

FAO/GEF PROJECT DOCUMENT ANNOTATED TEMPLATE

Note that the guidance/annotations under each heading and subheading is for guiding formulators only and should be deleted during the drafting of the document.

Project Title:	Revitalising Oasis Agro-ecosystems through a Sustainable, Integrated and Landscape Approach in the Draâ-Tafilalet Region (OASIL)
FAO Project symbol:	GCP/MOR/051/GFF
GEF Project ID:	9537
Recipient Country(ies):	Morocco
Executing partners:	Ministry of Environment, Ministry of Agriculture (MAPM, including ANDZOA, ADA), INRA
Expected EOD (Starting Date):	1 st December 2016
Expected NTE (End Date):	31 st December 2021
Contribution to FAO's Strategic Framework: (Indicate as appropriate)	<p>50% to Strategic Objective 3; Organizational Outcome 301 The rural poor have enhanced and equitable access to productive resources, services, organizations and markets and can manage their resources more sustainably; Organizational output 30102 Support to the promotion and implementation of pro-poor approaches to policies and programmes which improve access to and sustainable management of natural resources and output 30103 Support to improve access of poor rural producers and household to appropriate technologies and knowledge, inputs and markets.</p> <p>50% to Strategic Objective 2; Org. Outcome 201 Producers and natural resource managers adopt practices that increase and improve agricultural sector production in a sustainable manner. Output 20102: Integrated and multi-sectoral approaches for ecosystems valuation, management and restoration are identified, assessed, disseminated and their adoption by stakeholders is facilitated</p> <p>Country Programming Framework Output: Sustainable management of natural resources and development of effective and inclusive food systems</p>
Contribution to GEF TF Focal Area Strategic Objectives and Programmes:	<p>BD -3 Programme 7</p> <p>LD-1 Programme 1</p> <p>CCM-1 Programme 1</p> <p>CCM-2 Programme 4</p>
Environmental and Social Risk Classification	Moderate risk
Gender Marker ¹	G1

¹ See Guidance Note on 'Gender Mainstreaming in project identification and formulation'.

Financing Plan:	
GEF allocation:	GEFTF: USD 8,631,050
Co-financing:	MAPM/ADA/ANDZOA: USD 39,570,000; INRA: USD 1,000,000; and FAO: USD 700,000
Sub-total co-financing:	USD 41,270,000
Total budget:	USD49,901,050
<p>Executive Summary</p> <p>Oases are important socio-agro-ecosystems providing economic, ecological, social and cultural services throughout the world's drylands. Moroccan oasis agro-ecosystems cover a total area of 115 563 km² (15% of the country's surface), and are home to over 1.7 million people (5% of the population). As a refuge for biodiversity, climate regulation, and agricultural products, they are the last line of defense against a progressing Sahara desert.</p> <p>The resilience of these once sustainable and sustainably managed agro-sylvo-pastoral ecosystems has been challenged by a number of recent transformations, directly and indirectly putting pressure on the natural resources oasis agro-ecosystems nurture and rely on.</p> <p>Despite investment and interest in oasis development by a number of partners, further efforts are needed to ensure sustainable natural resource management and agricultural production intensification. Without a GEF intervention, continued survival of highly diversified oasis agro-ecosystems is at stake, threatened by various factors such as the abandonment of the traditional cultivation and farming systems; conversion of land and habitat in and around traditionally managed fields to alternative uses such as unsustainable intensive farming, plantations; and the displacement and dilution of traditional varieties cultivated in these systems.</p> <p>The overall objective of OASIL is to revitalize oasis agro-ecosystems in the Drâa-Tafilalet region to be productive, attractive, and healthy and to sustain and make more resilient the livelihoods of the local communities. OASIL intends to achieve this objective working along 4 components, and adopting an integrated landscape approach which is rooted in multi-level, multi-sector and multi-stakeholder participation, and considers the carrying capacity of the natural resource base of the oasis agro-ecosystem (land, water, biodiversity).</p> <p>Component 1: Policy dialogue - Support policy dialogue at the national and regional levels on the sustainable management of oasis agro-ecosystems</p> <p>Public and private stakeholders at the national and regional levels will be sensitized and offered actionable knowledge, data and tools to make informed and fact-based decisions in support of the sustainable development of oasis agro-ecosystems. Policy dialogues will be backed by an interactive multi-stakeholder platform hosted by ANDZOA. Large scale commitment to a 'Declaration on sustainable oases' is hoped to be the result of this component.</p> <p>Component 2: Planning and monitoring – Improvement of Natural Resource Management and Sustainable Production Intensification planning and monitoring systems at regional and local levels</p> <p>Information on the state and level of degradation of oasis agro-ecosystems will be complemented and updated at the regional and local levels (4 pilot oases). This information will feed into a comprehensive typology study of oases in the Drâa-Tafilalet region and support the participatory design of sustainable oasis agro-ecosystem management and investment plans.</p> <p>Component 3: Demonstration - Sustainable and integrated oasis agro-ecosystem management and investment plans are implemented in pilot oasis ecosystems in at least 2 sub-drainage basins</p> <p>For a selection of representative oasis agro-ecosystem types, the management and investment plans will be implemented in order to demonstrate the potentials for natural resource management and sustainable production intensification in oasis, while creating and sustaining decent rural employment and adequate levels of nutritious food for the local oases populations (women and youth in particular).</p> <p>A forth component will ensure lessons and best practices emanating from the project are captured and disseminated, while also ensuring the effective monitoring and evaluation of the project.</p> <p>OASIL is a 5 year project, executed by the Ministry of Environment, Ministry of Agriculture, ANDZOA, INRA and FAO, with the support of a large number of regional and local stakeholders.</p>	

ACRONYMS

ADA	Agency for Agricultural Development
AL	Agricultural Label
AMABO	Moroccan Association of Organic Production
ANDZOA	National Agency for the Development of Oasis and Argan Areas
APDESPS	Agency for the Promotion and the Economic and Social Development of the Southern Provinces of the Kingdom
AREP	Regional Agency for Project Execution Drâa-Tafilalet
AWP/B	Annual Work Plan and Budget
BH	Budget Holder
DDFP	Directorate of Production Chain Development
EP	Executing Partner
FAO	Food and Agriculture Organization of the United Nations
FPMIS	Field Project Management Information System
GEBs	Global Environmental Benefits
GEF	Global Environment Facility
GEFSEC	GEF Secretariat
GI	Geographic Indication
GEI	Economic Interest Group
GPI	Public Interest Groups
IAV	Hassan II Agronomic and Veterinary Sciences Institute
INRA	National Institute for Agricultural Research
LTO	Lead Technical Officer
MAPM	Ministry of Agriculture and Marine Fishery
M&E	Monitoring and Evaluation
ODECO	Office for the Development of Cooperatives
OMPIC	Moroccan Office of Industrial and Commercial Property
ONCA	Office for Agricultural Advisory Services
ONSSA	National Food Safety Authority
ORMVAO	Regional Office for Agricultural Development of Ouarzazate
ORMVAT	Regional Office for Agricultural Development of Tafilalet
PIF	Project Identification Form (GEF)
PAR	Regional Agricultural Plans
PIR	Project Implementation Review
PPG	Project Preparation Grant (GEF)
PPR	Project Progress Report
PMV	Plan Maroc Vert (Green Morocco Plan)
PRODOC	Project Document
PMU	Project Management Unit
PSC	Project Steering Committee
PY	Project Year
STAP	Scientific and Technical Advisory Panel
TCI	Investment Centre Division (FAO)
TOR	Terms of Reference
USD	United States Dollar

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SECTION 1 – INTRODUCTION

1.1 THE DRAA-TAFILALET REGION

1.1.1. The socio-economic context

1 The area of the Drâa-Tafilalet is 115,563 km² and counts a total population of 1.7 million inhabitants (of which 66% live in rural areas) (HCP², 2014). The overall population density reaches thereby 14.7 / km², though the density per hectare of agricultural area greatly exceeds 700 inhabitants / km². This situation is due to the poor agricultural base (2%) compared to the desert area in the region (98%).



Map 1: Oasis areas in Morocco

2 Both the rapid population growth in the region and the sustained degradation of the natural resource base have put constraints on the economic development of the region.

² High Commission for Planning (HCP), 2014: General Census of Population of Morocco.

Nevertheless, revenues from immigrant families (up to 60%) soothe the economic impact of a degrading natural resource base (ANDZOA³, 2014).

3 Furthermore, rural populations are increasingly challenged by climate change, resulting in the uptake of seasonal migrations and an increasing urbanization trend (with further dependence on remittances of rural populations). Inadequate income and poverty of the rural population hamper the private small scale family-based investment into livelihood diversification at the local level. Also a growing lack of skills and capacities further paralyses the economic development of the rural areas in the Drâa-Tafilalet region (ANDZOA, 2012a and 2012b)⁴.

4 Still, many of the opportunities the region has to offer are not grasped; the multi-functionality of oasis agro-ecosystems remains largely untapped, landscapes and agricultural products are not valued, and key economic sectors – mainly food industry, tourism and handicrafts – are underdeveloped. Skills development and new and additional investments are needed in order to turn the tide, invest in and promote new profit-making activities (DAT 2003)⁵. Sectoral support efforts made by the government remain fragmented and are often quite disconnected from the realities on the ground. An integrated approach to promote interconnections and synergies between the various sectoral efforts is needed to boost the economic base in rural areas and to help people improve their incomes.

5 Located in arid zones, oases have historically been centers of trade and commerce. They have contributed to the food security of the local populations and have provided them with sustainable sources of income and employment.

6 Oases are an expression of ingenious human adaptation to the harsh conditions of their environment, requiring expertise and complex knowledge. Their role as natural barrier to the advancement of the Sahara desert, prompted UNESCO, in 2000, to classify the oases of southern Morocco as a Biosphere Reserve.

7 Oases are rich, tiered agro-ecosystems, including an upper tier with date palms, a potential middle tier with fruit trees and a lower tier with annual crops. Oasis agro-ecosystems thrive thanks to rigorous, tried and tested agricultural and management practices, for instance for the management of irrigation water, land and biological resources. In this ingenious agro-ecosystem, the date palm is the backbone of the oasis economy and ecosystem. Today, in the Drâa-Tafilalet region, the date palm is the main source of income for about one million inhabitants, it generates significant commercial activity, and contributes to job creation and population prosperity.

3 ANDZOA, 2014. Climate Change Adaptation in oasis areas, project document.

4 Study concerning the conduct of palm groves characterization contributing in creation of economic interest groupment -ORMVA-Tafilalet, Study No. 05/2012 / ANDZOA / DAF.

ANDZOA, 2012b. Study concerning the conduct of palm groves characterization studies forming the base of economic interest groupment -ORMVA Ouarzazate, Study No. 05/2012 / ANDZOA / DAF.

5 Direction de l'aménagement du Territoire (DAT), 2003. Planning and Development Strategy of Oasis in Morocco, investigation and report issues, Phase 2 Report.

8 In addition to the constraints of environment and climate, other economic and social issues are facing the oases, namely : (i) a limited number of opportunities within the oasis for human capacity development, (ii) inadequate policies and legislative instruments, (iii) low participation of local people and particularly women in decision making, in addition to (iv) the continued loss of traditional knowledge and the lack of a clear strategic vision providing a common framework for the development of oases and their sustainable management.

9 However, several recent social and cultural changes have put a strain on the prosperous development of oasis. Having lived for centuries in relative prosperity, oasis societies have been destabilized during the past few decennia by (i) the introduction of a market economy and (ii) an exponential population growth.

10 Traditionally, oasis economies have managed their resources in harmony with their carrying capacity, considering them to be 'scarce'. Management practices and governance are therefore led by the community, based on solidarity and consultation. The progress of a market economy based on the monetization of goods and services has led to increased pressures on natural resources, including water and land, eroding traditional management and governance systems in oasis societies.

11 Migrations are another important challenge to oasis societies, and a response to a declining natural resource base, and consequently declining economy. Migration has become considerable and systematic. Remittances have become the first source of income for many of the oases in the Drâa-Tafilalet region, sometimes reaching as much as 60% of the income base of the oases populations. Without this exogenous economic input, the exodus would have been even greater in most of the rural areas of the southern Drâa-Tafilalet region.

12 This increased dependence on remittances leads to the abandonment of practices that for centuries have nurtured and grown oasis agro-ecosystems. The influx of money from emigrants has helped infrastructure (housing, roads, etc.) to prosper and has helped to consolidate family budgets. Still, at the same time it has transformed the region, including changing food habits, consumption standards and lifestyles. It transformed social relations and disrupted traditional hierarchies. It contributed to the abandonment of traditional *ksours*.

13 Therefore, in order to revitalize these agro-ecosystems, proactive policies are needed, involving all concerned actors, especially the most vulnerable stakeholder groups and the ones that perpetuate agro-ecosystems through family farming. People and stakeholder who know the realities on the ground are in a position to translate and trace back the issues that arise on the ground. They are good mediators between decision makers and public opinion to ensure that initiatives and investments into the oasis agro-ecosystems indeed address the root causes of the degradation caused and sustained over the past decennia, and therefore can eventually contribute to the reversal of the trends.

