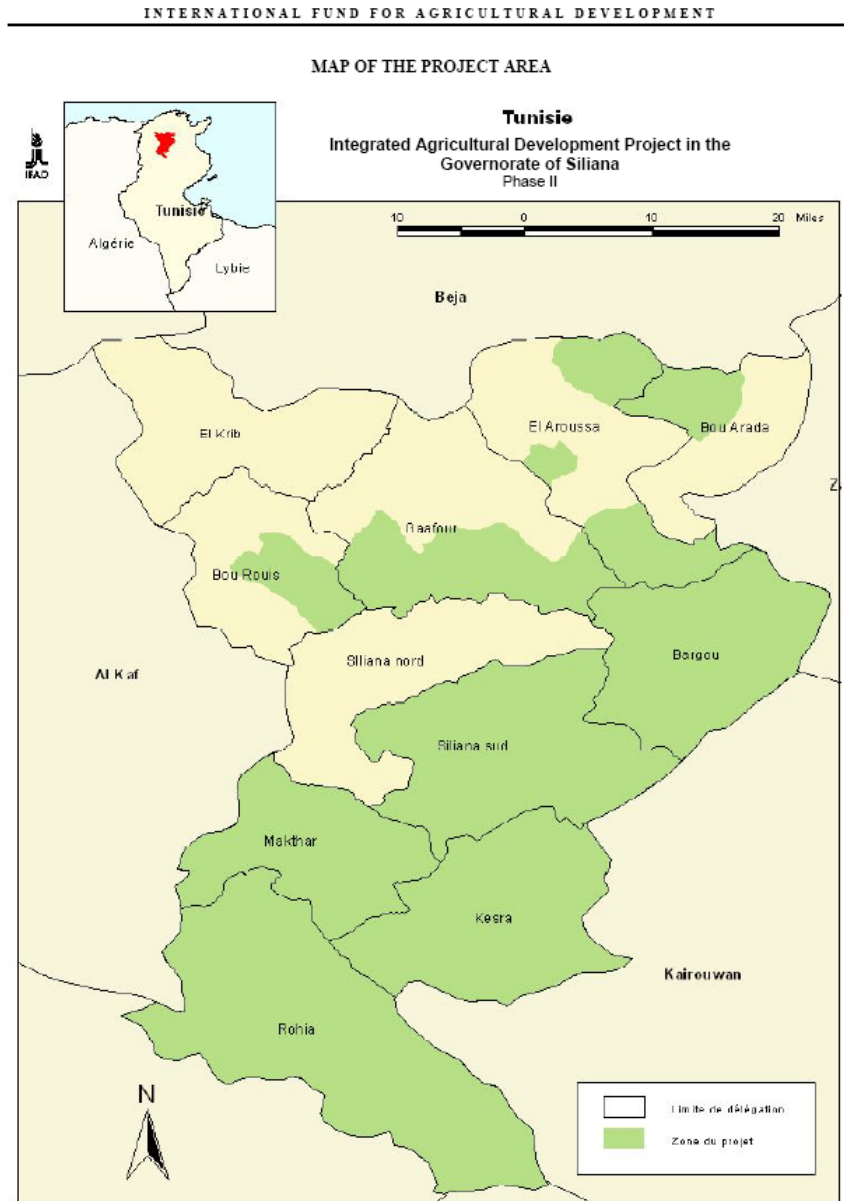
CURRENCY EQUIVALENTS

Currency Unit	=	Tunisian Dinar (TND)
USD 1.00	=	1.17 TND
1.00 TND	=	USD 0.85

ABBREVIATIONS AND ACRONYMS

AFA	Agricultural Land Tenure Agency (<i>Agence Foncière Agricole</i>)
AFD	French Development Agency
BRETI	Regional Office of Employment and Self-Employment (<i>Bureau régional de l'emploi et du travail indépendant</i>)
CRDA	Regional Commission for Agricultural Development (<i>Commissariat régional au développement agricole</i>)
DDC	District Development Committee
EA	Executing agency
GDA	Agricultural Development Groups
GEF	Global Environment Facility
GFIC	Forestry group of collective interest
GoT	Government of Tunisia
IA	Implementing agency
IADP II	Integrated Agricultural Development Project Phase II
IFAD	International Fund for Agricultural Development
LD	Land degradation
M&E	Monitoring and Evaluation
MAWR	Ministry of Agriculture and Water Resources
MESD	Ministry of Environment and Sustainable Development
NAP	National Action Plan (required by UNCCD)
NGO	Non-governmental organization
ODNO	Development Office for the North-West (<i>Office de développement du nord-ouest</i>)
PD	Project Director
PDF B	Project Development Fund Category B
PDP	Participatory Development Plan
PFM	Participatory forest management
PRM	Participatory range management
SLM	Sustainable land management
SWC	Soil and water conservation
WPC	Work Program Contract

Map of the Project Area



Source: IFAD.

The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.

1. Project Background

I. Overall Context of the Project

1. The Government of Tunisia (GoT) has had a longstanding and positive relationship with IFAD with a total of nine projects completed or underway. In the context of the development of the Integrated Agricultural Development Project II (IADP II) in the Governorate of Siliana, the government of Tunisia requested IFAD's assistance to mobilize GEF funding to address the severe problems of land degradation and other global environmental problems in the Siliana Governorate and the threats to biodiversity at the Jbel Esserj site also found in the same governorate. This project, which is the result of that request, will be primarily a field project that will operate in the same project areas following the basic implementation modalities of IADP II.

2. GEF investments are needed to address the global environmental problems of the Siliana Region. Land degradation is severe on agricultural, range and sylvo-pastoral lands. In particular, Sustainable Land Management (SLM) systems have been so far neglected for range and forest lands. Forest lands are the most biodiverse terrestrial ecosystems in Tunisia, but relatively little has been done to improve biodiversity conservation in sylvo-pastoral production landscapes. Jebel Esserj is a sanctuary for rare examples of flora and fauna biodiversity that is severely threatened by population pressure and unsustainable resource uses. The Project is within a part of the North Africa and Mediterranean Basin that many climate models predict to become increasingly arid, but little has been done to develop capacities for climate adaptation. The GEF project would be considered as an individual project of the overall MENARID pipeline initiative, a programming framework with the objective of promoting integrated SLM and BD in the drylands of the MENA region while improving the economic and social well-being of the targeted communities through the restoration and maintenance of ecosystem functions and productivity.

II. The Environmental Context

3. The vast majority of Tunisia's total land area (15 million ha) is classified as desert-type with a predominantly hyper-arid climate, while steep lands amount to 46%. Only 14% of the area is considered arable but the proportion of land that is actually used for agricultural purposes goes well beyond its real potential, to an extent of about 150%.

4. Until the middle of the 19th Century, the predominant land use in Central Tunisia was extensive grazing on common lands. This eventually evolved towards a sedentary system of agricultural land use based strongly on the cultivation of cereal crops and a consequent shrinkage in the area of pasture lands. However, as populations grew strongly in the past century, even more marginal lands highly unsuited for cereal crop production have been converted to this land use. Agricultural sustainability on these steep, marginal lands is very problematic. Furthermore, the prevailing system of land tenure and inheritance has resulted in long, narrow fields oriented parallel with the slope – this essentially obliges the farmers to plow up and down the slopes, which essentially increases the rate of erosion.

5. Land degradation is severe amounting to some 50% of the total country area, and among the highest in the Middle East North Africa (MENA) region. According to GLASOD (Oldeman *et al.*, 1990)¹, about 49 percent of Tunisia's total land area is characterized as degraded, all classified as severely degraded for

¹ The Global Assessment of Soil Degradation (GLASOD) survey remains the only uniform global source of land degradation data. The International Soil Reference and Information Centre (ISRIC), in conjunction with UNEP, undertook a global inventory of the status of human-induced soil degradation (Oldeman *et al.*, 1990, 1991; UNEP, 1992; Oldeman, 1994). The GLASOD was based on a structured recording of the type, severity and extent of degradation, together with its major causes.

which agricultural productivity is greatly reduced. FAO has produced country land degradation maps (fig. 1) applying LandScan 2000 to the GLASOD methodology². Here, soil degradation severity is analyzed by combining the GLASOD degree of degradation with its spatial extent, and the extents of land degradation (in km²) is provided for each country and for each class (see Table 1).

Figure 1: Severity of Human Induced Soil Degradation in Tunisia

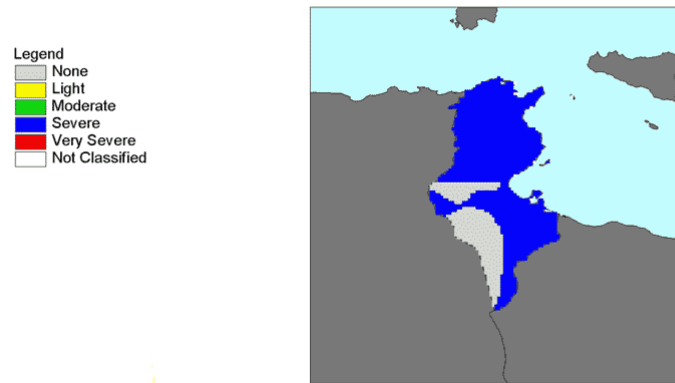


Table 1: Extent of Land Degradation in Tunisia

Severity	Mapped (km ²)	Population	Population density	Wasteland (km ²)	Infrequent (km ²)	Common (km ²)	Frequent (km ²)	Very frequent (km ²)	Dominant (km ²)	Degraded (km ²)	Degraded %
None	33,736	167,424	4.96	33,736	-	-	-	-	-	0	0
Severe	119,281	7,678,804	64.38	-	-	-	1,021	9,223	65,442	75,686	49.28
Not Classified	556	797,964	1434.12	556	-	-	-	-	-	0	
TOTALS	153,573	8,644,192	56.29	34,292	0	0	1,021	9,223	65,442	75,686	49.28

Source: FAO, TERRASTAT, 2005

6. Land degradation poses immediate threats to the viability of a large portion of the agricultural lands in central Tunisia. In some cases the problem is visually striking and dramatic in nature with fields dissected by deep gullies. On others, it is much more subtle with scarcely discernible rill erosion and the even less visible, gradual loss of soil productivity. Livestock numbers have remained high while becoming ever more concentrated on the shrinking sylvo-pastoral and range lands. Overgrazing is the main direct cause of land degradation on sylvo-pastoral and range lands, most of which are state-owned lands. Access to state-owned lands for grazing is essentially open access in a *de facto* sense. The degradation of sylvo-pastoral lands is a gradual process involving loss of diversity, often associated with

² FAO, 2005: <http://www.fao.org/landandwater/agll/glasod/glasodmaps.jsp>

loss of forest cover and accompanied by soil erosion. Non-forested rangelands on medium to steep slopes also undergo severe degradation and loss of productivity. Sediments from eroded lands are deposited in reservoirs, shortening their useful lives. Soil fertility has declined due to the loss of organic rich topsoil and from insufficient replacement of nutrients removed with the cereals harvested.

7. By the 1960s, the government had begun a technically-oriented program of reforestation of degraded highlands and of the construction of physical soil conservation bunds on the contour, especially on agricultural land. This expensive program has grown and continues to this day. Farmers have often come to view soil conservation as the government's responsibility hence maintenance of the bunds has generally been poor. Recent policies have shifted in favor of a more participatory approach towards soil conservation and SLM, but this has rarely been translated into operational programs. Land degradation is also closely correlated with poverty. Land degradation decreases land productivity and makes poverty worse. Impoverished people have the lowest ability to make investments and are often forced to exploit resources unsustainably in order to make ends meet.

8. Loss of vegetative cover and loss of soil and soil organic matter leads to increased runoff and decreased infiltration. Increased runoff leads to gully erosion, river bank erosion and increased sedimentation of reservoirs. Decreased infiltration leads to falling ground water tables and the drying up of wells and springs. Some of the remaining sylvo-pastoral lands contain biodiversity of global importance, but very little has been done to date to safeguard this heritage. In the Siliana Region, Jebel Esserj has been identified as the highest national priority biodiversity conservation site. However, other than the fencing of a small parcel to protect the regeneration of a threatened species of maple, little else has been put in place. There is no effective Protected Area (PA) management system. The tiny existing PA needs to be expanded into a much larger PA that is zoned for varying levels of protection based on conservation priorities, including sustainable area use. At the ecosystem level, sustainable use is almost certainly the most appropriate strategy, both for reversing land degradation and for biodiversity conservation, while allowing for local population livelihoods.

9. **Climate Change.** Due to geographical location and climatic characteristics, Tunisia is considered very sensitive to adverse effects of CC³ being a country which already faces a hydrous stress situation with only about 500 m³ of water/capita/year. The average surface water volume available annually is of 2700 Mm³ but with ample variations (from 2230 Mm³ once every two years to 1250 Mm³ once every ten years), which obviously affects water resources dependent ecosystems and agricultural based livelihoods. Modification of evaporation and precipitation rates by global warming will likely affect the hydrous climate balance of Tunisia. Rain pattern changes in terms of frequency and distribution would also worsen inherent erodibility conditions of soils.

10. Some agricultural production systems in Siliana are driven by climate variations and water availability for irrigation in particular (although rainfall variability is not a significant issue in Siliana). However, in order to make progress with sustainable land management in the project area, it is necessary to consider the whole range of issues affecting land management and including climate variability and risk. During project formulation, the methods that were used to identify solutions took into consideration the climate factor and paid particular attention to possible activities that could minimise climate impact on production systems and local livelihoods. Such options include the development of environmentally friendly income generating activities, promotion of sustainable agricultural practices (conservation agriculture) to diversify agricultural production and maximise yield per input (even under difficult climatic scenarios) while promoting activities that are relatively less vulnerable to climatic variability (e.g. production of rain-fed local fruit tree species).

³ See Ministry of Environment and Sustainable Development (MESD) communication (2001) to the United Nations Framework Convention for Climate Change.

11. Furthermore, better understanding of climatic variability, its impact and adaptation/proofing options will be ensured through the local planning process. Local communities will be aware of climate risk (through better awareness raising) and better planning. SLM promotion through local planning will offer an opportunity to both design climate proofed local development plans and capture, use and disseminate the local adaptation knowledge.

III. The Economic and Sectoral Context

12. **The economy.** Tunisia is a middle-income country with a gross national income per capita of USD 7,500 (2007 est.). The structure of the economy has evolved and diversified since independence in 1956. Services now contribute nearly 60% to gross domestic product and industry 28%; agriculture has dropped to 12%. The macroeconomic situation is good; the rate of economic growth reached 5% between 1993 and 2003, and the average population growth rate was 1.2% during the same period. Economic development was accompanied by successful measures to ensure the equitable distribution of benefits, which has, in turn, led to a reduction of poverty. Approximately 35% of the population lives in rural areas. Rural population growth has been stagnant, with negative growth rates witnessed in disadvantaged areas, including Siliana.

13. Unemployment is still high at 15% and the primary source of income for a large segment (77%) of the rural population of the country (37% of the total) depends on the crop and livestock output. The agricultural sector, in turn, has an annual productivity that is subject to the high variability of the dry sub-humid/semi-arid climate, which has worsened due to climatic fluctuations associated with droughts, and which has suffered from further degradation of the natural resource base due to unsustainable agricultural and sylvo-pastoral practices. The sector is also characterized by a number of structural constraints comprising: (a) inadequate holding sizes (out of a total 471 000 farm enterprises, 53% are not larger than 5 ha occupying 9% of the agricultural land area, while only 3% are larger than 50 ha and hold more than 90% of the land); (b) an over-fragmented land tenancy structure (40% of the cultivated land is held by 85% of the enterprises); (c) lack of access to financial resources to maintain bulk investments that protect and manage natural resources; and (d) insufficient farmers' up-to-date technical know-how particularly, on sustainable use of the natural resource base due to an inadequate and limited extension system. Furthermore, notwithstanding the GOT efforts and policies in favour of less endowed areas in terms of social and economic basic infrastructure, regional disparities are still significant.

14. **Measures undertaken for poverty reduction.** Poverty has been steadily declining, from an incidence of 40% of the population in the 1960s to 4% in 2000. Nevertheless, this overall impressive performance masks significant differences between rural and urban conditions and, within rural areas, between well endowed regions in terms of natural resources and ecologically fragile areas. Poverty in Tunisia is essentially a rural phenomenon, where it can reach 13% of the rural population, over triple the national average of 4%. Standards of living and the severity and incidence of poverty also vary significantly according to region, with a strong contrast between the richer northern and coastal regions and the less advanced southern and inland areas of the country. In 1996, the Government formulated a poverty eradication strategy to, inter alia, increase rural income levels, generate employment, ensure the sustainable development of natural resources and target public investment at regions where poverty was more acute. Tunisia is among the countries that are set to fulfill the Millennium Development Goals by 2015.

15. **General focus of donor support.** External assistance is well integrated into national, long-term sectoral and subsectoral strategies in Tunisia. External assistance projects have been geared to infrastructure investment, soil and water conservation, harnessing water resources and, to a lesser extent, credit and technical advisory services. Donors have also been involved in the development and implementation of the national action program to combat desertification. With increasing trade

liberalization, external assistance is being channeled to support the development of an enabling environment for competitive agriculture (the privatization of extension services, the strengthening of farmer organizations and inter-professional groups, and land tenure reforms).

IV. Policy context

16. The main tools for translating national policies into concrete actions are the national Economic and Social Development Plans (EDSP)⁴ that are prepared every five years. The Ninth EDSP (1997-2001) was the first one that integrated sustainable use of land and natural resources. The Ninth EDSP called for the elaboration of a National Action Program (NAP) as required under the UNCCD. Tunisia completed its NAP in 1998. The main objective of the NAP is to identify the factors that contribute to land degradation and desertification and then to define the actions needed to combat or diminish them. The NAP stipulates that the framework for developing recommendations, programs and strategies must be participatory and integrated. The NAP clearly recognizes that the old sectoral approach is not adequate. Programs and strategies must involve technical ministries, public institutions, community groups, NGOs, the private sector, academia and organizations from the national to the regional and to the local levels. The NAP recognizes the linkages between poverty and land degradation and advocates economic development and the alternative livelihoods as part of the measures needed. Several studies have shown that land degradation increases the movement of rural population to urban areas, often leading to increased urban poverty. Anti-desertification measures were further strengthened in the 10th EDSP and sustainable land management measures were directly integrated into the 11th EDSP with the assistance of GEF PDF B funds for this project.

17. **National agricultural development policy.** The economy of the relatively poorer rural regions is based on agriculture, a main source of employment and livelihoods. Government support to the agricultural sector represents approximately 7% of the national budget. The five-year development plan for the agricultural sector just ending emphasizes the competitiveness of the sector in preparation for full trade liberalization. However, public investments are mainly geared towards natural resource sector with an emphasis on the treatment of degraded lands through the construction of soil and water conservation structures and on the harnessing of water resources. Measures facilitating the use and ecological and economic viability of these investments are lagging behind. The high investment in infrastructure and hardware, coupled with limited investment in building management capacity at the smallholder level, is undermining the long-term viability of sector competitiveness.

V. Lessons Learned from Previous IFAD Experience

18. IFAD has so far supported nine projects in Tunisia for a total cost of about USD 290 million, of which IFAD loans have contributed a total of USD 114.7 million. All these interventions involve integrated rural development activities and their principal objectives include the improvement of livestock and crop production systems, the conservation and improvement of natural resources (soil and water conservation and the improvement of grazing lands, forests and small-scale irrigation), farm credit and social infrastructure (particularly rural roads and drinking water).

19. The IFAD country program evaluation in 2003 judged the quality of the physical works and the targeting of project investments as generally satisfactory. Project investments have generally been relevant and have led to greater farmer resilience in the face of drought. They have also delivered relevant services to rural women in support of women's empowerment, albeit in what is still deemed a timid process. The project has, however, been rated weaker on issues pertaining to social capital. Participatory approaches have been undercut by a technical, supply-driven and sectoral approach to investment. The

⁴ Plan de Développement Economique et Social (PDES).

projects have also been generally isolated from their wider institutional environment and have established only limited cooperation with other local development stakeholders.

VI. IFAD's Strategy for Collaboration with Tunisia

20. **IFAD's strategy in Tunisia.** The strategic thrusts of IFAD operations in Tunisia focus on: (i) high levels of beneficiary participation; (ii) gender balance; (iii) the creation and strengthening of rural financial services; and (iv) sustainable natural resource management. The country program evaluation reconfirmed these strategic thrusts and made qualitative adjustments to program implementation modalities by emphasizing: (a) the expansion of the focus of investment from agriculture to on-farm and off-farm economic opportunities since it was recognized that the livelihoods of the poorest households often derive from both; (b) the use of IFAD resources to experiment with new approaches rather than to finance standard public investment activities; and (c) building upon the lessons learned during project implementation, to engage in policy dialogue with the Government. The IADP II addresses a number of the qualitative adjustments recommended in the country program evaluation.

21. The IADP Phase I was initiated in 1997 as part of the national strategy for natural resource management, erosion control and the reduction of regional disparities in economic and social development. It was completed in June 2005, having fully achieved its physical targets. The interim evaluation undertaken by the Office of Evaluation in 2004 commended the project for the relevance of its activities, the high level of technical competency and the innovative approach in the area of applied research and collaborative sylvo-pastoral management and in improving the relationship between technical agricultural services and the farming population. It rated the impact of the project as significant in building up the access of households to potable water and improved mobility thanks to the expanded road network, reduced soil erosion and the expansion of irrigated agriculture. The impact of the project on the economic and social capital of young women was also judged as significant. However, the interim evaluation pointed out the project's inadequate implementation of the participatory and integrated approach to development, which was supposed to have been its main innovative feature. Accordingly, the interim evaluation recommended the extension of the project into a second phase to consolidate project results and deepen its impact. The second phase will adopt a two-pronged approach of maximizing agricultural and non-agricultural value added and safeguarding natural resources. IADP II is financed by the GOT, the International Fund for Agricultural Development (IFAD), the Agence Française de Développement (AFD), the beneficiaries and other private sector financing agencies.

22. IFAD with others, is also supporting the MASHREQ and MAGHREB project, which includes Tunisia, for the development of integrated crop-livestock production systems in low rainfed areas. This practice has revealed itself as good mechanism also to promote training and exchange of experience and expertise specifically, on animal nutrition, policy research and property rights, small ruminant and rangeland management.

VII. Integrated Agricultural Development Project in the Governorate of Siliana - Phase II (IADP II)

23. The development of recently initiated IADP II has moved forward taking into account the possibility of a GEF SLM associated project (GEF Alternative project).

24. **IADP II Project Area and Target Population.** The project area consolidates the areas of investment under the first phase of the IADP in the Governorate of Siliana and extends into other areas of the Governorate that are considered to be relatively poorer. The project globally covers 54 southern districts (*imadats*) of the governorate and eight sub-districts in the north. The population totals some 28 000 households (including 12,600 farms). The area has been selected based on prevalence of small

landholding sizes, erosion vulnerability, underemployment, migration rates, and deficit of infrastructures. During preparation, IFAD made a supplementary assessment that has narrowed down the project scope in terms of poverty issues to 15 000 households that by the end of the project life would need to be targeted directly through project activities. On top of the above criteria, the degree of agriculture intensity, incomes derived from agricultural activities, natural potential and unemployment have also been considered.

25. The target categories have been confirmed to encompass: (i) poor landless households that require state welfare assistance to meet their basic needs; (ii) rural households that rely on women's labor in agriculture and men's seasonal low-skilled employment; and (iii) households with relatively greater economic security that have access to larger landholdings and herd sizes and higher skilled employment. However, the supplementary survey has enabled the attribution of prevalence rates to each poverty category i.e. **32 percent to the first, 46 percent to the second and 22 percent to the third category**. Project activities are tailored to service low- and average-income households and promote economic complementarities; specifically the increase in value-added production among average-income households should stimulate demand for services, the establishment of new businesses and the generation of employment among the low-income categories. The strategy of the project prioritizes targeting the first category during the planning of the first and second year; the second category during second and third years; and eventually, the third category starting from the third year.

26. The **incidence of poverty** in the IADP II project area is thus high. Specifically, the poorest households (first category) are those that live in the so defined deforested areas and which are, or are almost, landless. Women collect the meager forestry by-products that enable very low income. Even migration is not a coping mechanism and often this category constitutes population groups that end up inhabiting slums of small towns of the Governorate. Geographically, poverty stems mainly from poor access to services due to physical isolation and the high investment cost of restoring the productive potential of land suffering from moderate to extreme degradation. Accordingly, the mountainous southern districts of the project area are relatively poorer. Household poverty levels are mainly related to the sources of income of the various members who are active in the workforce and their ability to move into higher-value or more stable employment. The young women of poor households are isolated from mainstream information, sensitization and vocational training services.

27. The second category of poor households comprises people who have a more variegated livelihood system that includes agricultural, silvo-pastoral, services and artisanal activities. They crop from 5 to 10 ha, own up to 10 heads of sheep/goats, and may hold up to 2 ha under olive trees. Some have access to irrigation up to a maximum of 1 ha of land. Those that live in silvo-pastoral areas rely more on animal husbandry. In all cases, these produce and live following a subsistence mode and their involvement in activities other than agriculture is mainly due to the unreliability of food security only through farming and raising animals. The ample variation of agricultural output for these households is due to sustained negative environmental impacts (drought, erosion, loss of vegetative cover, low soil fertility) to the production systems. Erratic and low agricultural output prices and marketing issues also concur to exacerbate the vulnerability of this group.

28. Lastly, the third 'better-off' category, includes resource users which have access up to 20 ha (possibly 3-4 ha are irrigated), own more than 20 heads of animals and are considered to be 'true' and active farmers that have also some capacity to re-invest in agriculture. They are however subject to the climatic variations and in average benefit from one good agricultural year out two or three. Those that practice irrigation on a reasonable scale are prone to marketing constraints. Although this category is generally considered as more stable in economic terms, the prevailing ecosystem fragility in Siliana and continued environmental negative impacts may put at risk such stability and move their position backwards.

29. **Interventions.** Focusing on the reliance of local livelihoods on on-farm and off-farm incomes, the IADP II seeks to boost agricultural productivity, support the development of small and medium-sized businesses and open up access for young people, especially women, to the labor market. Mechanisms are being currently established that assist communities and local administrations alike in planning and supervising synergistic and targeted activities to foster self-help and local development initiatives. Under this approach, landless households are likely to benefit from the project's infrastructure services and technical support for employment creation, while smallholders will benefit from the actions to enhance agricultural productivity and environmental conservation.

30. The **participatory approach** adopted under the IADP project ensures that local communities are actively involved in consultation and decision-making on the allocation of resources to reduce poverty and expand local development options. Participation relies on building community ownership of environmental and productive assets and investments, target support activities at poor households and create incentives for mobilizing community investments and leveraging public investments. Four participatory Local Development Plans (LDPs) were developed during the GEF PDF B phase, so as to test the participatory methodology and to introduce ecological principles in this methodology. Other two LDPs were prepared later on with IADP-II support. This provides a firm basis for the shift towards participatory development planning and the introduction of ecosystem principles in the management of natural resources, providing that additional and incremental resources are available from GEF funding to implement the introduction of these principles. Participatory planning methodologies will be further strengthened during project implementation.

31. **Innovative features.** The project presents the following novel aspects vis-à-vis previous IFAD-financed operations in Tunisia: (i) assistance for the regional agricultural administration and local governments in adopting an operating model that is responsive to a demand-driven approach; (ii) better response to the employment concerns of youth; (iii) greater attention to improving the quality and accessibility of existing business advisory services in support of employment; and (iv) the shift from public to private delivery of extension services to smallholders.

32. **IADP-II objectives, duration and scope.** This 6-yr project aims to improve, in a sustainable manner, the incomes and living conditions of the rural population in Siliana. Its objectives are to: (i) engage communities in a local development process capable of catalyzing their initiative and investments in agriculture and soil and water conservation; (ii) diversify and increase employment and investment opportunities in rural areas for both women and youth and contribute to the development of sustainable economic linkages; (iii) develop the institutional capacities of the Regional Commission for Agricultural Development (CRDA - *Commissariat régional au développement agricole*) in adopting an integrated, participatory, equitable and gender-sensitive approach to local development; and (iv) ensure that regional stakeholders and national decision-makers adopt the principles of sustainable land management.

33. **IADP II Project Components.** The project is structured into four components: (i) integrated local development; (ii) support for enterprises and investments; (iii) institutional strengthening; and (iv) sustainable land management (the GEF incremental investment).

34. **Integrated local development.** Under this component, the project will support communities in undertaking a participatory planning process that will enable them to identify priority initiatives to improve local livelihoods and in financing those investments that fall within the objective of increasing the added value in agricultural production and the generation of employment opportunities in the on-farm and off-farm sectors. District Development Committees (DDCs) representing a coalition of stakeholders will be established to organize the community consultation, the participatory diagnosis and planning. The DDCs will include representatives of local government, existing community-based organizations and elected representatives of key socio-economic groups such as farmers in rainfed areas, women and youth.

They will be assisted to formulate of local Local Development Plans (LDPs) that can then be translated into annual programs, financed by the project and supervised by the DDCs and the project. The local development plans and annual programs at the district level will be vetted at the higher administrative levels in the locality and then in the governorate. For the implementation of the LDPs, the DDCs will be transformed into agricultural development groups (GDAs) in conformity with recent policy changes.

35. Local development initiatives eligible for funding under the project include rural feeder roads, potable water projects, soil and water conservation, the rehabilitation and construction of small-scale irrigation schemes, agricultural advisory services, range and forestry management, horticulture and applied research. The list is not exhaustive and can be expanded to include new activities that fall within the mandate of the agencies implementing the project (CRDA, BRETI and ODNO)⁵ and are aligned with the project objectives.

36. The DDCs will receive support in developing transparent and equitable criteria for screening and retaining local initiatives to ensure feasibility, cost efficiency and outreach to the poor and to women. They will also be responsible for semi-annual monitoring of planning. A capacity-building program is envisaged for the DDCs and will include principles of participatory development and gender analysis, in the context of local development and sustainable land management in order to ensure synergies among these initiatives and regular government programs.

37. **Support for enterprises and investments.** This component aims to improve the access of young women and men to employment opportunities through the promotion of micro-enterprise and small and medium-sized businesses and the mobilization of private investment. Activities under this component will include: (i) technical assistance in accounting, business management and market analysis for established businesses to improve their productivity and economic viability; (ii) technical assistance in the creation of new businesses, including feasibility studies, vocational training and better access to credit; (iii) marketing activities to promote the governorate among national and foreign investors; (iv) market studies for selected commodity chains; and (v) the resumption of handicraft production and the establishment of small business centers to ensure accessibility, visibility to potential clients and linkages with local or national markets.

38. **Institutional strengthening.** This component aims to assist the lead implementing agency (CRDA) in shifting from a supply-driven and sectoral mode of intervention to a demand-driven and integrated operational modality. In order to achieve this, IADP II will support capacity-building at CRDA, with equipment to facilitate mobility, technical personnel in the areas of civil works and erosion control to manage high demand in these areas, training, and the creation of a project management unit. The training will be on participatory, integrated and gender-sensitive planning, programming methods and sustainable land management practices. The project management unit will be established within CRDA according to current legislation and will support CRDA in developing the appropriate mechanisms to plan and implement an integrated response to the needs and potentialities of the agricultural sector.

39. **A proposed GEF “Component” on Sustainable Land Management, which in fact is the proposed “Support to SLM in the Siliana Governorate” project.** The IADP II project document only gave an indicative outline of this component. The details were supposed to be developed under the preparation of the GEF project.

40. **IADP II Costs and Financing.** The total duration of the project is estimated at six years. The total cost was estimated at USD 33.9 million, including physical and price contingencies. Investment costs

⁵ CRDA: Commissariat régional au développement agricole; BRETI: Bureau régional de l’emploi et du travail indépendant; ODNO: Office de développement du nord-ouest.

represent 94% of the total costs. Should the GEF contribution also be considered, the overall investment would be of USD 38.9 million.

2. GEF Project Area and Problem Analysis

I. The Project Area and Target Population

41. **Area Features.** The Governorate of Siliana (north-western region of the country - Upper Tell) still ranks negative in terms of development indicators including low incomes, unemployment and high migration rates. The region remains an area of high priority for the government's rural development and natural resources management policies in the current 11th Social and Economic Development Plan (2007-2011). The 11th plan also includes the second phase of the IADP II. to be implemented in the Siliana Governorate.

42. The proposed GEF SLM Project area (shown in Map 1) is identical to that of the IFAD IADP II. The area is semi-arid with an average annual rainfall ranging from 250 mm in the south to about 500 mm in the north. The project will cover 54 districts (*imadats*) comprising 63% of the *Governate* of Siliana.

43. Much of the land in the project area has been cultivated since very ancient times and roman ruins are common throughout the area. Land cover has been extensively modified by man. The Governorate is one of the more hilly and mountainous areas of Tunisia and has most severe problems of land degradation. Land pressures have resulted in the conversion to agriculture of many areas that are not suited to agriculture.

44. Current land uses are summarized in the table below. Out of the total of 278,223 ha in the project area, about 183,329 ha is agricultural land. Of this, 101,960 ha is under cereal crops, 31,011 ha is under tree crops (mostly olives), 6124 ha is irrigated and 44,234 ha is fallow land. About 1/3, is covered with forest and/or shrubs (81,485 ha) or consists of open grazing lands (13,409 ha). Virtually all forestlands and shrublands are state-owned and all are also open to grazing and browsing by livestock. Open grazing lands are composed of a mix of State and private-owned lands. Most of the tracts of privately-owned rangelands are owned by a group of families or a clan and are exploited jointly as common lands.