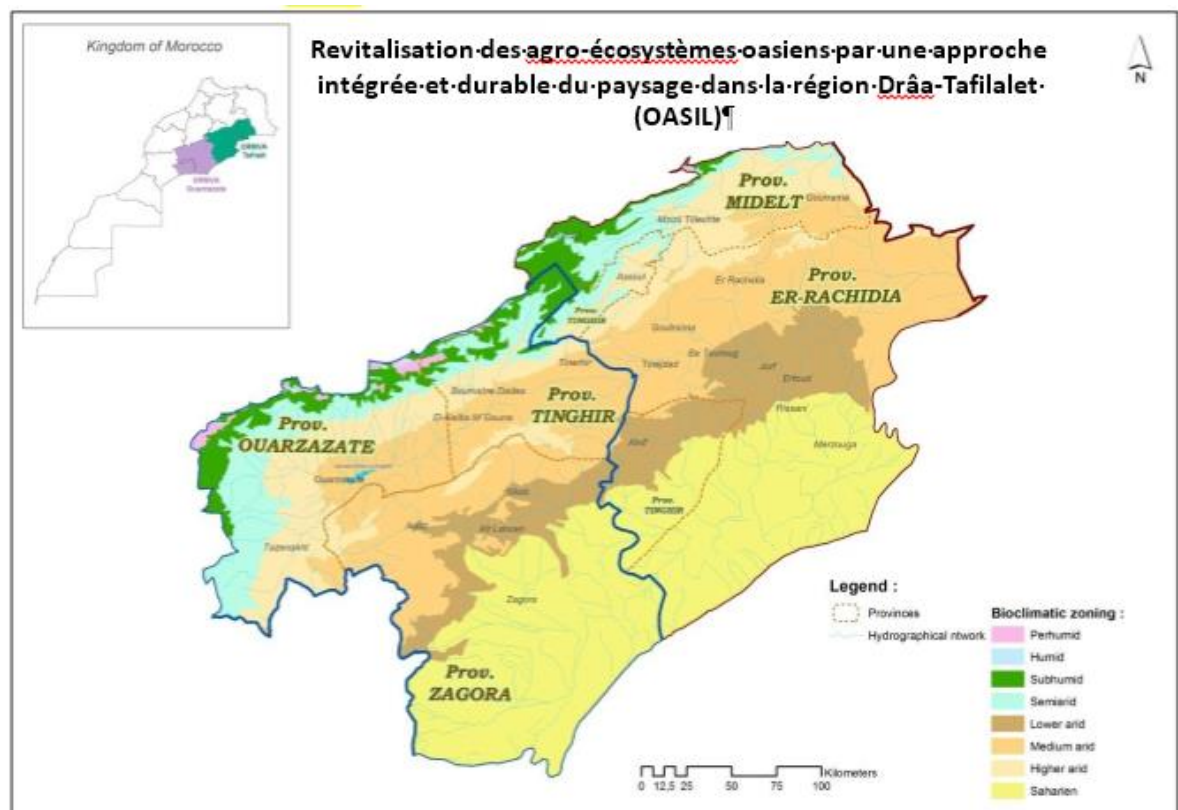
1.1.2 The natural resource base on which oasis agro-ecosystems depend

1.1.2.1 The biodiversity

14 The Drâa Tafilalet region is characterized by a wide bioclimatic variety and a rather large range of natural environments. This diversity is due to several factors:

- Diversity of bioclimatic zones (humid, sub-humid, semi-arid, arid Saharan);
- Diverse topographic conditions (high mountains, middle and lower mountains, plateaus, plains, regs, sand dunes).

15 Belonging to a pre-Saharan region, the area is arid though influenced by continental climate conditions and the Atlas mountain ranges. Indeed, the Sahara and the arid zones cover respectively 27% and 52% of the total area of the region (Map 2). However, the dry climate is mitigated by snow melting accumulated on the peaks of the High and Middle Atlas where humid conditions prevail.



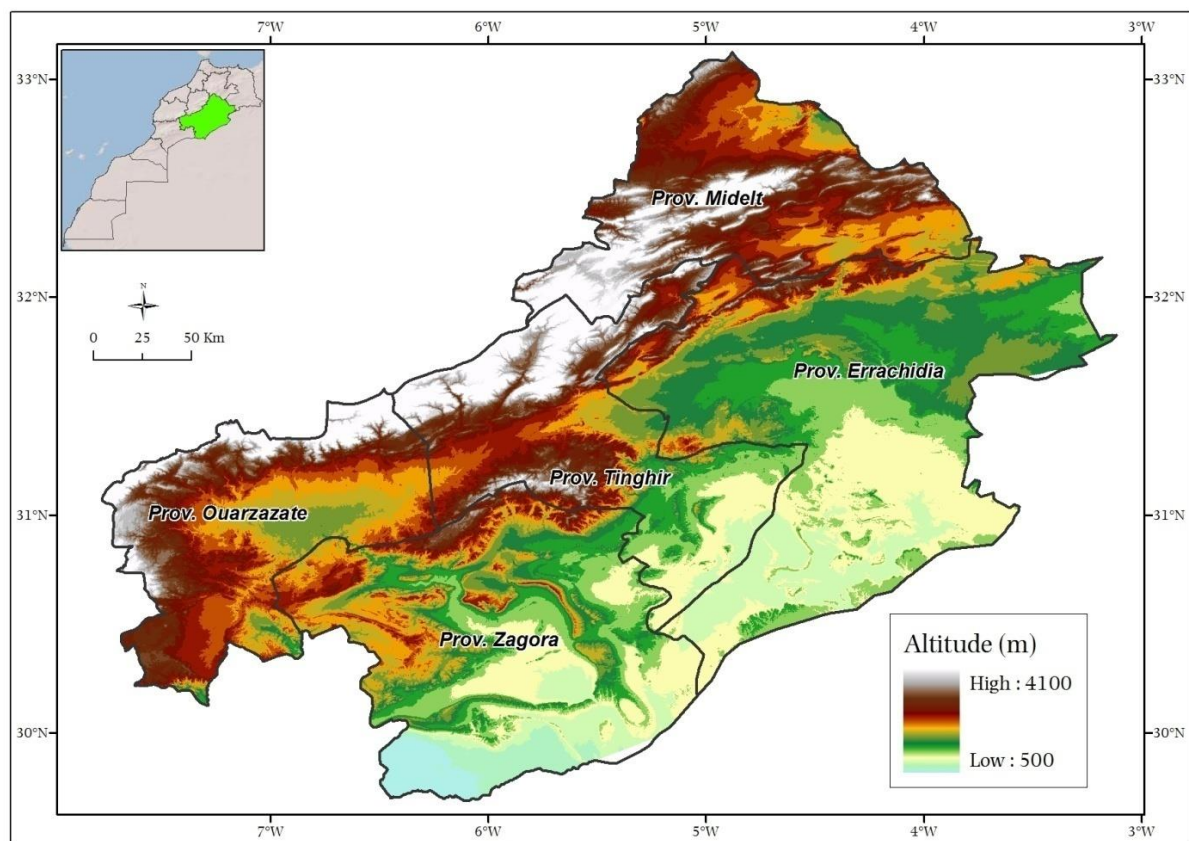
Map 2: Bioclimatic Floors characterizing the area of the OASIL project

16 High diversity of ecological factors and their gradients are the source of variety of landscapes and the high quality of the natural environment. Indeed, the southern slopes of the High Atlas are among the rare regions where temperate and subtropical plant species can coexist along an altitudinal gradient. In this area, three major eco-zones can be distinguished. The High Atlas mountains (above 2,500 m), Mgoun (4,060 m) which is the second summit of Morocco, the foothills of middle elevations (1,500-2,500 m) of the High Atlas Mountains and

the Anti-Atlas (Saghro), and the plains around rivers (less than 1,500 m) which extend South of the Atlas mountains and to the northern slopes of the Saghro mountain.

17 A combination of physical and environmental factors, including bioclimatic factors, geological substrate and topography, allows to distinguish six major structural units (Map 3) which constitute fields of development of various plant formations. These are essentially:

- High altitudes characterized by the dominance of spiny xerophyte interspersed with grassland lawns in lowlands;
- The intermediate altitudes occupied by steppes based on alfagrass and sagebrush (*Artemisia*) in addition to some forest formations relics;
- The foothills, and plains and plateaus, where degraded steppes dominated by *Hammada scoparia*, *Farsetia* sp. and *Anvillea radiata* are the most represented;
- Saghro, which is of particular importance as a winters pasture, within which the steppes based on *Convolvulus* and *Hammada* share the land with sagebrush steppes and alfagrass relics.
- The pre-Saharan areas, where tree formations can be found: i) *Acacia raddiana*, ii) vegetation units typical to sandy areas based on *Aristida pungens* and iii) halophytes on Gypso-saline soils dominated by *Pennisetum dichotomum* and *Zygophyllum guttatum* essentially;
- The northern part of the region includes a cedar forest in the Middle Atlas especially in the province of Midelt.



Map 3: Altitudes characterizing the OASIL project area

18 The diversity of its ecosystems, its North-South and East-West extent, the exposure of its slopes and its altitudinal range, provides the region with a remarkable diversity of habitats for many animal and plant species.

19 The vegetation of the region covers the transition zone between the Mediterranean forests and Saharan desert biomes in the South. From High Atlas to South, vegetation follows both altitude and aridity gradients that results in a sharp transition between the sub-humid and arid ecosystems (Manfred F. and P. Poet, 2008).

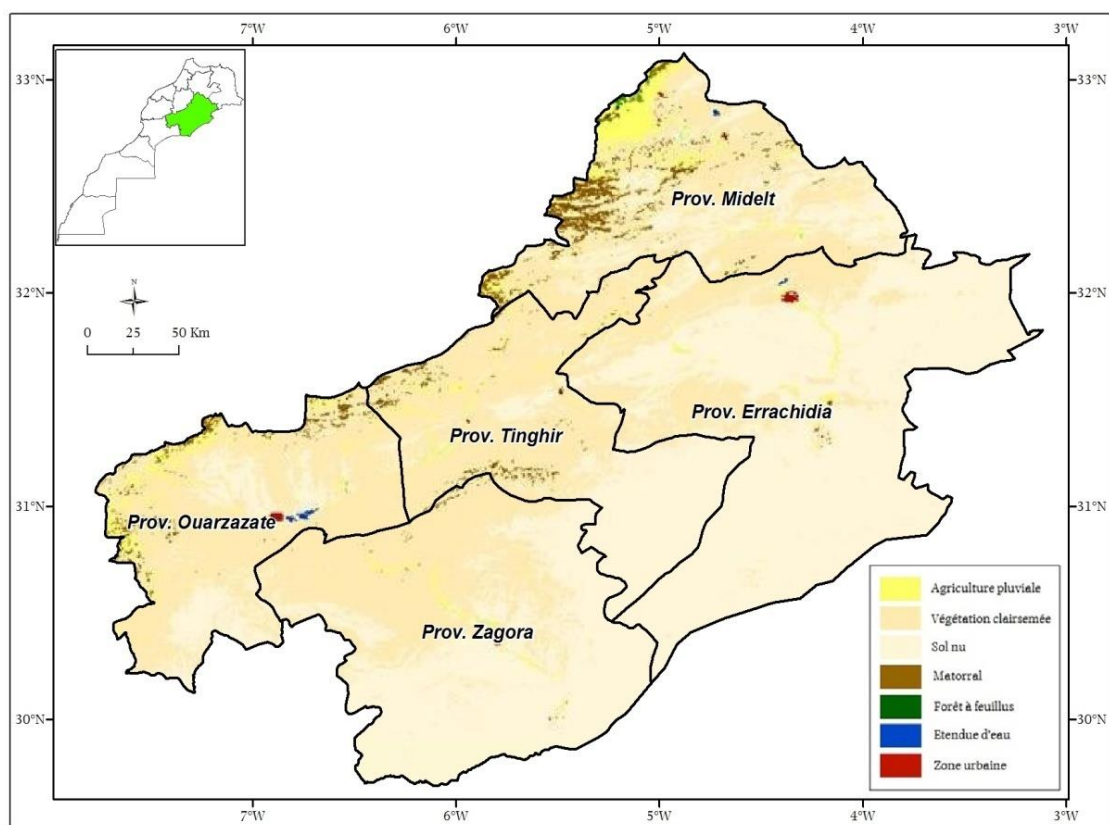
20 In the high mountains, the vegetation takes the form of open juniper forest with much degraded relics of Alfagrass (*Stipa tenacissima*) whose area has declined considerably under the impact of human pressure. The lower boundary of the vegetation is dominated by spiny bushings such as *Bupleurum spinosum*, *Alyssum spinosum*, *Cytisus purgans*, *Erinacea anthyllis* and *Mairei Vella*.

21 The floristic composition in the middle mountain areas, is dominated by species such as *Artemisia herba alba*, *Thymus satureoides*, *Stipa parviflora*, *Teucrium polium*, *Genista tricuspidata*, *Launea acanthoclada* and *Launea arborescens*. These species are often associated with others indicators of degradation such as *Peganum harmala*, *Hammada scoparia*, *Hertia maroccana* and *Ononis natrix*.

22 In the plateaus, vegetation cover is very open and degraded (low levels of abundance and plant cover). This is due to the combined effects of drought, the proximity of human agglomerations and the accentuated pressure of grazing and other practices such as collecting firewood, medicinal plants, and others for domestic use.

23 Within lowland and sites with favorable texture and moisture conditions, vegetation is composed of species with high pastoral value including *Helianthemum* sp., *Aristida* sp., *Stipa parviflora*, *Artemisia herba alba* and *Retama* sp.

24 The natural vegetation within the Sahara zone is found mainly in the wadi beds following the rare floods that occur or at the foot of the mountains after heavy rainfall; yet this vegetation is quick to dissipate due to the drying air currents. The oases extend both over a large part of the southern slopes of the mountains and sub-desert areas. This situation confers on them bioclimatic features resulting in a remarkable floristic diversity that is characterized by a dominance of endemic and extensive penetration of tropical elements.



Map 4: Land Use Map of OASIL project's action area

25 The map above shows that the climatic conditions to which the oases are confronted constitute a major constraint to the development of vegetation which becomes "quite exceptional" outside of the palm groves.

26 Furthermore, the analysis of the biodiversity inventory conducted within the context of the CBTHA project (representing a small part of the project area OASIL) has identified the following results (results are relative to inventory years and climate conditions of those years):

- A specific diversity of 202 species recorded in the CBTHA area (southern slopes of the High Atlas and Saghro);
- A rate of endemism of about 20/202, which represent almost 10%;
- An annual species contribution of about 40/202, respectively 19.8%, which constitute an indicator of the strong anthropization of the environment given that therophytes are ruderal species favored by environmental disturbances (cultivation, overgrazing ...); and
- Species richness by sector is as follows: 164 species in high mountains, 122 species in middle mountains, 80 species in Saghro, and 97 species in the plains and plateaus.

27 Ultimately, the natural vegetation in the region is characterized by its particular biology, adapted to the very challenging ecological conditions. In the high mountains, clear juniper forest is destroyed over large areas where relics of *Stipa tenacissima* exists and which declined considerably under the anthropic pressure. Nowadays, it is maintained as a very patchy and speckled form representing the former range of expansion of this plant formation. The specific biodiversity is expressed by a particular floristic composition due to the presence of several endemic species such as *Ormenis scariosa*, *Retama dasycarpa*, *Prunus prostrata*,

Stipa nitens, *Buxus balearica*. The lower limit of this vegetal formation is dominated by spiny xerophytes such as *Bupleurum spinosum*, *Alyssum spinosum*, *Cytisus purgans*, *Erinacea anthyllis*, *Vella mairei*. However, and compared to the whole area, high mountain remains the most diverse zone with 57 unique species.

28 In terms of wildlife, the inventory of vertebrilogic richness in southern slopes of the High Atlas and Saghro, consists of 115 species of birds, 37 mammals and 43 reptiles.

29 Nearly 50% of all terrestrial vertebrates of Morocco are represented in the area. Among amphibians and reptiles, 7 species and 3 subspecies are endemic, including *Quedenfeldtia trachyblepharus*, *Lacerta adnreanszkyi* and *Vipera monticola* in high altitudes, and *Saurodactylus brosseti* and *Bufo Brongersma* on middle altitude. From the 236 species of birds nesting in Morocco, at least 98 are reported in the area. Ten of the 23 species and sub-species of Morocco's endemic birds are found in the area and at least one of them, *Gypaetus barbatus barbatus*, is threatened.

30 Among 21 wild mammals of Morocco, 41% are present in the area, including 5 of the 12 endemic mammals. All five are highly threatened due to hunting: *Elephantulus rozeti*, *Atlantoxerus getulus*, *Ctenodactylus gundi* and migratory *Gazella cuvieri* and *Ammotragus lervia*. The latest panthers remaining in Morocco were reported in the southern slope of the High Atlas. Transhumant domesticated mammals also exhibit a high degree of intra-species genetic diversity and adaptation to the local ecosystem.

31 The endemic trout Ferao is present in the springs and streams of high altitudes, yet it is now declining due to the degradation of watersheds.

32 There are signs that indicate that the endemic bee of the Sahara (*Apis mellifera sahariensis*) has a symbiotic relationship and mutual dependency on several endemic plants of the area. Its population has been greatly reduced over recent years, partly because of the extensive application of insecticides on farms and the introduction of the exotic "black bee".

33 The region has the particularity of hosting in its southern part certain species of reptiles and amphibians such as the desert Horned viper, the tail Whip and others representative of the Mediterranean region like the Viperine snake, the Montpellier snake, the Ocellated lizard and *Eumeces* of Algeria. The high mountain provides a habitat for three species of great interest both nationally and internationally, i.e. the viper of the Atlas, the Andreanszky lizard, and the gecko spiny eyelid.

34 Generally, natural resources and biodiversity is degrading and lost in Morocco. At present, over 600 endangered species have been identified throughout the country, and the degradation rate is irreversible for some of them, especially for those species located around cities and in the Central Rif region. Of the 7,000 taxa comprising Morocco's fauna, a national study on biodiversity considers 1,700 as rare and/or threatened, representing a potential loss of 24% of plant diversity. A decline in biodiversity is observable in all ecosystems. In forest areas, the strong tendency toward surface reduction, averaging an annual regression of

31,000 ha, represents a constant threat to fauna and flora. Agricultural ecosystems are at risk due to water stress. It is estimated that Morocco will experience insufficient water supply by 2025 and a decrease in usable agricultural surfaces, particularly in mountainous areas and around oases where pressures on water supply will no longer be able to support conventional agriculture⁶.

35 The principal threats to biodiversity are habitat transformation to agricultural and urban uses, fragmentation and unsustainable uses. Root causes include increasing population pressures, inequitable access to economic opportunity, and lack of effective, participatory management systems. 49% of Morocco's population is rural, but they account for 70% of the country's poor. Fuelwood remains a major source of domestic energy. Urbanization, industrialization and tourism in coastal areas have also transformed habitats.

1.1.2.2 The agro-biodiversity

36 Morocco is characterized by a high genetic and specific diversity, consisting of a rich and varied flora and a wide variety of ecosystems. Moroccan biodiversity includes more than 24,000 animal species and 7,000 vegetal species, with rates of endemism particularly high among Mediterranean countries (20% for vascular plants, 11% for fauna). Moroccan vascular flora is composed of about 4500 species distributed over 935 genera and 130 families. Over 407 species have been classified as of economic interests including, medicinal, aromatic, dye, pastoral, ornamental, industrial and as wild relatives of cultivated plants.

37 Morocco is considered an important center of diversity for several genera of cultivated species and their wild relatives. The main genera of wild relatives of crop plants include *Avena*, *Medicago*, *Lupinus*, *Trifolium*, *Aegilops*, *Phalaris*, *Hordeum*, *Triticum*, *Lathyrus*, *Ononis*, *Vicia*, *Astragalus*, *Bituminaria*, *Lotus*, *Stipa*, *Eragrostis*, and *Beta*. However, several species described in the past have now become rare or even extinct (example: some species of the *Medicago*, *Lupinus*, and *Cicer* genera.); others are found only rarely in the mountainous zones on steep slopes of difficult access⁷. Among the fruit trees cultivated in Morocco, one finds the highest level of genetic/variety diversity amongst the following genera: *Olea* (olive), *Pistacia* (pistachio), *Ficus* (fig), *Prunus* (plums and related fruit trees) and *Amygdalus* (almond).

38 Desert ecosystems, although characterized by limited precipitation, present 750 different types of plant species (of which 60 are endemic), 650 invertebrates (mostly endemic), over 250 birds and at least 40 of the most threatened mammals in Morocco. Finally, agricultural ecosystems are spread over 8.7 million ha, hosting a rich variety of local races supported by traditional knowledge and practices.

⁶<https://www.cbd.int/countries/profile/default.shtml?country=ma>. Biodiversity Facts: Status and trends of biodiversity, including benefits from biodiversity and ecosystem services

⁷ USAID-MOROCCO (2008). Morocco biodiversity and tropical forestry assessment: prosperity, livelihoods and conserving ecosystems (place) iq task order #3.

39 The oasis agro-ecosystems are considered hot spot of agro-biodiversity. The diversity of the relief results in the diversity of vegetation (forest, mattoral, gramineous and woody steppes), a wide diversity of ecosystems (meadow culture, afforestation, route, cliffs, ponds and lakes, high mountains, arid plateaus, high asylvatiques and cold plateaus, deep canyons, caves, etc.) and the diversity of habitats and species. The region contains over 445 plant species of which 135 species are endemic. Integrating the National Park of the Eastern High Atlas, the region comprises four RAMSAR sites and is part of Zone A (precious, sensitive and threatened habitats) within the Biosphere Reserve of Southern Moroccan Oasis (RBOSM).

40 Agriculture in the Drâa-Tafilalet region is multifunctional; it is not limited to food production, yet is a way of managing natural resources, and encourages a more dynamic management of the territory and its territorial development. Oasis agriculture is strongly linked to livestock, which is not only integrated into the farming system, but also utilizes arid rangeland and those of the surrounding mountains. The ecological substrate on which the community is living is valued in an efficient manner. The rotation for land and resources uses (transhumance, crop rotation) allows regeneration of soil and vegetation cover and the regulation of groundwater recharge.

41 The region offers additional resources for agro-biodiversity and associated diversity. For centuries, local people of these oases have promoted biodiversity, valued and contributing to their livelihoods. They selected plant varieties and animal breeds adapted to various environments to meet their nutritional and social needs. This immense genetic diversity is the product of innovation and adaptation to a hostile environment. These oases are distinguished by significant advantages namely an exceptional diversity of tree crops, cereals, vegetables, fodder, in addition to aromatic, dye and medicinal species. These crops, implicated in appropriate production systems, ensured for generations and still provide a healthy and varied diet for local populations.

42 Analysis of agro-biodiversity carried out in the region, showed specific varietal richness with about 324 varieties, among which 98% are local, distributed over 54 species (Table 1).

Table 1: Species grown in the Drâa-Tafilalet region

Crop	Number of species	Number of varieties used
Cereals	7	14
Legumes	7	25
Vegetables	11	20
fruit trees	13	31
Date palm	1	323
woody species	6	6
Condiments	9	9
Total	54	428

43 Among cereals, soft wheat (*Triticum aestivum*), barley (*Hordeum vulgare*) and maize (*Zea mays*) are common to all localities. Hard wheat (*Triticum durum*) is found in all the villages. The Rye (*Secale cereale*) is grown mainly in Medium and High Mountain, as fodder.

Cereals are the group that suffered the most from genetic erosion due to the adoption of commercial varieties of wheat at the expense of local varieties on the one hand and the decline in the area of two minor cereals, Tafsoute (*Pennisetum typhoides*) and Anelli (*Panicum milliaceum*) on the other hand.

44 Seven legumes species are grown in the area. Faba bean (*Vicia faba*) is the most cultivated legume, it is consumed a green vegetable as well as dry. The cultivated varieties are all local type. Peas (*Pisum sativum*) are the second legume produced for a double function, as food and feed. Elle est consommée en frais par la famille et en sec par le bétail. Lens (*Lens culinaris*) and bean (*Phaseolus vulgaris*) are less frequent. The orobe (*Vicia ervilia*) is more or less abandoned in Middle Mountain.

45 Vegetable crops are highly diversified in the area probably due to the dominance of irrigated agriculture, the food crop nature of family farms and also to the isolation and distance from urban centers. Potato (*Solanum tuberosum*), carrot (*Daucus carota*), turnip (*Brassica campetris*) the squash (*Cucurbita maxima*) and (*Cucurbita pepo*), the tomato (*Lycopersicon esculentum*) and onion (*Allium cepa*) are grown in different localities in addition to the coriander (*Coriandrum sativum*), parsley (*Petroselinum crispum*) and mint (*Mentha viridis*). Other vegetables and garden fruits like green peppers (*Capsicum annuum*), eggplant (*Solanum melongena*), melon (*Cucumis melo*) and watermelon (*Citrullus vulgaris*) are produced especially downstream. Garlic (*Allium sativum*), cumin (*Cuminum cyminum*) and fenugreek (*Trigonella foenum graecum*) are limited to specific sites.

46 The fruit biodiversity is significant due to ecosystem diversity and abundance of water resources in mountain areas. Three species are very common in the region, walnut (*Juglans regia*), almond (*Prunus dulcis amygdalus*) and the fig tree (*Ficus carica*). Apple tree (*Malus pumila*), is a local culture, however recently the introduction of commercial varieties took a large extension in different ecosystems at the expense of other crops. Apple (*Malus pumila*) is a local culture; however, the recent introduction of commercial varieties took a large extension in different ecosystems at the expense of other crops. The peach (*Prunus persica*) and rose (*Rosa canina*), are indigenous and old species that are widely distributed in different localities. However, Grenade (*Punica granatum*) and vines (*Vitis vinifera*) are randomly encountered in some locations and are essentially home consumption products. The olive tree (*Olea europaea*), very common throughout all valleys, is the source of an entire value chain of national importance. The apricot (*Prunus armeniaca*), quinces (*Cydonia oblonga*), the plum tree (*Prunus domestica*) and pear (*Pyrus communis*) are represented by local varieties. The introduction of commercial varieties constitutes a serious threat to these crops.