Table 2: Land Uses in the Project Area

Land Use		Surface area	
		hectares	%
Rainfed Crops		101960	36,6
	Wheat (blé dur)	50100	18,0
	Barley	27428	9,9
	Wheat (blé tendre)	13236	4,8
	Oats	11196	4,0
Rainfed tree crops		31011	11,1
	Olives	30029	10,8
	Other	982	0,4
Irrigated lands		6124	2,2
	Irrigated vegetables	1489,5	0,5
	Irrigated forage crops	988	0,4
	Irrigated cereals	2595	0,9
	Irrigated tree crops	1051,5	0,4

Land Use		Surface area	
		hectares	%
Fallow		44234	15,9
S/T Subtotal agricultural lands		183329	65,9
Wooded lands (forest & shrub)		81485	29,3
	Forests	46861	16,8
	Shrubland with trees	13733	4,9
	Shrubland without trees	20418	7,3
	Other	473	0,2
Natural grazing lands (without woody cover)		13409	4,8
Total agriculture, forest and grazing lands		278223	100,0

45. Agricultural development and productivity in the project area are constrained by the degradation of the agricultural lands and by the fragmentation and the small size of farm holdings. 63% of farms are less than 10ha in size and 82% are of less than 20 ha. Only about 20% of irrigable lands are actually irrigated. 72% of agricultural lands have undergone medium to heavy degradation.

46. Livestock activities represent the prime source of income for the Siliana land users: 63% versus 37% coming from crop outputs, particularly in the southern portion of Siliana. Animal population figures are given in Table 3 below. In addition to the above species and as a form of mixed farming, landholdings of Siliana practice poultry, rabbit and bee keeping. The main source of grass for the animals comes from common-rights rangelands, either private/clan or state-owned. However, during winter and spring, the flocks are also left to graze on fallow land and receive straw and hay integration. When drought years occur also crop failure plots are used for grazing. The majority of animal herders are either very small farmers or landless (in crop production terms) people.

47. Comparison numbers with the past on animal population is not available but there is ample anecdotal evidence that the about 7500 herders of Siliana have increased their flocks significantly during the last 5-10 years.

Table 3. Livestock Population in Siliana (2005)

Types	Northern Imadats	Southern Imadats	Total
<u>Sheep</u>			
Female units	110,000	67,000	177,000
<u>Goats</u>			
Female units	10,750	10,250	21,000
<u>Cattle</u>			
Local breeds	3,700	2,150	5,850
Improved breeds	1,500	1,700	3,200
Sources : PDAI-II. Etude de factibilité. CRDA and OEP Directorate of Siliana.			

48. **Target Population.** Indeed, poverty and land degradation tend to go hand-in-hand. Key features of the project area include its significant vulnerability to erosion (60% of the project area is subject to high or moderate erosion), the low-input, low-output agriculture that is still primarily subsistence-based, the substantial inequity in land access (with 8% of farmers owning more than 50% of the land area, whereas 62% of landowners are smallholders with less than 10 ha each). Households in the project area derive their incomes from multiple sources such as farming and seasonal work found locally, in nearby towns, or

in the large coastal cities. Another characteristic of the project area is its negative demographic growth rate (-0.5% per year) due to migration to urban areas, evincing a trend towards depopulation of the country's rural areas. The Government is working to improve living conditions in the area by investing in public infrastructure, providing housing and financial assistance to needy families, and financing public works on a seasonal basis to make wage labor options available to poor households.

49. As mentioned, out of a total population of 28 000 households, IADP II intends targeting 15 000 households following a group-priority phased approach. This contingent includes the most impoverished rural populations of 54 *imadats*, selected to include those with the lower access to services, the higher percentage of smallholders and the higher degree of erosion and unemployment. However, land degradation as well as biodiversity protection go further than poverty issues and concern all resource users of the Governorate but also of the country. Hence, the GEF investment would aim certainly at targeting the same number of households in terms of on-the-ground and capacity building activities, but should also attempt to put in place actions of a value for the entire rural population of the Governorate and even beyond. Indeed, by promoting an enabling environment for SLM and BD conservation and by establishing knowledge sharing and monitoring mechanisms together with other actions of more global value, the GEF intervention would address the needs of a much broader target group.

50. **Gender Aspects.** The Siliana region is characterized by gender inequality features as other parts of Tunisia. Major issues consist in lower access to the labor market (women active population accounts only for 20% of the total) and education (illiteracy is prevalent among 29 % of women as opposed to 15 % for men). In addition, cultural restrictions to women's physical mobility is still very high in this region and few if any rural-agricultural-sylvopastoral development activities try to address the specific concern of women. The GEF intervention, as explained later on, will follow the gender mainstreaming strategy already adopted by the IADP II.

II. Land Degradation Problem Analysis⁶

51. Land degradation is a severe, widespread problem throughout Siliana Governorate with 72% of the all of the land in Siliana Governorate classified as moderately to severely degraded. In particular, out of the total area of Siliana, about 300,000 ha (65%) are considered subject to or affected by water erosion.

Prevailing LD Types and Drivers

52. Water erosion is the most important type taking place in all shapes (sheet, rill, gully and tunnel) depending on the geomorphology and rain intensity. It is the most widespread LD type. Water erosion greatly increases on slopes where the vegetation cover is (seasonally) reduced, e.g. because of deforestation or the application of agricultural practices with insufficient ground cover. It is further aggravated by a loss of soil structure and reduced infiltration rates.

53. Soils in almost all the project area are inherently low in organic matter. Because of increasing cultivation pressure on land, natural replenishment of nutrients and maintenance of organic matter during fallow periods is now insufficient to maintain soil productivity over the long term. The low nutrient status of many soils is further exacerbated by the insufficient use of inorganic fertilizers and manure. Furthermore, soil productive capacity is reduced because of physical degradation, structural and porosity damage, crust formation and compaction of the soil. These factors lead to reduced infiltration rates.

54. Rangeland degradation is the second most widespread LD type that is driven by overgrazing. Rangeland production in terms of Fooder Units (UF) is estimated in 100 to 200 UF/ha/year. Overgrazing has been calculated to be in the order of 70%. However, if all feed requirements (sheep equivalent) would

⁶ Annex E provides more detailed analysis on barriers and possible solutions.

have to be accounted in terms of rangeland productivity (on 13 500 ha), this would allow only for 5 % of the annual UF needs⁷. Obviously, the forested areas are utilized to integrate pasture grazing but even so there would still be a deficit of 80%. The impact of overgrazing on the vegetation is thus evident from the excessive uprooting of the green matter (grass and bushes), leading to reduced seeding, reduced regeneration, and the consequent loss of plant production in the following year. Also, there is a change in the floristic composition, and a decline in volume and frequency of plants. In addition, a much stronger decline in productivity occurs during a drought compared to non-degraded rangelands. Over-grazing results also in soil compaction and removal of vegetation from fragile slopes. The direct result is deterioration of the vegetative cover which promotes water and wind erosion. Intense over-exploitation of the vegetation cover (trees, bushes, shrubs) is reported to occur even in protected areas such as the Jebel Esserj Reserve. This is a biotope within the forest-mountainous ecosystem of the Governorate, which constitutes a biodiversity sanctuary for rare examples of flora and fauna. Due to high a sylvo-pastoral population density, the biotope is subject to threats such as irrational exploitation in terms of unmanaged or illegal pastoral and forestry extraction activities; opportunistic agriculture expansion; erosion; hunting; and introduction of alien species or varietal modifications.

55. Indeed, drivers of land degradation in Siliana include unsustainable harvest of forest products; deforestation; and forest fires. However, the two major human-induced land degradation drivers are:

- Unsustainable agriculture leading to soil erosion and declining soil fertility; and
- Overgrazing.

56. The problem analysis on drivers, biophysical impacts and root causes of land degradations processes in Siliana are summarized in the Box 1 below.

Box 1: Land Degradation Drivers and Root Causes in Siliana

Land Degradation Drivers : Unsustainable agriculture	
Biophysical Impacts	Root Causes
<p>Major land degradation types in Siliana include water erosion and soil fertility loss.</p> <ul style="list-style-type: none"> ▪ Both rill and gully erosion are major land degradation types. Land degradation is a visible, tangible phenomenon that is directly impacting on people’s livelihoods in Siliana • Rill erosion removes the most fertile topsoil first and then eats into less fertile subsoil. On shallow soils, it can leave bedrock exposed resulting in nearly complete loss of productive potential. • Ravine erosion causes the total land loss for agricultural use. The already small fields are further fragmented and access can be made much more difficult. Untreated, gullies can undergo rapid extension during intense rainfall events. • Loss of topsoil decreases the soil organic matter and with it the cation exchange capacity and water holding capacity of the soil. Soil structure can be severely damaged. Soils usually become more acid and much less fertile and productive. This results in less vegetative cover making erosion control more difficult. • Mineralization of soil organic matter as a result of unsuited tillage 	<ul style="list-style-type: none"> ▪ Agricultural land uses have been developed without respect for land suitability. ▪ Steep slopes with erodible soils are planted to annual crops without the use of appropriate soil and water conservation measures. ▪ Poverty and lack of alternative livelihood deprive people of options, often forcing them to exploit lands and natural resources unsustainably, even when they are fully aware that such uses are unsustainable. ▪ Impoverished smallholders lack the capital needed to invest in sustainable agricultural practices. This limits their use of fertilizers and other soil amendments needed to maintain soil fertility. ▪ There is inadequate maintenance of existing soil and water conservation structures, especially of mechanically constructed medium to large contour bunds. Most soil bunds have never been stabilized with productive, multi-purpose vegetative cover. ▪ Inappropriate agricultural techniques include: repeated

⁷ Average adult sheep (30 kg live weight) UF requirements calculated at 200 UF/year/head.

<p>operations, leads to a diminished ability of the soil to retain essential nutrients for plant growth and diminished water holding capacity of the soil, making crops more susceptible to drought. Soil structure can be severely damaged. Soils often become more acid and much less fertile and productive.</p> <ul style="list-style-type: none"> • Diminished organic matter leads to lower permeability of many soils with lower infiltration rates and less groundwater recharge and high runoff rates with increased erosion. • Mining of soil nutrients is a typical land degradation phenomenon of cereal land use in Siliana, which leads to low productivity. 	<p>cropping cycles of cereals & fallow, little or no leguminous forage crops in crop rotations, inappropriate mechanization (disc plows are bad for soil structure), insufficient soil amendments/fertilization/replacement of nutrients).</p> <ul style="list-style-type: none"> ▪ Animal husbandry/livestock production inadequately integrated with crop production. Insufficient/ inefficient use of animal manure and insufficient integration of forage crops in the farming systems.
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Land Degradation Drivers : Overgrazing of rangelands and unsustainable use of natural habitats	
Biophysical Impacts	Root Causes
<ul style="list-style-type: none"> • Diminished vegetative soil cover, especially of herbaceous vegetation and of the litter layer • High value nutritious forage plants are replaced over time by low values species of little nutritional value. More nutritious perennial grasses are replaced by annual grasses. On some sites, grasses are replaced by woody vegetation. • Overgrazing eliminates all or most of the natural regeneration of many forest species. For example, on most sites, Holm oak survives only as stunted, severely browsed stump sprouts. • Increased water erosion, both rill erosion and ravine erosion. Increased runoff, soil erosion and sedimentation of reservoirs (e.g. Lakhmas Reservoir) • Loss or ecosystem productivity. Loss of ecosystem integrity and function. Disruption of natural cycles. • Loss of biodiversity and simplification of ecosystems. Some forests are composed of very dense stands of unpalatable species, especially Aleppo pine ▪ Elimination or severe reduction of the natural regeneration of the most critically endangered flora in Jbel Esserj. E.g., <i>Cytisus villosus</i> has become very rare and <i>Acer monspessul-anum</i> is severely threatened. 	<ul style="list-style-type: none"> • The <i>de facto</i> non-regulated open access for livestock to State-owned range and forest lands (including Jebel Esserj) eliminates any possibility of sustainable range management. Access to undivided private lands is open amongst the members of the extended family/clan that owns the lands. There are no effective controls on the number or type of livestock or the timing of their use of rangelands resulting in widespread moderate to severe overgrazing. ▪ Overstocking: the livestock numbers/ pressures are far beyond the sustainable carrying capacities of the range and forestlands. ▪ Ecological conditions necessary for adequate natural regeneration of forest and herbaceous species are not fulfilled under open access grazing. • It is often the most impoverished people who exert the greatest pressures on State/collective lands.

III. Barriers and Bottlenecks to SLM and Biodiversity Conservation.

57. The studies undertaken during the PDF-B phase involved a high level of interaction with local stakeholders and allowed the identification of the main bottlenecks and barriers (B&B) that hinder mainstreaming of Sustainable Land Management and Biodiversity Conservation in Siliana. An assessment on B&B for biodiversity conservation was also made by the Ministry of Environment and Sustainable Development - MESD (assisted by the United Nations Environmental Programme-UNEP and with GEF support) in its Third Report to the Convention for Bio-Diversity (CBD) dated September, 2006.

58. The problem analysis shows major prevailing barriers, which impede mainstreaming of SLM in Siliana if these are not addressed. Four categories of barriers/bottlenecks have been identified including those affecting the (a) enabling environment; (b) agricultural lands; (c) sylvo-pastoral lands; and (d) biodiversity conservation.

Enabling Environment

59. **Legal framework.** The legal framework is not always in tune, and at times conflicts with the evolved national strategic and policy package. For instance, the involvement of concerned populations in the management of natural resources is foreseen in the prevailing policies but, in the case of commercial use of forestry products by local populations, there is an apparent contradiction between such indications and the existing Forest Code (which otherwise protects and regulates local populations' common rights only for subsistence purposes) that merits further examination. Most critically, the current system does not allow communities to realize monetary benefits from commercial uses of forest products. Specific points of existing legislation are the following:

- A community organization cannot harvest, sell and receive money from forest products;
- Some of the main non-timber products can only be sold through competitive bids – this normally excludes communities and creates no long term incentives for communities to protect/manage the lands;
- It is very difficult to award non-competitive contracts for silvicultural operations to community groups and they are not allowed to receive and market wood products from forest thinning operations;
- Grazing fees may be the most effective tool for controlling livestock numbers on managed rangelands, but community institutions cannot charge grazing fees for pasturing livestock on State lands.

60. **Knowledge Management and M&E.** Effective knowledge management and networking between various stakeholder sectors and institutions is lacking, and also impedes the synergies that would be possible through the application of the UN Conventions. There is no system to access information on lessons learned and best practices for SLM in Tunisia and elsewhere. M&E and knowledge management are not linked together. In addition, awareness raising and outreach programmes are considered an end by themselves while more emphasis should be given to real capacity development of both, resource users (empowerment and participation of rural communities is still lagging behind because of insufficient investment in their training on one side and due to inadequate traditional knowledge retrieving mechanisms on the other) and service providers. Also, technology transfer is still dealt with in a compartmental way irrespective of the mutually supportive value the technologies should have vis-à-vis the different GEF focal areas. The national environmental monitoring system for improving land use/environmental management and for measuring effectiveness of environmental programs is still underdeveloped. In addition, project-M&E systems, including the one adopted by the IADP-II, require integration work and resources to include LD and SLM/Biodiversity parameters.

61. **Institutions and agricultural extension.** Tunisia needs to redefine and reinvigorate its agricultural extension system as is indeed intended in its sectoral strategy and policy. However, in Siliana there is still too little institutional diversification of agricultural extension. The *Commissariat Régional du Développement Agricole* (CRDA) under the Ministry of Agriculture and Water Resources (MAWR) is the sole extension service provider in Siliana; the private sector inputs suppliers play almost no role; farmers associations are insufficiently trained (though the IADP-II is supporting their strengthening); and the NGO sector has not been targeted with incentives for its involvement in extension activities. The current system has a top-down structure with little farmer involvement in problem identification, and development of the extension approaches. There is little or no capacity in community-level institutions for participatory approaches, good governance, communication, for LD problem analysis, for integrating sustainable agriculture into local development planning or for executing these plans and for monitoring and evaluation, natural resource management. In a strict legal sense, the most common type of

community-level institutional structure like the *Groupement de Développement Agricole* (GDA) is not supposed to undertake commercial activities (although some of them do). Some informal, unregistered groups without legal status do successfully undertake commercial activities (purchase of ag inputs) based on mutual trust. Civil society institutions are poorly developed. There are few NGOs active in Siliana that have and are able to transfer knowledge.

62. **Participatory planning.** Although the need for a multi-sectoral participatory approach is increasingly recognized, the process needs further integration in Tunisia. Even in Siliana, where participatory planning has been strongly emphasized in the IADP-II, there is an insufficient application of participatory approaches in an SLM perspective to agricultural and rural development. It was only during PDF B, that one has begun to experiment with participatory approaches for involving local communities in new Imadat-level Local Development Plans (LDPs). These instruments also ought to improve social cohesion among Siliana rural communities on which to build strong community institutions.

Agricultural Lands

63. **Land fragmentation.** Customary land tenure and inheritance systems have induced widespread landholding fragmentation. This has resulted in a proliferation of long, narrow fields, which essentially oblige farmers to plough up and down the slopes, increasing the rate of erosion. Unsuitable tillage operations have increased soil inherent erodibility contributing to further land degradation. The government has promoted and supported an ambitious programme for land re-grouping (known as "Remembrement"). The programme however, does not foresee yet integration of SLM practices on newly re-grouped lands. After redistribution, many farmers continue to plow up and down the slopes and there is no obligation for using conservation farming and good agricultural practices.

Sylvo-pastoral I Lands

64. **Inadequacy of current sylvo-pastoral management systems.** Individual livestock owners and family clans have every incentive to maximize the number of livestock that they pasture on State lands or/and on extended family-owned range lands, and no incentive to keep the herds to sustainable levels. Communities receive minimal benefits and have little incentive to protect or conserve the sylvo-pastoral resources. Under existing systems, very little of the value-added goes to local populations. There is very limited know-how on participatory sylvo-pastoral resources management in Tunisia. Models involving participatory approaches of range management have not been tested. There is no body of lessons learned, best practices, etc. Likewise, there is no definition of the optimal roles of the State and of concerned communities. Local people have little involvement in the decision-making process over the use of State sylvo-pastoral resources. Large families/clans hold undivided lands without title, with intra-group open access to pasture lands and with limited security for individual members.

65. **Insufficient capacity of sylvo-pastoral communities.** No community structures have yet been empowered to control and to manage range and sylvo-pastoral resources on state lands in Tunisia. Institutional capacities for supporting the development of participatory sylvo-pastoral management are minimal. However, there is a growing consensus on the value of participatory approaches and a genuine commitment and willingness to transfer NRM responsibilities to communities. There is almost no capacity for forest and range management community institutions⁸.

66. **Lack of economic alternatives** Pressures on agricultural and pastoral lands are extremely high in part because of the lack of other economic alternatives. Opportunities may exist or could be enhanced but investment in the direction of alternative sources of livelihoods to decrease pressure on fragile resources are lacking.

⁸ For existing experiences see reference in paragraph 88 regarding the Mashreq and Maghreb Project.

Biodiversity Conservation

67. **Endangered species and habitat loss due to unsustainable practices and lack of area protection.** The examples of flora which are seriously endangered (mainly because overgrazing is so severe) in Jebel Esserj include the Maple of Montpellier (*Acer monspessulanum*), Cypress of Makthar (*Cupressus semervirens* f. *numidica*), Cork Oak (*Quercus suber*), Ash tree (*Fraxinus angustifolia*), Laburnum (*Cytisus villosus* = *C. triflorus*), Asphodelus (*Asphodeline lutea*), Cotoneaster (*Cotoneaster racemiflora vartomentella*), Sorbus (*Sorbus aria* subsp *meridionalis*), Rosa Canina (*Rosa canina* subsp *pouzini*), Drave ‘Espagne (*Draba hispanica*), and the Carub. In terms of fauna, Jebel Esserj hosts the Hyaena, Wild Boar, Jackal, Porcupine, Pilgrim Falcon, Booted Eagle, which are also threatened mainly because of hunting.

68. **Small coverage of protected area and legal status of Jbel Esserj.** Only a small part of the area (less than 100 ha) has actually been gazetted as a Natural Reserve area. The rest is all non-gazetted state land of a condition and status similar to that of other state-owned forest and range lands in Siliana Governorate. The existing reserve does not include all the above mentioned species. Notably, one of the most globally important species, the “*Cyprès de Makthar*” is not included in the existing reserve area.

69. **Lack of incentives.** Currently, there is almost no tourism development at Jbel Esserj and, consequently, almost no economic benefits for local populations. The development of such systems has not yet begun and no participatory management benefits are being generated at present. There is very little of the infrastructure that is needed for basic ecotourism development. The existing trail systems is very rudimentary and there are no *shelters* or trails signs/markers. There are no special tourism attractions such a visitor reception center.

70. **Institutions and institutional capacity.** There are no other PAs in the Siliana Governorate. Thus there is no experience both at institutional and at community level for participatory management and responsibility sharing. Parks and reserves in Tunisia are under the jurisdiction of the Ministry of Environment and Sustainable Development (MESD). This ministry does not presently have field staff in Siliana Governorate. Local CRDA level staff does not have experience in PA management. There is no system for monitoring the biodiversity of the park or of the impacts of tourists or of the impacts of overgrazing, etc.

IV. Baseline and Gap Analysis

71. The description of specific Baseline includes all initiatives which are related to sustainable land management in Siliana that would normally take place even if there were no GEF funding or project. The Baseline is calculated for a period of six years – this covers one year of project preparation and the five years of the proposed project.

72. In general, the key GoT natural resources management strategy Baseline areas of action regard:

- a) Sylvo-pastoral and
- b) Rangeland management;
- c) Soil and water conservation;
- d) Water resources management; and
- e) Sustainable development.

73. Each area is based on the following underpinning specific strategies and objectives:

- a) With respect to sylvo-pastoral resources the actions aim primarily at mitigating increased vulnerability of sylvo-pastoral areas as a result of man-made impacts such as agricultural land

expansion, overgrazing, illegal charcoal production and fire outbreaks; pastureland degradation in the Centre-West and Southern areas; the low value attributed to wood and non-wood forestry products which would otherwise improve livelihoods of residing communities as well as the national economy; and the marginalization of forestry-based communities whose development is more backward than that of the other rural populations. To this end the actions promoted are geared to:

- ensure rational and sustainable agro/sylvo/pastoral exploitation;
- protect rangelands;
- eliminate institutional and legal constraining factors;
- protect biodiversity through participatory management of protected areas;
- enhance and manage urban green areas;
- associate forest area populations in resource protection and management;
- charge with responsibility the users of communal pasture areas;
- regulate land tenure issues in forestry areas and promote conflict resolution;
- improve vegetal cover also by promoting private land forestation;
- give higher priority to action against desertification;
- facilitate sustainable private entrepreneurship of forestry products.

The promotion and facilitation of Development Groups formation among the forestry populations is considered crucial for the implementation of the strategy. In a similar way, the adaptation and modernization of the forestry sector legal framework should be made in order to ensure product utilization wrights of community interest groups.

- b) Rangeland management is leveraged through range area development and participatory management of range areas including organization of user groups. In this light, the rangeland management projects in high value areas include actions for pasture improvement, information and awareness raising on resource value, participatory planning and implementation of projects. This is through the forestry collective interest groups (GFIC).
- c) The new generation Soil and Water Conservation (SWC) actions include the traditional physical investment but aim at focusing also on the need to involve directly the farmers and concerned communities in the protection and management activities as well as in the maintenance of the investments. Strategic is also the understanding that all investments should provide and be included in an information/knowledge management network, which ought to be linked to the national Observatory system (measuring water and wind erosion; salinisation; soil fertility; etc.).
- d) Water resources management is intended enhanced also through the improved capacity and lifetime of the reservoirs and dams; ground water recharging; irrigation efficiency and intensification; improved water quality; and increased access to irrigation water of the resource-poor.
- e) Following GOT's commitment under agenda 21, sustainable development actions are in line with the government's overall policy including its agrarian reform and intend to promote participation of the rural population; enhance income diversification; and intensify sustainable land management. Specific objectives include consistency with food security goals; equal participation of men, women and youth; equitable access to land, water, technology, finance and markets; resource users-centered development; sound ecosystem management; land re-grouping

investment to ensure improved management; bio-diversity conservation (including vegetation and zoological); and rural energy diversification.

74. Specifically, the GOT, Bilateral and Multilateral donors⁹ will fund various baseline activities in support of agriculture, sylvo-pastoral, rural development activities as well as biodiversity initiatives. Around 35% of the baseline funding is for soil and water conservation physical works – mostly large and medium sized contour bunds. Forest and rangeland interventions come after with 17% of baseline intervention. This involves mostly conventional activities such as establishment of forest plantations, the plantations of “improved” forage species and maintenance of firebreaks. It also includes increased participation of forest communities as service providers in forest management. Local communities are organized and contracted for forest plantation establishment, maintenance of firebreaks, thinning of pine stands, etc. Water development comes in third order with 7% of funding going for irrigated agricultural development and for the capture and use of runoff or for groundwater development. Notably, the baseline includes the Project for the Development of Mountainous Zones (PDZMF) funded by World Bank and GoT; and a water development Project for the Development of Hillside Dams (PMVBC), funded by the European Union. Both will complete activities by the end of 2008. These projects focus primarily on the construction of contour bunds for erosion control and the planting of fruit trees. The environmental sector contributes to the baseline with on-going investments and activities to set the base of the national environmental monitoring system and few efforts related to biodiversity conservation. The breakdown of Baseline funding is as follows:

▪ Water management	USD 31.8 millions (35%)
▪ Forest and rangeland	USD 15.6 (17%)
▪ Soil and water conservation	USD 6.5 (7%)
▪ IADP-II project	USD 33.9 (37%)
▪ Environmental sector	USD 1.1 (1%)
▪ Other development projects	USD 2.6 (3%)
▪ Total Baseline:	USD 91.5 million

75. The Integrated Agricultural Development Project (described earlier) in the Governorate of Siliana Phase II (IADP II) is by far the most important part of the Baseline for Siliana Governorate. IADP II interventions includes the following:

▪ Participatory development planning	USD 1.4 million
▪ Institutional capacity development/training	USD 2.5
▪ Agricultural extension	USD 1.3
▪ Soil and water conservation physical works	USD 6.3
▪ Arboriculture (fruit trees)	USD 4.6
▪ Agriculture Irrigation	USD 8.9
▪ Drinking water supply	USD 1.2
▪ Rural roads	USD 5.4
▪ Enterprise development	USD 2.3
▪ Total IADP II Baseline contribution:	USD 33.9 millions

76. *Gaps in the Baseline.* This Baseline, suffers a number of gaps that impede meeting the global environmental strategies and objectives.

⁹ Donors include: Fond Arabe pour le Développement Economique et Social (FADES); the International Bank for Reconstruction and Development (IBRD); the African Development Bank (AfBD); the Japan Bank for International Cooperation (JBIC); Bakengruppe-KfW (Germany).

Gaps for SLM mainstreaming

77. Although national policies are supportive of stakeholder participation, and the IADP II project will support participatory Local Development Plans (PDP), the baseline does not include the development of multi-sectoral, participatory rural development planning processes that integrate SLM. In a similar fashion, the baseline does not foresee to involve farmers, herders and other stakeholders in the annual review and evaluation of SWC and other SLM practices/technologies and sustainable rural development activities which have been piloted in the Maghreb countries. In addition, the baseline does not consider the need to review the legal framework in terms of alignment to the national strategies and policies and hence to ascertain the actual feasibility of plans which are developed in a participatory fashion for sustainable management of natural resources.

78. With the exception of the LDP and implementation approaches spearheaded by IADP II, the baseline is primarily a “business as usual” scenario that uses existing institutional capacities to expand on existing programs. There is also little capacity building for local imadat or community-level institutions; NGOs or the private sector involvement in SLM mainstreaming.

79. Under the Baseline, the MESD would not have the resources to integrate land degradation and SLM perspective into the national environmental monitoring system. The MESD presently has many indicators under testing process, but with no budget to develop operational procedures and to field test the system in Siliana. The Baseline also includes no measures for a national level knowledge management (KM) system in support of SLM, and to serve both to raise awareness in Siliana so that lessons learned and best practices from the national level can be integrated into SLM models for Siliana; and for lessons learned and best practices from the project to be integrated into SLM programs in other parts of Tunisia.

Gaps for SLM in Agricultural Activities

80. The Baseline does very little to develop incentives for the adoption and particularly for up-scaling of best practices of SLM, including those that would benefit from land re-grouping support. No economic and financial analyses of costs and benefits are done to determine the optimal use of the large amounts of money that government and donors invest in SWC structures. No financial analysis is done of costs and returns, from the farmer’s perspective, of available conservation farming techniques. Also there are no plans in the Baseline to develop systems of competition/recognition/prizes for farmer innovators or for the best “conservation farmers” in the Governorate.

81. Baseline would continue to invest on new SWC physical works but no allocation is made for maintenance and consolidation on sink investment. Land users have no chances to adapt and/or adopt best SLM practices to their present productions systems. Alternative tillage systems and operations, integrated pest management techniques, organic farming, conservation agriculture, agro-biodiversity valorization are all options which could find a profitable utilization by the Siliana farmers (of both ecosystem and improved marketing value) but which have no home in the baseline.

Gaps for SLM in Sylvo-pastoral Activities

82. The Baseline includes substantial investments for the range/grazing and forest lands, especially by government, but mostly in conventional activities such as establishment of forest plantations and the plantations of “improved” forage species. The Baseline includes little to address the root causes of land degradation on sylvo-pastoral resources. Sustainable management of grazing lands can probably only be achieved through participatory approaches and management systems but the Baseline does not allow sufficient scope to include such activities. Land users have no chances to adapt and/or adopt best SLM practices to their present productions systems.

83. No incentives for the sustainable use of rangelands by local livestock owners will be created, and access to State-owned rangelands will remain open and uncontrolled, thus forest and range ecosystems will continue to degrade. The Baseline does not include analysis of sylvo-pastoral product market chains, or the identification of opportunities for improving them to the benefit of local communities and for enhanced incentives for sustainable land management. Community managers/user groups will not receive support for business planning and enterprise and market chain development.

Gaps for Biodiversity Conservation

84. Under the Baseline there is no specific allocation for protected areas in Siliana, specifically to maintain the existing Jbel Esserj Reserve. A preliminary study for the transformation of the Jbel Esserj Reserve into a National Park was made with Japanese Aid support¹⁰. The option was further investigated during PDF-B phase. This has allowed starting a participatory process involving concerned communities in defining park boundaries, including buffer and transition zones, and for eco-tourism development. During PDF-B, studies have also allowed investigation on possible micro-enterprises to be developed for alternative livelihoods. However resources are not earmarked in the baseline to actually implement the Park and a full protected area management plan.

3. Project Rationale and Description

I. Rationale for GEF Funding and Project Approach

85. The Tunisian region of Siliana targeted by the project is characterized by extreme ecosystem fragility and climate rigor. Soil water deficit as a consequence of high evapo-transpiration versus low precipitation is high (900-1000 mm in the northern part of the region, and even worst going south). Steepness and soils features render land resources inherently subject to water erosion. Even though in the recent years population growth in Siliana has been negative (-0.5% per annum) due to high migration rates, the human pressure on land and on biological resources is still very high. Crop expansion on marginal lands at the expense of range and livestock use of forest land, has continued while urban encroachment on quality land has also occurred. It is estimated that about 10,000 ha are lost every year¹¹. Poverty rates are still high (see chapter 1, VII) becoming cause and effect of unsustainable use of land and natural resources. In fact, lowering productivity of degraded land triggers horizontal expansion of crops (mainly annual) and animals, which in turn spreads out unsustainable practices on even lower productive areas. The end result is poorer returns from further degraded resources, and eventually a continued rural exodus. Government strategies, policies and “public good” investments are remarkable and indeed have contributed to mitigate land degradation and loss of bio-diversity processes. Further work and effort is required to fine-tune legal and strategy/policy framework matching. A major step forward is also required to move from sectoral supply-driven approaches towards more ecosystem holistic, inter/intra-sectoral, and participatory and land user-centered actions.

86. The new generation of Integrated Agriculture/Rural Development Projects is going in the right direction making major investments and capacity building for mainstreaming a true participatory approach. Full involvement of the land users in planning and design processes is required for these to acknowledge the need and the direct benefit of more sustainable practices on their own lands and

¹⁰ The study ‘Plan d’Action pour l’Aire Protégée de Jebel Esserj’ was undertaken by the Japanese Forest Technology Association (JAFTA) and others.

¹¹ According to recent studies of the National Agronomy Institute of Tunis (INAT), around 27,000 ha are lost every year due to water erosion in farmland and catchment areas, and another 8,000 ha are lost due to wind erosion (National Report on the State of Environment, MESD 2006). Based on this understanding, the loss in Siliana would represent about 1/3 of the national loss.

resources. Mechanisms and systems for planners and resource users to better understand constraints and seek opportunities are also indispensable tools for informed decision-making. Finally, capacity should be built and demonstration of best good practices for sustainable land management and agro-biodiversity conservation be tested with and by the land users, who in such a way can appreciate the value and short/long term return of such investments. In addition, opportunities must be sought and investments made towards all those initiatives that reduce pressure on land and natural resources and determine an option to integrate if not exit the use of endangered resources, while determining the conditions for profitable livelihoods. Wherever there is a possibility to couple livelihoods enhancement with Natural Resources Management (NRM) and biodiversity conservation and expansion of protected areas, this should also be pursued.