47 Formerly, there have been 15 million palm trees and more than 323 local varieties, among which the noble ones, found actually there is Majhool, Boufegous, Boussakri, Jihel, Aziza, Bouitob, Bouzakri and others. Despite these being good dates, they are all sensitive to the bayoud disease. Besides, there are also six bayoud resistant varieties, but all have a low date quality. The average rate of mortality from Bayoud disease is about 3.5%. Currently only 4.7 million palm trees remain with a varied varietal composition. Hybrids are known locally as "khalt ". They now account for 2.5 million palm trees representing 55% of the total population.

48 Based on surveys and available documents, the main aromatic and medicinal plants used in the region are shown in the list below (Table 2).

Table 2: List of medicinal and aromatic species most used in the Drâa-Tafilalet region

Species	Common name	Harvest period
<i>Thymus commutatus</i>	Thyme	April-July
<i>Teucrium polium</i>	Germander	April-July
<i>Ormenis scariosa</i>	-	April-July
<i>Artemisia mesatlantica</i>	Blue wormwood	April-July
<i>Artemisia nigrei</i>	Sagebrush/ wormwood	April-July
<i>Mentha rotundifolia</i>	Woolly Mint/Round-Leafed Mint	March-July
<i>Calamintha grandiflora</i>	Calamint	April-July
<i>Rosa damascene</i>	Rose of Dades	April-June
<i>Juniperus thurifera</i>	Juniper	Throughout the year
<i>Ruta montana</i>	wild rue	Autumn
<i>Citrulus colocynthis</i>	Colocynth/Bitter Apple/Bitter Gourd	March-April
<i>Salvia lavandulifolia</i>	wild sage	Throughout the year
<i>Lavandula brevidens</i>	wild lavender	April-August
<i>Capparis spinose</i>	Caper/ Caper Bush/ Flinders Rose	August-September
<i>Peganum harmala</i>	Esfand/ Wild Rue	March-April
<i>Ononis natrix</i>	-	April-May
<i>Nerium oleander</i>	Oleander/ Rose-Bay	-

49 The plant biodiversity is rich in melliferous species. Beekeeping is a very old and widespread activity throughout the region and constitutes an important source of incomes for the population. Climatic conditions, particularly prolonged droughts in recent years have affected this activity. The main melliferous species in the area are *Thymus* spp., *Hertia maroccana*, *Zilla* spp., *Adenocarpus bacquei*, *Teucrium fruticans*, *Ononis natrix*, *Launea arborescens*, *Ziziphus lotus* and *Buxus balearica*.

50 Two bee breeds exist in the region; the black bee and the Saharan Africa bee (yellow bee). The latter (*Apis mellifera sahariensis*) originating in the High Atlas is widespread. It is of a small size, yellow and with a high cubital index. Unaggressive, it has an outstanding resistance to harsh environmental conditions. Unlike the black bee, it can continue foraging, collecting nectar and even building wax in extreme thermal conditions. Over the past years, the yellow bee populations have experienced a sharp decline due to varroosis. The black bee instead was introduced by the transhumance populations from neighboring regions (Beni Mellal).

51 Livestock production in the region comes mainly from pastoral livestock and only secondarily from sedentary animal production. These include local and improved cattle breeds, D'man and Rahali sheep and rangeland goats (Table 3). Sheep and goat production represents more than 90% of the region's potential of the region. The wide diversity of soil and climate conditions (mountain, oasis, sub saharan area...) confers to livestock farming a great natural, cultural and human richness that results in a variety of systems and farming types.

Table 3: Animal species in the Drâa-Tafilalet region

Type of farm animals	Number breeds
Sheep	2
Goats	2
Cattle	3
Equine	2
Dromedaries	2
Canines	2
Poultry	2
Honeybees	2
Total	17

52 Livestock is the second activity following crop production. The D'man breed essentially dominates sedentary sheep farming. Its development has been boosted by the creation of breeders' associations. The Rahali population known locally Tibalidiyne dominate rangeland's sheep. The rangeland's goats are also dominated by Rahali population (Tarahalte goats). It has a great ability to adapt to rangelands of the area making it an animal of great hardiness and toughness. The livestock farming mode is extensive, largely based on transhumance between wintering areas in the plains and in the Saghro and summering areas in middle and high mountain areas.

53 Cattle breeding have been developed in the region with the settlement of nomads and the cultivation of land. The cattle population consists of two breed, local and improved.

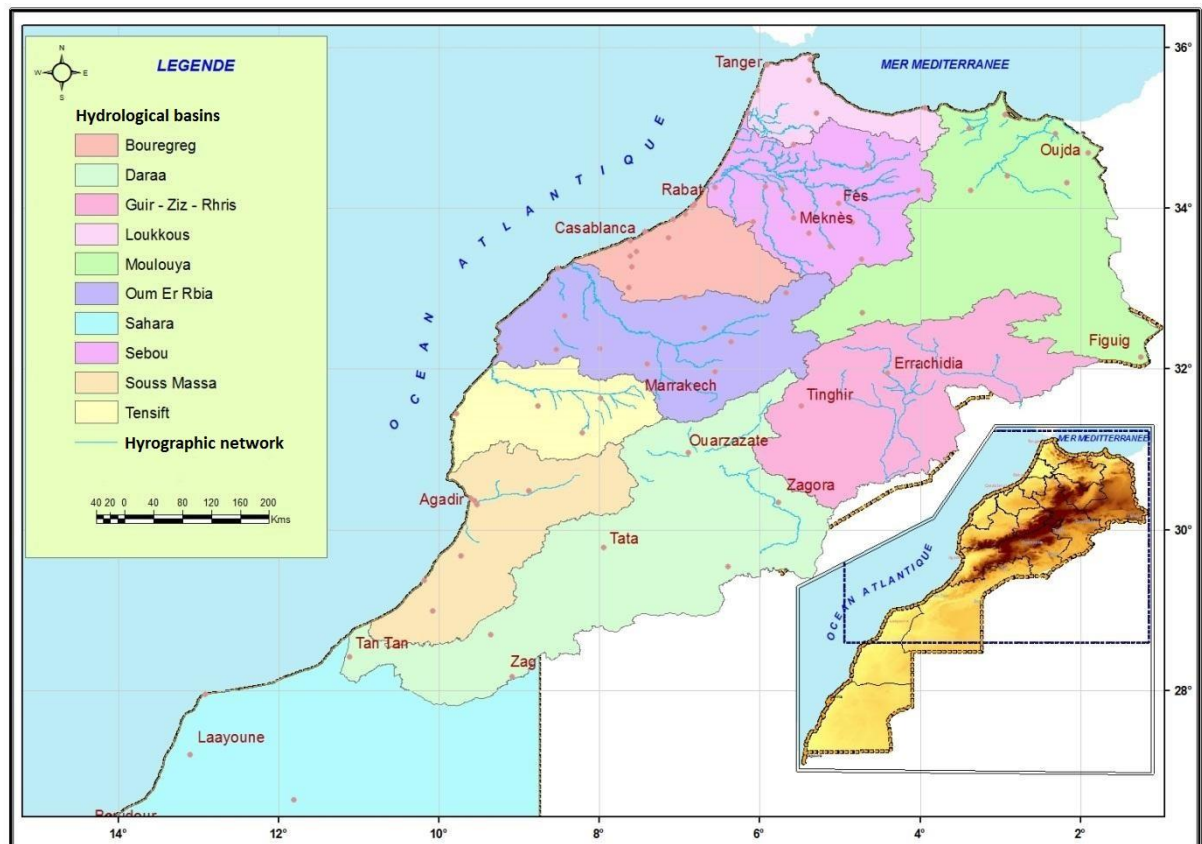
54 Poultry farming is an exclusively female activity. The beldi chicken and crossed chicken are the two main strains present in the region.

1.1.2.3. Water resources

55 Morocco's water resources are subjected to intra and inter-annual rainfall variability. Alternating high runoff sequence and drought sequences of varying intensity and duration, is also a trait that characterizes these hydrological regimes. The ratio between extremes (dry-wet) may vary from 10% to 200% depending on the hydrological basin. During the last three decades, water inflow has been reduced to approximately 35%. The frequency of years of deficit has increased from 63% in the period 1950-1980 to 73% during the 1980-2010 period.

56 During the period 1940-2010 the average annual precipitation was 140 billion m³. Among these rainfall inputs, the useful rain is only 20%, or 29 billion m³. By subtracting the evaporative losses and uncontrollable flows towards the sea, the water potential mobilized under current technical and economic conditions is 22 billion m³ (730 m³/capita/year) of which 18 billion of surface water and 4 billion groundwater. Renewable resources currently mobilized amount to 12 billion m³ / year, of which almost 9.6 billion m³ of surface water and 3.4 billion m³ of groundwater. More than half of these resources are concentrated in the North over an area covering 7% of the national territory.

57 Morocco has important perennial rivers (Oum Rbia, Sebou, Moulouya Loukous, Bouregreg, Souss, ...). Flooding is frequent in the coastal plains, while the semi-desert areas suffer from water shortage throughout the year.



Map 5: The hydrological basins of Morocco

58 From all groundwater resources, the mobilized potential amounts to almost 4 billion m^3 , distributed over 80 water tables of which 48 are unconfined, representing nearly 20% of the overall water potential of the country.

59 The water supply / water demand balance shows that all hydrological basins are in deficit, except for the northwestern basins of Morocco (Sebou and Loukkos) (Table 4).

Table 4: Balance of Water Supply/Water Demand (Data from National Strategy of Water)

Hydrological basin	Water supply (billion m ³)	Water demand (billion m ³)	Balance (billion m ³)
Loukkos	1022	511	511
Moulouya	1313	1405	-92
Sebou	3531	3155	376
Bou Regreg	556	572	-16
Oum Er Rbia	2762	4231	-1469
Tensift	1235	1414	-179
Souss	837	954	-117
Sud Atlasiques	1410	1400	10
Sahara	25	29	-4
Total	12691	13671	-980

60 Morocco is endowed with important water infrastructures consisting of 135 dams with a total capacity of about 17 billion m³, 13 water transfer systems and thousands of boreholes and wells for groundwater exploitation.

61 Water resources are currently used for 90% for agriculture, 8% for drinking water and 2% for tourism and industry. Irrigation water comes from surface water (79%); groundwater (19%) and wastewater reuse (2%).

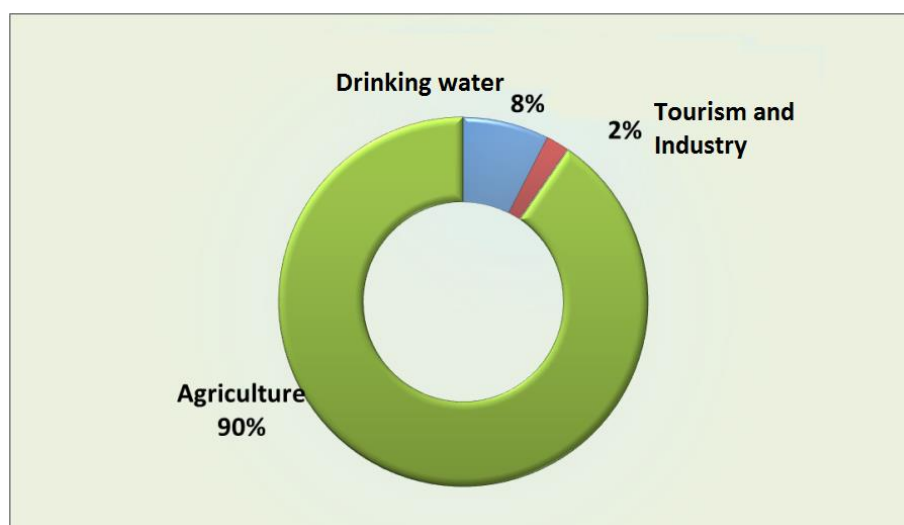


Figure 1: Available water resources allocations (source: data SNE)