87. System Boundaries. The project would be a five-year project covering the same geographical area as IADP II Project area. The project area covers those portions of Siliana Governorate that suffer the worst land degradation and that include the most impoverished portion of the population. It also includes Jbel Esserj, the site identified as having the highest priority for biodiversity conservation within the Siliana Region. The project should seek to improve the sustainability of land management on rainfed agricultural land and on range and forest lands, and to enhance biodiversity conservation on the range and forest lands.

88. Incremental Reasoning. Activities around the thematic areas of land degradation control, land-use planning and biodiversity conservation are strategic for the GoT and there are baseline activities at both national and local level that would match the GEF investment. The total baseline is approximately 90 USD million, the GoT will contribute to the baseline with approximately 20 USD million, IFAD with 15.5 USD million, other multilateral and bilateral financing institution with 52 USD million (including the GoT contribution in these projects), beneficiaries with 2.5USD million. There is also a stock carry over from the past budget plan that include two main projects financed by the UE and the WB. The overall GEF incremental investment will be 5 USD million. The project area coincides with the target area of PDAI-II project. The main value-added of the GEF involvement will be linking SLM practices and ecosystem approaches, with the broader land degradation mitigation and poverty reduction objectives of the baseline to a larger population than that of the IADP II and would also enhance the gender perspective. In addition, the GEF investment will strongly contribute to the increase of national protected areas for bio-diversity conservation (bringing the number of national parks from the current 8 to 9).

89. The GEF investment would highly contribute to the sustainability and replicability of the alternative by sharing best practices and resource user success stories, including those on SLM and BD conservation, through ad hoc Knowledge Management and M&E system. This would constitute a first step for up scaling practices at the regional, national and where relevant at the international level. Such a knowledge management system should be established building also on existing knowledge networks (see Annex G providing key links).

90. Project Approach. Compatible with the objective of the Land Degradation FA Strategy and consistent with GEF's Operational Program for Sustainable Land Management (OP#15), the project approach and related implementation strategy are built on the approach already adopted by recently initiated IADP-II, which has been giving value to key principles, such as participation of the communities, involvement of CBOs, reinforcement of local institutions' capacity and active participation of women.

91. The GEF investment would contribute substantially to the improvement of an enabling environment in terms of system development (Knowledge Management and M&E); legal framework alignment; institutional strengthening; and participatory planning for the mainstreaming of SLM and BD conservation. While the system will be designed and tested under the project to the benefit of the local

land/resource users and stakeholders, it will be designed in such a way that is scalable and useful at national level (and made available to the public at the global level), with the potential of becoming a standard tool for SLM information management in the country.

92. All IADP-II interventions are planned and implemented on the basis of community demand as reflected in Local Development Plans (LDPs) which would be the sole mechanism for allocating resources to farm and community investments. The same approach and procedures would be adopted by the associated GEF intervention, complemented by SLM and BD conservation perspectives.

93. The project would initially concentrate implementation and on-the-ground investments in project demonstration sites to be selected during the LDP development phase and on a demand-driven basis. It is expected that demonstrations would generate significant experiences and lessons learned that would be then replicated/up-scaled throughout the broader project area (with support from all project components), while also producing recommendations for mainstreaming this approach and up-scaling SLM at the level of other agro-ecosystems of the country affected by or prone to LD, located outside the project area.

94. The GEF investment would make a case to promote among Siliana land users and apart from other SLM best practices, the technical concept of Conservation Agriculture and of Better Land Husbandry (see Annex F). This concept based on minimum mechanical soil intervention (no-till), permanent soil cover and crop rotations addresses first of all the problem of soil organic matter as an underlying problem of land degradation. Reduced levels of soil organic matter due to overexploitation of land resources has been identified as one base cause of soil degradation, resulting in increased susceptibility to erosion and to inefficient water use of agricultural lands. Conservation agriculture has been applied in similar climatic conditions in the Maghreb, and has proven to increase soil fertility, reduce erosion problems and improve the water use efficiency significantly. There are strong evidences that land degradation is reverted by reducing mechanical tillage, hence reducing the mineralization of soil organic matter and to enhance soil life and the soil organic matter by rebuilding the supply of organic matter through crop roots and residues. Special equipment and technologies are required for implementing conservation agriculture at field level. However, the details of the cropping systems to be adopted have to be developed in a participatory technology development process, involving the farming community and other stakeholders, including livestock herders. The concept is applicable to annual crops such as cereals, as well as to perennial crops as Olives or even to improvement of degraded rangeland. Besides direct benefits for the farming community (better profitability, lower production costs) conservation agriculture would contribute to better management of natural resources, particularly water and land. It would also assist in *adapting to climate change* by increasing the resilience of the production systems and in *mitigating climate change* by carbon sequestration in the soil organic matter and reduction of emissions of green house gases from agriculture through a significant reduction of the use of fossil fuels for land preparation and others.

95. The project would introduce participatory planning and the concept of participatory management plans for the sustainable utilization of natural resources. Specifically, the project will promote the development of participatory sylvo-pastoral land management plans and the elaboration of participatory and sustainable management of protected areas including the conservation of biodiversity of global value and sound utilization of natural resources in buffer/transition zones by the concerned populations. To this end, lessons should be drawn from the achievements of the MASHREQ and MAGHREB (M&M) Project¹² specifically, through the policy research studies on institutional options for rangeland management and the participatory technology development and adoption experiences. In this regard, the Tunisian (Zoghmar, Central Tunisia) experience of this project is very relevant showing the positive partnerships that have established between international and national development and research organizations, regional public institutions (CRDA, OEP), NGOs (LANCER and ACT) and

¹² See <http://www.mashreq-maghreb.org/> and <http://www.ifad.org/lrkm/tans/9.htm>

farmers/herder community institutions. Cactus (*Opuntia* spp.) is well adapted to harsh, dry environment. Farmers and herders in three Maghreb countries, Tunisia, Algeria and Morocco, have long relied on this plant as a source of feed, fencing material, fruit, and fuel. It can also control erosion and even reverse rangeland desertification, especially when water-harvesting techniques are employed. Also if planted along furrow contours or along terraces, cactus, with its long, strong root system, can prevent runoff and stabilize slopes. The M&M Project has tried various combinations of cactus and complimentary technology and cactus has also been used in an alley cropping system. The land is protected and farmers can grow a cash crop between rows in good years. The proposed GEF project would profit from a possible replication of cactus technology. These could be integrated and mainstreamed into local planning for sustainable land management.

96. **Target Population and Gender.** The GEF incremental funding would be targeting through “on-the-ground” and training investments about 6 000 farming households, the entire herding population of 7 500 families in the 54 target districts, and all 1 500 families living or making a livelihood in the Jebel Esserj concerned area. In such terms, the same number of beneficiaries of the IADP II would be covered by the GEF activities. In addition, a number of ‘soft’ activities and induced effects (policy research, M&E, Knowledge Management, resource use planning, institutional development, improvement of ecosystem services, and biodiversity protection) would also have a broader national as well as global benefit.

97. In parallel with the baseline project, the GEF incremental investments would contribute addressing gender issues through different activities including the preparation of the LDPs (highlighting women’s roles and needs); earmarking specific indicators in both project and national M&E systems; considering gender differentiation in the engineering of the Knowledge Management system; improving the advisory support services; and facilitating women’s full involvement in training activities and in micro-enterprise promotion.

II. Project Goal, Objectives and Outcomes

98. The project **goal** is to address the processes of land degradation and of biodiversity losses in the country’s northern ecosystems by achieving the following **objectives**: (i) adopting integrated land use planning and improved water management, (ii) up-scaling SLM investments in productive areas, while improving the living conditions of low- and average-income households; and (ii) enhancing the protection of examples of the mountainous sylvo-pastoral ecosystems as part of the national protected area system.

99. The goal and all above objectives will be achieved through the removal of key barriers as identified in the preceding problem analysis, and through the accomplishment of the following **outcomes**:

Outcome 1: Strengthened Policy and Planning Frameworks for SLM Mainstreaming

- Reasonable influence to improve country legal framework is exerted and by PY3, 1-2 proposals for SLM barriers amendment have been developed and acknowledged at policy level;
- A national multi-stakeholder environmental and SLM information and knowledge management (KM) system is being set in place, including environmental M&E and a national SLM and Biodiversity friendly Information and KM system designed in PY1 and operational at the project area (PY2) and national (PY4) levels, and aligned with MENARID;
- Country's strategy to implement a pluralistic advisory system is strengthened and by end-of-project, the national extension/advisory system is adopting SLM and BD conservation approaches that reflect ecosystem principles;
- Land users actual participation to planning and assessing value of ecosystem and sustainable development is evident and number of on-going Integrated Agricultural/Rural Development Projects

including SLM and BD (if feasible) approaches and measures among their key components and activities; 15 Local Development Plans (LDP) formulated during PY1 (10) and PY2 (5), including ecosystem principles and with strong participation of land and water users;

- Harmonization and alignment with MENARID's enabling environment activities.

Outcome 2: SLM Mainstreamed in Agricultural Activities

- Impact-oriented and locally adapted SLM incentives are promoted in rain-fed crop areas to reduce pressure on land resources and best SLM practices adopted by over 6000 farming households with direct on-the ground investments in about 6000 ha; including:
 - Specific SLM investments are made on 1000 ha in terms of organic farming practices; conservation agricultural approaches on 1500 ha; agro-biodiversity conservation on 200 ha; and evapo-transpiration mitigation on further 200 ha;
 - Land resources' value is added by linking SLM in land re-grouping activities and by consolidating SWC works; 1500 ha of land re-grouped and 1600 ha with consolidated SWC works;
 - Local land users' livelihoods improved; 5-6 best farmer awarding annual events on SLM practices celebrated; CRDA, NGO and GDA staff/members extending SLM approaches beyond project activities;
 - GAPS promoted through training of 200 farmer groups capable of a cascading positive effect on about 25 000 ha;
- Alignment with foreseen MENARID outcome.

Outcome 3: SLM Mainstreamed in Sylvo-Pastoral Activities

- Sustainable sylvo-pastoral management systems and organizational forms are identified and sylvo-pastoral area (on private and public/common rights land) is being managed following SLM practices as a result of project range improvement practices adopted over some 1700 ha;
- Impact-oriented and locally adapted SLM investments are promoted in rangelands; 50 water harvesting and spring rehabilitation investments carried out; 7500 livestock herders trained on range SLM;
- Degradation and unsustainable use of common-rights land is reduced and local land users' livelihoods improved Sylvo-pastoralists with improved livelihoods in terms of income and/or asset accumulation
- Micro-enterprises of natural and environmentally friendly activities developed to reduce pressure on rangelands and at least 5 group micro-enterprises of natural and environmentally friendly activities developed to reduce pressure on rangelands.

Outcome 4: Biodiversity Conserved in Jebel Esserj

- Improved coverage of under-represented forest-mountainous ecosystem in the national PA system and A National Park created and its biotope management plan developed in PY1, with regulations that include possibilities for eco-tourism enjoyment;
- 1 500 families involved and their livelihoods improved in buffer/transition zones of Jebel Esserj Park;

- Capacity for PA management and sustainable NRM developed and information disseminated; all Park staff (5) trained and Park information disseminated throughout the project area and at the national level
- Endangered bio-diversity conserved and asset management ensured in a sustainable manner; Habitats protection in the forest-mountainous ecosystem of the project area, leading to the conservation of at least 5 priority flora species (*Acer monspessulanum.*, *Cupressus semervirens f. numidica*, *Quercus suber*, *Cotoneaster racemiflora var tomentella*, *Sorbus aria* subsp *meridionalis*, *Rosa canina* subsp *pouzini*) and at least 2 fauna species (Pilgrim Falcon, Booted Eagle).

Outcome 5: Integrated Project Management

- Project management is sound and integrated with SLM and Biodiversity conservation functions; a model for participatory management (building on the existing IADP-II's management structure) implemented capable of ensuring the achievement of the projects objectives and goals, while ensuring continuity of selected activities for SLM and BD conservation beyond project life; IADP-II PMU/UGP is up-graded in PY1 and qualified personnel re-deployed from other parts of MAWR..

III. Components Description

100. The project would be implemented through an integrated approach over five years by means of five components, building on the existing IFAD-supported IADP-II activities. Through these components, it intends to promote land use planning and management, policy implementation, partnerships, strong public awareness and mobilization and capacity development, knowledge generation and dissemination, institutions development and collaboration. It is based on the assumption that the long-term implementation of integrated management of land in Siliana and the approaches it promotes continue to be developed and mainstreamed in the country's existing institutions involved in land management. The GEF investment will enhance the participatory planning process of the IADP-II by involving the farming and sylvo-pastoral populations in the selection of SLM practices and investments to be adopted in the Siliana Governorate, building on past and ongoing pilots implemented in the Maghreb countries. This constitutes a unique occasion for the land users to choose first, then test, acknowledge and eventually determine the conditions to upscale appropriate SLM practices most of which also have a climate change adaptation value (e.g Conservation Agriculture, Evapo-transpiration reduction). Pilots on Good Agricultural Practices (GAPs), IPM, organic farming would show how sustainable practices are able to increase return to land and labour, and in turn, enterprise profitability of environment-friendly investments. Demonstrations on sustainable rangeland management (on private and public land) supported by the project would mark evidence on relationship between pasture and livestock productivity. Agro- and natural biodiversity conservation (by enhancing local fruit species, improving vegetation quality of rangelands and protecting unique flora and fauna in Jebel Esserj) are a value-added *per se* but also constitute an opportunity to decrease pressure on land resources (because productivity of land improves diminishing horizontal expansion, and because alternative sources of income are created with park-triggered tourism). The project will seek to strengthen linkages between farmers/herders with scientific and technical experts on the vulnerability of ecosystems and production landscapes to climate change. Through its knowledge management activities it will also seek to mainstream the integration of farmer innovation into sustainable agricultural research programs and to replicate good local practices. Potential exchanges between farmers and technicians are particularly important in terms of adaptation opportunities through the promotion of conservation agriculture. Furthermore, the project through the foreseen measures for a SLM mainstreaming enabling environment would also move forward substantially the building of a national Knowledge Management and environmental M&E system, which

would comprehend otherwise insufficiently considered, LD and SLM matters. Finally, the GEF project will strengthen considerably interaction and coordination between the MAWR and MESD.

Component 1: Strengthening Policy and Planning Frameworks for SLM Mainstreaming (Total: US\$ 3.65 m, 12 % of project cost; GEF US\$ 1.39 m).

101. **Sub-component 1.1: Strengthening the Enabling Environment.**

102. Activity 1.1.1 Policies and Strategies, and Legal Framework. The current policy and strategic framework of Tunisia related to NRM is substantially robust. The country is endowed with a list of strategies encompassing soil and water conservation; forestry and pastoralism development; rural and agricultural integrated development programmes; water resources' management; and rangeland maintenance. Major efforts have been made in terms of SWC investments. Policies in the forestry sector have allowed moving the forested area from 4 to 12%. Biodiversity has been conserved by creating protected areas in terms of parks (8) and reserves (7 and other 4 are planned). However, the legal framework is not always in tune, and at times conflicts with the evolved national strategic and policy package (see chapter 2, III).

103. Actions under 1.1.1 include reviewing the legal framework and making (1-2) proposals for its improved alignment to the prevailing strategies and policies of the country and to improve the context for SLM and BD conservation adoption and mainstreaming. This would be done under the responsibility of CRDA, with the assistance of the LPCU through contracting of specialized contractors/consultancies.

104. The output will be assessing major barriers in current legal framework (see chapter 2, III); and two draft legal proposals.

105. Activity 1.1.2: Knowledge Management and Activity 1.1.3: National Environmental M&E A comprehensive and multi-stakeholder Knowledge Management system is not in place in Tunisia. Information is not organized to the benefit of users at different levels. The national environmental monitoring system for improving land use environmental management and for measuring effectiveness of environmental programs is still underdeveloped. In addition, information sharing and communication is inadequate particularly on sharing at relevant levels of M&E systems outputs. The GOT intends putting in place a sophisticated system, which is still at an initial stage and requires further resources for its continuation and completion. System establishment and testing has started in one Governorate (Tataouine) comprising capacity building and training of key administrative staff, which now needs to be up scaled in other Governorates¹³.

106. Actions under 1.1.2 and 1.1.3 include contributing to putting in place a Knowledge Management System. The system would be designed with operational components such as databases on development and NRM projects/programs, and database on best approaches on current Good Agricultural Practices (GAPs) and Sustainable Land Management (SLM) in Tunisia and elsewhere, technologies, SWC investments and experiences, availability of advisory services and service providers; and a web architecture developed and operational to the benefit of users at different levels. Such a KM system should be linked and thus contribute to the building of the national M&E system on environmental issues. The national M&E system will be upgraded and a nation-wide awareness campaign undertaken. Great attention will be paid to identifying a very limited number of strategically critical indicators that can be realistically monitored with foreseeable resources. The system will then be tested and developed in Siliana with frequent reviews to improve on cost effectiveness. Operational manuals/guidelines for the

¹³ See 'Élaboration d'une Etude sur l'État de Désertification pour une Gestion Durable des Ressources Naturelles en Tunisie' (Rapport provisoire, MESD 2007); 'L'Observatoire national pour la Gestion Durable des ressources Naturelles en Tunisie' (Rapport d'Etude, MESD 2006), and National Report on the State of Environment, MESD 2006.

monitoring of land degradation/SLM and desertification will be developed. Efforts will be made to integrate the CCD monitoring site that has been proposed for Siliana under the NAP.

107. Both these activities will be under the responsibility of the MESD, through contracting of specialized contractors/consultancies, purchase of equipment and materials and would include assistance of the CRDA and LPCU.

108. The outputs would be the establishment of an initial Knowledge Management System (KMS) to network national stakeholders at different levels among themselves and with the regional and other international contexts (see also Annex G for key links). Specifically, the KMS efficiency would be piloted for management and sharing at all concerned local levels in Siliana and an *ad hoc* Beneficiary Assessment made. In addition, the needs to upgrade the national environmental M&E would be ascertained and system development would be initiated (e.g. linking Siliana, Tataouine and the national level) building up the capacity of involved operators. In addition, documented project best practices will be liaised and disseminated through the MENARID knowledge management platform and other exiting networks (e.g. IFAD's network on KARIANET¹⁴). This would further promote the GEF leading role in up-scaling best SLM practices.

109. **Sub-component 1.2: Institutional Strengthening for SLM.**

110. Activity 1.2.1 Upgrading Extension and Knowledge Systems on SLM. The national strategy foresees the establishment of a pluralistic demand-driven, effective and sustainable NRM and agricultural advisory system. In Siliana however, the current system has limited institutional diversification. The *Commissariat Régional du Développement Agricole* (CRDA) under the Ministry of Agriculture and Water Resources (MAWR) is the sole extension service provider in Siliana; the private sector inputs suppliers play almost no role; farmers associations are insufficiently trained (though the IADP-II is supporting their strengthening); and the NGO sector has not been targeted with incentives for its involvement in extension activities.

111. Actions under 1.2.1 include capacity building of at least 10 CRDA staff (including study tours regional and international); establishing interaction and sensitizing 3-5 NGOs; and training 10-15 Community Based Organizations (CBOs) such as the GDAs and the GFICs; to mainstream SLM in their work. This would be done under the responsibility of CRDA, with the assistance of the LPCU through contracting of specialized contractors/consultancies.

112. Outputs would be assessing the needs of the capacity building, a training plan and strengthened capacity of CRDA, NGO and CBO operators in the direction of the existing national strategy for a modern and sustainable advisory system that integrates the public sector, the private and NGO service providers, and includes in-service training provision to the community-based organizations such as the GDAs and GFICs; Training outputs would regard new modes of operation and changes in attitudes that are implicit in the participatory, demand-led approach to sustainable land management. It would cover the following broad areas: (i) conceptual leveling, including principles and practices of land-use planning and Integrated Ecosystem Management (IEM) approaches; (ii) administrative procedures and procedural themes; (iii) community development and strengthening of local organizations; (iv) principles and practice of participatory rural diagnosis, group formation and operation, participatory planning and stakeholder monitoring; (v) SLM practices in crop/range/sylvo-pastoral lands; (vi) SLM product

¹⁴ KariaNet is a multi-stakeholder partnership between the International Fund for Agricultural Development (IFAD), the International Development Research Centre (IDRC) and IFAD-funded projects in the Middle East and North Africa. It aims to enhance networking among IFAD-funded rural and agricultural development projects in the region in order to improve knowledge sharing and information/experience exchange through the use of Information and Communications Technologies (ICTs).

intensification and diversification, processing, and marketing; non-natural resource-based alternative livelihoods, whereby the land use pressures and other ecological constraints hinder the adoption of SLM practices; knowledge generation management and dissemination.; (vii) environmental monitoring; and (vii) gender sensitization.

113. **Sub-component 1.3 Mainstreaming SLM in Planning and M&E systems at the Local Level.**

114. Activity 1.3.1 Support to Planning. Even in Siliana, where participatory planning is strongly emphasized in the IADP-II, there is an insufficient application of participatory approaches in an SLM perspective to agricultural and rural development, and inexistent application of ecosystem-based approaches to NRM in rural landscapes. It was only during PDF B, that one has begun to experiment with participatory and ecological approaches for involving local communities in new Imadat-level Local Development Plans (LDPs).

115. Actions under 1.3.1 will contribute to the development of 15 LDPs, of annual reviews of the same and of 4 to 5 specific studies the need of which would emerge from the LDPs. These LDPs would then serve as the basis for all other LDP. Eventually, all LDPs will integrate an SLM and, as needed, a BD conservation perspective. This would be done under the responsibility of CRDA, with the assistance of the LPCU through contracting of specialized contractors/NGOs and CBOs. SLM/BD focused LDPs would to the least take into account:

- Analysis and description of biophysical impacts;
- Identification of the root causes of each direct cause of land degradation and bio-diversity threats; and prioritization of the direct causes and of the barriers to sustainable management of agricultural, forest and rangelands; and bio-diversity conservation;
- Identification of solutions based on lessons learned and best practices from the project site or similar areas;
- Identification of the gaps between the envisaged solutions and the IADP Baseline
- Development of a log frame based on the priority measures needed to fill the strategic gaps.

116. Outputs would be the LDP with a special focus on SLM/BD issues, which are reviewed annually. Each PDP will be prepared with direct involvement of an informal District Development Committee (DDC) representing the population of the *imadat*. For the implementation of the LDP, each DDC will be transformed into a legally registered Agricultural Development Group (GDA). Annual work program contracts will be established between the GDA and the CRDA for the implementation of portions of the LDPs. PDPs involving specific activities such as the establishment of rare fruit plantation, utilization of conservation agriculture or IPM would be based on examples of farm economic models if existent. Such models (if available) will be mainstreamed as much as possible in the PDP development process. The implementation of the annual work programs will undergo a participatory adaptive management review/analysis at the end of each year for the purpose of dropping or modifying interventions or approaches that don't perform well and for reinforcing those that do work well. Stakeholder driven adaptive management will become a basic tool used to improve the effectiveness and the impact of the project. Stakeholder coordination and advisory committees will be created at three different levels:

- Local Advisory Council at the Delegation level (The Delegation is intermediate between the district or *imadat* and the region or Governorate);
- The Regional Council will approve LDPs and the annual work plans. The local population will be represented on the Regional Council for Agriculture.
- The National Coordination Committee will have the same composition as the PDF B.

117. Activity 1.3.2 M&E of Project Activities. Project-M&E systems, including the one adopted by the IADP-II, require integration work and resources to include Land Degradation and SLM parameters, which are to be organized at the community level in order to involve the local communities in the measurement and evaluation exercises.

118. Actions under 1.3.2 include the upgrading of the IADP-II M&E system to host SLM and BD matters. This would be done under the responsibility of CRDA, with the assistance of the LPCU through contracting of specialized contractors/NGOs and CBOs. The main thrust of the M&E system will be as a tool to provide the specific types of information that will be needed to evaluate the whole range of project interventions and approaches during the annual reviews.

119. Responsibilities will be split primarily between the CRDA and the GDA. The monitoring of some of the key impact indicators will be contracted out to specialized institutions. The reviews will be conducted by CRDA staff or qualified, contracted service providers who will serve to structure and facilitate the review. The primary analysis of what works and what doesn't and why at the field level will be done by the local population/GDA along with other key stakeholders as appropriate. The monitoring sub-systems for the four participatory range and forest sites will be very different from those for agricultural lands.

120. Outputs would be the SLM and BD activities integrated in IADP-II M&E system. M&E indicators will be of the following main categories:

- Indicators of project execution (financial, physical and procedural indicators)
- Indicators of efficiency
- Impact indicators.

Component 2: Mainstreaming SLM in Agricultural Activities (Total: US\$ 20.33 m, 63% of project cost; GEF US\$ 1.52 m).

121. **Sub-component 2.1 SLM on-the-ground Investments**

122. Activity 2.1.1: Adaptation and Adoption with farmer Training of SLM Practices and Management Options. Unsuitable tillage operations have increased soil inherent erodibility contributing to further land degradation. Long term cereal quasi-monocropping, inadequate rotations, and insufficient nutrient replenishment have all together impoverished fertility leading to de-structured soils. Declining or stagnant crop yields constitute a first sensible indicator of the land degradation process. Land degradation processes continue because of the high pressure on the resources by the local populations. These need to seek more sustainable uses of the limited resources that form the basis for their livelihoods. Experience has shown that land users are induced to adopt a holistic approach known as Sustainable Land Management (SLM) when they perceive that investments on their own resource base improve return to land and labour. Investments need to emerge on a demand-driven basis from the LDPs.

123. Actions under 2.1.1 will include (i) establishment of about 200 ha of high value/rare local variety fruit plantations (e.g. Bargou peach; Kesra fig; Bigaro cherry); (ii) intensive training of 200 farmer groups (20-25 farmer ea, totalling about 4500 farming households) on Integrated Pest Management (IPM) and other Good Agricultural Practices (GAP) techniques (equivalent to GAPs being introduced on some 25,000 ha cultivated); (iii) training of further 900 farming households on specific best practices of SLM

already adopted in Tunisia and other MENA or Maghreb countries such as (iv) Conservation Agriculture and Better Land Husbandry approaches (see Annex F), including direct sowing adopted on about 1500 ha; (v) formal organic farming protocols (in order to undertake the transformation processes and procedures from conventional to organic farming) acknowledged by IFOAM¹⁵ (and that thus can be certified) and adopted on about 1000 ha with a certification network established; (vi) Evapo-transpiration reduction techniques for climate change adaptation (through e.g. field length interruption with live barriers) on about 200 ha. This would be done under the responsibility of CRDA, with the assistance of the LPCU through contracting of specialized contractors/NGOs and CBOs, and purchase of equipment and materials.

124. Output include rare local fruit species plantations on privately reclaimed lands; formal organic farming promotion; Integrated Pest Management (IPM) techniques; Conservation Agriculture and Better Land Husbandry techniques (Annex F); field length live barrier interruptions to reduce ETp.

125. **Sub-component 2.2 Land Regrouping.**

Activity 2.2.1: Integrating SLM in land Regrouping Activities. Customary land tenure and inheritance systems have induced widespread landholding fragmentation. This has resulted in a proliferation of long, narrow fields, which essentially oblige farmers to plough up and down the slopes, increasing the rate of erosion. In order to mitigate the land fragmentation consequences of the prevailing inheritance system, the government has promoted and supported an ambitious programme for land re-grouping (known as "Remembrement"). The programme however requires, through appropriate incentives, the integration of SLM practices on newly re-grouped lands.

126. Actions under 2.2.1 include supporting demand-driven land regrouping over a maximum of 1500 ha (300 households) with integration of SLM techniques. This would be done under the responsibility of CRDA and the *Agence Foncière Agricole* (AFA), with the assistance of the LPCU through contracting of specialized contractors/consultancies. AFA will develop new techniques such as laying the long axis of the regrouped fields along the contour, greatly facilitating and encouraging the adoption of contour plowing. Outputs include integrating SLM norms (see Annex F) on land re-grouping operations.

127. **Sub-component 2.3 Consolidation of SWC Investments.**

128. Activity 2.3.1: Planting Productive Fruit Trees Along SWC Works. During the last thirty years, the GOT has made an outstanding effort in terms of physical Soil and Water Conservation (SWC) investments improving some 186,000 ha in Siliana (23,000 ha during IADP-I). However, SWC works are costly investments which need sustained maintenance and on their own they do not constitute a sufficient condition to halt erosion. Farmers need to be made aware that SWC maintenance pertains to them because it is for their direct benefit. The best way for this is to increase value of the land holding through consolidation investments.

129. Actions under 2.3.1 include consolidation of earth bunds through plantation of productive tree species (e.g. Olives, pistachio, almonds etc). Plantation will regard about 800 ha along bund and about 800 ha between bunds. This would be done under the responsibility of CRDA, with the assistance of the LPCU through contracting of specialized contractors/NGOs and CBOs, and purchase of equipment and materials.

130. Outputs include consolidated earth bunds to reduce land degradation and erosion through increased fruit tree planted area by about 1600 ha (300 households) of in Siliana.

¹⁵ International Federation of Organic Agriculture Movements.

Component 3: Mainstreaming SLM in Sylvo-Pastoral Activities (Total: US\$ 5.46 m, 17% of project cost; GEF US\$ 1.25 m).

131. **Sub-component 3.1 Promoting Community NRM Systems**: Crop expansion has greatly reduced natural rangeland to only 4.8% of the total agricultural and forest land. However, livestock husbandry continues to provide in Siliana 63% of the value-added as compared to 37% coming from crop output. This has induced overstocking beyond land carrying capacity, and eventually, overgrazing and vegetation quality impoverishment on reduced rangeland areas. Animal grazing occurs by open access to State-owned range and forestlands and on undivided private lands open amongst the members of the extended family/clan that own the lands.

132. **Activity 3.1.1 Tools and Systems**. There are no agreed control mechanisms on the number or type of livestock or the timing of the use of rangelands. Sylvo-pastoral communities more than others, require assistance and support for them to sustain rangeland management and to identify alternative livelihoods systems that release pressure on land and natural resources.

133. Actions under 3.1.1 include the development of a participatory Sylvo-pastoral Management Plan. This would be done under the responsibility of CRDA, and the *Office de l'Élevage et des Pâturages* (OEP) with the assistance of the LPCU through contracting of specialized contractors/NGOs and CBOs.

134. Outputs include the Sylvo-pastoral Management Plan for the communities of Siliana, whose livelihoods are primarily based on livestock raising (bout 7 500 households) and including the resolution of legal aspects. A further result would be the formal registration of concerned CBOs. The emphasis will be on controlling the problem of overgrazing, by far the single greatest direct cause of both range and forest lands. Forested rangelands offer the strategic advantage of offering community managers harvest rights of commercial forest products as an incentive for respecting range management systems. Basic indicators of sound range management have been identified and will be improved upon. The community's management and harvest rights will be contingent upon their respect for the range management and the achievement of minimal acceptable values for the range health/ground cover indicators. The role of CRDA forestry staff will evolve into one of monitoring, oversight and technical support.

135. **Activity 3.1.2 Testing and Demonstration of SLM Practices on rangelands**. Overgrazing induces nutritious forage plants being replaced over time by low value species of little nutritional value. More nutritious perennial grasses are replaced by annual grasses. On some sites, grasses are replaced by woody vegetation. Lack of and/or uneven distributions of animal watering points also cause irrational rangeland utilization.

136. Actions under 3.1.2 include vegetation (fodder bushes and herbaceous plants) replanting over about 1000 ha in family/clan managed rangelands; spring water system rehabilitation (about 25), and establishment/rehabilitation of water harvesting/reservoir systems (about 25); consolidation of SWC works on 200 ha rangelands through tree/bush planting; and SLM on rangeland 150 training sessions (involving 50 herders ea for 2-3 days). This would be done under the responsibility of CRDA, and the *Office de l'Élevage et des Pâturages* (OEP) with the assistance of the LPCU through contracting of specialized contractors/NGOs and CBOs, and purchase/rent of equipment and materials.

137. Outputs include testing of SLM practices through vegetation improvement which also brings biodiversity benefits; improvement of animal watering points as a means to induce also rational rangeland rotation; consolidatin of SWC works, and training on SLM practices for about 7 500 livestock herders.

138. **Sub-component 3.2 Rangeland Improvement on common-rights sylvo-pastoral areas.**

Activity 3.2.1 Rangeland improvement and Activity 3.2.2 State Nursery Capacity Building. Animal grazing also occurs by open access to State-owned range and forestlands. On these common-rights areas, land degradation is perhaps more severe than on private/clan rangelands. Overtime, ample segments of

forestland have been deforested with major implications on bio-diversity and production of wood and non-wood forest products. This has also negatively affected ground water table recharging, and the discharge pattern of springs and wadis. Springs have reduced discharge or have dried up threatening, at times impeding the economic profitability of the downstream established fruit tree orchards. Catchment areas have modified their hydrology and wadi courses are subject to over-flooding or have been deviated disrupting re-charge of man-made reservoirs. GOT, through the *arrondissement forestières* of CRDA has made several spot investments to improve state-owned rangeland vegetation status and has contextually agreed valid utilisation systems on a fee basis with pastoral communities. These experiences are worth being expanded and included under the project for further testing and integration with SLM approaches. The capacity of state-owned specialised nurseries, which are the only that produce fodder bush and vegetation seedlings requires improvement.

139. Actions under 3.2.1 include range improvement investments with SLM practices (see **Annex F**) over about 500 ha in common-rights land. This would be done under the responsibility of CRDA, through the *Office de l'Élevage et des Pâturages* (OEP) and the *arrondissement forestières* with the assistance of the LPCU through contracting of specialized contractors/NGOs and CBOs, and purchase/rent of equipment and materials. Provisions would be made available by the project also to improve the productive capacity of 4 specialized nurseries. Actions may also include the following:

- Alternative thinning regimes to optimize overall production of forage and browse, timber and non-timber (rosemary, pine seeds, mushrooms, etc) products while conserving soil and watershed functions.
- Direct seeding techniques for enrichment with herbaceous and forest species;
- Range management techniques to determine cost-effective techniques for favoring natural regeneration of forest and forage spp, for enrichment plantings, for effective soil conservation, etc.
- Cost-effective techniques for drying Aleppo pine cones to harvest of pine nuts.