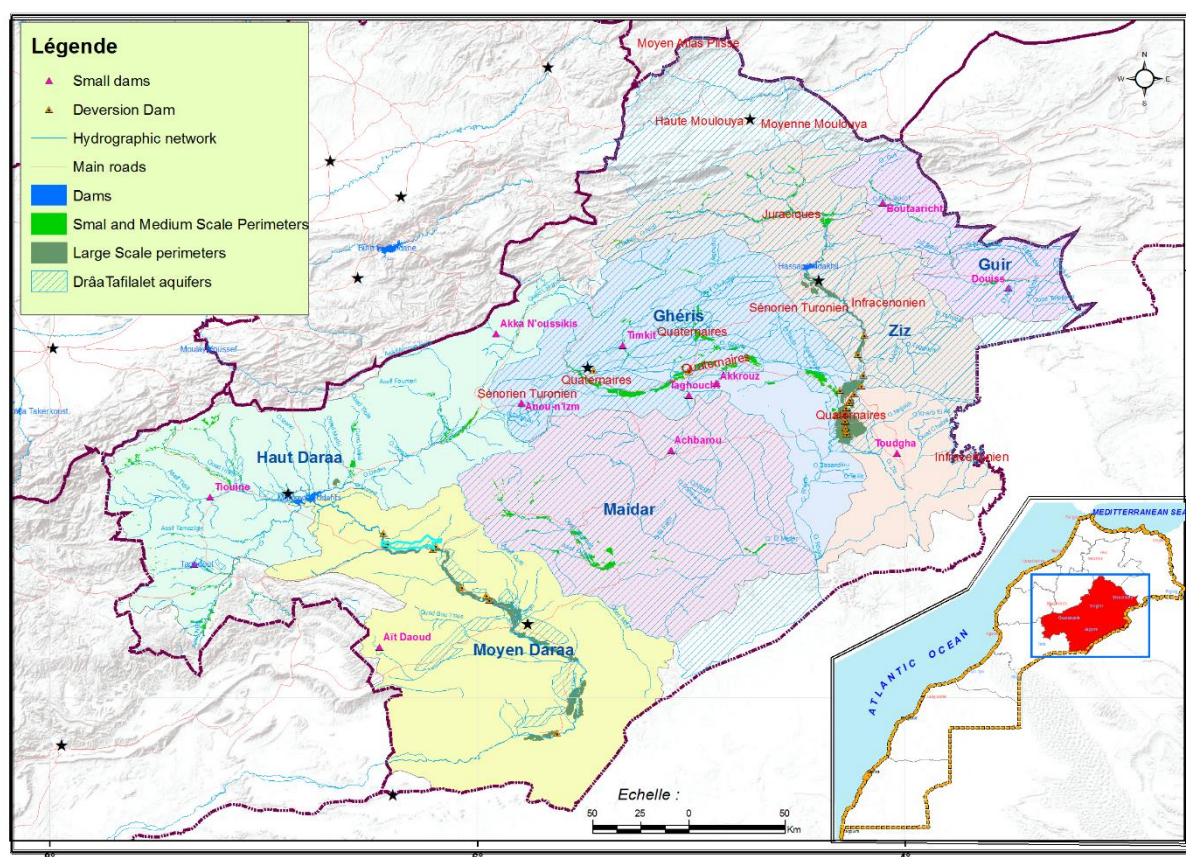
62 Three categories of irrigation types characterize the irrigated agriculture in Morocco: (i) the Large Scale Irrigation (LSI), (ii) Small and Medium Scale Irrigation (SMI) and (iii) Private Irrigation (IP). The efforts made by the government since the 1960's to develop irrigated farming on a large scale have achieved the million hectares irrigated by the end of the last century. The currently irrigated area is around 1.5 million hectares of which about 1 million ha are equipped by public authorities (Table 5).

Table 5: Distribution of irrigated areas by type and mode of irrigation

Type of irrigation	Area (ha) by irrigation technique			
	Surface irrigation	Sprinkler irrigation	Drip irrigation	Total
Large Scale Irrigation	520 552	110 760	51 288(*)	682 600
Small and Medium scale Irrigation and Private Irrigation (**)	592 065	19 561	163 934	775 560
Total	1 112 617	130 321	215 222	1 458 160
Part of the total area	76%	9%	15%	100%
(*) initially equipped area by the government to surface or sprinkler irrigation and converted by farmers for drip irrigation. (**)Area equipped by individual farmers into individual irrigation outside the Large Scale and Small and Medium Scale Irrigation.				

63 An extensive network of rivers, draining the basins of the Atlas, crosses the Drâa-Tafilalet region. The main rivers (Ziz and Drâa) are characterized by a permanent regime in their upstream watercourse supplied by sources draining limestone aquifers of the Atlas. The downstream water from Atlas rivers is characterized by a flow regime with more or less violent floods. These floods contribute to the supply of groundwater used for irrigation and drinking water. The region belongs to two hydrological unit, which are (Map 6) :

- Guir-Ziz-Rheris-Maider includes Errachidia province and much of the province of Tinghir;
- Upper and Middle Drâa which includes the provinces of Ouarzazate and Zagora.



Map 6: The sub hydraulic basins of the Drâa-Tafilalet region

64 Table 6 summarizes the water supply and water demand as assessed by PDAIRE⁸ of Guir-Ziz-Rheriss-Maidar and Drâa.

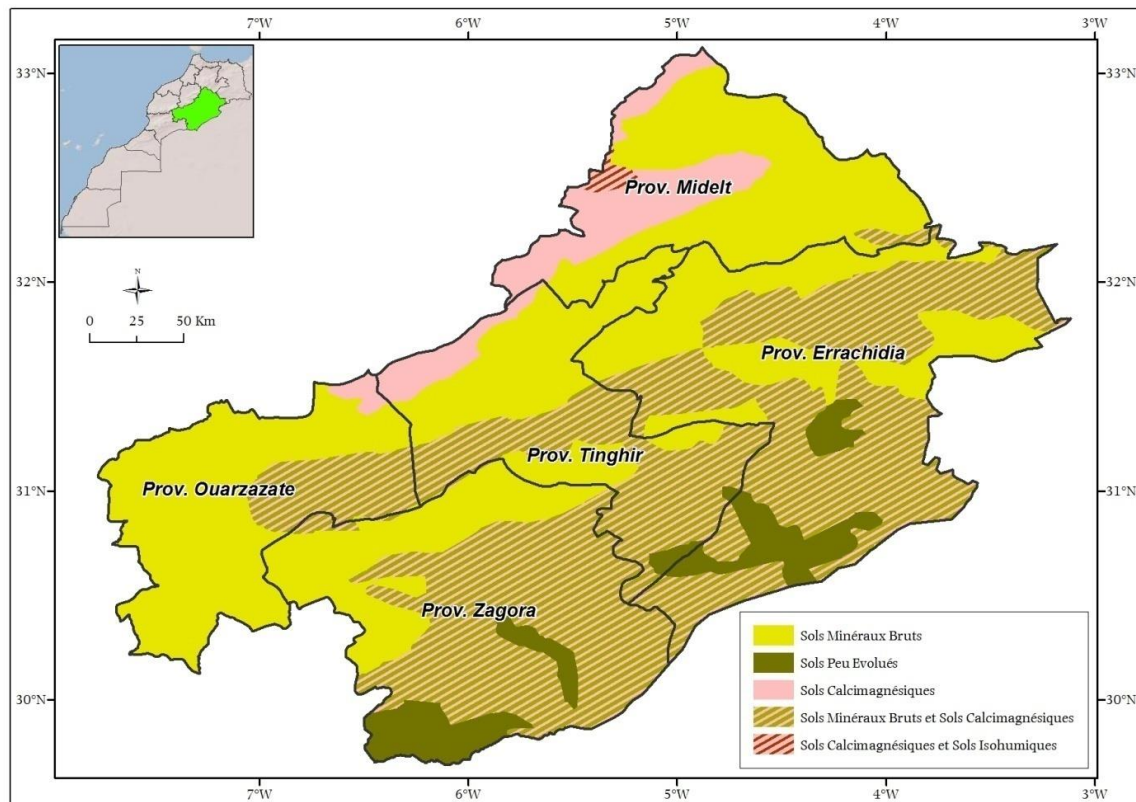
Table 6: Water demand and supply within the Drâa-Tafilalet region

Basin	Water resource (billion m ³)			Water demand (billion m ³)			Total
	Surface water	Groundwater	Total	Irrigation	Drinking water	Total	
Guir-Ziz-Rhéris-Maïdar	656.0	513.0	1169.0	1086.0	17.0	1103.0	66.0
Upper and Middle Drâa	552.0	149.0	701.0	567.0	8.4	575.4	125.6
Total	1208.0	662.0	1870.0	1653.0	25.4	1678.4	191.6

1.1.2.4 Soils and desertification

65 The region has a very specific soil diversity compared with other areas of the country as shown in the map 7 below.

⁸ PDAIRE: Plans Directeurs d'Aménagement Intégré des Ressources en Eau "Master Plans for Integrated Water Resources Management"



Map 7: Major soil types in the Drâa-Tafilalet region

66 In Drâa-Tafilalet region, the main types of soil may be summarized as follows:

- Two types of Regosols: (i) Regosol formed by rocky outcrops in highly eroded landscapes and (ii) Lithosol formed from light textured inputs such as sandy beaches.
- Two types of Rendisols, which are poorly developed soils: (i) soils formed from eroded landscapes, generally only 10 to 20 cm deep, free of organic material, light texture with low fertility and (ii) Fluvisols which are soils formed from alluvial materiel. They are usually deep (up to 80 cm or more).
- The Calcisols which are characterized by a high content of calcium carbonate. There are two group: (i) Redzinas are generally dark soil surface horizons, no more than 20 to 25 cm deep on a limestone crust and (ii) brown limestone soils with deep horizons (40 to 50 cm).

67 Desertification can potentially affect all areas of the national territory. The main factors that foster the initiation and intensification of this phenomenon are related to:

- an arid climate, which affects nearly 90% of the country, accentuated by annual and inter-annual variability of rainfall;
- poor and fragile soils mainly due to low organic matter content and unsustainable land use: nearly 68% of agricultural land is located in arid and semi-arid environments;
- a continued deterioration of the canopy constantly solicited to meet the needs of populations for cultivation, fuelwood and fodder for livestock, non-timber forest products, and more;
- intense water erosion especially in high rainfall areas resulting in a loss of storage capacity of dams exceeding 75 million m³ per year ; and

- Sand encroachment threatening especially inland and coastal provinces: endangered palm groves are estimated at 30,000 ha (80,000 inhabitants) in the province of Ouarzazate and 250,000 ha (200,000 inhabitants) in the province of Errachidia.

68 Climate change scenarios predict a net warming and an average reduction in annual precipitation, further putting pressure and degrading the natural resource base, and with that the vulnerability of populations that depend on it.

69 Examination of drought years experienced by the country during the twentieth century shows a higher frequency and duration and greater spatial extent of drought between 1974 and 2000: six drought episodes out of twelve on the 20th century occurred effectively during this period: from 1974 to 1975; 1981-84; 1986-1987; 1991-1993; 1994-1995; 1999-2000. The fact remains that, during the mid-twentieth century, the occurrence of droughts seems to grow continuously (table 7).

Table 7: Occurrences of agricultural drought (1940-2002)

Period	Occurrence of agricultural drought	(%)
1940 - 1979	5 out of 40 years	12,5
1980 - 1995	6 out of 16 years	37.5
1996 - 2002	4 out of 7 years	57,1

70 The trend analysis of recent observations of precipitations and temperatures partly explains the change in the distribution of bioclimates in Morocco:

- In terms of recent evolution, rainfall recorded an overall decreasing trend in all regions of Morocco. Besides the fact that they becoming rare, they are characterized by large spatial disparities and by wide fluctuations between years of droughts often severe, and years with high rainfall;
- Recent developments in the last 50 years in several national meteorological stations shows that the maximum winter temperatures and summer minimum and maximum, rather fall in an increasing trend, while the minimum winter temperature is experiencing a decreasing trend.

71 Pessimistic climate change scenarios predict a 20% drop in rainfall and an increase of 1-2°C temperature. This would cause overuse of groundwater reserves in the valleys (for irrigation, livestock and human consumption) and an increase in runoff intensity due to the degradation of the natural vegetation cover in watersheds.

1.1.3. Description of policies, legal framework and the institutional context of the project

1.1.3.1 National, regional and local policies for oasis development

72 Oases of the Drâa-Tafilalet region are subject to various strategies and programmes that constitute their development policies. They are listed below in chronological order. The

strategies and programmes are different in nature depending on who leads and implements them, i.e. the Department of Territorial Planning, Ministry of Agriculture, of Environment, of Water, of Interior, Forests and Desertification.

Table 8: Main strategies and programmes related to oasis development

Strategy / Program	Adopted in
National Action Program to fight against Desertification (PAN-LCD)	2001
National Strategy for management and development of oases (NOPDS)	2004
National Human Development Initiative (NHDI) ;	2005
Green Morocco Plan (GMP)	2008
National Rural Development Strategy (NRDS)	2011
development strategy of Oasis zones (OZDS)	2013
National Sustainable Development Strategy (NSDS)	2014
Regional development program (RDP)*	2016
Province Development Program (PDP)*	2016
Communal development plans (CDP)*	2016
Various support projects to oasis development policies	-

73 These strategies and programmes aim to:

- Optimize the use of water resources;
- Preserve and enhance soils as natural resources ;
- Upgrade associative structures and improve participation;
- Restore (save) biodiversity and the oasis ecosystem;
- Establish a local sustainable development council; and
- Define an oasis territorial development policy.

74 Overall, oases have been and are subject to development policies, often sectoral, that consider the concept of sustainability and take into account its three dimensions (economic, environmental and social), even though insufficiently and inadequately. In terms of integration and revitalization of the landscape, the two most recent policies that can facilitate the implementation of OASIL are:

- At the conceptual level: the National Sustainable Development Strategy supported by the Ministry of Environment;
- At the conceptual level and practical level in the field: The Development Strategy of Oasis Zones supported by ANDZOA.

1.1.3.2 Oasis management legal framework analysis

75 The analysis of the legal and legislative context evidences that oases are subjected to a legislative arsenal – including national texts and agreements, and conventions established at regional and international levels - supporting their restoration, rehabilitation and preservation, altogether their sustainable development.