140. Outputs include rangeland improvement over 500 ha and specialized nursery production enhancement.

141. To further release pressure on rangelands, technologies such as cactus (*Opuntia* spp.) is well adapted to harsh, dry environment. Farmers and herders in the Maghreb countries have long relied on this plant as a source of feed, fencing material, fruit, and fuel. It can also control erosion and even reverse rangeland desertification, especially when water-harvesting techniques are employed. Also if planted along furrow contours or along terraces, cactus, with its long, strong root system, can prevent runoff and stabilize slopes. The M&M Project has tried various combinations of cactus and complimentary technology and cactus has also been used in an alley cropping system. The land is protected and farmers can grow a cash crop between rows in good years. The proposed GEF project would profit from a possible replication of cactus technology. These could be integrated and mainstreamed into local planning for sustainable land management.

142. **Sub-component 3.3 Development of Micro-enterprises**

143. Activity 3.3.1 Development of Marketing and Business Plans and Activity 3.3.2 Technical Assistance and capacity Building of Micro-enterprises. There is an urgent need to decrease pressure on land in Siliana and this is particularly true for sylvo-pastoral livelihoods. Until the middle of the 19th Century, the predominant land use in Siliana was extensive grazing on common lands. As population grew strongly in the past century, and with it, sedentary agriculture, more marginal lands (in terms of soil

conditions and steepness) and rangelands highly unsuited for annual cultivation, have been converted to cereal crops. As a result also rangeland area has importantly decreased while overgrazing on reduced land continued inducing low livestock output and further impoverishment of involved communities.

144. Currently, most of the existing market chains for rosemary, *zgougou* and wood products are controlled by people/businesses from outside the community. Community members are paid low prices as gatherers or laborers and most profit goes outside the community. Under PDF-B a specific study was carried out to identify possible entrepreneurial options¹⁶.

145. Actions under 3.3.1 and 3.3.2 include investments to develop business plans, technical assistance, and capacity building of newly established enterprises. Demand for establishing micro-enterprises in Siliana will be validated during LDP development. This activity will identify opportunities for improving the market chains for the communities' benefit. This might include community level distillation of essential oils, drying, extraction and cleaning of *zgougou*, community-level measures for improving quality control, market information, negotiation and respect of contracts, etc. Market chain development plans will be developed and implemented. Community businesses will be assisted in the development of business plans that include the identification of investment opportunities in conformity with the market strategies.

146. This would be done under the responsibility of CRDA, with the assistance of the LPCU through contracting of specialized contractors/NGOs and CBOs, and purchase/rent of equipment and materials. Training and technical assistance will be provided based on identified needs in the business plans. Outputs would include at least 5 micro-enterprises developed under the project.

Component 4: Conserving Bio-diversity in Jebel Esserj (Total: US\$ 0.5 m, 1.5 % of project cost; GEF US\$ 0.4 m).

147. **Sub-component 4.1 Development of a Participatory Management Plan for Jebel Esserj National Park.** Due to high a sylvo-pastoral population density, the biotope is subject to threats such as irrational exploitation in terms of unmanaged or illegal pastoral and forestry extraction activities; opportunistic agriculture expansion; erosion; hunting; and introduction of alien species or varietal modifications. The GOT has established and gazetted¹⁷ in the early nineties a Natural Reserve area (about 100 ha) but the bio-diversity richness of the biotope goes well beyond the current small-protected area. The area is also characterized by archaeological sites and features of cultural heritage including a traditional form of cattle raising whereas the animals are left to grow wild in mountainous areas and eventually re-captured through bloodless hunting systems. In line with the commitments under the Convention on Biological Diversity (CBD) and the 11th Plan, the GOT intends to expand the protected area to about 2500 - 3000 ha of State-lands, and to upgrade the status of the Reserve into that of a National Park. This would include areas to be designated as restrictive protected zones, and large buffer and transition zones to be jointly managed with local populations under SLM and sustainable use of

¹⁶ The study investigated on: (a) recycling of waste plastic materials; (b) Snail (escargots) keeping; (c) Aromatic and Medicinal plants distilling.

¹⁷ GOT has established overtime a total protected area on some 22 000 ha encompassing 8 National Parks and 16 Reserve Areas. National Parks: Zembra et Zembretta, décret 340 du 01/4/1997; Ichkeul, décret 1608 du 18/12/1980; Boukornine, décret 282 du 17/02/1987; Feïdja, décret 907 du 04/06/1990; Bouhedma, décret 1606 du 01/4/1977; Châambi, décret 1607 du 18/12/1980; Sidi Toui, -Jebil, décret 2210 du 4/10/1994. Natural Reserves : Ain zana (stag, wild boar, jackal, fox, porcupine); Majin Jebel Chitane (woodcock, water game, migrating birds); Jebel Khroufa (Poney des mogods); Jebel Touati (wild boar, jackal, fox, porcupine); Khechem el Kelb (royal eagle, water birds, migrators); Jebel Serj (wild boar, jackal, fox, porcupine, cave fauna); Jebel Bourramli, Iles Keneis, Ettela, Sebkhath Kelbia, Ile Chikly, Aïn chrichira, Tourbière Dar Fatma, Grotte des chauve-souris, Jardin botanique de Tunis, le Galiton (Réserve marine).

biodiversity conditions. The number of protected areas with a status of National Parks in Tunisia would move from the current eight to nine, under the project. At present, it is proposed that sizeable areas of agricultural land and even villages be included within the boundaries of national park. This will entail that the rights and obligations of government and of local people, about 1 500 families, will be negotiated. The Jbel Esserj National Park will present an interesting opportunity for comparing the effectiveness of strict protection versus sustainable use as biodiversity conservation strategies. It is intended that the new park will include a mix of strictly protected zones and sustainable use zones under participatory management. As the sustainable use zones will be co-managed with local villagers, it is essential that management planning be participatory. But it is also very important that the overall National Park Management Plan be elaborated in a participatory manner. For example, range management in the sustainable use zones can be done without fences – using herders for the control of livestock movements. Otherwise the strict protection zones ought to be fenced. Fencing poses a potential problem for the passage of rare carnivores and other animals. But fencing may not be necessary if there is a strong buy-in from the local populations and if they agree to keep their livestock out of the strict protection zones. Park management will integrate adaptive management principles.

148. Actions under 4.1 include the elaboration, in a participatory fashion, of a Park management plan and of related legal acts, which also ought to be negotiated by all concerned parties. Sub-component activities will be under the responsibility of the MESD, through contracting of specialized contractors/consultancies, and would include assistance of the CRDA and LPCU.

149. **Sub-component 4.2. Capacity Building.**

150. Activity 4.2.1 Capacity Building for Park Staff; Activity 4.2.2 Development of a M&E System; and Activity 4.2.3 Ecotourism Awareness Raising and Dissemination Materials. Current staff load and capacity is based on needs for a 100 ha Natural Reserve. Thus, human resources' capacity needs to be built. The Park will need a M&E system in place. Awareness over the new National Park needs to be raised nationally and internationally.

151. Actions under 4.2.1/4.2.2/4.2.3 include project provisions to train park staff, system design and development for M&E; and elaboration and publication of dissemination materials. Outputs include 5 staff trained, M&E system in place and ecotourism divulgation materials produced. Jbel Esserj is not a known, established eco-tourism destination. The development of brochures and other materials will be essential to ecotourism development. The main tourist population targeted will be urban Tunisians, especially those from Siliana and from Tunis. 5000 visitors per year is set as the target for the end of the project. Capacity development here will be targeted on capacity needs for park management and will include such topics as implementation of the M&E system and visitor management.

152. These activities will be under the responsibility of the MESD, through contracting of specialized contractors/consultancies, purchase of equipment and materials and would include assistance of the CRDA and LPCU.

153. Outputs of the specific M&E system would include the Protected Area Management Effectiveness Tracking Tool. In addition, specific measures for the monitoring of biodiversity and pressures will be developed. Other M&E elements to be developed will be the monitoring of: the status, the abundance of natural regeneration and the area extent of the priority rare/endangered/threatened plant species in the park; the presence/passage and status of priority species of fauna; the comparative effectiveness of the strictly protected zone(s) versus the SLM zones; the evolution of identified threats to biodiversity, and; the effectiveness of measures developed to diminish these threats.

154. **Sub-component 4.3 Ecotourism Infrastructure.** Currently, no park management and ecotourism infrastructure exists in Jebel Esserj. It is critical that the project funds measures in support of

ecotourism development at Jbel Esserj as the local populations are expecting to realize economic benefits from ecotourism development as partial compensation for loss of access to resources in the strictly protected zones.

155. Actions under 4.3 include the implementation of specific ecotourism infrastructure investments including: tourist welcoming facilities; eco-museum; water systems; solar power system; user itinerary signs; bird watching posts; and animal management systems. These activities will be under the responsibility of the MESD, through contracting of specialized contractors/consultancies, purchase of equipment and materials and would include assistance of the CRDA and LPCU. Outputs are self-explanatory consisting of Jebel Esserj national Park infrastructure.

Component 5. Project Management. (Total: US\$ 2.4 m, 7 % of project cost; GEF US\$ 0.44 m).

156. The component consists in the minimum and most cost-effective activities and actions to integrate IADP-II Project Management Costs. Incremental costs will consist only of provisions to recruit for entire project duration, a GEF coordinator; additional office facilities; purchasing of one vehicle; support for incremental office running costs-travel and miscellaneous expenses. Under this component the project would support the expenses for the GEF project M&E activities, the Mid-Term Review (MTR) and the Final Evaluation (FE). Outputs would include a capable GEF coordinator attached to the LPCU in place; all office functions improved; the M&E reporting showing SLM and BD progress; and MTR and FE contemplating SLM and BD.

IV. GEF Investment Benefits and Cost Effectiveness

157. **Benefits.** The project will target the most severely degraded areas in one of the most degraded regions of the country targeting directly about 15 000 households. In Siliana about 8000 ha will adopt immediately SLM techniques and further 25 000 ha will follow due to the resource users' capacity built by the investment. SLM technologies and systems developed in Siliana would also have broad application in Tunisia and beyond. The main global benefits generated by the project interventions include: protection and re-integration of agricultural-forestry-range ecosystems functional capacity (components 1, 2 and 3); contribution to carbon sequestration over about 8000 ha (Component 2 and 3); conservation, protection and enhancement of bio-diversity (component 4; 2 and 3 for agro-biodiversity); adaptation to climate change (component 2 and 3); protection of socio-cultural diversity and valorization of local knowledge (components 1, 2, 3 and 4). In terms of biodiversity conservation the project will protect habitats of forest-mountainous ecosystem of the project area, hence leading to the conservation of severely threatened species of global value such as: *Acer monspessulanum*., *Cupressus semervirens* f. *numidica*, rare outlier population of *Quercus suber* and exceptional populations of *Cotoneaster racemiflora* var *tomentella*, *Sorbus aria* subsp *meridionalis*, and *Rosa canina* subsp *pouzini*. Among the fauna, the Pilgrim Falcon and the Booted Eagle.

158. **Cost Effectiveness.** The project primarily looks at cost-effectiveness options that would lead to a maximum impact for each GEF dollar. Considering that the baseline/GEF incremental investment ratio is 5:1, the effectiveness of the GEF investment is highest by reaching an equal number of beneficiaries allowing for additional and more sustainable benefits. The investments will support targeted capacity building, training, studies in order to foster the local, and national capacity to handle and promote the best SLM practises. Other interventions will be for demonstration, and pilot sites in agriculture and rangelands. The GEF intervention is fully blended with the IFAD project and interventions in order to reduce transaction and management cost for the GEF side. The GEF investment will benefit from the overall IFAD project organisation and first year experience for related investments. In addition, the demand driven nature of the project (land user investments are identified through the participatory LDPs)

will lead to targeted investments and increased sustainability. Foreseen linkages with MENARID Medium Size Project (MSP) on the coordination, M&E and KM interventions will also improve the harmonisation and efficiency of GEF intervention in targeted areas. Cost-effectiveness is pursued for M&E functions through the foreseen linkages with the national M&E system on environment under the responsibility of the MESD but also through the actions of the MENARID MSP on Knowledge Management and M&E. The intervention for conserving biodiversity in Jebel Eserj will be linked to the planned creation of the National Park and would benefit from the linkages with the national policies on natural parks and bio-diversity conservation. The GEF impact will include increasing the conservation area from the current 100 ha to about 2500-3000 ha with a targeted allocation for capacity building and training.

159. In terms of global benefit the GEF investment would also allow for a contribution to improved carbon storage change¹⁸ (through plantation of tree crops; GAPs; reduced erosion/leaching/runoff; restitution to grassland of forest cleared areas (estimated at about 0-5 t carbon/ha); conservation agriculture and zero tillage, etc) on about 8000 ha, which would have a positive effect on CC due to decreased GHG emissions (reducing NO₂ emissions through lower nitrification; reduced use of nitrogenous fertilizers; decreased mineralization of organic materials, etc.).

¹⁸ Available inventories (following IPCC approved methodology and guidelines) show net GHG anthropogenic emissions of Tunisia at 23.4 million tons equivalent (TEq) CO₂; absorption totaled at 5.5 million TEq CO₂; and agricultural contribution representing 6 million TEq CO₂ (projected to become 8.7 million in 2020 however with a decreased influence (14%) to the foreseen overall net gas emissions (62.4 million TEq CO₂).

160. Box 3 summarizes the benefit situation with and without the GEF investment.

Box 3. Baseline, GEF Alternative and Increment Benefits

Benefits	Baseline	GEF Alternative	GEF Increment
National Benefits	Continued costly SWC investments with limited sustainability and affordability by local resource users; involvement and participation of local communities in agricultural and pastoral development opportunities but also increased pressure on fragile resource base; improved capacity of regional institutions (CRDA) in more inclusive and participatory approaches but disregarding ecosystem approach.	Land degradation and biodiversity loss processes of Siliana governorate ecosystems better addressed by mainstreaming cheaper SLM practices and protecting biodiversity, in a sustainable and participatory manner that can be further up scaled in Siliana and also be replicable in other similar Tunisian contexts. Further improvement of the already robust NRM policy and strategic framework.	Adoption of integrated land use planning, knowledge management and ad hoc policy making; up scaling of SLM investments in productive areas also improving the livelihoods of low- and average income farming and sylvo-pastoral based households; enhanced protection of montane-forest system and inclusion in the national PA system.
Global Benefits	Minimum contribution to improved ecosystem environmental services; limited carbon sequestration; continued loss of local biodiversity.	Protection and re-integration of agricultural-forestry-range ecosystems functional capacity; contribution to carbon sequestration; protection and enhancement of bio-diversity; adaptation to climate change; protection of socio-cultural diversity and valorization of local knowledge.	Contribution to carbon sequestration on about 8000 ha; conservation, protection and enhancement of agrobiodiversity and 3000 ha habitats of forest-mountainous ecosystems with severely threatened species of global value such as: (flora) <i>Acer monspessulanum.</i> , <i>Cupressus semervirens f. numidica</i> , rare population of <i>Quercus suber</i> and exceptional populations of <i>Cotoneaster racemiflora var tomentella</i> , <i>Sorbus aria</i> subsp <i>meridionalis</i> , and <i>Rosa canina</i> subsp <i>pouzini</i> ; (fauna) the Pilgrim Falcon and the Booted Eagle.
Expected Outputs	Baseline	GEF Alternative	GEF Increment
Component 1 Operational SLM planning and knowledge management instruments	Preparation of Local Development Plans for all 54 imadats; establishment of project M&E system; improvement of national environmental M&E that is project area disconnected and upgraded with limited resources. Total : US\$ 1 360 000	<u>Baseline plus</u> integration of participatory SLM approaches in the LDPs; creation of a comprehensive and multi-stakeholder integrated (SLM and BD conservation) Knowledge Management system that is linked to an enhanced national M&E system; strengthened NRM policy and strategy body that improves application ties with the legal framework to the actual benefit of resource users; a pluralistic and more responsive advisory service which is SLM and BD sensitive facilitated. Total: US\$ 2 706 000	2 proposals for SLM barriers amendment developed and acknowledged at policy level; a national SLM and BD friendly Information and KM system operational and aligned with MENARID; the national extension/advisory system adopting SLM and BD conservation approaches that reflect ecosystem principles; 15 Local Development Plans (LDP) formulated including ecosystem principles and with strong participation of land and water users Total: US\$ 1 390 000
Component 2 SLM practices mainstreamed over 6 100 ha; Good Agricultural Practices promoted on about 25 000 ha	Implementation of SWC works over some 13 600 ha; increased fruit tree plantations over about 2500 ha; improved water management and irrigation on 3500 ha; enhanced technical advisory services for target population. No SLM practices are undertaken over the current 140 000 ha of cropped land	<u>Baseline plus</u> impact-oriented and locally adapted SLM incentives promoted in rain-fed areas to reduce pressure on land resources; land resources' value added by linking SLM in land re-grouping activities and by consolidating Soil and Water Conservation (SWC) works; Local land users' livelihoods improved.	200 ha fruit plantations established; 200 farmer groups (of about 25 farmers ea) participated in intensive IPM and other Good Agriculture Practices (GAPs) training courses (equivalent to some 25,000 ha cultivated by around 4500 farming households); 900 farmers trained on specific SLM practices, including 1000 ha formally practicing organic farming protocols acknowledged by IFOAM and certification network established; Conservation Agriculture approaches, including direct sowing tested and adopted over

Benefits	Baseline	GEF Alternative	GEF Increment
	Total: US\$ 18 920 000	Total: US\$ 20 440 000	about 1500 ha; evapotranspiration reduction techniques for climate change adaptation over 200ha; 1500 ha re-grouped and SLM measures integrated contextually; consolidation of earth bunds with productive fruit species over 1600 ha Total: US\$ 1 520 000
Component 3 Range improvement SLM practices adopted over 1700 ha in family-managed and common-rights lands, including establishment of micro-enterprises for livelihoods diversification.	Over a total area of 13 400 ha of rangelands, IADP II includes implementation of SWC works over some 840 ha; enhanced technical advisory services for target population; increased tree plantations over about 2500 ha; in addition over a total area of 81 500 ha of wood lands IADP II includes improvement actions on some 2000 ha. Total: US\$ 4 415 000	<u>Baseline plus</u> Sustainable sylvo-pastoral management systems and organizational forms; impact-oriented and locally adapted SLM investments promoted in rangelands; degradation and unsustainable use of common-rights land reduced; Local land users' livelihoods improved; micro-enterprises of natural and environmentally friendly activities developed to reduce pressure on rangelands. Total: US\$ 5 675 000	Participatory sylvo-pastoral management plan developed; range improvement SLM practices adopted over 1200 ha in family-managed pastureland, and 50 water harvesting and spring rehabilitation systems put in place; SWC works consolidation through tree/bush planting over about 200 ha; 7500 livestock herders trained on range SLM; Range improvement SLM practices undertaken over 500 ha of common-rights land; production capacity of 4 sylvo-pastoral nurseries enhanced; 5 group micro-enterprises developed Total: US\$ 1 260 000
Component 4 One new national park created and 2500-3000 ha forest-mountainous ecosystems included in national Protected Areas.	Maintenance of 100 ha of natural reserve area; training of reserve staff. Total: US\$: 114 000	<u>Baseline plus</u> improved coverage of under-represented forest-mountainous ecosystem in the national PA system; capacity for PA management and sustainable NRM developed and information disseminated; endangered bio-diversity conserved and asset management ensured in a sustainable manner; improved livelihoods of PA local population. Total: US\$: 514 000	Jebel Esserj Park legal act negotiated and approved and 1 management plan developed with involvement of local population; 5 Park staff trained in PA management; Park M&E system in place, including impact and process indicators monitoring; information dissemination system in place, including production of leaflets and publishing of park documentation; Minimum park infrastructure developed including: tourist welcoming facilities; eco-museum; water systems; solar power system; user itinerary signs; bird watching posts; and animal management systems. Total: US\$: 400 000
Component 5 Participatory management model for SLM and BD	Management and coordination of project activities through a project management unit, monitoring and evaluation of project impacts by means of an innovative information system Total: US\$ 2 590 000	<u>Baseline plus</u> additional technical staff to manage and coordinate sustainable land and resource management activities, monitor and evaluate impacts of environmental activities and promote dissemination and replication of successful experiences. Total: US\$ 3 030 000	GEF coordinator in place for entire project duration; Office functions improved; M&E reporting showing SLM and BD progress; MTR and FE contemplating SLM and BD. Total: US\$ 440 000
Project Total	Baseline: US\$ 27 355 000	GEF Alternative: US\$ 32 355 000	GEF Increment: US\$ 5 000 000

V. Key Indicators and Risks

161. The project's key indicators are (from Logframe, ANNEX A): **Enabling Environment:** i) 1-2 proposals for SLM barriers amendment developed and acknowledged at policy level; A KM system designed and most of its components are operational (2 databases and 1 web architecture developed, and a national environmental M&E system upgraded and nation-wide awareness campaign undertaken; ii) 10 staff from the Commissariat Régional du Développement Agricole (CRDA), 3-5 NGOs and 10-15 CBOs trained to mainstream SLM in their work; iii) 15 Local development Plans (LDP) developed, 5 participatory annual reviews done, and 4-6 studies performed; Project M&E upgraded to host SLM and BD matters. **SLM in Agricultural Activities:** iv) About 200 ha fruit plantations established including Bargou Peach/Kesra Fig/Bigaro Cherry; About 200 farmer groups (of about 25 farmers ea) participated in intensive IPM and other Good Agriculture Practices (GAPs) training courses (equivalent to some 25,000 ha cultivated; Around 900 farmers trained on specific SLM practices, including; About 1000 ha formally practicing organic farming protocols acknowledged by IFOAM and certification network established.; Conservation Agriculture approaches, including direct sowing tested and adopted over about 1500 ha; Evapotranspiration reduction techniques for climate change adaptation (through e.g. windbreaks) over 200ha; 1500 ha re-grouped and SLM measures integrated contextually; v) Consolidation of earth bunds with productive fruit species (along bunds) over 800 ha; Consolidation of earth bunds with productive fruit species (between bunds) over 800 ha; vi) participatory cost/benefit analysis on different SWC works performed with farmer acknowledgement of value and need for maintenance; 5-6 best farmer awarding annual events on SLM practices celebrated. **SLM in Sylvo-Pastoral Activities:** vii) 1 participatory sylvo-pastoral management plan developed; Range improvement SLM practices adopted over 1200 ha in family-managed pastureland, and 50 water harvesting and spring rehabilitation systems put in place 7500 livestock herders trained on range SLM; viii) Range improvement SLM practices undertaken over 500 ha of common-rights land; Production capacity of 4 sylvo-pastoral nurseries enhanced; ix) At least 5 group micro-enterprises developed. **BD Conservation in Jebel Esserj:** X) 1 Specific Park (Jebel Esserj) legal act negotiated and approved and 1 management plan developed including sustainable use rights of 1500 local households; xi) 5 Park staff trained and the Park; M&E system in place; information dissemination system in place, including impact and process indicators monitoring, production of leaflets and publishing of park documentation; xii) Minimum park infrastructure developed including: tourist welcoming facilities; eco-museum; water systems; solar power system; user itinerary signs; bird watching posts; and animal management systems. **Sound Project Management:** xiii) Capable GEF coordinator in place for entire project duration; Office functions improved; M&E reporting showing SLM and BD progress; and MTR and FE contemplating SLM and BD.

162. **Risks** faced by the project are summarized in the following box 2. The major risk appears that induced by the effects Climate Change (CC). In terms of CC mitigation measures, the GEF incremental investment would be two-fold beneficial in that it would contribute positively to Green House Gas (GHG) emissions balance as well as putting in place a number of agronomical adaptation measures aiming at keeping up productivity under worsened climatic features (planting of fruit trees, establishing improved permanent grasslands and pastoral plantations, improving watersheds, increasing composting, etc.). :

Box 2: Risks tied to the GEF Incremental Investment

Risk	Mitigation
Climate change increases risk of low land productivity and of further pressure on resources in terms of horizontal expansion at the expense of other uses (pastures, forests).	The on-the ground demonstration investments of the GEF project are centered to showing effectiveness of SLM as a means that enhances return to land and labour while promoting techniques for adaptation to climate change increasing agricultural (through conservation agriculture, organic farming, IPM and evapo-transpiration mitigation) and rangeland resilience (water harvesting, vegetation improvement). Positive

	experiences would enable local, national and regional up scaling. GHG emissions balance is also improved.
Legal framework cannot be amended in time to allow the proposed innovations.	Time action plans will be required and included in legal amendment proposals. Further assessment of risks and mitigations for proposed innovations will be required.
M&E and KM systems are inadequate.	The project contributes to a system that is being built by GOT through the MESD. It is considered a national priority.
Low capacity of local, national and regional institutions to efficiently contribute to project objectives and drive its implementation processes.	Institutional strengthening is recognized as a priority, and so is the need to build up a pluralistic and sustainable system. Capacity building will be targeted in order to ensure cost-effectiveness.
Interagency coordination and integration fails.	Integration and interaction has proven somewhat successful during PDF-B stage. The project's institutional and organizational arrangements have been discussed and agreed upon.
The GEF project is all about changing methods, approaches and ways of doing things. The project has a special focus on participatory processes executed by the local administration. Involved agencies fail to internalize innovation of new approaches.	The baseline IADP-II project put a lot of emphasis and resources on participatory approaches. Local implementers are well-aware that a change in mind set is a national and governmental commitment.

4. Country Ownership

I. Country Eligibility

163. Tunisia is declared eligible for GEF financing. Tunisia was among the first countries to sign and ratify the CCD, as early as 1995. The GoT has also ratified the BDC and UNFCCC in 1993. The financing of the project was also retained under the Integrated Sustainable Land Management in the MENA Region that is also called MENARID.

II. Country Drivenness

164. **Tunisia's response to the CCD** Tunisia has been very active in combating land degradation and seeking international cooperation on this issue. Desertification and land degradation is a major threat to Tunisia's economy. It is estimated that a total annual loss of agricultural lands due to erosion is around 23,000 ha, resulting in an economic loss of US\$ 15 million (equivalent to 1% of economic productivity). The Government of Tunisia completed its National Action Program for Combating Desertification (NAP/CD) in 1998, through a highly consultative process. NAP/CD includes programs addressing soil and water conservation, sand dune fixation, and reforestation.

165. The Focal Point for the CCD is currently the head of the General Directorate for Environment and Life Quality of the Ministry of Environment and Sustainable Development (MESD). Under the auspices of the National Council for Sustainable Development (NCSD), an institutional framework has been established consisting of the National Committee for Combating Desertification and the National Coordination Unit (NCU). The Committee is a high-level policy body with both governmental and non-governmental membership. The NCU includes technical expertise from concerned government departments as well as academic experts and non-governmental organizations. Until recently, these organs have been ad-hoc and project related. Recently, the Government has taken steps to formalize the coordinating mechanism, through the establishment of the *Focal Structure*. The National Committee is complemented by regional desertification committees, which include local NGOs and professional organizations.

166. **A national momentum for SLM and BDC under the commitments to the CCD framework.**

The preparation of the National Action Plan (NAP) was integrated in the 10th EDSP (2002-2006) to serve as a strategic framework for planning desertification control activities. This has been repeated and reinforced in the recently completed 11th Plan, with a greater emphasis this time on SLM. The commitments pledged by the GoT as a result of the integration of the NAP in the Tenth National Plan, and specifically Chapter 5 of this Plan, are equivalent to TD 47.8 million. The budgetary commitments are complemented by the investments in the framework of national sectoral strategies and national integrated programs which address desertification from its wider aspects. These include natural resources protection strategies such as the strategies concerning conservation of water and soil, sylvo-pastoral strategies, and others. It is estimated that an average annual investment of around 91 million TD (equivalent to US\$65 million) is allocated to various programs which contribute to combating desertification.

167. **A national momentum for SLM under the commitments to the Global Environment.** The NCSO is chaired by the Prime Minister, and the Ministry of Environment and Sustainable Development hosts the Secretariat. The NCSO oversaw the preparation of the Tunisian National Agenda 21 Program (1995). This program aimed to raise understanding and awareness of sustainability, and to ensure that national development plans and processes are environmentally and socially sustainable. The Tunisian Agenda 21 strongly recommended a broader participation in decision-making and in project execution, in particular a stronger and more active NGO sector.

168. There is an important **biodiversity** heritage in Tunisia: of the 870 species of plants that are rare, threatened or endemic in North Africa, about 150 occur in Tunisia. The GoT has made significant commitments to biodiversity conservation and sustainable use in its development efforts. With support from the WB/GEF, Tunisia completed its National Biodiversity Strategy and Action Plan (**NBSAP**) which was adopted by the Government in 1998. The NBSAP determines six priority programs, setting timelines and identifying responsible parties. It covers a range of actions from large-scale infrastructure to strategic policy making and human resource development. Under the general strategic goal of conservation of its biological diversity, a number of objectives have been identified in the NBSAP, including the preservation of areas, ecosystems and elements of biological diversity not impacted by human activities; the restoration and rehabilitation of areas, ecosystems and elements of biological diversity being degraded; and sustainable use of biodiversity. In order to achieve these objectives, 6 action programs were defined whose principles include protect and adequately manage ecosystems; integrate biodiversity in sectoral strategies and projects, including *agriculture*; and establish an appropriate institutional and regulatory framework. These aims will be met through the implementation of specific actions for each category, such as training for control agents of biodiversity protection; improving sustainable use of biological resources.

169. Tunisia is very vulnerable to **climate change**, due to its long and economically important coast (over 1300 km) and its dry semi-arid to arid climate. With support from UNDP/GEF, Tunisia finalized its Initial National Communication (INC) to the UNFCCC in October 2001. The INC provides an inventory of GHG emissions and sinks, a brief analysis of vulnerability to climate change, and a description of past and potential measures to mitigate GHG emissions. A multi-sectoral national climate change expert team was established to oversee preparation of the National Communication. This team has since been upgraded into a permanent Committee; however its activities are limited.

170. Tunisia has also moved quickly to sign and ratify other global environment agreements, such as the POPs Convention, the Kyoto Protocol under UNFCCC, and the Cartagena protocol under the UNCBD.

171. **A national momentum for SLM through Soil and Water Conservation (SWC) Plans.** In the mid-eighties, SWC works were undertaken by the General Directorate of Forests (DGF) and were limited to public and forest lands. Upon the establishment of the General Directorate for the Management and Conservation of Agricultural Lands (DG/ACTA), works were extended to private lands. The DG/ACTA

establishes its work plan according to 10-years plans for SWC. These have started to evolve towards a strategy for integrated development, adding a participatory aspect to SWC work and addressing the long-term development needs for the region. The SWC plans are implemented at the local level by the CRDA and are supported by various other strategic and planning tools such as the “Plans d’Aménagement et d’Exploitation autour des points d’eau” (PAE) and “Plans d’Aménagement Participatifs” (PAP) which define the areas of intervention and ensure the integration of water management in the SWC planning and implementation process, through a participatory approach. The SWC interventions are also tuned with the SWC law of 1995 which sets the legal framework for SWC plans.

172. The National Strategy for SWC was also elaborated in the aim of addressing land degradation in an efficient manner and optimizing the use of surface waters. The National Strategy is based on the integration of SWC in agricultural development activities and on the participation of beneficiaries in the implementation of SWC activities. The SWC plans aim at the following:

- Conservation of the water and soil heritage
- Protection of downstream investments, specially hydraulic infrastructures
- Improving agricultural revenues of rural populations
- Ensuring economic feasibility of the Government’s investments

173. **Complementary strategies and plans for SLM in Tunisia.** Tunisia is endowed with an extensive set of legal and strategic plans which support the mainstreaming of SLM within the decision making process as well as in the implementation of national plans and activities. A recently revised Agriculture law of 2001-419 supports most investments and planning processes for SLM in Tunisia. Another major legal development related to SLM is the establishment of the Agence Foncière Agricole (AFA) in 1977 whose responsibilities were reviewed in 2000, to support the implementation of the agricultural reform and to cover both public and private lands with agriculture potential, irrigated and non-irrigated. Another law that should also be noted at this level is the Code for Land-Use Planning (Law 122 of 1994) which establishes an interministerial committee for land-use planning and call upon the development of physical land-use plans by the Ministry in charge of Land-Use planning and in close coordination with all concerned line Ministries and local authorities.

174. The above legal instruments are supported by a wide range of appropriate strategies and plans. The first National Inventory of Forestry and Rangelands launched in 1989 and finalized in 1994 provides an exhaustive overview of the forest and rangelands situation in Tunisia. Plans are currently underway to update both inventories. Tunisia has developed its National Strategy for Forests Development for 2011, based on its Forestry Code, and is considered as the planning tool for forests and rangelands in Tunisia. The DGF is in charge of the development and monitoring of this plan, while the CRDA ensures implementation at local level. Tunisia has also developed in 2001 its National strategy for the Conservation and Development for Wildlife and Protected Areas in Tunisia.

5. Program and Policy Conformity

I. Fit to GEF Focal Area Objectives and Strategic Programs

175. The dry sub-humid agro-ecological zones such as those occurring in Siliana are considered high priority zones for GEF-4 investment in the LD focal area. The project specifically addresses the two strategic objectives and one strategic program enlisted in the Land Degradation GEF-4 strategy, namely, LDSO1, LDSO2, and LD-SP1. SO1 will be addressed through (a) efforts to target the policy and institutional bottlenecks by reviewing the legal framework and proposing alignments with the current strategic an policy package, and (b) mainstreaming of SLM objectives into national planning, M&E, Knowledge Management frameworks; and by (c) capacity building within key institutions responsible for SLM. SO2 will be accommodated through investments in the field aimed at adapting and up scaling

SLM (in agricultural and sylvo-pastoral integrated ecosystems), and mining and generating lessons and good management practices through the cross-cutting platform on knowledge management, which would produce indications for up scaling at local, national and global level. SP1 will be targeted by applying the aforementioned SO1 and SO2-related efforts to rain-fed crop and rangeland management areas, where the natural resources will be managed in an integrated way.

176. While remaining mainly a SLM initiative, the project focuses BD conservation in a specific biotope. The Biodiversity GEF strategy is addressed in terms of BDSO1 and its BD-SP3 directly through the creation of the Jebel Esserj Park, to increase the representation of this park main ecosystem (forest-mountainous) in the national protected areas, hence filling an important gap in the system.

177. Priority is similarly accorded to integrated approaches across GEF focal areas where multiple benefits may be generated through cross focal areas linkages such as with sustainable sylvo-pastoral management. Such inter-linkages may include protection of groundwater recharge zones or to reduce erosion and soil loss in watersheds with benefits in flow regulation and the hydrological balance of upper watersheds.

178. In addition as part of **MENARID** program, the project is line with that program's strategy which aims at creating the conditions for broad-scale acceptance and uptake of SLM agenda; and specifically, to: (i) enhance the programmatic and synergetic involvement of all stakeholders at local and regional scales, (ii) assure the political buy-in of the participating countries and focus the sustainability mechanisms and investment opportunities at the local level, (iii) generate and upscale cost effective SLM investments, and (iv) create the enabling environments and conditions to promote policy dialogue on SLM.

II. Sustainability

179. The basic logic of project design used in project development is the key to optimizing the probability of sustainability. The problem analysis focuses primarily on the identification of barriers to sustainable land management. The outputs and activities of the project are focused primarily on the removal of barriers to SLM.

180. The participation of all stakeholders, especially the local farmers and resources users is considered fundamental to the sustainability of the project's interventions. Effective stakeholder participation is something very new to Tunisia. National policies are exceptionally supportive of stakeholder participation, but most institutions and professional staff lack experience and training in participatory approaches. Participation is built into the project to an exceptional degree and capacity building efforts are mainstreamed in order to make participation actually possible. The most fundamental form of stakeholder participation in this project will be the use of Local Development Plans at the *imadat* level. The local population will be directly involved in local development planning and nearly all project interventions will be done under contract with the local stakeholders' organization, the GDA, in conformity with these plans.

181. Adoption of SLM practices in agricultural activities will show the profitability of such investments that will, in turn, also enable sustained effort on the part of the farmers. Improved returns to labor and land recorded in the Knowledge Management system are likely to solicit investment by other progressive farmers elsewhere.

182. The most important element to the sustainability of the range and forest management systems is the fact that they will be self-financing. The range and forest lands will be managed by local communities as a business that generates revenues and incurs costs. The Participatory Sylvo-pastoral Management Plans funded by the project will need to include sustainable financing systems whereby a portion of revenues are reinvested back in to cover the costs of managing the range and forest lands.

183. The development of institutional capacities is critical to sustainability. This project dedicates a substantial amount of resources to institutional capacity development, primarily at two critical levels – the level of the CRDA and that of the local community. The project also makes an effort to enhance coordination and integrated actions among institutions at the national and global levels. Accordingly, MESD and MAWR are partners at the national level with specific but inter-related task. The investments geared at improving the national M&E system and the contribution to build a common Knowledge Management platform would also work in the direction of enhancing effective and sustained inter-institutional coordination and integration.

184. The classic sectoral approach to development planning is widely viewed as a major cause of the low level of sustainability of the interventions of past projects. This project will place a strong emphasis on the development and use of participatory, multi-sectoral problem analysis and planning. This will also contribute to the sustainability of project interventions.

185. The project will be implemented in large part through work plan contracts between the CRDA and the *imadat*-level GDA. Present law does not permit GDA to undertake commercial activities. The GDA functions as a support to the participatory approach of the project, it offers an interface between the population and the administration (CRDA). The PDPs are developed with the involvement of the GDA which jointly adopts the PDPs with the CRDA. The GDA offers a strong negotiating power to the community and farmers in the design and monitoring of the PDP implementation. Legal reforms undertaken by the project to give GDA the rights to undertake commercial activities will contribute strongly to the sustainability of these community-level institutions.

186. The contribution made by the project to create a new Protected Area in the form of a national park (Jbel Esserj) is undoubtedly a sustainable manner to protect bio-diversity of global value in Tunisia.

III. Replicability

187. The project includes legislative reviews to develop a clear legal base for participatory management of sylvo-pastoral lands. This is essential in order to allow the widespread replication of the of the new sustainable land management systems.

188. The strong emphasis on institutional capacity building will also be an essential ingredient for replicating and adapting SLM techniques and systems. More specifically, the project will invest in the diversification of service providers for sustainable agriculture and for participatory range and forest management. This will be done through training and through the award of contracts for civil society service providers. Private sector consultants, consulting firms and NGOs can generally be much more flexible in response to available government or donor funding than government services can be. The contribution of this project to the development and institutionalization of participatory approaches in Tunisia will also facilitate replication of SLM techniques.

189. The SLM Knowledge Management Network will contribute very strongly to the replication of successful SLM techniques and management systems. The KM Network will seek to integrate all field practitioners working in SLM in Tunisia. The basis for widespread replication and adaptation will be laid through the annual SLM KM workshops and through the publication and dissemination of KM documentation on best practices and lessons learned.

190. The project will specifically target improved cost effectiveness of the land redistribution/regrouping methodologies as a strategy for facilitating the widespread replication of this important activity. In a more general sense, the projects emphasis on economic and financial viability of SLM techniques also improves their replicability.

191. A final, and critical aspect of replicability, is at the level of the North African and Middle Eastern Region. MENARID provides a ready vehicle for replicating and adapting successful technologies, management systems and approaches at their other project sites within this region. This of course will

work both ways as MENARID will also serve to replicate successes from the larger region within the Siliana project area.

IV. Stakeholder Involvement

Stakeholder involvement in project development

192. Project development was overseen by the PDF B Coordination Committee composed of the departments of the Ministry of Agriculture and Water Resources, the ministries of Environment and Sustainable Development; International Cooperation; Finance; the Office for the Development of the Northwest, and the National Employment Agency.

193. Project development included training of NGOs and consulting firms staff and of the regional government staff in participatory approaches and in participatory development planning. Six pilot LDPs were prepared with the active participation of the local population in the four pilot *imadats*. The methodology for the participatory preparation of LDPs was itself developed in collaboration with the population. All of the work of the national consultants involved stakeholder consultations in Siliana Governorate.

194. Problem analysis and logframe development was done through consultation with stakeholders in the field. The problem analysis and logframe were presented, debated, amended and validated at stakeholder workshops in Siliana and in Tunis and at IFAD headquarters in Rome. A stakeholders meeting was held in Siliana to present, discuss and amend the full project logframe. A similar meeting was held in Tunis when the first draft of the project document was nearing completion. Following comments and amendments to the full draft, IFAD organized a final meeting in Rome with representatives of the government of Tunisia.

Stakeholder involvement in project execution

195. Virtually all project interventions will be done in conformity with the Local Development Plans. Each LDP will be prepared with direct involvement of an informal District Development Committee (DDC) representing the population of the *imadat*. For the implementation of the LDP, each DDC will be transformed into a legally registered Agricultural Development Group (GDA). Annual work program contracts will be established between the GDA and the CRDA for the implementation of portions of the LDPs. The implementation of the annual work programs will undergo a participatory reviews at the end of each year for the purpose of dropping or modifying interventions or approaches that don't perform well and for reinforcing those that do work well. Stakeholder driven adaptive management will become a basic tool used to improve the effectiveness and the impact of the project.

196. Stakeholder coordination and advisory committees will be created at three different levels:

- Local Advisory Council at the Delegation level (The Delegation is intermediate between the district or *imadat* and the region or Governorate);
- The Regional Council will approve LDPs and the annual work plans. The local population will be represented on the Regional Council for Agriculture.
- The National Coordination Committee will have the same composition as the PDF B Coordination Committee presented above.

197. Local herders and resources users would become the co-managers of the sylvo-pastoral lands. They will be empowered to implement an agreed management plan and to harvest forest and range products from these lands in conformity with the management systems that will be developed. Participatory management will be self-financing, with community managers reinvesting part of their revenues back to cover management costs. The community management will support community-level forest and range product-based businesses.

198. The Knowledge Management Network will be a network of SLM stakeholders. It will be a key mechanism for the development of synergies amongst stakeholders involved in SLM throughout the country. The legal reform for participatory range and forest management will be based primarily on stakeholder experiences at the four project sites in Siliana. The development of the legislation will be a participatory process that facilitates stakeholder inputs and validation through regional and national workshops.

199. The Jebel Esserj National Park management plan will regulate and empower co-management by concerned communities in the non-restrictive protected portions of the Park.

6. Monitoring and Evaluation

200. The estimated budget for the Project's M&E system is presented in Annex D. The basis of the M&E is built around the impact and performance indicators laid out in 3. IV and in the project log frame in Annex A.

201. Project monitoring and evaluation will be conducted by the project team in conformity with GEF M&E procedures and within the M&E framework of the January 2006 loan agreement between IFAD and the Government of Tunisia. The Logical Framework Matrix in Annex A provides *impact* and *performance* indicators for project implementation along with their corresponding *means of verification*. These will form the basis on which the project's Monitoring and Evaluation system will be built.

I. Project Inception Phase

202. A Project Inception Workshop (IW) will be conducted with the IADP-II project team, including National Coordinator (from MAWR) and Task Coordinator (for all project activities under the MESD), relevant government counterparts, co-financing partners, IFAD and CI. This GEF component will be supervised as part of the IADP-II. All associated costs for project supervision by the cooperating institution (CI) will be covered by the IADP-II. The main objective of this workshop will be to increase the project team's ownership of the project's goals and objectives, as well as finalize preparation of the project's first annual work plan on the basis of the project's logframe matrix. This will include fine-tuning the methodology for measuring the logframe indicators, imparting additional detail as needed, and on the basis of this exercise, finalize the Annual Work Plan (AWP) with precise and measurable performance indicators, and in a manner consistent with the expected outcomes for the project. For an indicative M&E Work Plan for the whole project implementation period.

203. Additionally, the IW will provide a detailed overview of IFAD-GEF reporting and monitoring and evaluation (M&E) requirements, with particular emphasis on the Annual Project Implementation Reviews (PIRs) required by GEF, the bi-annual and annual reporting requirements for IFAD, the bi-annual supervisory missions, the occasional supervisory missions of IFAD as well as mid-term and final evaluations. Equally, the IW will provide an opportunity to inform the project team on IFAD project-related budgetary planning, budget reviews, and mandatory budget re-phasing.

204. The IW will also provide an opportunity for all parties to understand their roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff and decision-making structures will be re-discussed, as needed, in order to clarify for all, each party's responsibilities during the project's implementation phase.

II. Monitoring responsibilities and events.

205. A detailed schedule of project reviews meetings will be developed by the project management, in consultation with project implementation partners and stakeholder representatives and incorporated in the Project Inception Report. Such a schedule will include: (i) tentative time frames for, Bi-annual Supervisory

Missions and meetings of the National Coordination committee, the Regional Advisory Council and the Delegation-level Advisory Councils, and; (ii) project related Monitoring and Evaluation activities.

206. *Day to day monitoring of implementation progress* will be the responsibility of the Regional Coordinator for regional level activities and the National Coordinator and Task Coordinator for national-level activities based on the project's Annual Work Plan and its indicators. The Project Team, which will include a GEF Coordinator, will inform the IFAD-GEF of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion.

207. The National Coordinator, the Task Coordinator and the Regional Coordinator will fine-tune the methodology for measuring progress and performance/impact indicators of the project in consultation with the full project team at the IW in consultation with IFAD/CI. Specific targets for the first year implementation progress indicators together with their means of verification will be developed at this Workshop. The local implementing agencies will also take part in the Inception Workshop in which a common vision of overall project goals will be established. Targets and indicators for subsequent years would be defined annually as part of the internal evaluation and planning processes undertaken by the project team.

208. Measurement of impact indicators related to national and global benefits will occur according to the schedules defined in the IW and tentatively outlined in the indicative Impact Measurement Template. The measurement of some of the impact indicators will be undertaken through subcontracts or retainers with relevant institutions or through specific studies that are to form part of the projects activities or periodic sampling.

209. *Bi-annual monitoring of implementation progress* will be conducted by CI during the bi-annual supervisory missions in meetings with the project proponent, or more frequently as deemed necessary. The bi-annual project report or the PIR (see the next section) will be prepared at least two weeks prior to each bi-annual supervisory mission. The bi-annual supervisory missions will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities. IFAD will not have a fixed schedule of supervisory missions but may undertake such visits at any time to assess project progress and issues first hand.

III. Reporting.

210. The Regional, National and Task Coordinators, in conjunction with MAWR and MESD, will be responsible for the preparation and submission of the following reports that form part of the monitoring process. As the project is based in the Region, the Regional Coordinator will have lead responsibility for their compilation:

a. *Inception Report (IR)*. A Project Inception Report will be prepared immediately following the Inception Workshop. It will include a detailed First Year/ Annual Work Plan divided in quarterly time-frames detailing the activities and progress indicators that will guide implementation during the first year of the project. This Work Plan would include the dates of specific field visits and project activities, support missions from IFAD or CI or consultants, as well as time-frames for meetings of the project's decision making structures. The Report will also include the detailed project budget for the first full year of implementation, prepared on the basis of the Annual Work Plan, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted 12 months time-frame. Moreover, the IR will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may effect project implementation. Upon IFAD's review, the final report will be circulated to project counterparts who will be given a period of one calendar month in which to respond with comments or queries.

b. *Bi-annual Project Reports*. Bi-annual reports will be submitted to IFAD by MAWR a minimum of two weeks prior to the scheduled bi-annual supervisory missions. The bi-annual reports will include: a) quantitative and qualitative assessments of progress towards project objective and outcomes; b) problems encountered during the reporting period; c) measures taken or proposed to resolve these problems, and; d) activities to be undertaken during the subsequent reporting period.

c. *Annual Project Implementation Review (PIR)*. The PIR, following GEF and IFAD requirements, will be the main vehicle for extracting lessons from ongoing projects. It will be completed by the IFAD together with the project team. It will be scheduled in conformity with the timing of project start-up and in line with IFAD reporting requirement. The PIR may eventually replace the bi-annual report in part or in total (to be decided at the Inception Workshop).

d. *Project Completion Report*. The Project Completion Report will be prepared by the National Coordinator and MAWR during the last three months of the project. It will include: a) an analysis of the costs and benefits of the project; b) an analysis of the degree of achievement of the project objective and outcomes; c) a report on project execution by the implementing parties, and; d) lessons learned; e) recommendations on any further steps that may be needed to ensure sustainability and replicability of the Project's activities.

IV . Independent Evaluations

211. The project will be subjected to at least two independent external evaluations as follows:-

(i) *Mid-Term Evaluation*

The Mid-Term Evaluation will determine progress being made towards the achievement of outcomes and will identify course corrections if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document.

(ii) *Final Evaluation*

An independent Final Evaluation will take place during the last three months of the project, and will focus on the same aspects as the mid-term evaluation. The final evaluation will also look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. The Final Evaluation should also provide recommendations for follow-up activities.

7. Financing

I. Project Costs

211. A detailed analysis of project costs down to the activity level is presented in Annex B. Subtotals are therein given by component. The timeframe for the implementation of each activity is also detailed.. The funding is broken down its individual source. All cost tables are presented in thousands US\$. The table below presents a summary of project costs by outcome and source of funding.

TABLE 4. PROJECT COSTS (IN USD 1000S)

Components	Indicative GEF Financing		Indicative Co-financing*		Total (\$ '000)
	(\$ '000)	%	(\$ '000)	%	
<i>Strengthening the Policy and Planning Frameworks for SLM Main-streaming</i>	1,390	38.1	2,259	61.9	3,649
<i>Mainstreaming SLM in Agricultural Activities</i>	1,520	7.5	18,800	92.5	20,320
<i>Mainstreaming SLM in Sylvo-Pastoral Activities</i>	1,255	22.9	4,205	77.1	5,460
<i>Conserving Biodiversity in Jebel Esserj</i>	400	78	114	22	514
<i>Project management</i>	435	18	1,977	82	2,412
Total costs	5,000	15	27,355		32,355

II. Co-Financing Sources

212. The project will be co-financed by the Government of Tunisia, IFAD, AFD and the local beneficiaries. Details of project co-financing are given in the Incremental Cost Assessment in Annex G. A summary of co-financing is presented in the table below.

FINANCING PLAN SUMMARY FOR THE PROJECT (\$)

	Project Preparation a	Project Grant b	Total c=a+b	Agency Fee	For the record Project Grant at PIF
GEF	350,000	5,000,000	5,350,000	531,500	5,881,500
Co-financing	322,441	27,355,000	27,677,441		22,684,000
Total	672,441	32,355,000	33,027,441	531,500	28,565,500

SOURCES OF CONFIRMED [CO-FINANCING](#), including co-financing for project preparation for both the PDFs and PPG.

Name of co-financier (source)	Classification	Type	Project Preparation	Project	Total	%*
GOT	Nat'l Gov't	Grant	190,000 in kind -	6,066,000	6,256,000	22.6
Bilateral Aid Agency	Bilateral Agency	Soft-loan	-	4,555,000	4,555,000	16.45
IFAD	Multilat. Agency	In-kind and loan	132,441 in kind and cash	10,998,000	11,130,441	40.21
Others	Beneficiaries	In-kind	-	5,736,000	5,736,000	22.23
Total Co-financing			322,441	27,355,000	27,677,441	100%

8. Institutional Coordination and Support

I. Core Commitment and Linkages

213. IFAD is the international financial institution mandated to contribute exclusively to reducing poverty and food insecurity in the rural areas of developing countries. IFAD's overarching goal is that rural women and men in developing countries are empowered to achieve higher incomes and improved food security at the household level. In this way it will contribute to the achievement of Millennium Development Goal #1 – the eradication of extreme poverty, and Goal #7, environmental sustainability.

214. **Strategic objectives** To achieve its overarching goal, IFAD will aim to ensure that, at the national level, poor rural men and women have better and sustainable access to, and have developed the skills and organization they require to take advantage of:

- (a) Natural resources (land and water), which they are then able to manage efficiently and sustainably – the current project if strongly consistent with this objective.
- (b) Improved agricultural technologies and effective production services, with which they enhance their productivity – the current project will place a strong emphasis on identifying and extending technologies for SLM and agricultural productivity.
- (c) A broad range of financial services, which they use for productive and household needs;
- (d) Transparent and competitive agricultural input and produce markets, with which they profitably engage – the GDA supported by the project will provide competitively priced agricultural inputs and will also develop marketing options that are advantageous to the impoverished farmers targeted by the project.
- (e) Opportunities for rural off-farm employment and enterprise development, which they profitably exploit – the project will develop new employment opportunities based on participatory management of State-owned forest and range lands.
- (f) Local and national policy and programming processes, in which they participate effectively -- the project will undertake participatory reforms that will lay the base for the replication of the new participatory management systems for State-owned forest and range lands.

215. The project is located in IFAD's Middle East and North Africa Region (MENA) and the project is in conformity with IFAD's thematic priorities for MENA. The participatory natural resources management activities under the project are in line with the first thematic priority: (i) a new focus on managing land and water resources for poverty reduction, including the key role of empowerment of community-based resource management groups. This same component also supports the third thematic priority: (iii) tackling rural unemployment by using the results of ongoing action research to identify effective, targeted interventions.

216. The project assists in implementing the IFAD strategic partnership with GEF in consolidating its sustainable land management portfolio and in strengthening capacities for the protection of the global environment.

II. Consultation and Coordination with Other Related Initiatives

217. The other GEF projects of the greatest relevance are the World Bank/GEF-funded Protected Areas Project and the regional UNEP/GEF/FAO Land Degradation Assessment in Drylands Project (LADA). The Protected Areas Project is relevant to Outcome 4. Upon project start-up, Biodiversity Coordinator in the MESD will consult closely with the staff of the Protected Areas Project to review their experiences, lessons learned and best practices and to analyze the applicability to the task of creating and managing the Jbel Esserj National Park. The advantages and disadvantages of the Man and the Biosphere model for Jbel Esserj will be one of the key questions reviewed. Once activities get under way at Jbel

Esserj, coordination meetings will be held every six months, this time with a two-way exchange of experiences between the two projects.

218. LADA is a four-year project funded by GEF to respond to the need for up-to-date and comparable land degradation information. It is implemented by UNEP and executed by FAO. In Tunisia, the project works with the Director of Soil Resources in the MAWR. Some of the most critical areas for collaboration are the following LADA initiatives:

- Providing harmonized tools and methods for land degradation assessment;
- Providing a framework methodology for establishing a baseline to monitor the success of actions to combat land degradation;
- Increasing national capacities for land degradation assessment and monitoring;
- Compiling and sharing information that is useful for planning interventions to combat land degradation;

219. Collaboration between the two projects was discussed with the Director of Soil Resources. Critical areas of collaboration should include the following:

- The SLM Knowledge Management Network;
- The integration of LD/SLM into the national environmental monitoring system;
- The project's M&E systems

220. This project is part of the Integrated Sustainable Land Management in the MENA Region that is also called MENARID. The MENA Region stretches over 17 countries in the Middle East and North Africa. MENARID will be implemented by IFAD (Lead), UNDP, WB, UNEP, AfDB, FAO, and UNIDO. The proposed program results are:

- *PR1: Harmonized approaches and coordinated SLM investments (10 % of MENARID envelope)*
- *PR2: SLM mainstreamed, enabling environment promoted and good practices up-scaled/disseminated (20 % of MENARID envelope)*
- *PR3: Restored Ecosystem integrity and improved livelihoods including increased adaptation to climate change (63 % of MENARID envelope)*

221. PR2 and PR3 are of the greatest direct relevance to this project. MENARID also has a number of thematic drivers. The one of greatest relevance to this project is the one on knowledge management/information systems. MENARID will ensure the communication and dissemination of lessons learned and best practices amongst all of the MENARID components throughout the region.

222. Moreover, the project would require cooperation with other organizations and projects operating in other countries and working toward similar goals and/or activities, such as the proposed GEF/WB Integrated Ecosystem and NRM in the Jordan Rift Valley Project; the UNDP/GEF Small Grants Programme in Jordan; the GEF/WB Strategic Investment Program for SLM in Sub-Saharan Africa (SIP); and with the GEF/UNDP Partnership Programme for Sustainable Land Management (CPP) in Burkina Faso.

III. Project Implementation Arrangements

223. The GEF implementing agency (IA) for this project will be the IFAD. The implementation modalities will be in line and tied to those for the IADP II umbrella-project with few integrations. The Ministry of Agriculture and Water Resources (MAWR) of the Government of Tunisia (GOT) will have overall oversight and authority for project execution. The MAWR will appoint a National Coordinator (NC), and the other concerned government authority, the Ministry of Environment and Sustainable

Development (MESD), will appoint a special Task Coordinator (TC) in charge of the coordination for specific project activities under this Ministry.

224. The actual executing agency will be the *Commissariat Régional du Développement Agricole* (CRDA) in Siliana. The General Director of the CRDA will be the Project Director (PD). The PD will have direct, overall responsibilities for project execution, including both technical and financial management of the project. The PD will have direct responsibility for overall supervision and guidance of all of the LPCU professional staff. He will have direct responsibility for the awarding of contracts and the management, maintenance and inventory of project goods and equipment. The PD will be the official representative of the project before the regional administration and other government bodies.

225. The administrative units below the Governorate are the delegations and the districts or *imadats* (lowest level). Field activities will be planned and executed primarily at the *imadat* level. The population of each *imadat* is represented by a District Development Committee (DDC). The project will assist each DDC to prepare a participatory Local Development Plan (LDP) for the imadat. The DDC will become formally registered as Groupement de Développement Agricole (GDA). The project will be implemented largely through the annual Work Program Contracts (*contrats programmes*) or WPC that will be established each year between the GDA and the CRDA and will be based on the LDPs. The staff of the technical units (*arrondissements*) of the CRDA will have participated in the development of the LDP and the WPC and will establish the work plans and budgets of their technical units in conformity with the WPC.

226. The project will be executed primarily by the existing personnel of the CRDA. The staff of the technical units will be responsible for the implementation of the activities identified in the WPC in line with their established responsibilities as defined in the 1989 decree defining the organization of the CRDA. The technical units will be reinforced with additional personnel and equipment as needed to properly implement the additional activities generated by the project.

227. A Project Team called the Local Planning and Coordination Unit (LPCU) is created under the direction of the PD as a new technical unit (*arrondissement*) within the CRDA to implement new functions not presently covered under the existing CRDA organigramme (such as local development planning, M&E and training). If this unit proves its merits, it may become a permanent part of the CRDA structure. Other activities that do not fall directly under the mandate of the CRDA may be subcontracted to other specialized operators in the region. The creation of the National Park at Jebel Esserj, the conservation of its biodiversity and all activities related to knowledge management and environmental monitoring will be the responsibility of the MESD.

228. The LPCU is a cross-cutting, multi-sectoral support unit under the direction of the PD. LPCU will be charged with the coordination of all project activities and will be headed by the Regional Coordinator (RC). The main tasks of the LPCU will be the following:

- Develop annual work plans and budgets, coordination with the CRDA and the preparation of call for bids and contracts with service providers;
- Conceptual development of the project approach and methodological tools; initial conception, capitalization of experiences and lessons learned, development of adaptive management tools, fine tuning of project approach and tools;
- Promotion and development of partnerships, support to project partners in the development of the project approach; development of a spirit of teamwork amongst the network of project partners;
- Communications

229. The RC is assisted by a multi-disciplinary support staff of mid-level professionals whose profiles are carefully selected to provide expertise that is not already found in the existing CRDA staff. Four positions are foreseen:

- Participatory planning and programming

- Operations
- Monitoring and Evaluation
- Sustainable land management

230. A new position to the current IADP-II structure will be created to coordinate activities under the present project:

- GEF activities coordination

231. The GEF Coordinator will be the one full-time, GEF-funded position on the project. He/she¹⁹ will have the following responsibilities for GEF-related activities:

- Drafting of the annual work plans with budgets;
- Lead author for the drafting of reporting as foreseen by the monitoring and evaluation system;
- Lead author for the drafting of TOR and contracts for all national and international consultants and for all grants and competitively awarded contracts to service providers;
- Coordinate the selection process for recruitment and outsourcing;
- Lead responsibility for the development of new partnerships with participating institutions;
- Lead responsibility for ensuring the effective coordination of project activities between the local, *Governorate* and national levels.

232. The NC appointed by MAWR will:

- Coordinate all donor missions during the life of the project;
- Coordination with all national-level agencies;
- Support as needed to the regional level units;
- Serve as interface between the donors and the executing agencies;

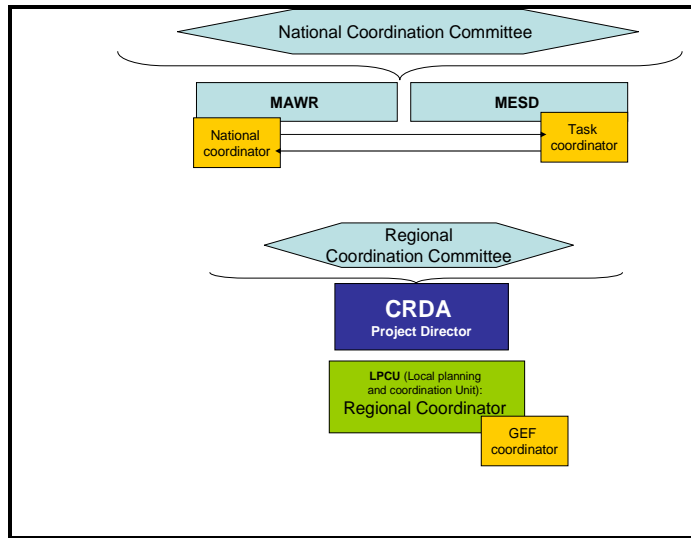
233. The TC appointed by MESD will:

- Coordinate the biodiversity conservation at Jebel Esserj;
- Support the development and the functioning of the Knowledge Management Network;
- Coordinate the national environmental monitoring.

234. A National Coordination Committee (NCC) will be chaired by the Minister of Agriculture or his representative and will meet at least twice a year. The committee will ensure oversight, overall coordination, and will approve the AWP. MESD will act as a *primus inter pares* member of the NCC. This committee will also include the main general directorates of MAWR, the Office of Support for Rural Women in MAWR, the National Agency for Employment and Private Sector Work (ANETI), the Ministries of Finance; of Economic Development and International Cooperation; and Tourism and Artisanat. This committee will monitor project progress, will analyze problems of resource mobilization as they arise and will facilitate the coordination between all agencies concerned with project execution. Likewise, at regional level a consultative Regional Coordination Committee (RCC) will be chaired by the General Director of CRDA, which will also meet twice a year and will include amongst its members the directors of the CRDA arrondissements, the Office du Développement du Nord Ouest, and regional representatives of ANETI, private sector and rural / farmer organizations.

¹⁹ The Regional Coordinator shall have a university degree in a field directly related to sustainable land management (agriculture, forestry or range management) and biodiversity conservation, and at least 10 years experiences in these fields. He/she shall also have the following qualifications: i) Excellent interpersonal and communication skills; ii) Proven experience in coordinating complex initiatives involving a diverse range of government and non-government entities; iii) Excellent writing skills; iv) Proficient in word processing and spreadsheets; v) Good analytic capacities

235. The chart bellow shows the project coordination structure:



IV. Procurement, Disbursement, Audit, Flow of Funds and Supervision

236. **Disbursement:** The project will be implemented over five years. Withdrawals from the grant account may be made against statements of expenditure (SOEs) for amounts and/or withdrawal applications (WA) for amounts exceeding USD 20,000 as indicated in the Grant Agreement and as per the General Conditions of the Fund. The relevant documentation justifying such expenditures will be retained by the project and made available for inspection by supervision missions and external auditors. All other withdrawals from the grant account will be made on the basis of full supporting documentation. The Government will open a Special Account with the National Treasury of Tunisia in the name of the project. Upon grant effectiveness, IFAD will make an initial deposit of up to USD 600,000. The Special Account will be used to finance grant's share of eligible expenditures and replenished in accordance with established IFAD procedures. The Government contribution includes duties and taxes, and will be made available to the project through standard government procedures. **Taxes are not eligible expenditures on the Grant.**

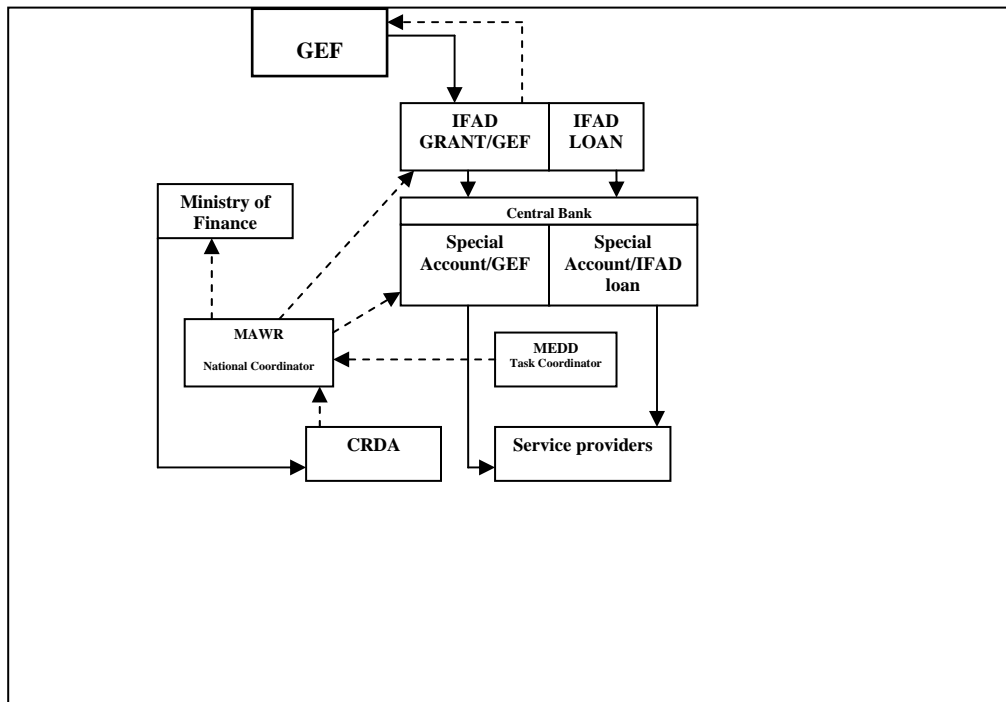
237. **Accounts and audits:** Separate project accounts and financial records relating to project activities will be maintained with the PMU. The PMU will ensure that such accounts and records are maintained in accordance with government practices and with procedures acceptable to IFAD. Project accounts will be audited on an annual basis by auditors, acceptable to IFAD.