76 At the national level, the concept of sustainable development is embedded in the country's Constitution, and in particular in its Articles 31, 35 and 136. The Constitution therefore supports the achievement of social justice and integrated human development,

providing the right to current generations to participate in the territorial management, the preservation of national natural resources and protecting the rights of future and current generations alike. These constitutional rights are reported in two main documents: (i) the Framework Law 99-12 regulating the Charter of Environmental and Sustainable Development; and (ii) the National Strategy for Sustainable Development.

77 In addition to these two legislative texts on sustainable development, oases are subjected to environment protection laws and texts (law No. 11-03 and No.12-03 of 12 May 2003), including for protected areas (law No.22-07 of 16 July 2010). These texts help protect oases, recognizing their intrinsic natural (biodiversity) and cultural heritage values, while also accounting for their specific vulnerabilities.

78 Many sectoral texts exist including those focusing on:

- Water - framed by law No.10-95 (amended by Law No. 36-15) particularly featuring oases and their arid environment, acknowledging and maintaining property rights, usufruct or regularly acquired uses of the public water domain (the case of khattaras and conservation of water on collective land in semi-arid regions);
- Soil management - Dahir of 25 July 1969, which establishes the principle of State assistance by subsidizing owners, engaged communities and groups to perform defense and soils restoration work;
- Protection and improvement of rangelands (law of 25 July 1969 and its implementing decree) about the creation of pasture improvement schemes, the fight against the degradation of pastures, their recovery and their rational management, and most recently the law No. 113-13 on pastoral transhumance as well as planning and management of pastoral and sylvo-pastoral areas. The oasis zones are concerned by this law as they represent the corridors between the Saharian areas and south-Atlas slopes. Their vegetation cover and biodiversity face important pressures due to overgrazing;
- The establishment and maintenance of orchards including palm groves, and valorization of products are governed by the 1969's Agricultural Investment Code (Dahir No. 1-69-173 of 25 July 1969) which covered tree species grown in oases (olive, almond, fig and date palm) as well as the funding dispositions of the Agriculture Development Fund (FDA) under the PMV framework. It is also important to remind that the two programmes-contracts signed for the date and rose value chains concern the Drâa-Tafilalet region only;
- Palm groves protection and sustainable development are supervised by Law No. 01-06 enacted in 2007 in order to preserve the palm groves agro-ecosystem landscapes;
- Pest control is a significant domain for oasis agro-ecosystems: Dahir of 20 September 1927, amended and supplemented by the Dahir of June 2, 1950 serve as a basis for the protection of oases against disease and pest propagations (such as bayoud, red weevil and locust); and
- Territorial governance is regulated by specific laws different levels, i.e. Law No. 111-14 at regional level, Law No. 112-14 prefecture and province level, and Law No. 113-14 municipality level.

79 At the regional and international level, Morocco has signed and ratified several conventions and agreements which would impact directly and indirectly oasis agro-ecosystems and their sustainable management. Among these are:

- The Convention on Biological Diversity (UNCBD - ratified on 21 August 1995) extended through a series of actions concerning oases, including oases national preservation and development programme that is one of biodiversity integration components in many sectoral strategies;
- The Convention on Desertification (UNCCD - ratified on 2 October 1996) which led to the adoption of the National Action Program against Desertification (PAN-LCD) implemented in order to promote an efficient synergy between the sectoral programmes;
- The Convention on Climate Change (UNFCCC - ratified on 28 December 1995) which led to the adoption of a national strategy with a national plan defining the adaptation measures related to water, agriculture, forests, biodiversity, fight against desertification, and more; and
- The Convention concerning the Protection of the World's Cultural and Natural Heritage Systems (ratified on 30 August 1975) resulting in the establishment of the Oasis Biosphere Reserve of Southern Morocco (RBOSM). This Biosphere covers four provinces of the Drâa-Tafilalet region (Errachidia, Ouarzazate, Zagora and Tinghir), and aims at promoting social, economic and cultural characteristics of the oases.

1.1.3.3 Analysis of the institutional framework of oasis management

80 Analysis of the institutional framework shows the involvement of various agencies and bodies in the governance of oasis zones. Thus, the oasis agro-ecosystems of the Drâa-Tafilalet region benefit from institutional supervision which consists of several types of organizations, particularly:

- The ministerial departments that have a strategic supervision, planning, monitoring and evaluation mandate. The main departments which have a relatively significant role in the management of oasis agro-ecosystems are: the Ministries of Interior, Agriculture, Environment, Water, Urbanism and Territorial Planning, Tourism and Solidarity, Women, Family and Social Development.
- Public authorities required to act within the framework of the policies implemented by their hierarchical departments or guardianship. Besides the decentralized services of ministries in the Drâa-Tafilalet region, five main public institutions are involved in the management of oasis agro-ecosystems. Namely:
 - The National Agency for the Development of the Oases and Argan Zones (ANDZOA);
 - The High Commission for Water and Forests and the Fight against Desertification (HCEFLCD);
 - Water Basin Agency;
 - National Electricity and drinking water Office (ONEEP);
 - Institutions responsible for research, development and training (INRA, Faculties, Scientific Institute ...).

- Local authorities: There are three levels of territorial administrative divisions, namely (i) regions, (ii) provinces and (iii) municipalities which are territorial authorities of public law with legal, administrative and financial autonomy. A democratically elected council manages each one of these levels: the council of the region, the provincial council and the municipality council.

81 In accordance with legislative texts that govern them (Law No. 111-14 on regions, Law No. 112-14 on provinces and Law No. 113-14 on municipalities), each community performs its own competencies, shared competences with the Government and the powers transferred to it. It accomplishes missions in compliance with policies, general and sectoral strategies of the country as well as the competencies of other local authorities.

82 These three management levels also have the opportunity to serve as business management bodies as illustrated below:

- at the region level, the introduction of the Regional Agency for Project Implementation which aims at supporting the Council in the area in terms of legal assistance, technical and financial engineering for project elaboration and programme development, and execution of the ones adopted by the council;
- at all three levels, the council may create, alone or in consortium with other authorities, "development companies" to carry out economic activities or to manage a public service.

83 The Wali or Governor represents the government in terms of coordination and control. In his/her capacity of responsible for coordinating the activities of the decentralized services of the central administration, the activities of local authorities are carried out in coordination with the Wali of the region and the governor of the province.

84 To develop and implement programmes and action plans, councils of the three levels of local authorities are required by law to adopt procedures for participation and dialogue with the bodies, actors and the concerned beneficiaries. In this sense, they are required to set up consultative instances, in partnership with actors of civil society.

85 Consultation and strategic reflection councils that potentially have an impact on the sustainable management of oasis agro-ecosystems include:

- Economic, Social and Environmental Council ;
- Territorial Planning Supreme Council;
- Water and Climate Supreme Council;
- National Council for Human Rights.

86 Territorial security, control and surveillance organisms, which are military and paramilitary instances also have a role to play in the management, preservation and protection of oases and their environment. This is the case of the Royal gendarmerie, civil protection and forest guards, who fight the risk of ecosystem degradation, monitor these environments and prevent actions that could harm the ecological heritage.

87 Professional organizations can contribute to the development of a fruitful dialogue for oasis project development and management decision making. Within this category, we can mention particularly those related to agricultural activities, water management and tourism:

- Moroccan Inter-professional Federation of Dates (FIMADATTES);
- National Federation of dates producers (FENAPROD);
- Moroccan rose perfume Inter-professional Federation (FIMAROSE);
- Irrigation water users associations (management khettaras);
- The economic interest groups formed in various oases (GEI);
- Provincial tourism councils.

88 Civil Society Organization are numerous in the region, and range from large CSOs such as the *Tafilalet Association* or the *Drâa Development Association*, to more focused CSOs interested in for instance the fight against desertification and sustainable development. More recently a federation of associations has been created to coordinate the management of Biosphere of the Southern Moroccan Oases.

SECTION 2 – PROJECT RATIONALE

2.1 THE BASELINE SITUATION

2.1.1 Main environmental threats

89 The environmental heritage, which is the major wealth of the productive activities in the Moroccan oasis agro-ecosystems, has been weakened by recurrent periods of drought, and is subject to an arid climate and is being further degraded due to irrational modes of exploitation, including unsustainable modernization, overgrazing and excessive water pumping. This degradation process affects the integrity of the agro-ecosystems and could eventually lead to the decline in goods and services, which the local population relies on for sources of income, and subsequently lead to the deterioration of the standards of living and the sociocultural destabilization of the local communities.

2.1.1.1 Water scarcity

90 The survival of the oases depends entirely on water resources. Sustainable water resources management in oasis agro-ecosystems is crucial to ensure their capacity to provide services such as food production and sustain rural livelihoods. A vulnerability assessment developed in the framework of the project Adaptation to Climate Change in Morocco for Resilient Oasis (PACC-ZO) in 2011 shows that the water sector is highly vulnerable in oases in the Draâ-Tafilalet Region. Water resources are becoming scarce as a result of climate variability (droughts, floods, erratic rainfall) as well as socio-economic pressures (agricultural intensification, groundwater depletion, pollution). Additionally, the effects of climate change (temperature increase, changes in rainfall patterns) will put more pressure on water resources. Therefore it is fundamental to shift towards a more sustainable and adaptive management of water resources.

2.1.1.2 Land degradation, sand encroachment and soil salinity

91 Major land degradation problems in Morocco's oasis agro-ecosystems are salinity and sand encroachment (UNCCD NAP). According to studies carried out by ORMVA-Tafilalet (1982) and Khardi (1998), 35% of the soils of oasis suffer from salinity (4 à 6 g/l), and 18% suffer from high salinity (> 16 g/l). Soil salinity is partly a result of excessive water pumping and hotter and dryer climate conditions, limiting the natural recharge of the watertable. The excessive and irrational use of the aquifer for irrigation has been linked to the increased propagation of the Bayoud fungus, impacting on average 36 000 date palm trees per year (3.5% of the date palms).

92 The Draâ-Tafilalet region is exposed to the Chergui and Sirocco winds from the South, and 30 000 ha of land in Ouarzazate and Zagora and 250 000 ha of land in Errachidia are being threatened by sand encroachment (DDF, 1998).

93 These land degradation threats translate into reduced agricultural productivity and decreasing land availability for agricultural use (SAU per person increased from 0.32 ha/person in 1960 to 0.35 ha/person in 1990 because of deforestation for agricultural land expansion, but is projected to decrease to 0.22 ha /person because of water stress - CBD 5th National Report, 2015). Human and climate induced land use change is also a cause of modified soil organic carbon and overuse of water resources (and increasing soil salinity), expansion of agricultural land, and degradation of oasis agro-ecosystem have led to soil organic carbon loss.

2.1.1.3 Agro-biodiversity

94 Morocco counts 407 taxa of plant species with agricultural interest, including edible plants, medicinal and aromatic plants, pastoral plants, ornamental plants, industrial plants and crop wild relatives. Morocco is a recognised centre of genetic diversity for a number of cultivated species and their wild relatives, including *Avena* spp. (20 species), *Medicago* spp. (16 species), *Lupinus* spp., *Trifolium* spp., *Aegilops* spp., *Hordeum* spp., *Triticum* spp., *Vicia* spp., *Olea* spp., *Pistacia* spp., *Prunus* spp.⁹

95 Oasis agro-ecosystems are agro-biodiversity hotspots. The ingenious agricultural system and the dominating presence of the *Phoenix dactylifera* (date palm - more than 453 cultivars) and its local varieties Mejhoul, Jihel, Bouittob, Aziza and Boufeggous constitute an important phylogenetic basis locally and nationally.¹⁰ Other cultivated species, such as *Olea europaea* (olive tree, of the variety 'Picholine marocaine') and *Lawsonia inermis* (henne) are found in oasis agro-ecosystems, as well as barley, faba bean, turnips, carrots, squash, fig, walnut, almond, pomegranate, and peach among others.

96 These valuable sources of diversity are now at risk of extinction. The CBD 5th National Report suggests that fragmentation, habitat loss, pollution, water management, invasive species, over-exploitation and climate change are the main drivers of biodiversity loss. For oasis agro-ecosystems in particular, the abandonment of traditional (2 or 3-tier) agro-sylvo-pastoral practices, and the expansion of monocultures of high-value date palm varieties (Mejhoul) accelerate the agro-biodiversity erosion in oasis agro-ecosystems. Cereals and pulses have been identified as the groups that suffer most from genetic erosion because of the wide adoption of improved varieties at the expense of local/wild crops and varieties and because of the disappearance of *Pennisetum typhoides* (pearl millet) and *Panicum milliaceum* (proso millet).

97 The World Watch List for Domestic Animal Diversity 2000 for Morocco shows a considerable lack of data in order to draw conclusions on the risk level of extinction (dash in right column) for the registered breeds in the global databank for farm animal genetic resources., About 30% of all farm animal breeds worldwide are at risk of extinction¹¹.