238. Audit requirements and arrangements are subject to IFAD's General Conditions. Certified audit reports, which will include a statement of the adequacy of the executing agency's accounting systems and internal controls, including an opinion regarding SOEs and the Special Account as well as management letters, will be transmitted to IFAD and the CI no later than six months after the end of the fiscal year.

239. **Procurement of goods and civil works and services** will be undertaken in accordance with Government procedures to the extent that these are consistent with IFAD's Procurement Guidelines. Contracts estimated to cost the equivalent of USD 22 000 or more will be awarded on the basis of competitive bidding. Prudent shopping procedures on the basis of at least three quotations will apply to all contracts with an estimated cost below USD 22 000 equivalent.

240. Once implementation/supervision modalities are agreed, roles and responsibilities of the CI will be detailed.

241. **Flow of Funds:** Project Grant Funds will flow from GEF and GEF Agency (IFAD) to a special account to be maintained at Central Bank of Tunisia (CBT) in United States dollars. The account is managed by CRDA PD (assisted by RC of LPCU), and CBT releases payments to the Service Providers based on instructions of CRDA. TC assists CRDA PD and may be delegated by PD in financial management of MESD activities. CRDA (and TC-MESD) reports to MAWR (through NC), which in turn reports to Ministry of Finance and GEF Agency on financial management matters. The flow of funds is depicted in the diagram below:



242. **Project supervision:** This GEF component will be supervised as part of the IADP-II. All associated costs for project supervision will be born by the GEF grant at the cost of USD 15,000 per year. IFAD will provide implementation support to enhance project performance and impact

Annex A: Logical Framework

Narrative Summary	Verifiable Indicators	Means of Verification	Assumption/Risks
<p>PROJECT DEVELOPMENT OBJECTIVE</p> <p>The project goal is to address the processes of land degradation that are threatening the biodiversity of the country's northern ecosystems by achieving the following objectives: (i) adopting integrated land use [an water management] planning, (ii) enhancing the protection of examples of the montane-forest system presently in the national protected area system and (iii) up-scaling SLM investments in productive areas, while improving the living conditions of low- and average-income households.</p>	<p>Impact Indicators</p> <ul style="list-style-type: none"> • Increase of 8000 ha in areas where best practices of sustainable agriculture and rangeland management are applied. (out of a total 140 000 ha cropped land and 13 400 ha rangeland) • Further 25000 ha will incorporate GAPs through farmers' specific training. • Increase in resilience to climate rigor is manifested (sustained productivity) in the same area of 8-9000 ha • About 15 000 resource user families improve livelihoods (income, production, enterprises) (out of a total 28 000 house holds) gender disaggregated when possible • 2,500 - 3,000 ha increase of under-represented sylvo-pastoral mountainous ecosystem in the national PA system (the current protected area in Tunisia is of about 22, 000 ha) (100 ha for the baseline) • Number of poor households whose income and/or asset accumulation index are increased (gender disaggregated when possible) • A national SLM and BD friendly Information and KM system, including environmental M&E, is operational by PY2 and is harmonized w/ MENARID M&E and KM's supported approaches (none at baseline) • By end-of-project, the national extension/advisory system is adopting SLM and BD conservation approaches that reflect ecosystem principles (none at baseline) 	<ul style="list-style-type: none"> • Baseline surveys conducted by MAWR and MESD • Mid-term and ex-post evaluations • Basic statistics by the National Agricultural Studies Centre (CNEA) • Parliamentary act • Analysis of land use information • Use of field surveys • Project management reports 	<ul style="list-style-type: none"> • GOT and Donors assistance and support materialized and maintained • Implementation of economic and social plans continue • Policy Dialogue leading to positive results • Political stability • Implementation of Government strategy for poverty alleviation as well as environmental strategies would continue
<p>OUTCOMES (Component Purposes)</p>	<p>Outcome Indicators</p>	<p>Means of Verification</p>	<p>Assumption/Risks</p>
<p>Component 1: Strengthening Policy and Planning Frameworks for SLM Mainstreaming</p> <ul style="list-style-type: none"> • Reasonable influence to improve country legal framework is exerted • A national multi-stakeholder environmental and SLM information and knowledge management (KM) system is being set in place, including 	<ul style="list-style-type: none"> • By PY3, 1-2 proposals for SLM barriers amendment developed and acknowledged at policy level (none at baseline) • A national SLM and BD friendly Information and KM system designed in PY1 and operational at the project area (PY2) and national (PY4) levels, and aligned with MENARID (none at baseline) • By end-of-project, the national extension/advisory system is 	<ul style="list-style-type: none"> • Project monitoring and evaluation reports • Participatory impact monitoring • Project management reports 	<ul style="list-style-type: none"> • LDPs continue operational • Community leaders and elites do not dominate community participation • The GDA and GFIC (DDCs) associations remain operational

<p>environmental M&E</p> <ul style="list-style-type: none"> • Country's strategy to implement a pluralistic advisory system is strengthened • Land users actual participation to planning and assessing value of ecosystem and sustainable development is evident • Harmonization and alignment with MENARID's enabling environment activities 	<p>adopting SLM and BD conservation approaches that reflect ecosystem principles</p> <ul style="list-style-type: none"> • Number of on-going Integrated Agricultural/Rural Development Projects including SLM, IWRM and BD (if feasible) approaches and measures among their key components and activities • 15 Local Development Plans (LDP) formulated during PY1 (10) and PY2 (5), including ecosystem principles and with strong participation of land and water users (a total of 54 LDPs are foreseen under the IADP II) (6 at baseline) 	<p>Baseline surveys</p> <ul style="list-style-type: none"> • Mid-term and ex-post evaluations • Project monitoring and evaluation reports • Participatory impact monitoring 	<p>beyond project life</p>
<p>Component 2: Mainstreaming SLM in Agricultural Activities</p> <ul style="list-style-type: none"> • Impact-oriented and locally adapted SLM incentives are promoted in rain-fed crop areas to reduce pressure on land resources • Land resources' value added by linking SLM in land re-grouping activities and by consolidating Soil and Water Conservation (SWC) works • Local land users' livelihoods improved • Alignment with foreseen MENARID outcome 	<ul style="list-style-type: none"> • Impact-oriented and locally adapted SLM incentives are promoted in rain-fed crop areas to reduce pressure on land resources and best SLM practices adopted by over 6000 farming households with direct on-the ground investments in about 6000 ha; including: <ul style="list-style-type: none"> ▪ Specific SLM investments are made on 1000 ha in terms of organic farming practices; conservation agricultural approaches on 1500 ha; agro-biodiversity conservation on 200 ha; and evapo-transpiration mitigation on further 200 ha; ▪ Land resources' value is added by linking SLM in land re-grouping activities and by consolidating SWC works; 1500 ha of land re-grouped and 1600 ha with consolidated SWC works; ▪ Local land users' livelihoods improved; 5-6 best farmer awarding annual events on SLM practices celebrated; CRDA, NGO and GDA staff/members extending SLM approaches beyond project activities; (awarding by gender disaggregate) ▪ GAPs promoted through training of 200 farmer groups capable of a cascading positive effect on about 25 000 ha; (including number of women trained) • Alignment with foreseen MENARID outcome. 	<ul style="list-style-type: none"> • Project monitoring and evaluation reports • Participatory impact monitoring • Baseline and mid-term surveys using PRA tools and focused group discussions • Use of PRA tools on a annual basis 	<ul style="list-style-type: none"> • Institutions implement the recommendations • Training motivates land users, communities, extension and other trained staff to engage in project community development and SLM/BD approaches • Extension staff training is adequate for the tasks required • Small farmers engaged in SLM adoption and actively participate in construction and maintenance of soil and water conservation measures
<p>Component 3: Mainstreaming SLM in Sylvo-Pastoral Activities</p> <ul style="list-style-type: none"> • Sustainable sylvo-pastoral management systems and organizational forms are identified • Impact-oriented and locally adapted SLM 	<ul style="list-style-type: none"> • Sustainable sylvo-pastoral management systems and organizational forms are identified and sylvo-pastoral area (on private and public/common rights land) is being managed following SLM practices as a result of project range improvement practices adopted over some 1700 ha; • Impact-oriented and locally adapted SLM investments 	<ul style="list-style-type: none"> • Baseline surveys • Mid-term review evaluation and ex-post reports 	<ul style="list-style-type: none"> • Continuity of governmental actions, particularly to the rural extension and research institutions • Appropriate extension messages

<p>investments are promoted in rangelands;</p> <ul style="list-style-type: none"> • Degradation and unsustainable use of common-rights land is reduced • Local land users' livelihoods improved • Micro-enterprises of natural and environmentally friendly activities developed to reduce pressure on rangelands 	<p>are promoted in rangelands; 50 water harvesting and spring rehabilitation investments carried out; 7500 livestock herders trained on range SLM;</p> <ul style="list-style-type: none"> • Degradation and unsustainable use of common-rights land is reduced and local land users' livelihoods improved Sylvo-pastoralists with improved livelihoods in terms of income and/or asset accumulation • Micro-enterprises of natural and environmentally friendly activities developed to reduce pressure on rangelands and at least 5 group micro-enterprises of natural and environmentally friendly activities developed to reduce pressure on rangelands. 	<ul style="list-style-type: none"> • Participatory impact monitoring • Sample surveys • Project monitoring and evaluation reports • Project management reports 	<p>developed and disseminated</p> <ul style="list-style-type: none"> • Small farmers engaged in SLM adoption • Communities interested in implementing alternative livelihoods
<p>Component 4: Conserving Biodiversity Jebel Esserj</p> <ul style="list-style-type: none"> • Improved coverage of under-represented forest-mountainous ecosystem in the national PA system • Capacity for PA management and sustainable NRM developed and information disseminated • Endangered bio-diversity conserved and asset management ensured in a sustainable manner 	<ul style="list-style-type: none"> • A National Park of 2500-3000 ha created and its biotope management plan developed in PY1, with regulations that include possibilities for eco-tourism enjoyment (currently the Jebel Esserj reserve area is less than 100 ha; the total protected area in Tunisia amounts to some 22 000 ha encompassing 8 National Parks and 16 Reserve Areas) • 1 500 families involved and their livelihoods improved in buffer/transition zones of Jebel Esserj Park; (data by gender disaggregate when possible) • All Park staff (5) trained and Park information disseminated throughout the project area and at the national level • Habitats protection in the forest-mountainous ecosystem of the project area, leading to the conservation of at least 5 priority flora species (<i>Acer monspessulanum</i>., <i>Cupressus semervirens</i> f. <i>numidica</i>, <i>Quercus suber</i>, <i>Cotoneaster racemiflora</i> var <i>tomentella</i>, <i>Sorbus aria</i> subsp <i>meridionalis</i>, <i>Rosa canina</i> subsp <i>pouzini</i>) and at least 2 fauna species (Pilgrim Falcon, Booted Eagle) 	<ul style="list-style-type: none"> • Project monitoring and evaluation reports • Participatory impact monitoring 	<ul style="list-style-type: none"> • MESD coordination effective • Law to create park enacted • CRDA, GFIC trained • NGOs available
<p>Component 5: Project Management</p> <ul style="list-style-type: none"> • Project management is sound and integrated with SLM and Biodiversity conservation functions 	<ul style="list-style-type: none"> • A model for participatory management (building on the existing IADP-II's management structure) implemented capable of ensuring the achievement of the projects objectives and goals, while ensuring continuity of selected activities for SLM and BD conservation beyond project life. 	<ul style="list-style-type: none"> • Baseline surveys • Mid-term review evaluation and ex-post reports • Project monitoring and evaluation reports • Minutes of project steering 	<ul style="list-style-type: none"> • Government counterpart funding is ensured. • Full coordination between GEF and IADP-II activities is ensured at the LPCU and field levels • Negotiable institutional and

	<ul style="list-style-type: none"> IADP-II PMU/UGP is up-graded in PY1 and qualified personnel re-deployed from other parts of MAWR 	committees at all levels	financial arrangements are identified and tested
Component 1. Promotion of an Enabling Environment for SLM Mainstreaming			
Activities and Outputs (Sub-Component Purposes)	Output Indicators	Means of Verification	Assumption/Risks
<p><i>1.1. Creating an Enabling Environment</i></p> <p>1.1.1 Policy and strategies, and Legal Framework: Assessing major barriers in current legal framework; evaluation of impact of past/ongoing land regrouping;</p> <p>1.1.2 Knowledge management system: creating KM databases; web-based networking; awareness raising on SLM and Biodiversity</p> <p>1.1.3 Upgrading of national M&E system: assessing system needs; and developing system and capacity</p>	<ul style="list-style-type: none"> By PY3, 1-2 proposals for SLM barriers amendment developed and acknowledged at policy level A KM system designed in PY1 and most of its components are operational in PY2 (2 databases and 1 web architecture developed) national environmental M&E system upgraded and nation-wide awareness campaign undertaken) Number of resources' users accessing and having benefit from new KM and M&E systems 	<ul style="list-style-type: none"> Baseline surveys Mid-term review evaluation and ex-post reports Participatory impact monitoring Sample surveys Project monitoring and evaluation reports Project management reports 	same as see above (Component 1)
<p><i>1.2. Institutional Strengthening for SLM</i></p> <p>1.2.1 Upgrading extension and knowledge systems with SLM: assess needs and training plan; strengthening CRDA capacities; capacity building of NGOs; and training GDA/GFIC/CBO organizations</p>	<ul style="list-style-type: none"> 50 staff from MAWR, the Commissariat Régional du Développement Agricole (CRDA), 3-5 NGOs and 10-15 CBOs trained to mainstream SLM and ecosystem in their work (number of participants gender disaggregated) 		
<p><i>1.3. Mainstreaming SLM in Planning and M&E systems at local level</i></p> <p>1.3.1 Support to planning: development of LDPs; conducting annual reviews; and special studies</p> <p>1.3.2 M&E of project activities: SLM and BD activities integrated in IADP-II M&E system</p>	<ul style="list-style-type: none"> 15 Local development Plans (LDP) developed, 5 participatory annual reviews done, and 4-6 studies performed (6 LDP at baseline and no annual review at baseline) Project M&E upgraded to host SLM and BD matters. 		
Component 2: Mainstreaming SLM in Agricultural Activities			
Activities and Outputs (Sub-Component Purposes)	Output Indicators	Means of Verification	Assumption/Risks
<p><i>2.1. SLM on-the-ground investments</i></p> <p>2.1.1 Testing and demonstration with farmer training of SLM practices and management options: rare local fruit species plantations on deforested lands; formal organic farming promotion; Integrated Pest Management (IPM) techniques; Conservation Agriculture techniques; windbreaks to reduce ETp.</p>	<ul style="list-style-type: none"> About 200 ha fruit plantations established including Bargou Peach/Kesra Fig/Bigaro Cherry About 200 farmer groups (of about 20-25 farmers ea, 4500 HH) participated in intensive IPM and other Good Agriculture Practices (GAPs) training courses (equivalent to some 25,000 ha cultivated (gender disaggregated) Around 900 farmers trained on specific SLM practices, including (gender disaggregated) About 1000 ha formally practicing organic farming protocols acknowledged by IFOAM and certified on network established. Conservation Agriculture approaches, including direct 	<ul style="list-style-type: none"> Baseline surveys Mid-term review evaluation and ex-post reports Participatory impact monitoring Sample surveys Project monitoring and evaluation reports Project management reports 	same as see above (Component 2)

	<ul style="list-style-type: none"> sowing tested and adopted over about 1500 ha Evapotranspiration reduction techniques for climate change adaptation (through e.g. windbreaks) over 200ha. 		
<p>2.2 Land regrouping</p> <p>2.2.1: integrating SLM in land re-grouping activities</p>	<ul style="list-style-type: none"> 1500 ha re-grouped and SLM measures integrated contextually (300 HH) 		
<p>2.3 Consolidation of SWC investments</p> <p>2.3.1: planting trees along SWC works</p> <p>2.3.2: planting trees between SWC works</p>	<ul style="list-style-type: none"> Consolidation of earth bunds with productive fruit species (along bunds) over 800 ha Consolidation of earth bunds with productive fruit species (between bunds) over 800 ha (total 300 HH) 		
<p>2.4 Development of SLM incentives for farmers</p> <p>2.4.1 SWC works cost benefit analyses</p> <p>Output 2.4.2 Best practices awards to land users</p>	<ul style="list-style-type: none"> participatory cost/benefit analysis on different SWC works performed with farmer acknowledgement of value and need for maintenance 5-6 best farmer awarding annual events on SLM practices celebrated (gender disaggregated) 		
Component 3: Mainstreaming SLM in Sylvo-Pastoral Activities			
Activities and Outputs (Sub-Component Purposes)	Output Indicators	Means of Verification	Assumption/Risks
<p>3.1 Promoting community NRM systems</p> <p>3.1.1 Tools and systems: developing sylvo-pastoral management system; legal issues solving; support to CBO registration</p> <p>3.1.2 Testing and demonstration of SLM practices: spring water management; water harvesting; consolidation of SWC works; vegetation improvement; training on SLM practices</p>	<ul style="list-style-type: none"> 1 participatory sylvo-pastoral management plan developed Range improvement SLM practices adopted over 1000 ha in family-managed pastureland, and 50 water harvesting and spring rehabilitation systems put in place SWC works consolidation through tree/bush planting over about 200 ha 7500 livestock herders trained on range SLM 	<ul style="list-style-type: none"> Baseline surveys Mid-term review evaluation and ex-post reports Participatory impact monitoring Sample surveys Project monitoring and evaluation reports Project management reports 	same as see above (Component 3)
<p>3.2 rangeland improvement on common-rights sylvo-pastoral areas</p> <p>3.2.1 Rangeland land improvement</p> <p>3.2.2 Nursery production enhancement</p>	<ul style="list-style-type: none"> Range improvement SLM practices undertaken over 500 ha of common-rights land; Production capacity of 4 sylvo-pastoral nurseries enhanced; 		
<p>3.3 Development of micro-enterprises</p> <p>3.3.1 Development of marketing and business plans</p> <p>3.3.2 Technical assistance and capacity building of micro-enterprises</p>	<ul style="list-style-type: none"> At least 5 group micro-enterprises developed 		

Component 4: Conserving Biodiversity in Jebel Esserj			
Activities and Outputs (Sub-Component Purposes)	Output Indicators	Means of Verification	Assumption/Risks
4.1 <i>Development of a participatory management plan for Jebel Esserj National Park</i>	<ul style="list-style-type: none"> • 1 Specific Park (Jebel Esserj) legal act negotiated and approved and 1 management plan developed • 1500 families involved in Park Management Plan in participatory manner and improved livelihoods incorporated. (gender disaggregated when possible) • Community participation in the preparation of the management plan (by gender) • # of PDPs integrating compensation schemes if any • Reduction in the number of conflicts around the park fenced areas 	<ul style="list-style-type: none"> • Baseline surveys • Mid-term review evaluation and ex-post reports • Participatory impact monitoring • Sample surveys • Project monitoring and evaluation reports • Project management reports 	
4.2 <i>Capacity building</i> 4.2.1 Capacity building for Park Staff 4.2.2 Development of an M&E system for Park activities supporting the Park Mgmt Plan 4.2.3 Ecotourism awareness and dissemination materials	<ul style="list-style-type: none"> • 5 Park staff trained in PA management • Park M&E system in place, including impact and process indicators monitoring, • information dissemination system in place, including production of leaflets and publishing of park documentation 		
4.3 <i>Ecotourism infrastructure</i>	<ul style="list-style-type: none"> • Minimum park infrastructure developed including: tourist welcoming facilities; eco-museum; water systems; solar power system; user itinerary signs; bird watching posts; and animal management systems 		
Component 5: Project Management			
Activities and Outputs (Sub-Component Purposes)	Output Indicators	Means of Verification	Assumption/Risks
<i>Integration of PM costs</i> GEF coordinator; additional office facilities; one vehicle; incremental running cost for communications, travel, miscellaneous, and for M&E; MTR and final evaluation	<ul style="list-style-type: none"> • Capable GEF coordinator in place for entire project duration • Office functions improved • M&E reporting showing SLM and BD progress • MTR amd FE contemplating SLM and BD 	<ul style="list-style-type: none"> • Baseline surveys • Mid-term review evaluation and ex-post reports • Participatory impact monitoring • Sample surveys • Project monitoring and evaluation reports • Project management reports 	IADP-II LPCU functioning

Annex B: Project Budget (Summary of Cost tables²⁰)

RÉPUBLIQUE TUNISIENNE
Projet de développement agricole intégré dans le Gouvernorat de Siliana- phase II
Table 13. GEF
Detailed Costs
(USD)

Unit	Quantities							Unit Cost	Base Cost						
	2008	2009	2010	2011	2012	2013	Total		2008	2009	2010	2011	2012	2013	Total
I. Investment Costs															
A. Comp 1-Promotion of an Enabling Environment for SLM Mainstreaming															
1. Creating an enabling environment															
a. Policies and strategies															
Assessment of major barriers in current legal framework	Study										30,000				30,000
Evaluation of the impact of past/ongoing land regrouping	Study										20,000				20,000
Subtotal Policies and strategies															
b. Knowledge Management system															
Database for SLM relevant projects and service providers	Lumpsum										25,000				25,000
Database for SLM best practises and technologies	Lump sum										35,000				35,000
Creation of web based networking system	Lump sum										30,000				30,000
Awareness raising on SLM and biodiversity	Campaign										60,000				60,000
Subtotal Knowledge Management system															
c. Upgrading of national M&E system															
Upgrading needs assessment	Study										50,000				50,000
System development and capacity building	Lump sum										150,000				150,000
Subtotal Upgrading of national M&E system															
Subtotal Creating an enabling environment															
2. Institutional strengthening for SLM															
a. SLM upgrading extension and knowledge services															
Needs assessments and planning	Study		1					1	50,000		50,000				50,000
Strengthen CRDA capacities /a	Session		5	5	5	5		20	2,500		12,500	12,500	12,500		50,000
Strengthen CRDA capacities/study travel /b	Session			4	4			8	6,250		25,000	25,000			50,000
Capacity building for NGOs /c	Session		7	7	6			20	2,500		17,500	17,500	15,000		50,000
Training to GDAs/GFIC/community organizations /d	Session		18	18	18	18	18	90	2,000		36,000	36,000	36,000	36,000	180,000
Subtotal SLM upgrading extension and knowledge services															
3. Mainstreaming SLM in Planning and M&E systems at local level															
a. Support to planning															
Participatory Development Plans (PDP)	Plan		10	5				15	30,000		300,000	150,000			450,000
Conduct participatory, multi-sectoral annual reviews /e	Review		1	1	1	1	1	5	10,000		10,000	10,000	10,000	10,000	50,000
Special studies	Study		1	1	1			3	20,000		20,000	20,000			60,000
Subtotal Support to planning															
b. M&E system of project SLM activities															
SLM integration in to the existing M&E	Study		1					1	50,000		50,000				50,000
Subtotal Mainstreaming SLM in Planning and M&E systems at local level															
Subtotal Comp 1-Promotion of an Enabling Environment for SLM Mainstreaming															
B. Comp 2-Mainstreaming SLM in Agricultural Activities															
1. Testing and demonstration of SLM practises															
a. Management options for SLM in agricultural lands															
Local fruit species enhancement on reforested lands	Ha			100	100			200	1,500			150,000	150,000		300,000
Organic farming	Ha			250	250	250	250	1,000	200			50,000	50,000	50,000	200,000
Integrated Pest Management (IPM) & GAPS /f	Farm groups		60	70	70			200	600		36,000	42,000	42,000		120,000
Conservation agriculture	Ha			500	500	500		1,500	100			50,000	50,000	50,000	150,000
Wind brakes	Ha			100	100			200	200			20,000	20,000		40,000
Training on SLM practises /g	Session			7	7	6		20	4,500			31,500	31,500	27,000	90,000
Subtotal Management options for SLM in agricultural lands															
2. Land re-grouping/redistribution /h	ha			500	500	500		1,500	120			60,000	60,000	60,000	180,000
3. Green Consolidation of Existing SWC Bunds through Crop Diversification															
Tree planting along earth bunds	Ha		200	200	400			800	200			40,000	40,000	80,000	160,000
Subtotal Green Consolidation of Existing SWC Bunds through Crop Diversification	Ha		200	200	400			800	200			40,000	40,000	80,000	160,000
4. Development of SLM incentives for farmer															
Cost benefit analysis and return to labour of SWC and conservation farming	Study			1				1	60,000			60,000			60,000
Best practises Awards to Land Users	award		1	1	1	1		4	15,000		15,000	15,000	15,000		60,000
Subtotal Development of SLM incentives for farmer															
Subtotal Comp 2-Mainstreaming SLM in Agricultural Activities															
C. Comp 3-Mainstreaming SLM in sylvo-pastoral systems															
1. Promoting Community NRM systems															
a. Tools and systems															
Develop sylvo-pastoral management system	Study		1					1	30,000		30,000				30,000
Assess legal issues	Study		1					1	20,000		20,000				20,000
Support to CBO registration	Lump sum										12,500	12,500	12,500		50,000
Subtotal Tools and systems															
b. Testing and demonstration of SLM practises (sylvo-pastoral)															
Spring water management	Unit			10	15			25	4,000			40,000	60,000		100,000
Water harvesting systems	Unit			15	10			25	4,000			60,000	40,000		100,000
Green Consolidation of Existing SWC	Ha			100	100			200	200			20,000	20,000		40,000
Vegetation improvement	Ha			250	250	250	250	1,000	250			62,500	62,500	62,500	250,000
Training on SLM practises /i	Days of session		50	50	50			150	500			25,000	25,000		75,000
Subtotal Testing and demonstration of SLM practises (sylvo-pastoral)															
Subtotal Promoting Community NRM systems															

²⁰ Full COSTAB file annexed hereafter

TUNISIA: Support to Sustainable Land Management in the Siliana Governorate

2. Rangeland improvement on common-rights sylvo-pastoral areas																
Range land improvement	Ha	-	-	250	250	-	-	500	600	-	-	150,000	150,000	-	-	300,000
Nursery production enhancement	unit	-	-	2	2	-	-	4	37,500	-	-	75,000	75,000	-	-	150,000
Subtotal Rangeland improvement on common-rights sylvo-pastoral areas																
3. Development of micro-enterprises																
Develop of marketing and business plans	Lump sum	-	-	-	-	-	-	-	-	-	-	10,000	10,000	10,000	10,000	40,000
Technical assistance and capacity building of MSE	Lump sum	-	-	-	-	-	-	-	-	-	-	25,000	25,000	25,000	25,000	100,000
Subtotal development of micro-enterprises																
Subtotal Comp 3-Mainstreaming SLM in sylvo-pastoral systems																
D. Comp 4-Conserving Biodiversity in Jebel Esserj																
1. Conserving Biodiversity in Jebel Esserj																
a. Development of a participatory management plan																
	Lump sum	-	-	-	-	-	-	-	-	-	-	50,000	-	-	-	50,000
b. Capacity building																
Capacity building for park staff	Session	-	2	2	-	-	-	4	5,000	-	10,000	10,000	-	-	-	20,000
Development of M&E system	Lump sum	-	-	-	-	-	-	-	-	-	10,000	10,000	-	-	-	20,000
Ecotourism awareness and dissemination materials	Lump sum	-	-	-	-	-	-	-	-	-	5,000	5,000	-	-	-	10,000
Subtotal Capacity building																
c. Ecotourism Infrastructures																
Spring water management	Unit	-	-	2	2	-	-	4	10,000	-	-	20,000	20,000	-	-	40,000
Ecomuseum	Lump Sum	-	-	-	-	-	-	-	-	-	-	120,000	-	-	-	120,000
Tourists welcome facilities	Lump sum	-	-	-	-	-	-	-	-	-	-	60,000	-	-	-	60,000
Solar power devices	Lump sum	-	-	-	-	-	-	-	-	-	-	25,000	-	-	-	25,000
Animal introduction	Lump sum	-	-	-	-	-	-	-	-	-	-	5,000	-	-	-	5,000
Animal gathering facility	Unit	-	-	2	-	-	-	2	5,000	-	-	10,000	-	-	-	10,000
Children facility	Unit	-	-	1	-	-	-	1	12,000	-	-	12,000	-	-	-	12,000
Paddocks	Unit	-	-	1	-	-	-	1	5,000	-	-	5,000	-	-	-	5,000
Itineraries' signs	Km	-	-	10	5	-	-	15	200	-	-	2,000	1,000	-	-	3,000
Birds watching post	Unit	-	-	2	-	-	-	2	10,000	-	-	20,000	-	-	-	20,000
Subtotal Ecotourism Infrastructures																
Subtotal onserving Biodiversity in Jebel Esserj																
E. Comp 5-Project Management																
1. Project Management																
GEF Coordinator	p/year	-	1	1	1	1	1	5	24,000	-	24,000	24,000	24,000	24,000	24,000	120,000
Office facilities	Lump sum	-	-	-	-	-	-	-	-	-	15,000	-	-	-	-	15,000
Vehicle	Unit	-	1	-	-	-	-	1	25,000	-	25,000	-	-	-	-	25,000
Communication,travel,miscellaneous	Lump sum	-	-	-	-	-	-	-	-	-	10,000	10,000	10,000	10,000	50,000	
Support to administration and finance	p/year	-	1	1	1	1	1	5	12,000	-	12,000	12,000	12,000	12,000	60,000	
Supervision /j	Mission	-	1	1	1	1	1	5	15,000	-	15,000	15,000	15,000	15,000	75,000	
Mid term review	Study	-	-	-	1	-	-	1	40,000	-	-	-	40,000	-	-	40,000
Final evaluation	Study	-	-	-	-	-	1	1	40,000	-	-	-	-	-	40,000	
Start up workshop	Workshop	-	1	-	-	-	-	1	10,000	-	10,000	-	-	-	-	10,000
Total Investment Costs																
II. Recurrent Costs (GOT funded)																
A. Comp 1																
1. Personnel	p/year	-	1	1	1	1	1	5	12,000	-	12,000	12,000	12,000	12,000	12,000	60,000
B. Comp 2																
1. Personnel	p/year	-	2	2	2	2	2	10	12,000	-	24,000	24,000	24,000	24,000	24,000	120,000
C. Comp 3																
1. Personnel																
Wardens on State's rangelands	p/year	-	5	5	5	5	5	25	3,600	-	18,000	18,000	18,000	18,000	18,000	90,000
1 OEP staff	p/year	-	1	1	1	1	1	5	12,000	-	12,000	12,000	12,000	12,000	12,000	60,000
1 staff from forest department	p/year	-	1	1	1	1	1	5	12,000	-	12,000	12,000	12,000	12,000	60,000	
Subtotal Personnel																
D. Comp 4																
1. Personnel																
park staff	p/year	-	5	5	5	5	5	25	3,600	-	18,000	18,000	18,000	18,000	18,000	90,000
Plan development support	p/year	-	2	-	-	-	-	2	12,000	-	24,000	-	-	-	-	24,000
Subtotal Personnel																
E. Comp 5																
1. Personnel																
Staff from Ministries for coordination	p/year	-	2	2	2	2	2	10	14,400	-	28,800	28,800	28,800	28,800	28,800	144,000
Total											1,449,300	1,799,300	1,423,800	556,300	419,300	5,648,000

la 10 person x session 5 days x session

lb 5 persons x session 5 days x session

lc 5 NGO, 10 persons x NGO, 5 days x session

ld 15 CBOs 10 person x CBOs

le At the imadat level

lf Groups of 25 farm holdings among the most vulnerable targeted.

lg Sessions based on 900 HH, 45 persons per session, 5 days needed (@20 US\$ per day)

lh Convention avec l'Agence Foncière Agricole pour le remboursement de 1000 ha.

li based on 50 participants per session, two-three days per session (@ av. 4\$ / day / participant)

lj UNOPS

Annex C: Incremental Cost Analysis

National Development Objectives:

1. The highest level national development objectives for Tunisia are threefold: a) improved living conditions for Tunisia's population; b) sustainable natural resource management, and; c) balanced regional development.

Global Environmental Objectives:

2. Global importance of land degradation The Governorate of Siliana has some of the more extreme forms of the very widespread phenomenon of land degradation in Tunisia. The project area covers 70% of the Governorate and has specifically been defined to cover the areas of greatest poverty. In general, the most impoverished portions of the governorate are also those with the highest levels of land degradation – land degradation and poverty generally go hand-in-hand for very good reasons. The project will target the most severely degraded areas in one of the most degraded regions of the country. SLM technologies and systems developed in Siliana will have broad application in Tunisia and beyond.

3. The land cover and land use systems of the project area are very representative of those of the country as a whole. Although rainfed agriculture is the dominant land use, forest and range lands also cover large areas. Virtually all lands are very heavily grazed by livestock and overgrazing is a major cause of land degradation. Most of the non-agricultural lands are forested and overgrazing is the main direct causes of the degradation of forest lands. To the extent that the project is successful in developing sustainable, replicable land management systems for the different types of agricultural, range and forest lands in Siliana, the project will have made a major contribution towards the development of SLM systems that can be adapted to a large part of the country.

4. The development of sustainable land management systems for sylvo-pastoral lands is critical to the restoration and maintenance of ecosystem function and integrity of these lands. The very heavy overgrazing pressures has served to systematically eliminate the natural regeneration of preferred browse and forage species, leading to loss of biodiversity, simplification of these ecosystems and loss of resilience. Large areas that are ecologically suited for forest and bush cover now only support grasses and miniature shrubs. Soil organic matter and productivity have declined and less carbon is sequestered in these ecosystems.

5. The promotion of Good Agricultural Practices and SLM approaches will also contribute reducing Green House Gas emissions and adapting to Climate Change.