9 <http://www.fao.org/wiews-archive/Morocco/Paper6.jsp>

10 MoA/INRA, 2011

11 <http://www.lrrd.org/lrrd22/8/bouj22154.htm>

98 Morocco is also a hotspot for diversity of domestic animals; a number of breeds and animal populations are found here, including the D'Man sheep breed of the Southern Oases¹² (famous for its unique prolificity), the Siroua sheep¹³ (a native breed largely ignored though locally known for the quality of its wool), and the local cattle breed Tidili living in Southern Moroccan oases or mountains. In addition, the Saharan yellow bee, localized in the sub-Saharan regions, especially in the oasis, has been ranked among the top world bees because its features in particular: softness, prolificacy, precocity, the extraordinary ability to collect nectar and easy acclimatization in any climate, including harsh winters. This species is however threatened by the risk of extinction. Genetic erosion of at least a number of these native breeds can be explained partially by the lack of characterization of population genetic variability, and the use of native breeds in crossbreeding programmes to improve their productivity.¹⁴

2.1.1.4 Climate change

99 Oasis agro-ecosystems are faced with a number of climate change challenges, exacerbating risks of water scarcity and extreme weather events. A study conducted by the Ministry of the Environment, Water, and Mines on the future scenarios of the oasis areas in the 2021-2050 horizon in terms of climate change yielded the following results (2015-2020 National Sustainable Development Strategy): (i) a decrease in total winter rainfalls and a decline in the number of wet days and heavy precipitation events; (ii) the magnitude of cumulative winter precipitation will be between 10% and 40% depending on the region and the number of wet days and heavy precipitation events will go from 5% to 30%; (iii) the magnitude of extreme winter weather will decrease over a large part of the zone; (iv) the zone will heat up during all seasons; and (v) elevated temperatures, especially in summer, will increase by 1°C to 2.2°C.

100 In terms of climate change mitigation, efforts focus on reducing emissions from the energy sector (Morocco's iNDC, 2015)¹⁵ through economy-wide actions based on strategies and sectoral action plans (agriculture, water, waste, forests, energy, industry and housing). The agriculture sector potentially contributes 26% to the iNDC reduction target. Among the sectorial strategies and targets to implement the iNDC, there is the Plan Maroc Vert (Morocco Green Plan), which focuses on: (i) modernizing the agricultural sector to make it more competitive and integrated in the global market to create wealth over the entire value chain; (ii) taking into account the agricultural sector in all its sociological and territorial components by incorporating human development objectives as a key requirement; (iii) improving the promotion of natural resources and their sustainable management; and (iv) defining the

12 <http://www.fao.org/docrep/009/t0071e/T0071E07.htm>

13 <http://boujenane.com/phocadownload/Small%20ruminant%20breed%20in%20Morocco.pdf>

14 <http://www.lrrd.org/lrrd22/8/bouj22154.htm>

15 Morocco's Mitigation Contribution includes an unconditional target of 13% reduction in GHG emissions by 2030 compared to BAU; and a conditional target of 19% reduction achievable under certain conditions, which would bring the total GHG reduction to 32% by 2030 compared to BAU. It has an economy-wide approach to achieve this target, including the energy sector, industrial processes, agriculture, waste and LULUCF. For the agriculture sector, it considers the following approaches: enteric fermentation and manure management; cropping systems and land-use for agriculture.

necessary policies to support sustainable growth. Recognising the country's priorities and the fact that soil degradation and the destruction of the biological potential of oasis agro-ecosystems potentially contribute to atmospheric CO₂-enrichment¹⁶, climate change mitigation efforts will support the demonstration, upscaling and replication of low-emission agricultural technologies and practices (e.g. solar pumping), as well as the restoration of oasis agro-ecosystems to re-establish their full carbon storage potential.

2.1.2 Baseline initiatives

101 Between 2002 and 2004, the Department of Planning (Département d'Aménagement du Territoire) conducted a study for the definition of a national oasis planning and development strategy, with the final objectives to protect resources, restore production and valorize oases. The strategy was specified into four oasis basin-specific programmes, i.e. the Programme Oasis Tafilalet (POT), the Programme Oasis of the South (POS), the Programme of local and integrated development of the Figuig Oasis (POF) and the Programme Oasis Drâa (POD). These programmes are coming to a close, and it was within the context of these programmes that a large number of successful projects and initiatives were initiated in oasis agro-ecosystems.

102 In 2010, the National Agency for the Development of the Oasis and Argan Zones (Agence Nationale pour le Développement des Zones Oasines et de l'Arganier - ANDZOA) was created as an agency of the Ministry of Agriculture and Maritime Fisheries (Ministère de l'Agriculture et de la Pêche Maritime – MAPM) to support the implementation of the Morocco Green Plan. ANDZOA is mandated to preserving productive, attractive and competitive oasis ecosystems through its 2014 Development Strategy for Oasis and Argan Zones.

103 Oasis agro-ecosystems have been identified as one of the priority areas in a number of national and regional plans and strategies, including the 2015-2020 National Sustainable Development Strategy (SNDD), which is a strategy to green the main productive sectors in the country, creating jobs and growth without increasing the pressure on natural resources. The SNDD recognizes oases as poor, poorly equipped and highly fragile areas that need particular support and attention. The strategy foresees to strengthen their governance and oasis protection programmes. This includes: (i) better oases governance for their sustainable management; (ii) enact a law to protect and value oases; (iii) restore and protect 54 000 ha of date palms (3 million trees); (iv) accelerate the implementation of the National Programme on Rural Sanitation (Programme National d'Assainissement Rural – PNAR) to preserve water resources; and (v) densify the argan forest cover, restoring 200 000 ha. It also has a strong focus on climate change adaptation, the adoption of oasis-specific agricultural practices, the strengthening and promotion of artisanal activities and the development of oasis and Sahara tourism. The cost of implementation of the full 2015-2020 SNDD has been estimated at USD 9.9 billion (97 billion MAD, or 2% of GDP), of which the Moroccan Government makes USD 2.9

¹⁶ Xiaoyu, Yugang, Lijuan, Geping, Yan and Xi, 2013, 2013, *Effect of Land Use History and Pattern on Soil Carbon Storage in Arid Region of Central Asia*

billion (28 billion MAD) available. 2 national funds will be established for the financial management of the 2015-2020 action plan of the SNDD, one sustainable development fund and one climate change fund.

104 Within the context of the SNDD, the Adaptation Fund approved the Climate Change Adaptation Project in Oasis Zones (PACC-ZO) (USD9.97M, implementing entity Agence de Développement Agricole, 2015-2020). The objective of the proposed project is to help reduce the vulnerability of people and oasis agro-ecosystems in Morocco to climate change by increasing the adaptive capacity of local actors, increasing the resilience of the target ecosystem and by disseminating knowledge management. Actions will include improved management of soil and water resources, as well as the use of resistant varieties of palm trees and training sessions for the stakeholders. This objective will be achieved through the following five components: (i) improving adaptive capacities of the water sector; (ii) diversifying income sources and improving the living conditions of populations vulnerable to climate change in the targeted areas; (iii) improving the ecosystems' resilience in response to climate change and variability; (iv) improving stakeholder awareness through the management and exchange of knowledge; and (v) strengthening the capacities of participants in the design and implementation of adaptation measures.

105 The development of the oasis agro-ecosystems is also supported through a number of sector strategies, policies and plans, including the 2009 Green Morocco Plan (Plan Maroc Vert - PMV), which constitutes the Moroccan government's agricultural policy, with the goal of making agriculture an important driver of economic growth by 2020. The two pillars of the PMV cover (I) high-productivity modern agriculture; and (II) support for traditional agriculture. Pillar II of the PMV has been devised to provide solidarity-based support to small scale farming with a view to improving the income of the most precarious farmers, through three project categories: (i) reconversion projects; (ii) intensification projects; and (iii) diversification projects. Moreover, the PMV is linked to safeguarding natural resources in order to promote sustainable agriculture by: (i) implementing projects within the context of improving the agricultural sector's resilience to future climate change as well as preserving biodiversity; (ii) integrating technology capable of adapting to climate change on matters relating to genetic improvement, recourse to water/soil conservation techniques and good agricultural practice; and (iii) implementing a National Programme for Water Savings Economy in Irrigation.

106 The main investment projects are identified in 16 Regional Agricultural Plans (Plans Agricoles Régionaux – PARs). These projects altogether aim to: increase production levels of the identified sectors; improve the conditions and quality of the commercialization of production; increase the level of valuation of irrigation water. With the new re-regionalisation, 12 new PARs will be developed for the period 2016-2020.

Table 9: Overview of relevant baseline activities

Project/Program name	Lead executing agency /total budget / timing	Baseline project description	Co-financing amount and incremental value
<p>Contract-programme Dates (CP - Dates)</p> <p>(within the framework of the PMV)</p> <p>Project to support the Economic Interest Groups for the development of the date value chain in the Oases of Morocco (PAGIE)</p>	<p>CP Dates: executed by ANDZOA</p> <p>Total funding: ~ USD80M</p> <p>Period: 2010-2020</p> <p>The project covers sixteen provinces including Drâa-Tafilalet (65,000 Ha) over a period of 10 years.</p> <p>PAGIE: executed by ANDZOA</p> <p>Total funding: ~ USD24M</p> <p>Period: 2016-2020</p>	<p>ANDZOA is very active in the region and has numerous projects, including a major integrated development initiative for increased date palm, saffron and rose water production in the Oases Belt and several projects on community natural resource management. One such project engages in the promotion of local agricultural oases products and the planting of 1 million date palms by 2020.</p>	<p>Co-financing: USD 6M + USD 3.6 M = USD 9,6M</p> <p>Despite some notable achievements under these initiatives, none of the models advocated have adopted a systematic approach to tackling the “root-causes” of environmental degradation in the region or sought a fundamental ‘de-coupling’ of a traditional economic development model with a new one that is built around a truly sustainable utilization of the region’s natural capital base.</p> <p>The proposed project will cover the incremental cost associated to redefining how environmental protection and mitigation measures can be integrated with socioeconomic development strategies in the context of a changing biophysical environment and new conceptualization of “sustainability.” Component 1 of the project is critical as regards to putting in place the requisite frameworks and policies that are compatible with this new vision while other components will operationalize the visions in oasis agro-ecosystems.</p>
Plan Maroc Vert (PMV), Pillar II (31 projects)	<p>MAPM/ ADA/ Regional Agricultural Directorate Draa Tafilalet</p> <p>Total MAPM funding for PMV II (including CP – datte palms and PAGIE) : ~USD 250M</p> <p>Period: 2010 -2020</p> <p>The operational budget of the new Regional Government of Drâa-Tafilalet cannot be estimated at this stage and will be confirmed during the PPG phase.</p>	<p>ADA assures the implementation of the Plan Maroc Vert. The two pillars of the PMV cover (I) high-productivity modern agriculture; and (II) support for traditional agriculture. Pillar II of the PMV has been devised to provide solidarity-based support to small scale farming with a view to improving the income of the most precarious farmers. The main investment projects are identified in 16 Regional Agricultural Plans (Plans Agricoles Régionaux – PARs). These projects altogether aim to: increase production levels of the identified sectors; improve the conditions and quality of the commercialization of production; increase the level of valuation of irrigation</p>	<p>Co-financing: PMV II ~USD 20 M</p> <p>While PMV Pillar II projects have achieved some progress in terms of awareness, no adequate financial incentives or financing mechanisms are in place that could provide a compelling economic argument to switch to more sustainable water and land management practices on collective lands as well as to shift the balance in agricultural production in favor of diversity rich approaches.</p> <p>The proposed project will complement PMV Pillar II initiatives by pioneering a more integrated, ecological and low-carbon development model for sustainable production intensification via targeted support for improved landscape</p>

Climate Change Adaptation in the Oases Regions (PACC- ZO)	<p>Total MAPM/ADA funding for PACC-ZO : ~ USD 9,97 M</p> <p>Period: 2015-2019</p>	<p>water. With the new re-regionalisation, 12 new PARs will be developed for the period 2016-2020.</p> <p>ADA is also the executing agency for PACC-ZO (implemented by ANDZOA) whose objective is to help reduce the vulnerability of people and oasis agro-ecosystems in Morocco to climate change by a blend of interventions on the conservation of arable lands, water and soils, the promotion of resilient agricultural practices, increasing the capacity of local actors, and on knowledge dissemination.</p>	<p>planning and environmental governance; and the restoration and conservation of the region's natural capital base with a focus on high-biodiversity in critical watersheds of oasis agro-ecosystems.</p> <p>Co-financing: PACC-ZO ~ USD 9,97 M</p> <p>The proposed project will be incremental to PACC-ZO activities, as it intends to place emphasis on capacity development at different levels, particularly to better plan and monitor, but also to successfully deploy NRM and SPI tools and practices to conserve and promote the sustainable use of genetic diversity of cultivated plants and their crop wild relatives within the targeted oasis agro-ecosystems.</p>
Network of laboratories for date palm tissue culture	<p>INRA</p> <p>Total funding: the annual budget of INRA is ~ USD 968 M, 70% funded by the Ministry of Research</p>	<p>Within the framework of the PMV, the network was established from an agreement between INRA, MAPM and six private laboratories. While INRA's laboratories ensure sufficient production of basic burgeoning strains for commercial propagation, private laboratories are responsible for large-scale multiplication and mass production of in-vitro plants. The INRA laboratories produce from 20000 to 40000 active strains of date palms per year. The laboratories also provide the modern scientific equipment to develop the technologies like molecular marker and DNA sequencing of date palm to identify date varieties and analysing genetic diversity. INRA its research on the control of Bayoud disease, date palm characterisation, techniques of date palm cultivation and date valorisation by technological procedures.</p>	<p>Co-financing: USD 1 M</p> <p>The proposed project intends to cover the incremental costs associated to strengthening the capacity of the agricultural development, extension and research communities and institutions that are needed for in-situ conservation of a diverse cultivated crops and their crop wild relatives, so that agricultural biodiversity is embedded in sustainable intensification.</p>