6. Global importance of biodiversity Jbel Esserj harbors a rich variety of environmental niches supporting an important variety of forest and shrub associations. The flora of Jbel Esserj includes small, unique populations of a number of rare plants. With about 100 specimens, Jbel Esserj is the only site in Tunisia with a significant presence of *Acer monspessulanum*. Recent efforts to provide some level of protection have shown that natural regeneration is possible, but is severely threatened by browsing by livestock. Jbel Esserj is one of only two sites in Tunisia where the Makthar cypress (*Cupressus semervirens* f. *numidica*) is found. The only other place where it is known to exist is at Jebel Akhdhar in Libya. Jbel Esserj hosts a rare outlier population of cork oak *Quercus suber* and also has exceptional populations of *Cotoneaster racemiflora* var *tomentella*, *Sorbus aria* subsp *meridionalis*, *Draba*

hispanica, *Fraxinus angustifolia*, *Cytisus villosus* = *C. triflorus*, *Rosa canina* subsp *pouzini* and *Asphodeline lutea*.

Systems Boundary:

7. The project area is located in the Siliana *Governorate* of Tunis. The area is semi-arid with an average rainfall ranging from 250 mm/yr. in the south to about 500 in the north. The project will cover 54 districts (*imadats*) comprising 63% of the *Governorate* of Siliana. The IADP II targets the most impoverished rural populations and the 54 *imadats* were selected to include those with the lower access to services, the higher percentage of smallholders and the higher degree of erosion and unemployment. The total population of the project area is estimated at 27,800 households, of which approximately 80% are rural. There are approximately 12,600 farming units.

8. Poverty and land degradation tend to go hand-in-hand. Key features of the project area are its significant vulnerability to erosion, the low-input, low-output agriculture that is still primarily subsistence-based, the substantial inequity in land access (with 8% of farmers owning more than 50% of the land area, whereas 62% of landowners are smallholders with less than 10 ha each). Households in the project area derive their incomes from multiple sources such as farming and seasonal work found locally, in nearby towns, or in the large coastal cities. Another characteristic of the project area is its negative demographic growth rate (-0.5% per year) due to migration to urban areas, evincing a trend towards depopulation of the country's rural areas. The Government is working to improve living conditions in the area by investing in public infrastructure, providing housing and financial assistance to needy families, and financing public works on a seasonal basis to make wage labor options available to poor households.

9. Some of the land in the project area has been cultivated since very ancient times and roman ruins are common throughout the area. Land cover has been extensively modified by man. The Governorate is one of the more hilly and mountainous areas of Tunisia and has some of the most severe problems of land degradation. Land pressures have resulted in the conversion to agriculture of many areas that are not suited to agriculture.

10. Out of the total of 278,223 ha in the project area, about 183,329 ha is agricultural land. Of this, 101,960 ha is under cereal crops, 31,011 is under tree crops (mostly olives), 6124 is irrigated and 44,234 is fallow land. 94,894 ha of the project area, or about 1/3, is non-agricultural land that is covered with forest and/or shrubs (81,485 ha) or consists of open grazing lands (13,409 ha). Virtually all forestlands and shrublands are state-owned and virtually all are also open to grazing and browsing by livestock. Grazing of State lands is primarily open access grazing. The open grazing lands (rangelands) are composed of a mix of State and private-owned lands. Most of the tracts of privately-owned rangelands are owned by a group of families or a clan and are exploited by the owners as common lands. Animal population includes 177 000 sheep, 21 000 goats, and 9000 cattle.

11. The length of the project will be five years. The project will undertake SLM barrier removal for agricultural lands, rangelands and forestlands. The degradation of agricultural lands is closely associated with inappropriate agricultural practices that result in different forms of erosion and declining soil fertility. Interventions targeting improvements to the sustainability of agricultural

systems will focus on the rainfed agricultural systems of smallholders. No significant problems of land degradation associated with irrigated agricultural lands have been identified, and irrigated lands will not be targeted.

12. The main direct cause of degradation of range and forest lands is overgrazing. The lack of SLM systems for these lands is a major barrier to SLM. The project will work at the most representative of the major types of non-agricultural forest and rangelands in the Governorate as defined by the mix of forest and range cover and of land tenure (State-owned versus private ownership). The project will develop participatory range management systems for all of the following four major types grazing lands:

- Privately owned non-forested rangelands that are exploited in common by different members of a clan or extended family that own them;
- Non-forested state-owned rangelands that are presently used as by neighboring communities as pasture lands under conditions of *de facto* open access;
- Partially forested, state-owned lands that are presently used as by neighboring communities as pasture lands under conditions of *de facto* open access;
- Heavily forested lands that are presently used by neighboring communities as pasture lands under conditions of *de facto* open access;

Baseline:

13. The Baseline includes all initiatives which are related to sustainable land management in Siliana that would normally take place even if there were no GEF funding or project. The Baseline is calculated for a period of six years – this covers one year of project preparation and the five years of the proposed project.

14. The Government of Tunisia (GoT), Bilateral and Multilateral donors²¹ will fund many Baseline activities related to agriculture, silvo-pastoral, rural development activities and bio-diversity initiatives. Around 35% of the Baseline funding is for soil and water conservation physical works – mostly large and medium sized contour bunds. Forest and rangeland interventions come after with 17% of baseline intervention. This involves mostly conventional activities such as establishment of forest plantations, the plantations of “improved” forage species and maintenance of firebreaks. It also includes increased participation of forest communities as service providers in forest management. Local communities are organized and contracted for forest plantation establishment, maintenance of firebreaks, thinning of pine stands, etc. Water development comes in third order with 7% of funding going for irrigated agricultural development and for the capture and use of runoff or for groundwater development. Notably, the baseline includes the Project for the Development of Mountainous Zones (PDZMF) funded by World Bank and GoT; and a water development Project for the Development of Hillside Dams (PMVBC), funded by the European Union. Both will complete activities by the end of 2008. These projects focus primarily on the

²¹ Donors include: Fond Arabe pour le Développement Economique et Social (FADES); the International Bank for Reconstruction and Development (IBRD); the African Development Bank (AfBD); the Japan Bank for International Cooperation (JBIC); Bakengruppe-KFW (Germany).

construction of contour bunds for erosion control and the planting of fruit trees. The environmental sector contributes to the baseline with on-going investments and activities to set the base of the national environmental monitoring system and few efforts related to biodiversity conservation. The breakdown of Baseline funding is as follows:

▪ Water management	USD 31.8 millions (35%)
▪ Forest and rangeland	USD 15.6 (17%)
▪ Soil and water conservation	USD 6.5 (7%)
▪ IADP-II project	USD 33.9 (37%)
▪ Environmental sector	USD 1.1 (1%)
▪ Other development projects	USD 2.6 (3%)
Total Baseline:	USD 91.5 million

15. The Integrated Agricultural Development Project (described earlier) in the Governorate of Siliana Phase II (IADP II) is by far the most important part of the Baseline for Siliana Governorate. This 6-yr project is the “umbrella project” to the GEF SLM project developed. IADP II interventions includes the following:

▪ Participatory development planning	USD 1.4 million
▪ Institutional capacity development/training	USD 2.5
▪ Agricultural extension	USD 1.3
▪ Soil and water conservation physical works	USD 6.3
▪ Arboriculture (fruit trees)	USD 4.6
▪ Agriculture Irrigation	USD 8.9
▪ Drinking water supply	USD 1.2
▪ Rural roads	USD 5.4
▪ Enterprise development	USD 2.3
▪ Total PDAI II contribution to the Baseline	USD 33.9 millions

Gaps in the Baseline:

16. The project will need to make the incremental investments that are needed to achieve global benefits and in the absence of the GEF investment a number of opportunities would not occur. The GEF investment will enhance the participatory planning process of the IADP-II by involving the farming and sylvo-pastoral populations in the selection of SLM practices and investments to be tested. This constitutes a unique occasion for the land users to choose first, then test, acknowledge and eventually determine the conditions to upscale appropriate SLM practices most of which also have a climate change adaptation value. Pilots on Good Agricultural Practices (GAPs) would show how sustainable practices are able to increase return to land and labour, and in turn, enterprise profitability of environment-friendly investments. Demonstrations on sustainable rangeland management (on private and public land) supported by the project would mark evidence on relationship between pasture and livestock productivity.

Agro- and natural biodiversity conservation (by enhancing local fruit species, improving vegetation quality of rangelands and protecting unique flora and fauna in Jebel Esserj) are a value-added *per se* but also constitute an opportunity to decrease pressure on land resources (because productivity of land improves diminishing horizontal expansion, and because alternative sources of income are created with park-triggered tourism). Furthermore, the project through the foreseen measures for a SLM mainstreaming enabling environment would also move forward substantially the building of a national Knowledge Management and environmental M&E system, which would comprehend otherwise insufficiently considered, LD and SLM matters. Finally, the GEF project will strengthen considerably interaction and coordination between the MAWR and MESD.

Gaps for SLM mainstreaming

17. Although national policies are supportive of stakeholder participation, and the IADP II project will support participatory Local Development Plans (PDP), the baseline does not include the development of multi-sectoral, participatory rural development planning processes that integrate SLM. In a similar fashion, the baseline does not foresee to involve farmers, herders and other stakeholders in the annual review and evaluation of SWC and other SLM techniques, agricultural technologies and rural development activities. In addition, the baseline does not consider the need to review the legal framework in terms of alignment to the national strategies and policies and hence to ascertain the actual feasibility of plans which are developed in a participatory fashion for sustainable management of natural resources.

18. With the exception of the LDP and implementation approaches spearheaded by IADP II, the baseline is primarily a “business as usual” scenario that uses existing institutional capacities to expand on existing programs. There is also little capacity building for local imadat or community-level institutions, and NGO or private sector for their involvement in SLM mainstreaming is also not foreseen.

19. Under the Baseline, the MESD would not have the resources to integrate land degradation and SLM perspective into the national environmental monitoring system. They presently have many indicators under testing process, but with no budget to develop operational procedures and to field test the system in Siliana. The Baseline also includes no measures for a national level knowledge management (KM) system in support of SLM, and to serve both to raise awareness in Siliana so that lessons learned and best practices from the national level can be integrated into SLM models for Siliana; and for lessons learned and best practices from the project to be integrated into SLM programs in other parts of Tunisia.

Gaps for SLM in Agricultural Activities

20. The Baseline does very little to develop incentives for the adoption of SLM measures, including those that would benefit from land re-grouping support. No economic and financial analyses of costs and benefits are done to determine the optimal use of the large amounts of money that government and donors invest in SWC structures. No financial analysis is done of costs and returns, from the farmer’s perspective, of available conservation farming techniques. Also there are no plans in the Baseline to develop systems of competition/recognition/prizes for farmer innovators or for the best “conservation farmers” in the Governorate.

21. Baseline would continue to invest on new SWC physical works but no allocation is made for maintenance and consolidation on sunken investment. Land users have no chances to test and adapt best

SLM practices to their present productions systems. Alternative tillage systems and operations, integrated pest management techniques, organic farming, conservation agriculture, agro-biodiversity valorization are all options which could find a profitable utilization by the Siliana farmers but which have no home in the baseline.

Gaps for SLM in Sylvo-pastoral Activities

22. The SLM Baseline for the range/grazing and forest lands includes substantial investments, especially by government, but mostly in conventional activities such as establishment of forest plantations and the plantations of “improved” forage species. The Baseline includes almost nothing to address the root causes of land degradation on sylvo-pastoral. Sustainable management of grazing lands can probably only be achieved through participatory approaches and management systems but the Baseline does not include such activities. Land users have no chances to test and adapt best SLM practices to their present productions systems.

23. No incentives for the sustainable use of rangelands by local livestock owners will be created, and access to State-owned rangelands will remain open and uncontrolled, thus forest and range ecosystems will continue to degrade. The Baseline does not include analysis of sylvo-pastoral product market chains, or the identification of opportunities for improving them to the benefit of local communities and for enhanced incentives for sustainable land management. Community managers/user groups will not receive support for business planning and enterprise and market chain development.

Gaps for Biodiversity Conservation

24. Under the Baseline there is no specific allocation for protected areas. A preliminary study for the transformation of the Jbel Esserj Reserve into a National Park was made with Japanese Aid support. The option was further investigated during PDF-B phase. This has allowed starting a participatory process involving concerned communities in defining park boundaries, including buffer and transition zones, and for eco-tourism development. During PDF-B, studies have also allowed investigation on possible micro-enterprises to be developed for alternative livelihoods. However resources are not earmarked in the baseline to actually implement the Park and a full protected area management plan.

Incremental Activities to Generate Global Benefits:

25. The GEF investment will enhance the participatory planning process of the IADP-II, by involving the farming and sylvo-pastoral populations in the selection of SLM practices and investments to be tested. This constitutes a unique occasion for the land users to choose first, then test, acknowledge and eventually determine the conditions to upscale appropriate SLM practices most of which also have a climate change adaptation value (e.g Conservation Agriculture, Evapo-transpiration reduction). The added value of the GEF intervention would be also reflected in the systematic identification of adaptation options through the PDP (local planning process) process. Mainstreaming SLM and conservation in the PDPs will offer opportunities for adaptation and capture a menu of activities that will help the local population in better adapting to climate change impacts. The PDP process will benefit (through SLM mainstreaming) from the use of tools and methods that will allow for a better assessment of vulnerabilities in the local development planning process with particular reference to vulnerability which is related to land degradation and

desertification. Pilots on Good Agricultural Practices (GAPs), IPM, organic farming would show how sustainable practices are able to increase return to land and labour. Demonstrations on sustainable rangeland management (on private and public land) supported by the project would mark evidence on relationship between pasture and livestock productivity. Agro- and natural biodiversity conservation (by enhancing local fruit species, improving vegetation quality of rangelands and protecting unique flora and fauna in Jebel Esserj) are a value-added *per se* but also constitute an opportunity to decrease pressure on land resources. Furthermore, the project through the foreseen measures for a SLM mainstreaming enabling environment would also move forward substantially the building of a national Knowledge Management and environmental M&E system. Finally, the GEF project will strengthen considerably interaction and coordination between the MAWR and MESD.

26. The project will be implemented in the Siliana Governorate, but the significance of the project extends beyond its borders. The project will impact significantly on desertification control in Tunisia, as part of Tunisia's responsibility under the UNCCD. However, its global contribution is the nature of the project design, based on a programmatic and participatory model for Sustainable land management and biodiversity conservation, including integrating government action on enabling policy environments and mainstreaming SLM, with focused activities to motivate and local farmer/herders to assume more responsibility and authority for sustainable land management. In addition, the project links issues of desertification control with biodiversity conservation and poverty reduction.

27. The proposed project will have considerable potential for replication across similar ecosystems in North Africa, the Middle East, and elsewhere, with considerable global benefits. The proposed approach is foster system-wide change through removal of policy and institutional barriers, demonstrate successful SLM up-scale strategies, and considerably improve the knowledge base for control and mitigation of land degradation and rural poverty.

28. Other benefits of global significance will come from conservation and safeguarding the functionality, integrity and environmental services that flow from well managed key ecosystems such as Djebel Esserj. These comprise soil and water conservation, biodiversity conservation, including many indigenous plant species with medicinal and economic value, as well as habitat protection for wildlife. Global benefits will also accrue to conservation of social values, since traditional knowledge is also being lost.

29. Issues of climate change are also important since land degradation and unsustainable agricultural practices results in release of considerable quantities of CO₂, which is a well-known contributor to global warming. Conversely, control of land degradation can improve the above and belowground carbon, thus contributing to carbon sequestration and to mitigation of climate change. Although the rates of soil carbon sequestration per hectare are low in arid and semi-arid ecosystems compared to more favoured production environments, the areas involved are diverse and could results ins significant carbon sinking. Furthermore, improved rangeland management and grazing patterns are likely to boost ecosystem's potential in sequestering carbon and reducing emissions. Increased net primary production in targeted areas will yield carbon stocks and thus links SLM and climate change mitigation objectives. The diversity of rangelands and sylvo-pastoral management in terms of technical options and approaches are likely to bring innovations that could be replicated throughout similar projects in the region (i.e. through MENARID) and at larger scale in similar environments across the globe. The project will pay particular

attention in order to identify, document and disseminate any innovations that yield global environmental benefits from SLM, biodiversity and improved rangeland/grazing and sylvo-management techniques.

30. Incremental GEF investments to the baseline, and foreseen activities are summarized below by the five project components and include the IADP II project and GoT co-financing.

Strengthening Policy and Planning Frameworks for SLM Mainstreaming. Total funding for this component is USD 3.64 millions.

31. GEF would provide about USD 1.4 millions incremental funding to address the gaps in this area of intervention by: (1) reviewing the legal framework and making proposals for its alignment to the prevailing strategies and policies of the country and to improve the context for SLM and BD conservation adoption and mainstreaming; (2) putting in place the conditions for the creation of comprehensive and integrated Knowledge Management; (3) strengthening the institutional framework in the direction of the existing national strategy for a modern and sustainable advisory system that integrates the public sector, the private and NGO service providers, and includes in service provision activities the community-based organizations such as the GDAs and GFICs; and (4) integrating SLM issues in participatory planning, by contributing to the development of Local Development Plans with a special focus on SLM issues to be reviewed annually, and M&E system being established by the IADP-II.

32. IADP II project and GoT would provide USD 1.31 millions as co-financing in the related activities.

Mainstreaming SLM in Agricultural Activities. The total funding for this component is USD 20.320 millions.

33. GEF would provide USD 1.5 millions incremental funding to address the gaps in this area of intervention by: (1) implementing demonstrative SLM on-the-ground Investments (including farmer training) to be identified during the preparation of the participatory Local Development Plans and which would include improving farmers' profitability in the "clarières forestiers" also through conservation of agro-biodiversity by enhancing plantation (over about 200ha) of local fruit species (e.g. the Bargou Peach, the Kesra Fig, the Bgaro Cherry); promoting introduction and certification of formal organic farming in earmarked cluster areas for bio-agriculture (about 1000 ha); implementing participatory extension on IPM and GAPs (with 200 farmer groups); experimenting (on about 1500 ha) diverse Conservation Agriculture techniques (including direct sowing); utilizing soil water deficit mitigating measures like productive shelterbelt plot fencing (about 200 ha); (2) integrating SLM norms on Land re-grouping operations (over about 1500 ha); (3) Green Consolidation of Existing SWC bunds through Crop Diversification (over about 1600 ha); (4) improving knowledge and perception of benefic effects of SWC investments to induce farmer-led maintenance, and introduction of farmer awarding events for best SLM practices as a means to develop SLM incentives for farmers.

34. IADP II would provide USD 13.832 millions as co-financing in the related activities.

Mainstreaming SLM in Sylvo-Pastoral Activities. The total funding for this outcome is USD 5.460 millions

35. GEF would provide USD 1.25 millions incremental funding to address the gaps in this area of intervention by: (1) developing participatory NR and rangeland/forestry management systems assisting also 'company' registration of GFIC and other CBO forms to allow for commercial enterprising; (2) developing SLM on-the-ground investments (with community training), which may include (over 1000 ha) rangeland vegetation (fodder bushes and herbaceous plants) improvement (which also brings bio-diversity benefits); spring water management/rehabilitation and implementation of water harvesting investments (on some 50 spots, as a means to induce also rational rangeland rotation); Green Consolidation of Existing SWC bunds (on about 200 ha); (3) rangeland improvement on common-rights sylvo-pastoral highly degraded areas (about 500 ha) including support to specialized nurseries; and (4) development of Micro-Enterprises for natural products (e.g. medicinal, aromatic and nutritious food) and environment-friendly activities.

36. IADP II and GoT would provide USD 4.41 millions as co-financing in the related activities.

Conserving Bio-Diversity in Jebel Esserj. The total funding for this component is USD 0.51 million.

37. GEF would provide 0.4 USD million in support of a) the creation of the new national park through participatory process; b) development of an operational management system for the park, and; c) the development of ecotourism in ways that create incentives for conservation.

38. GoT would provide co-financing of USD 114,000 in support of all of the same outputs that are supported by GEF and with personnel.

Project Management Costs The total amount of incremental funding for project management costs would be USD 0.435 millions. The total project management cost (baseline included) is estimated at USD 2.412 (for the whole operation including non-GEF activities)

The proposed GEF intervention offers a good scope for innovations in terms of approaches (mainstreaming SLM at the local level through the PDPs, co-management of the national park and the buffer zones, and promotion of sustainability through environmentally friendly income generating activities). The proposed investments are innovative in terms of balanced sets of activities that are coupled for mainstreaming SLM at all levels with targeted investments that are driven by the PDPs and the local development process with a vision to generate global environmental benefits. The project will also promote an incentive based system by rewarding farmers that promote good agricultural and land husbandry techniques. Integration and promotion of conservation agriculture may prove innovative in the context of Siliana's production systems. Co-management of protected area and their buffer zones will also offer innovations in terms of management modalities, benefit sharing (as these will be negotiated with the PDP process) and conservations efforts that are linked to development activities. Co-management around the Djebel Esserj ecosystem will consider and capitalize on any appropriate barrier and non-barrier methods, and compensation systems if proven feasible in the local context of Siliana and Djebel Esserj. Examples from other initiatives could be relevant and may include combination of premiums for a two-fund compensation scheme that is based on the number of livestock (for instance) and paid by potential claimants in one fund and proceeds from ecotourism ventures in the second fund. If feasible and required, any compensation schemes would have to be negotiated, designed, implemented and monitored through the PDPs.

39. Annex D: Monitoring and Evaluation Plan and Budget

40. Project monitoring and evaluation will be done in conformity with all of the requirements for GEF projects as defined by the GEF Secretariat and will also meet the requirements defined under the January 2006 Loan Agreement signed between IFAD and the Government of Tunisia. IFAD will delegate the day-to-day oversight and monitoring of the project to CI, although IFAD will maintain the right to conduct its own supervisory missions at any time.

41. The main responsibilities for project reporting will be in the Regional Coordinator based in Siliana. He will be assisted by the National Coordinator and the special biodiversity Task Coordinator. The National Coordination Committee and the Regional and Delegation-level Advisory Councils will play key roles in the routine monitoring and evaluation of project interventions.

42. In addition, to the Project's internal M&E systems, the project will assist the CRDA, the GDA and the community range and management structures to develop their own M&E systems and to use them routinely for annual adaptive management reviews. The project will also assist the Ministry of Environment to integrate the monitoring of land degradation and sustainable land management into the national environmental monitoring system that they are developing.

Estimated M&E Budget

INDICATIVE MONITORING AND EVALUATION WORK PLAN AND CORRESPONDING BUDGET (UNDER IADP II FINANCING)

Type of M&E activity	Responsible Parties	Budget US\$ <i>Excluding project team Staff time</i>	Time frame
Inception Workshop	<ul style="list-style-type: none"> ▪ National Coordinator ▪ Task Coordinator ▪ Regional Coordinator ▪ IFAD ▪ CI 	10,000	Within first two months of project start up
Inception Report	<ul style="list-style-type: none"> ▪ Regional Coordinator ▪ Project Team ▪ National Coordinator ▪ Task Coordinator 	None	Immediately following IW
Measurement of Means of Verification for Project Purpose Indicators	<ul style="list-style-type: none"> ▪ The Regional Coordinator will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members 	80,000	Start, mid and end of project
Measurement of Means of Verification for Project Progress and Performance (measured on an annual basis)	<ul style="list-style-type: none"> ▪ Oversight by the Regional Coordinator ▪ Project Team ▪ National Coordinator ▪ Task Coordinator 	50,000	Annually prior to PIR and to the definition of annual work plans
PIR	<ul style="list-style-type: none"> ▪ Regional Coordinator ▪ Project Team 	None	Annually

	<ul style="list-style-type: none"> ▪ CI ▪ IFAD ▪ National Coordinator ▪ Task Coordinator 		
National Coordination Committee	<ul style="list-style-type: none"> ▪ National Coordinator ▪ Task Coordinator ▪ CI (IFAD) ▪ Representatives of involved Ministries (MAWR, MESD, MDIC, ANETI, Ministry of Finance, Ministry of Tourism and Artisanat) 	None	Following Project IW and subsequently at least once a year
Regional and Delegation level Advisory Council meetings	National (for RAC) & Regional Coordinators Project Team	None	
Project Supervision	CI	75,000	
Mid-term External Evaluation	<ul style="list-style-type: none"> ▪ Project team ▪ MAWR ▪ IFAD ▪ CI ▪ External Consultants (i.e. evaluation team) ▪ National Coordinator ▪ Task Coordinator 	25,000	At the mid-point of project implementation.
Final External Evaluation	<ul style="list-style-type: none"> ▪ Project team ▪ IFAD ▪ CI ▪ External Consultants (i.e. evaluation team) ▪ National Coordinator ▪ Task Coordinator 	50,000	At the end of project implementation
Project Completion Report	<ul style="list-style-type: none"> ▪ Government Counterparts ▪ National Coordinator ▪ Task Coordinator ▪ Project team ▪ CI/IFAD 	None	At least one month before the end of the project
Lessons learned	<ul style="list-style-type: none"> ▪ Project team ▪ Knowledge Management Network ▪ National Coordinator ▪ Task Coordinator 	None	Yearly
Audit	<ul style="list-style-type: none"> ▪ Project team ▪ MAWR/MESD ▪ CI 	none	Yearly
Visits to field sites (CI/IFAD staff travel costs to be charged to IA fees)	<ul style="list-style-type: none"> ▪ Government representatives ▪ National Coordination Committee members ▪ Regional and Delegation level Advisory Council members 	none	Yearly
TOTAL indicative COST		US\$ 290,000	

Annex E: Root Causes of Land Degradation-BD Loss, Bio-Physical Impacts, Barriers, Solutions and Baseline

<i>Direct Cause of Land Degradation 1 : Unsustainable agriculture</i>			
Biophysical Impacts	Root Causes of Land Degradation	Barriers to Sustainable Land Management	Potential Solutions
<p>Impacts caused by water erosion :</p> <ul style="list-style-type: none"> Both rill and gully erosion are major factors in the degradations of agricultural land. Land degradation is a visible, tangible phenomenon that is directly impacting on people's livelihoods in Siliana Rill erosion removes the most fertile topsoil first and then eats into less fertile subsoil. On shallow soils, it can leave bedrock exposed resulting in nearly complete loss of productive potential. Loss of topsoil decreases the soil organic matter and with it the cation exchange capacity and water holding capacity of the soil. Soil structure can be severely damaged. Soils usually become more acid and much less fertile and productive. This results in less vegetative cover making erosion control more difficult. It takes long periods of time to replace topsoil. Ravine erosion causes the total loss for agricultural use of the area occupied by the ravine. The already small fields are further fragmented and access can be made much more difficult. Untreated, gullies can undergo rapid extension during intense rainfall events. <p>Impacts of degradation not caused by erosion</p> <ul style="list-style-type: none"> Mineralization of soil organic matter leads to a diminished ability of the soil to retain essential nutrients for plant growth and diminished water holding capacity of the soil, making crops more susceptible to drought. Soil structure can be severely damaged. Soils often become more acid and much less fertile and productive. 	<ul style="list-style-type: none"> Poverty and lack of alternative livelihood deprive people of options, often forcing them to exploit lands and natural resources unsustainably, even when they are fully aware that such uses are unsustainable. Impoverished smallholders lack the capital needed to invest in many forms of sustainable agricultural practices. This limits their use of fertilizers and other soil amendments needed to maintain soil fertility. Agricultural land uses have been developed without respect for land suitability. Steep slopes with erodible soils are planted to annual crops without the use of appropriate soil and water conservation measures. Inadequate maintenance of soil and water conservation structures put in place, especially of mechanically constructed medium to large contour bunds. Most soil bunds have never been stabilized with productive, multi-purpose vegetative cover. The investments in mechanized contour bunds and the size of the areas treated are small in comparison to the needs and the size of the area undergoing moderate to severe land degradation. Inappropriate agricultural techniques – repeated cropping cycles of cereals & fallow, little or no leguminous 	<p>Non-participatory, sectoral approach to planning</p> <ul style="list-style-type: none"> Although the need for an integrated, multi-sectoral participatory approach is increasingly recognized, the structure and the functioning of the CRDA remains highly sectoral and participatory approaches have not yet been mainstreamed. There is little collaboration and team work amongst the “arrondissements”. Critical linkages are not developed. To different degrees, the same compartmentalization and lack of collaboration between sectors/administrative units is found at all levels. Insufficient understanding and application of participatory approaches to agricultural and rural development and for SLM. In PDAI Phase I, local communities were not directly involved in development planning. 	<ul style="list-style-type: none"> Develop the use of the PDP as an integrating tool at the CRDA, Imadat and community levels. Develop M&E for adaptive management as another integrating, multi-sectoral tool... Have all technical divisions, local populations and other key stakeholders participate in periodic/ annual adaptive management reviews of their programs. Develop and institutionalize collaborative mechanisms amongst “arrondissements” at the CRDA level. Develop the use of economic analytical tools for comparing costs and benefits across sectors (for example the cost effectiveness of SWC structures versus cultural practices.
		<p>Dysfunctional agricultural extension</p> <ul style="list-style-type: none"> There is little institutional diversification of agricultural extension. The private sector suppliers of ag inputs play almost no role. Farmers associations in Siliana are very weakly developed and are not involved in ag extension. The NGO sector is weakly developed and plays almost no role in ag extension. Except for the recently created position of ag advisors (conseillers agricoles), nearly all ag extension is concentrated in the Ministry of Agriculture and the CRDAs. The CRDA extension service in Siliana is characterized by aging poorly trained and poorly motivated staff with little means of transport or other equipment. The main function of staff is the collection of ag statistics. There is no political will for rebuilding the extension service 	<ul style="list-style-type: none"> Ag extension for larger commercial farmer should be privatized on a fees-for-services basis. Government ag extension personnel and resources f should focus on the small farmers. Government extension agents need retraining, basic equipment, and a new sense of mission. Develop private sector capacities for delivery of ag extension services, focusing on the medium to large-scale commercial farmers. Integrate retired, unemployed and recently graduated ag professionals and technicians. Establish renewable, performance-based contracts with private sector service providers for SLM related services to

<ul style="list-style-type: none"> • Mining of soil nutrients. <p>Diminished organic matter leads to lower permeability of many soils with lower infiltration rates and less groundwater recharge and high runoff rates with increased erosion</p>	<p>forage crops in crop rotations, inappropriate mechanization (disc plows bad for soil structure), insufficient soil amendments/fertilization/replacement of nutrients).</p> <ul style="list-style-type: none"> ▪ Inadequate use of organic soil amendments. Insufficient use of chemical fertilizers to replace soil nutrients. ▪ Animal husbandry/livestock production inadequately integrated with crop production. Insufficient/inefficient use of animal manures and insufficient integration of forage crops in the farming systems. ▪ Affordable soil testing and fertilizer usage recommendations are not available or very costly, especially for smallholders, making fertilizer use more costly and inefficient 	<p>in its former image.</p> <ul style="list-style-type: none"> ▪ The extension system has a top-down structure. Extension packages are designed at the top and are “delivered” to farmers. There is little farmer involvement in problem identification, in development of the extension packages or approaches. Periodic adaptive management reviews have not been institutionalized. ▪ There is little diversification of ag extension packages for different socio-economic and ecological conditions. 	<p>medium to large scale farmers.</p> <ul style="list-style-type: none"> ▪ Assist private sector suppliers of ag inputs to provide basic extension materials to their clients. ▪ Help the GDA to develop basic capacities for service provision to small farmers. ▪ Involve farmers and GDA in the participatory development of new, diversified ag extension packages that integrate sustainable agricultural practices.
		<p>Incentives</p> <ul style="list-style-type: none"> ▪ There has been little professional analysis and identification of adequate and sufficient incentives for the adoption of conservation farming techniques by farmers. ▪ Ag subsidies have been concentrated on SWC structures. There have never been any subsidies to encourage adoption of conservation farming practices (<i>les techniques douces</i>). ▪ Although there are national-level prizes for best farming practices on irrigated lands, there are no systems of awards/prizes/recognition for best conservation farming practices on innovations in the Siliana Governorate. 	<ul style="list-style-type: none"> ▪ Develop more detailed agricultural suitability maps on which individual farms/fields can be located. Develop and apply new criteria for agricultural subsidies based on these maps. ▪ Develop an annual competition with awards and media coverage for farmer adoption and innovation in the development of more sustainable & productive agricultural practices. ▪ Develop multi-level (GDA, Imadat, governorate) “farmer-field days” for open, organized visits to farms/farmers employing the best conservation farming techniques. ▪ Review of ag subsidies at the governorate and national levels with targeted recommendations to increase the cost effectiveness of incentives for sustainable agriculture. ▪ Work with credit agencies and other services to make credit/services contingent upon adoption of SLM techniques.
		<p>Institutional capacities</p> <ul style="list-style-type: none"> ▪ There is a general commitment to participatory approaches but little practical experience and capacities at any level for making this a reality. ▪ Little or no capacity in community-level 	<ul style="list-style-type: none"> ▪ Build CRDA-level capacities for participatory approaches, effective communications, participatory development planning, adaptive management, land degradation analysis, SLM priority setting, for the development of more cost-effective

		<p>institutions for participatory approaches, good governance, communication, LD problem analysis, for integrating sustainable agriculture into local development planning or for executing these plans and for monitoring and evaluation, natural resource management, adaptive management and business management.</p> <ul style="list-style-type: none"> ▪ Civil society regional institutions (NGO, consulting firms) have limited capacities to support participatory development planning, ag extension, LD&SLM reviews, market chain development, etc.. ▪ Almost no capacity for monitoring the sustainability of agricultural systems exists at any level within the Ministry of Agriculture. ▪ The national system for environmental monitoring and evaluation has no operational capacity yet, including no national-level monitoring of land degradation, desertification and SLM 	<p>extension packages for SLM and for M&E</p> <ul style="list-style-type: none"> ▪ Develop the capacities of both formal and informal community-level institutions for participatory approaches, good governance, communications, LD problem analysis, for integrating sustainable agriculture into local development planning and for executing these plans and for monitoring and evaluation, natural resource management, adaptive management and business management.. ▪ Targeted capacity building of AFA for more cost effective land redistribution and regrouping ▪ Build the capacities of civil society regional institutions (NGO, consulting firms) to support participatory development planning, ag extension, LD&SLM reviews, market chain development, etc. ▪ Provide assistance to new agricultural advisors to become established in Siliana. ▪ Develop national-level capacities for the monitoring of land degradation, desertification and SLM as part of a national system for environmental monitoring.
		<p>Institutions</p> <ul style="list-style-type: none"> ▪ Optimal community institutional forms for development planning, including problem LD problem analysis and planning, have not been identified. ▪ Efficient institutions for low-cost delivery of agricultural inputs and for the marketing of agricultural products are severely lacking in Siliana. The few cooperatives that exist are very weak. The most common type of institutional structure (GDA) is not supposed to undertake commercial activities – in a strict legal sense – they some of them do. Some informal, unregistered groups without legal status do 	<ul style="list-style-type: none"> ▪ Encourage and assist farmers to develop both formal (GDA) and informal institutions based on strictly voluntary membership. Both formal and informal groups can work together as an interface with CRDA/ag extension agents and can pool resources for the purchase of ag inputs and for the marketing of ag products. ▪ Build the capacity of both formal and informal, non-exclusionary groups with broad representative membership, to participate in the development and

		<p>undertake commercial activities (purchase of ag inputs) based on mutual trust.</p> <ul style="list-style-type: none"> ▪ Civil society institutions are poorly developed. There are no NGOs active in SLM in Siliana. 	<p>implementation of PDPs.</p> <ul style="list-style-type: none"> ▪ Seek formal approval for GDAs to undertake commercial activities. Provide capacity building support to GDA, agricultural cooperatives and informal groups for the low cost supply of ag inputs and for the marketing of farm produce. ▪ Provide training and service provider contracts to NGOs and consulting firms for SLM support to sustainable agriculture.
		<p>Land redistribution not developed as an effective tool for SLM</p> <ul style="list-style-type: none"> ▪ Land redistribution/regrouping has not been directly linked to sustainable agricultural practices. After redistribution, many farmers continue to plow up and down the slopes and there is no obligation for using practice conservation farming practices. CES structures are not integrated into field boundaries. Fields are not oriented with the contour to facilitate contour plowing. ▪ Very limited human resources for redistributions. 	<ul style="list-style-type: none"> ▪ Develop and test systems for directly linking redistribution with the adoption of conservation farming techniques. Make their post-land redistribution adoption a pre-condition for funding. Orient fields lengthwise along the contour. Plan field boundaries to correspond with CES structures. ▪ Identify opportunities for improving the cost-effectiveness of the land redistribution process and make necessary investments to achieve them on an operational basis. ▪ Work with government to meet the manpower needs for land regrouping.
		<p>Legal framework</p> <ul style="list-style-type: none"> ▪ Although the law is somewhat unclear, many interpret it to mean that GDA are not allowed to undertake commercial activities. This would prevent them from providing agricultural inputs at moderate cost to their members, from marketing agricultural produce or from undertaking commercially oriented PRM/PFM. ▪ There is an old law on the books that requires farmers to plow/cultivate on the contour. Administrative regulations needed to bring it into force have never been issued and the law has never been enforced. 	<ul style="list-style-type: none"> ▪ Revise the laws on GDA to enable them to undertake commercial activities. ▪ Conduct a participatory analysis with farmers in selected Imadats/GDAs to determine the pros and cons of bringing the law into force. If the analysis is positive, develop draft conditions with these farmer groups and assist the Ministry to develop and apply administrative regulations for the law.
		<p>Insufficient awareness raising</p>	<ul style="list-style-type: none"> ▪ Develop awareness and support of

		<p>There has never been any serious effort to raise awareness and support for basic conservation farming practices such as contour plowing.</p>	<p>GDA/local community institutions for adoption of contour plowing.\</p> <ul style="list-style-type: none"> ▪ Conduct economic analysis of return on investments of conservation farming practices and SWC structures.
		<p>M&E</p> <ul style="list-style-type: none"> ▪ The existing M&E system does not go beyond simple reporting on the number of units of SWC structures put in place. There is basic monitoring but almost no evaluation. M&E is not used for adaptive management for periodic review and improvement of farmer adoption of conservation practices. M&E does not involve the local communities in the evaluation of ag extension, development plans and other CRDA programs. 	<ul style="list-style-type: none"> ○ Develop an operational M&E system within the Statistics Division of the CRDA. ▪ Develop the M&E for routine use as a multi-sectoral, multi-stakeholder adaptive management tool. Use the monitoring results to periodically evaluate the effectiveness of ag extension, PDPs and other CRDA programs. ▪ Place close attention to the ability of the CRDA to sustain the M&E function beyond the life of the project.
		<p>Land use planning</p> <ul style="list-style-type: none"> ▪ There is no viable system of land use planning in Siliana to ensure that land use is in conformity with land suitability ▪ “Cartes agricoles » have been done for Siliana Governorate. They define land suitability for agricultural uses. They have been done at three different scales. All scales are too small to be applied to individual farms/farm fields 	<ul style="list-style-type: none"> ▪ Integrate the land suitability maps into PDPs and into the land redistribution/regrouping programs. ▪ Use the land suitability maps for restructuring government subsidies in support of GDT. ▪ Local land use planning at the GDA level
		<p>SLM and development planning</p> <p>SLM is not integrated into the Imadat-level Participatory Development Plans (PDPs). The development of methodologies for doing this was begun during PDF B but are at an early stage of development.</p>	<ul style="list-style-type: none"> ○ Using annual adaptive management reviews, continue to develop guidelines for participatory development planning that integrates SLM into the problem analysis and development of all local participatory development plans (PDPs). ▪ Fund the development of participatory development plans with full integration of SLM.
		<p>Research poorly focused</p> <ul style="list-style-type: none"> ▪ Little research done on sustainable agricultural/conservation farming practices? 	<ul style="list-style-type: none"> ○ As part of KM, identify knowledge gaps and research needs for sustainable agriculture. ▪ Mainstream sustainable agricultural

		<ul style="list-style-type: none"> ▪ Research programs not based on a sound LD problem analysis with clear identification of obstacles to SLM. ▪ Little involvement of farmer innovators in the development and implementation of research program. 	<p>research into national agricultural research program.</p> <ul style="list-style-type: none"> ▪ Mainstream the integration of farmer innovation into sustainable agricultural research programs.
	<p>Lack of economic alternatives</p> <p>Pressures on agricultural and pastoral lands are extremely high in part because of the lack of other economic alternatives</p>		<ul style="list-style-type: none"> ○ Diversify livelihoods and other sources of income in order to reduce pressures on agricultural lands and other natural resources. ▪ Develop participatory, intensive management of State-owned forest and range lands as an economic alternative. Develop the market chains of forest products in ways that yield maximum revenues/benefits for local populations.
		<p>Know-how and knowledge management</p> <ul style="list-style-type: none"> ▪ There is no formal system of knowledge management for sustainable agriculture. Elements of KM are fractured and uncoordinated. ▪ There is no efficient system/structure for Siliana to access information on lessons learned and best practices for SLM from the rest of Tunisia. ▪ There is to efficient system/structure for field operators in the rest of Tunisia to learn and benefit from best practices and lessons learned from Siliana. ▪ There is no institutional home for KM and no sustainable funding. ▪ M&E and knowledge management are not linked together. <p>Adaptive management is not developed as a means of refining knowledge for SLM.</p>	<ul style="list-style-type: none"> ○ Develop a national knowledge management network (KMN) of field practioners, projects with SLM components, farmers associations and researchers who are concerned with knowledge management for sustainable agriculture. ▪ Select an institutional home for the KMN – key criteria should be availability of sustainable funding to ensure post-project sustainability. ▪ Involve all members in a participatory review of SLM best practices and lessons learned. Emphasis should be on farmer acceptance, cost-effectiveness and sustainability of interventions. ▪ Identify key gaps in the knowledge base and develop a participatory plan for filling these gaps. ▪ Hold periodic KMN national review meetings for exchange of new information on SLM. <p>Synthesize and publish the results</p>

Direct Cause of Land Degradation 2: Overgrazing of range and forest lands Most of the rangelands in Siliana are forested. Nearly all of the forestlands and most of the unforested rangelands are State lands, but there are also significant areas of private, large family or clan-owned undivided rangelands. Overgrazing is a moderate to severe direct cause of land degradation on nearly all of these range and forest lands			
Biophysical Impacts	Root Causes of Land Degradation	Barriers to Sustainable Land Management	Potential Solutions
<ul style="list-style-type: none"> Diminished vegetative soil cover, especially of herbaceous vegetation and of the litter layer (overgrazing sometimes leads to bush encroachment with an increase in woody vegetative cover) Increased water erosion, both rill erosion and ravine erosion. Overgrazing eliminates all or most of the natural regeneration of many forest species. For example, on most sites, Holm oak survives only as stunted, severely browsed stump sprouts. High value nutritious forage plants are replaced over time by low values species of little nutritional value. More nutritious perennial grasses are replaced by annual grasses. On some sites, grasses are replaced by woody vegetation. Loss of ecosystem integrity and function. Disruption of natural cycles. Loss or ecosystem productivity. <p>Loss of biodiversity and simplification of ecosystems. Some forests are composed of very dense stands of unpalatable species, especially Aleppo pine.</p>	<ul style="list-style-type: none"> The <i>de facto</i> open access for livestock to State-owned range and forest lands eliminates any possibility of sustainable range management. Access to undivided private lands is open amongst the members of the extended family/clan that owns the lands. There are no effective controls on the number or type of livestock or the timing of their use of rangelands resulting in widespread moderate to severe overgrazing. Those who pasture their livestock on State lands use the pasture/range resource as a free good. They pay nothing for its use and have no incentive to limit livestock numbers. The livestock numbers/ pressures are far beyond the sustainable carrying capacities of the range and forestlands. Ecological conditions necessary for adequate natural regeneration of forest and herbaceous species are not fulfilled under open access grazing. Much of the potential for irrigated agriculture is unused. If developed properly, it could increase forage production while diminishing pressures on range and forest lands. <p>It is often the most impoverished people who exert the greatest pressures on State/collective lands. There are significant</p>	<p>Lack of know-how and models for participatory management</p> <ul style="list-style-type: none"> Nearly all the success stories for natural forest management on the continent involve participatory approaches and all of the promising range management approaches are participatory. There are no tested, proven models of participatory range and forest management (PRM/PFM) in Tunisia. There is very limited know-how for PRM/PFM in Tunisia. There is no body of lessons learned, best practices, etc. There is no definition of the optimal roles of the State and of communities in PRM/PFM Local people have little involvement in the decision-making process over the use of State forest and rangelands There is insufficient awareness neither of the success stories in PFM nor of the different options that have already been tested. Large families/clans hold undivided lands (<i>terrains en indivision</i>) without title, with intra-group open access to pasture lands and with limited security for individual members <p>Policy, legal & regulatory frameworks</p> <ul style="list-style-type: none"> There is a growing consensus that local communities need to be involved in range and forest management on State lands, that they there should be a transfer of responsibilities and 	<ul style="list-style-type: none"> Develop systems/models of participatory management of State forest and rangelands at a limited number of sites. Develop and apply criteria for the choice of sites to ensure representivity and to maximize chances of success. Develop models for private and State-owned rangelands and for State-owned pastured forest lands. Develop management systems in ways that yield maximum monetary benefits for livestock owners – those who will have to diminish the number of livestock that they pasture on the State lands. Empower local communities to implement joint management plans. Empower them to harvest and to market products based on the based plan. Require the community managers to reinvest part of their revenues back into the forest to cover management costs. Create community-managed forest & range management funds that are fed by grazing fees and revenues from commercial forest products. Define optimal roles for communities and government. Government's role should be primarily one of monitoring, oversight and support. Place a strong emphasis on capacity building for the new community management institutions. <p>Obtain a special authorization from the Minister of Agriculture for the project to develop and test participatory management of State forest and rangelands at pilot sites.</p>

		<p>resources to communities and that communities should receive substantial benefits from such management. However the existing legal base was developed for State control and management. It does not provide a usable basis for the empowerment of communities for participatory management. Most critically, it does not allow communities to realize monetary benefits from commercial uses of forest products.</p> <ul style="list-style-type: none"> ▪ Specific points of existing legislation: <ul style="list-style-type: none"> ○ A GDA/community organization cannot harvest, sell and receive money from forest products; ○ Some of the main non-timber products can only be sold through competitive bids – this normally excludes communities and creates no long term incentives for communities to protect/manage the lands; ○ It is very difficult to award non-competitive contracts for silvicultural operations to community groups and they are not allowed to receive and market wood products from forest thinning operations; ○ Grazing fees may be the most effective tool for controlling livestock numbers on managed rangelands, but community institutions cannot charge grazing fees for pasturing livestock on State lands. ○ As of March 2000, the only legal option for community PRM/PFM institutions will be the GDA. There is almost no flexibility in the law in this regard. ▪ There is no legal basis for empowering community institutions to harvest and market forest products based upon a joint forest management plan. ▪ Forest Department powers to control livestock use of State lands are not used. ▪ The legal framework recognizes usufruct grazing rights on State lands. Those with usufruct grazing 	<ul style="list-style-type: none"> ▪ Based on these pilot operations, develop new legislation that lays a strong legal basis for participatory management of State forest and range lands throughout Tunisia. Specific points should include the following: <ul style="list-style-type: none"> ○ Authority to empower community organizations to implement joint forest and/or range management plans. ○ Authorization for the empowered community organization to undertake commercial activities. ○ Clear authority for community managers to harvest and market at open market prices, woody and non-woody forest products based on approved joint management plans. This will include the authority to market wood products from thinning operations. ○ Obligation of community managers to cover management costs out of revenues; <p>Clear authorization for community managers to levy grazing fees as a tool for controlling livestock numbers and for covering range management costs</p>
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		<p>rights are not required to pay for use of the range resource</p>	
		<p>Incentives</p> <ul style="list-style-type: none"> ▪ Livestock owners have every incentive to maximize the number of livestock they pasture on State lands and no incentive to diminish them to sustainable levels. ▪ Individual family members of clans pasturing animals on undivided clan-owned, extended family-owned range lands have every incentive to maximize the number of their own livestock and little incentive to diminish them to sustainable levels. ▪ The long-established legal systems for commercial exploitation of woody and non-woody products on State forest lands has been designed to largely exclude local communities from most commercial uses of the forests. Those who exploit the forest are not from the community and have little long-term incentive to conserve the forest. Communities receive minimal benefits and have little incentive to protect/ conserve the forest. Under existing systems, very little of the value-added goes to local populations. ▪ State management of forestlands involves high overhead and transaction costs that make intensive forest management unprofitable. PFM has the potential for making intensive management much more profitable, but this potential cannot be realized under the existing framework. ▪ Civil service personnel management systems and criteria for career advancement provide little incentive to foresters to develop and implement sustainable management systems of State range and forestlands. 	<ul style="list-style-type: none"> ▪ Develop PRM/PFM in such a way that local livestock owners are the principal beneficiaries of commercial uses of the forest and rangelands. The new monetary benefits of commercial forest use will serve as the main incentive for the adoption and respect of new sustainable grazing systems. ▪ Develop PRM/PFM contracts that specify that the local community's commercial harvest rights are contingent upon their respect for the agreed forest and range management plan and for the contract to be established between the community and the Forest Department. Failure to respect either will lead to suspension of commercial rights.
		<p>Institutions for PFM</p> <ul style="list-style-type: none"> ▪ There is no legal flexibility for PFM institutions – as of March 2007, GDA will be the only recognized option. ▪ To date, the existing GFIC serve only as service 	<ul style="list-style-type: none"> ▪ Develop model institutions for PRM/PFM that are based on general principles while allowing flexibility to adapt to local socio-economic conditions. ▪ The PRM/PFM institutions should be legally

		<p>providers for silvicultural operations and not for co-management. The GFIC must be transformed into GDA in 2007. GDA cannot undertake commercial activities – they cannot, therefore, manage a forest as a profit-making commercial enterprise.</p> <ul style="list-style-type: none"> ▪ There are no government or civil society institutions with a mandate for providing institution building support for PFM institutions. 	<p>responsible for the implementation of joint management plans and for respecting contractual agreements with the Forest Department.</p> <ul style="list-style-type: none"> ▪ Provide funding and capacity building for the development of non-governmental institutions as service providers to community-management institutions ▪ Provide support and capacity building for the development of institutions composed of local PRM/PFM structures as need arises.
		<p>Institutional capacities</p> <ul style="list-style-type: none"> ▪ No one has ever developed successful PRM/PFM in Tunisia. Institutional capacities for doing so are minimal. However, there does seem to be a growing consensus on the value of participatory approaches and a genuine commitment and willingness to transfer NRM responsibilities to communities. ▪ There are almost no capacities of community institutions for forest and range management. ▪ There is little capacity for CRDA forestry personnel to develop participatory approaches to the management of State forest and range lands. ▪ There are no capacities for the replication and adaptation of eventual PRM/PFM models to be developed. ▪ There are civil society institutional capacities as service providers for capacity building for community management institutions 	<ul style="list-style-type: none"> ▪ Place emphasis on capacity building for the pilot community management institutions. To include: <ul style="list-style-type: none"> ○ Good governance ○ Communication ○ Administration; ○ NRM ○ Business management ○ Adaptive management ○ M&E ▪ Develop Forest Department capacities for: <ul style="list-style-type: none"> ○ True participatory approaches; ○ Support for community-level capacity building ○ Adaptive management ○ M&E and oversight focusing on sustainability, equity and economic development. ○ Replication, adaptation and improvements on basic models. ▪ Develop capacities of NGOs and consulting firms to provide capacity building support to community co-managers.

		<p>Cultural values on livestock Cultural norms place a very high value on livestock ownership and on the number of livestock owned. This causes economic distortions and contributes to the overgrazing of both State and private lands.</p>	<ul style="list-style-type: none"> ▪ Awareness raising conducted by professionals with proven sensitivities to cultural traditions. ▪ Encourage markets that pay premium prices for high quality livestock ▪ Conduct economic analysis of investment alternatives to livestock and integrate into extension and awareness raising programs.
		<p>Enforcement Usufruct rights to pasture on State lands are supposed to be limited to those living on State lands, but this is not enforced. De facto open access to all is the result.</p>	<p>Ensure that local livestock owners are key stakeholders and principal beneficiaries of the new PRM/PFM systems</p>
		<p>Monitoring and evaluation and adaptive management</p> <ul style="list-style-type: none"> ▪ There are no monitoring systems developed for PRM/PFM that can be used for improving management systems through adaptive management reviews. There are no monitoring systems for the effectiveness of existing State control and management systems. ▪ There is no definition of what are the key factors that need to be monitored by the State and what are the factors that need to be monitored by the community managers. 	<ul style="list-style-type: none"> ▪ Develop M&E as a key function of the CRDA Forestry Division (arrondissement) and the Statistics Division. M&E should focus on the environmental, economic and social aspects of PRM/PFM. ▪ Integrate M&E PRM/PFM into the national level environmental M&E system.
		<p>Sustainable financing systems There is no mechanism for directly reinvesting part of the revenues from the commercial use of the forest and range resources back in to cover the management costs.</p>	<ul style="list-style-type: none"> ▪ Assist PRM/PFM managers to develop their own management fund. All commercial uses of the range and forest lands should contribute to the fund with a portion of revenues from each commercial activity going back into resources management costs. ▪ Help community managers to develop appropriate safeguards and checks and balances to minimize fraudulent uses of these funds.

Matrix of Threats to the Biodiversity of Jbel Esserj, Bio-physical Impacts, Root Causes, Barriers to Biodiversity Conservation, Solutions and the Baseline			
Biophysical Impacts	Root Causes of Land Degradation	Barriers to Sustainable Land Management	Potential Solutions
<ul style="list-style-type: none"> ▪ Elimination or severe reduction of the natural regeneration of the most critically endangered flora of Jbel Esserj. E.g., <i>Cytisus villosus</i> has become very rare and <i>Acer monspessulanum</i> is severely threatened. ▪ Thinning/loss of forest cover due to lack of regeneration. ▪ Shrub encroachment by woody bush species that are the most resistant to grazing. ▪ Increased runoff, soil erosion and sedimentation of Lakhmas Reservoir. ▪ Perturbation and loss of ecosystem function & integrity. 	<ul style="list-style-type: none"> ▪ <i>De facto</i> open access to herders/livestock – overgrazing on the State owned lands of Jbel Esserj is similar to that on State-owned lands throughout the governorate – as described above. Only one small area of <i>Acer monspessulanum</i> in the small existing reserve has been fenced. Present management is limited to some enforcement and to fire suppression. 	<p>Legal status of Jbel Esserj</p> <ul style="list-style-type: none"> ▪ Only a small part of the future park has actually been gazetted – the rest is all non-gazetted state land of a condition and status similar to that described above on the overgrazing of range and forest lands. ▪ One of the most globally important species at Jbel Esserj, the “<i>cyprés de Makthar</i>” is not included in the existing reserve nor was it included in the proposed boundaries of the new park. This has been corrected during PDF B. 	<ul style="list-style-type: none"> ▪ Undertake a participatory process, in accordance with existing law, for the creation of the new park. ▪ Ensure that all areas of global and national importance for biodiversity conservation are included within the park boundaries and that priority areas are properly zoned.
		<p>Incentives</p> <ul style="list-style-type: none"> ▪ Local support for the proposed park is based strongly on hopes that tourism development will bring monetary benefits for the local population. At this point, there is almost no tourism development at Jbel Esserj and, consequently, almost no economic benefits for local populations. ▪ It is intended that the forest and range resources of the Zone 2 Buffer of the park will be jointly managed with local populations and that management will yield significant benefits for local communities. Such systems will be developed are to be developed with GEF SLM funds, but this has not yet begun and no participatory management benefits are being generated at present 	<ul style="list-style-type: none"> ▪ Put a strong emphasis on tourism development in park management planning. ▪ Ensure that tourism development does not endanger the globally and nationally important biodiversity of the park. ▪ Fund essential infrastructure for tourism development (trails, shelters, interpretation center...)
		<p>Management system</p> <ul style="list-style-type: none"> ▪ No management plan has been developed for the 	<p>Participatory development of a management plan for the national park including all three zones.</p>

		proposed park. There are no other PAs in the Siliana Governorate.	
		Institutional Capacity Local CRDA level staff have no experience in PA management.	Undertake a participatory process, in accordance with existing law, for the creation of the new park.
		Institutions The new park will be under the Ministry of Environment. This ministry does not presently have field staff in Siliana Governorate	<ul style="list-style-type: none"> ○ Assist in the development of partnerships between the Ministry of Environment, CRDA Forest Division, local populations and private sector tourism investors.
		Know-how Little is known about the biology of the biodiversity spp. of global importance of the ecology of the ecosystems to be conserved. In particular, little is known of the ecological conditions necessary for the natural regeneration of the most globally important species.	<ul style="list-style-type: none"> ○ Conduct research on the biology and the ecology of priority species/ecosystems and other subjects as needed for effective management of the PA.
		Infrastructure There is very little infrastructure that is needed for basic ecotourism development. The existing trail systems is very rudimentary and there are no shelters or trails signs/markers. There are no special tourism attractions such a visitor interpretation center.	<ul style="list-style-type: none"> ▪ Develop a well designed, low impact network of visitor trails with shelters and trail signs. ▪ Develop a visitor information center
		Monitoring and Evaluation There is no system for monitoring the biodiversity of the park or of the impacts of tourists or of the impacts of overgrazing, etc.	Develop an M&E system to monitor the biodiversity, the regeneration of threatened species, the impact of tourism, the pressures from livestock grazing, etc

Annex F: Principles of Conservation Agriculture

CA is a concept for resource-saving agricultural crop production that strives to achieve acceptable profits together with high and sustained production levels while concurrently conserving the environment. CA is based on enhancing natural biological processes above and below the ground. Interventions such as mechanical soil tillage are reduced to an absolute minimum, and the use of external inputs such as agrochemicals and nutrients of mineral or organic origin are applied at an optimum level and in a way and quantity that does not interfere with, or disrupt, the biological processes.

CA is characterized by three key practices which are linked to each other, namely:

1. Continuous minimum mechanical soil disturbance.
2. Permanent organic soil cover.
3. Diversified crop rotations in the case of annual crops or plant associations in case of perennial crops.

In a soil that is not tilled for many years, the crop residues remain on the soil surface and produce a layer of mulch. This layer protects the soil from the physical impact of rain and wind but it also stabilizes the soil moisture and temperature in the surface layers. Thus this zone becomes a habitat for a number of organisms responsible for humus formation contributing to the physical stabilization of the soil structure.

In a system with reduced mechanical tillage based on mulch cover and biological tillage, alternatives have to be developed to control pests and weeds. Integrated Pest Management becomes mandatory. Crop rotation interrupts the infection chain between subsequent crops and making full use of the physical and chemical interactions between different plant species.

CA provides a number of advantages on global, regional, local and farm level:

- It provides a truly sustainable production system, not only conserving but also enhancing the natural resources and increasing the variety of soil biota, fauna and flora (including wild life) in agricultural production systems without sacrificing yields on high production levels.
- No till fields act as a sink for CO₂ and conservation farming applied on a global scale could provide a major contribution to control air pollution in general and global warming in particular.
- By not tilling the soil, farmers can save between 30 and 40% of time, labour and, in mechanized agriculture, fossil fuels as compared to conventional cropping.
- Soils under CA have very high water infiltration capacities reducing surface runoff and thus soil erosion significantly.
- Conservation agriculture is by no means a low output agriculture and allows yields comparable with modern intensive agriculture but in a sustainable way. Yields tend to increase over the years with yield variations decreasing.
- For the farmer, conservation farming is mostly attractive because it allows a reduction of the production costs, reduction of time and labour, particularly at times of peak demand such as land preparation and planting and in mechanized systems it reduces the costs of investment and maintenance of machinery in the long term.

Disadvantages in the short term might be the high initial costs of specialized planting equipment and the completely new dynamics of a conservation farming system, requiring high management skills and a learning process by the farmer. Long term experience with conservation farming all over the world has shown that conservation farming does not present more or less but different problems to a farmer, all of them capable of being resolved.

Annex F (continued): Examples of Better Land Husbandry Technical Options

- build-up of soil organic matter and related biological activity to optimum sustainable levels (for improved moisture and nutrient supply and soil structure) through the use of compost, farmyard manure, green manures, surface mulch, enriched fallows, agroforestry, cover crops and/or better crop residue management;
- integrated plant nutrition management with locally appropriate, and cost effective, combinations of organic/inorganic and on/off-farm sources of plant nutrients (e.g. organic manures, crop residues, rhizobial N-fixation, transfer of nutrients released by weathering in the deeper soil layers to the surface via tree roots and leaf litter, rock phosphate, lime and chemical fertiliser);
- better crop management, improved seeds of appropriate varieties, improved crop establishment at the beginning of the rains (to increase protective ground cover, thereby reducing water loss and soil erosion), weed management and integrated pest management;
- better rainwater management to increase infiltration and reduce runoff so as to improve soil moisture conditions within the rooting zone, thereby lessening the risk of moisture stress during dry spells, while reducing erosion;
- improvement of soil rooting depth and permeability through breaking of a cultivation- induced compacted soil layer (hoe/plough pan) through conservation tillage practices by means of tractor-drawn subsoilers, ox-drawn chisel ploughs, and hand-hoe planting pits/ double dug beds; and/or interplanting of deep rooted perennial crops/trees and shrubs);
- reclamation, where appropriate (i.e. if technically feasible and cost effective), of arable land that has been severely degraded by such processes as gullyng, loss of topsoil from sheet erosion, soil compaction, acidification, alcalinisation and salinisation.
- for irrigated crop production systems, also improving water use efficiency: improved water distribution to minimise channel seepage losses, and mulching to reduce evaporation losses, and minimising the risk of salinisation by following good irrigation and drainage practices; and
- for livestock production systems, better integration of crop and livestock production in both the cereal based farming and agro-pastoral systems: on-farm production and conservation of fodder crops for dry season feeding, better use of crop residues for feed and bedding and returning the manure to the land; and improving the productivity of grazing lands through better range management and, where appropriate, seeding and planting with improved grasses, herbaceous pasture legumes and browse species.

Annex G: Key Knowledge Base Links

Data Bases	Information Provided
CPMIS	FAO Country profiles and mapping information system (http://www.fao.org/countryprofiles/inventory.asp?lang=en)
TERRASTAT	Land and soils (http://www.fao.org/ag/aql/aqll/terrastat/wsr.asp http://www.fao.org/landandwater/aqll/glasod/glasodmaps.jsp)
AQUASTAT	Water and irrigation (http://www.fao.org/ag/aql/aqlw/aquastat/countries/index.stm)
GFRA	Forests and woodlands (http://www.fao.org/forestry/site/fra/en/)
WOCAT	Measures taken against degradation (mainly soil erosion with geo-referenced data linkage through the GLASOD map units) (http://www.fao.org/ag/aql/aqll/wocat/default.stm)
FAOSTAT	Statistical information on, among others, crop and livestock production per country (http://faostat.fao.org/default.aspx).
GIEWS	Global information and early warning system information made available by FAO on crop prospects and food situation that includes satellite imagery links for Up-to-date low resolution satellite imagery, meteorological data and derived products and information on software tools, methods and techniques used for environmental monitoring, crop forecasting, early warning, desert locust control and others (http://www.fao.org/giews/workstation/page.ispx?what=CHANGE_LANGUAGE&setting=en)
AFRICOVER	As a digital georeferenced database on land cover and a geographic referential for the whole of Africa and Sub-Saharan Africa MAPS and PAIA for farming systems, thematic maps and Africa maps on desertification; (http://www.africover.org/index.htm)
TEMS	A directory of sites and networks that carry out long-term terrestrial monitoring and research activities (http://www.fao.org/gtos/tems/index.jsp)
SAMREM	The Sustainable Agriculture and Natural Resources Management Collaborative Research Support Program, which reports on a range of projects in the field of SLM
SAFMA	A sub-global scale activity of the Millennium Ecosystem Assessment (2005) on which reports are available (only for Southern Africa) based on assessments of services provided by its ecosystems and their impacts on the lives of the region's people (http://www.millenniumassessment.org/en/subglobal.safma.aspx)
LADA	On-going GEF supported, FAO implemented global project that aims at assessing causes, status and impact of LD land degradation in drylands. (http://lada.virtualcentre.org/pagedisplay/display.asp)
GTOS	Programme for observations, modelling and analysis of terrestrial ecosystems to support sustainable development. It also houses an international directory of sites and networks of organizations that carry out long-term terrestrial monitoring and research activities (http://www.fao.org/gtos/)
PROSOIL	World soils database (http://www.fao.org/waicent/faoinfo/agricult/aql/aqll/prosoil/prosoil.asp)
SIS	Seed information system (http://www.fao.org/ag/aqp/agps/seed/wlss.htm)
FERTMIS	Nutrient response database (http://www.fao.org/ag/aql/aqll/nrdb/) and nutrient management http://www.fao.org/ag/aGp/agpc/doc/themes/5a.html
LEAD	Targets the protection and enhancement of natural resources which are affected by livestock production and processing and also focuses on poverty reduction and public health enhancement through appropriate forms of livestock development (http://www.fao.org/ag/aql/aqll/nrdb/)
CPP	Country pasture profiles (http://www.fao.org/ag/agP/AGPC/doc/Counprof/regions/index.htm)
USDA WSRMI	World Soil Resources Map Index (http://soils.usda.gov/use/worldsoils/mapindex/)
ILEIA	The LEISA on-line magazine contains a wealth of case studies and articles from Africa and around the world, searchable by topic (http://www.ileia.org/index.php?url=topics.tpl)
UNCBD	On ecosystem approach (http://www.cbd.int/programmes/cross-cutting/ecosystem/default.shtml)
FFS	This resource centre is intended to provide information about the Farmer Field Schools. (http://www.farmerfieldschool.info/)
GAP	Good agricultural practices database (http://www.fao.org/prods/gap/database/isma?chtitle=3&m=gap&txt=sustainable&i=AG&lang=en&op=or&p=SimpleSearchForm)
CA	FAO conservation agriculture site (http://www.fao.org/ag/ca/)
MASHREQ / MAGHREB	An IFAD and AFESD supported initiative entitled "Developing the Sustainable Livelihoods of Agropastoral Communities of West Asia and North Africa" (http://www.mashreq-maghreb.org/index.php)
IPM	The Global IPM Facility promotes Integrated Pest Management (IPM) through awareness raising and support to the development of field programs and policy reform (http://www.fao.org/ag/AGP/AGPP/IPM/gipmf/index.htm)
ORGANIC FARMING	FAO and IFOAM links on Organic Agriculture http://www.fao.org/organicag/ http://www.ifoam.org/ ; http://www.ifoam.org/about_ifoam/principles/
GREENTIE	Climate change adaptation technologies: http://www.greentie.org/
TTCLEAR	Technology and Science database for Climate Change http://ttclear.unfccc.int/ttclear/jsp/ and other CC related sites: http://www.oecd.org/topic/0,2686,en_2649_34361_1_1_1_37465_00.html ; http://www.ipcc.ch/
UNCCD	The UN convention site to combat desertification: http://www.unccd.int/
CBD	The UN convention site on biological diversity: http://www.cbd.int/
GEF	The global environmental facility: http://www.gefweb.org/