<p>FAO Country Programme Framework (CPF)</p> <p>Donor : FAO</p>	<p>Period: 2013-2016 / new CPF under development</p> <p>Total budget: US\$13.5M</p>	<p>FAO's technical assistance at the country level is focused on support to policies and strategies for sustainable development, in particular the Green Morocco Plan, the Fisheries Plan, the National Charter for the Environment and Sustainable Development, the National Water Strategy and the National Forestry Programme.</p> <p>Within the framework of the CPF, 57 projects were registered in 2015, focusing on three major areas:</p> <ul style="list-style-type: none"> i) Development for all, without exclusion of vulnerable groups and women, including the agriculture and marine fisheries sector as the engine of economic and social development; ii) Sustainable management of natural resources and improved living standards for rural people, with an emphasis on vulnerable populations, in the context of adaptation to climate change; ii) Promotion of regional cooperation, including South-South cooperation. 	<p>Co-financing: USD 0.7M</p> <p>The project will be complementary to FAO efforts in the country by introducing an ecological landscape approach to redefine oasis agro-ecosystems by classifying them according to their unique hydrologic, topographic, geological and socio-economic settings while redirecting investments to adequately address context specific environmental pressures and socio-economic needs.</p> <p>By recognizing the fact that soil degradation and the destruction of the biological potential of oasis agro-ecosystems potentially contribute to atmospheric CO₂-enrichment, the project intends to cover the incremental costs of associated with the demonstration, upscaling and replication of low-emission agricultural technologies and practices (e.g. solar pumping), as well as the restoration of oasis agro-ecosystems to re-establish their full carbon storage potential.</p>
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2.1.3 Remaining barriers to address the environmental threats

107 Despite the efforts described above, oasis agro-biodiversity is eroding rapidly, water and land resources are degrading and production systems are emitting GHGs, not fully capturing their sink potentials. Oasis agro-ecosystems remain poor and fragile systems. There are at least 3 reasons for this:

At the policy level

108 **Governance model:** With the exception of a few projects with satisfactory results (for instance in the context of the Programme Oasis Tafilalet), development investments into oasis agro-ecosystems have a strong sector focus. An ecosystem approach would allow for a more holistic approach to development and offer an alternative to the traditional productivistic approach that has dominated recent investments in oases. This sector approach has also resulted in a rather narrow definition of oases, i.e. the area under date palm production. Both the narrow definition and the productivistic sector approach has favoured the recent expansions of modern date palm plantations. These 'modern oases' are competing with traditional systems as they share land and water resources. The productivistic sector approach has unintentionally contributed to an accelerated use and progressive overexploitation of

land and water resources, without sufficiently offering recharge measures. The project introduces an ecosystem based approach. The oasis is redefined as oasis agro-ecosystem and therefore fully accounts for the multiple interactions between the 2 or 3 tiers in traditional oases, the multiple benefits and positive feedbacks from the agro, sylvo and pastoral production systems, the interactions between the cultivated land (périmètre irrigué - SAU) and the surrounding pastureland, and more.

109 **One-size-fits-all:** The dominant sector focus approach used in oasis development programs mainly focuses on date palm production and insufficiently takes into account the diversity of oasis agro-ecosystems that exists. As a result, many development plans for oasis agro-ecosystems do not take into account the specificities of the single systems, and there is a tendency to have a one-size-fits-all development plan for oases, regardless of their socio-economic, biophysical and vulnerability factors. Therefore, the project suggests to elaborate a participatory and comprehensive typology study based on biophysical (i.e. source of water or location), productive (i.e. main crops and livestock) and socio-demographic dynamics (i.e. poverty, gender, access to markets). The resulting oasis agro-ecosystem types will be the basis for the following project activities, including the participatory identification of project intervention sites, and the participatory sustainability assessments and planning processes.

At the management level

110 **Need for increased and adapted capacity:** As traditional systems are progressively being lost, modernisation makes its way focusing on increased productivity of a monoculture, the oasis population is becoming less familiar with sustainable production intensification, natural resource management and sustainable land and water management practices, tools and approaches. Traditional knowledge and know how are being lost and become insufficient to offer adequate responses to a rapidly changing context (e.g. due to climate change). Capacities are needed at the regional and local levels in order to restore the resilience of oasis agro-ecosystems. Therefore, the project puts emphasis on capacity development at different levels, particularly to better plan and monitor, but also to successfully deploy NRM and SPI tools and practices within the targeted oasis agro-ecosystems.

2.2. THE GEF ALTERNATIVE

2.2.1 Project objective and indicators of success

111 The overall objective of OASIL is to revitalize oasis agro-ecosystems in the Drâa-Tafilalet region to be productive, attractive, and healthy and to sustain and make more resilient the livelihoods of the local communities.

112 Indicators to measure success and to capture the change that has been achieved by the project are:

- % increase of investments into pilot oasis agro-ecosystems (Target: 20% increase)

- # ha of oasis agro-ecosystems sustainably managed in an integrated and participatory manner (Target: 60 000ha)
- # of tons of CO_{2e} mitigated through project activities over a 20-year period (Target: 1.5 million tons of CO_{2e})
- Proportion of land that is degraded over total land area in pilot landscapes (Target: 60% decrease)
- Level of water stress (freshwater withdrawal as a proportion of available freshwater resources) (Target: 20% decrease)

2.2.2 The estimated Global Environment Benefits

Land degradation (contributing to GEF Objective LD1, Programme 1)

113 The project will be contributing to improved sustainable management of landscapes in a pilot area covering 60 000 ha, of which 15 000 ha are improved and sustainable land management of croplands (the SAU of the oasis agro-ecosystems) and 45 000 ha are the improved and sustainable land management of pastures, surrounding and strongly interacting with the SAU of the oasis agro-ecosystems.

114 Pilot activities will be implemented in 2 watersheds (sub-drainage basins) to be identified during project year 1. Therefore the direct impact will be felt in an area equal to 60000 ha, while the indirect impact - through upscaling and mainstreaming into regional policies and plans – will be in the whole area of the region, totaling 8 043 386 ha.

Biodiversity (contributing to GEF Objective BD3, Programme 7)

115 The project will aim at improving and changing agro-pastoral production practices to be more biodiversity friendly. The project will prioritise actions to conserve and to promote the sustainable use of the endemic CWR of agricultural species, for which Morocco, and particularly the oasis ecosystems South of the Atlas, is a genetic reserve location of global significance (centre of diversity). During the PPG phase, from the list below, consultations and research narrowed the scope of the project to 4 traditional crops, namely Durum wheat, Faba bean, Lentil and Alfalfa, while also targeting the D'man sheep and Yellow bee of the Sahara. The project may go beyond these priority crops and breeds, depending on the orientations made during planning process of the management and investment plans of target oasis agro-ecosystems.

Table 10: Agro-biodiversity of global significance

Genus	Cultivated species (scientific and common names)	Crop wild relative
<i>Avena</i> spp.	<i>Avena sativa</i> L. - oat	12 named CWRs: <i>Avena agidiriana</i> B.R. Baum & G. Fedak, <i>Avena atlantica</i> B.R. Baum & G. Fedak, <i>Avena barbata</i> Pott ex Link, <i>Avena canariensis</i> B.R. Baum Rajhathy & D.R. Sampson, <i>Avena clauda</i> Durieu, <i>Avena hirtula</i> Lag., <i>Avena longiglumis</i> Durieu, <i>Avena lusitanica</i> (Tab.Morais) B.R.Baum, <i>Avena maroccana</i> Gand., <i>Avena matritensis</i> B.R.Baum, <i>Avena prostrata</i> Ladiz., <i>Avena sterilis</i> L.
<i>Brassica</i> spp.	<i>Brassica rapa</i> L. - Turnip	<i>Brassica barrelieri</i> (L.) Janka, <i>Brassica fruticulosa</i> Cirillo, <i>Brassica fruticulosa</i> Cirillo subsp. mauritanica (Coss.) Maire, <i>Brassica gravinae</i> Ten., <i>Brassica maurorum</i> Durieu, <i>Brassica rapa</i> L. subsp. oleifera (DC.) Metzg, <i>Brassica oxyrrhina</i> Coss.
<i>Ficus</i> spp.	<i>Ficus carica</i> L. - Fig	14 named CWRs in oasis agro-ecosystems of Morocco alone
<i>Medicago</i> spp.	<i>Medicago sativa</i> L. - Alfalfa	<i>Medicago marina</i> L.
<i>Lens</i> spp.	<i>Lens culinaris</i> Medik. - Lentil	<i>Lens ervoides</i> (Brign.) Grande, <i>Lens lamottei</i> Czefr., <i>Lens nigricans</i> (M. Bieb.) Godr.
<i>Olea</i> spp.	<i>Olea europaea</i> L. - Olive	<i>Olea europaea</i> L. subsp. <i>europaea</i> L. and <i>Olea europaea</i> L. subsp. <i>maroccana</i> (Greuter & Burdet) P. Vargas et al.
<i>Pistacia</i> spp.	<i>Pistacia vera</i> L. - Pistachio	<i>Pistacia atlantica</i> Desf., <i>Pistacia atlantica</i> Desf. subsp. <i>atlantica</i> Desf., <i>Pistacia lentiscus</i> L., <i>Pistacia terebinthus</i> L., <i>Pistacia terebinthus</i> L. subsp. <i>terebinthus</i> L., <i>Pistacia</i> × <i>saportae</i> Burnat
<i>Triticum</i> spp.	<i>Triticum aestivum</i> L. - wheat	9 named CWR including: <i>Aegilops geniculata</i> Roth and <i>Aegilops ventricosa</i> Tausch
<i>Vicia</i> spp.	<i>Vicia faba</i> L. - Faba bean	<i>Vicia narbonensis</i> L.

116 The proposed work undertaken will promote the conservation and sustainable use of agricultural biodiversity in the traditional production landscapes, while contributing to local peoples' livelihoods as well as environmental secure the ecological integrity and sustainability of protected areas on the southern slope of the Atlas Mountains, particularly the Biosphere Reserve of the Oasis in Southern Morocco. Reducing the pressures on the Biosphere, the project will contribute indirectly to the protection of the following species of global significance: high-altitude forests including *Juniperus thurifera*, *J. phoenicea*, *Quercus rotundifolia*, *Arenaria pungens* etc.; Acacia forests dominated by *Acacia raddiana* and *A. ehrenbergiana*; desert steppes with *Fredolia aretioides*, *Haloxylon articulatum*, *Gymnocarpos decander* etc.; Rocky habitats (cliffs and screes) including *Warionia saharae*, *Perralderia coronopifolia*, *Trichodesma calcaratum* etc.; Sand dune habitats with *Aristida pungens*, *A. plumosa*, *A. tenuitana*, *Lotus jolyi* etc.

117 The project will support the achievement of the following Aichi targets:

- Target 7 - By 2020 areas under agriculture (aquaculture and forestry) are managed sustainably, ensuring conservation of biodiversity. (in 5th NBSAP 2015, this is realized through GHIAS labeling);
- Target 15 - By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification. (in 5th NBSAP, through the *Stratégie d'aménagement et de développement des oasis au Maroc*); and
- Target 18 - By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

118 The second of the seventeen proposed Sustainable Development Goals is to "End hunger, achieve food security and improved nutrition, and promote sustainable agriculture". Specifically, the project will contribute directly to Sustainable Development Goal 2.5 by 2020 maintain genetic diversity of seeds, cultivated plants, farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at national, regional and international levels, and ensure access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge as internationally agreed.

Climate change mitigation (contributing to GEF objectives CCM 1 & 2, Programmes 1 & 4)

119 Carbon benefits from the project have been estimated using the EX-ACT tool, version 7. The overall benefits amount to 1,482,488 t CO₂e for a 20 year period. This translates into a 1.2 t CO₂e per ha per year. Carbon benefit estimates from the introduction of low-emission agriculture technologies have not been calculated, as both the technology and the scale of its

use in the project area will be identified in a participatory way during project year 1, when the oasis agro-ecosystem management plans are being designed.

120 Additional carbon benefits will remain unaccounted for. For instance, there is a growing consensus that increased agro-biodiversity in agro-ecosystems can affect carbon sequestration by having an impact on recalcitrant carbon in the soil, carbon sequestered in wood products, and carbon in standing biomass. Thus, practices increasing genetic diversity, at various time scales, that can help increase productivity year-round, can indirectly increase the ecosystem's ability to sequester carbon (Lal and Kimble, 1997; West and Post, 2002). The biomass the oasis system maintains, through the genetic richness of its crop varieties, has ensured continuous biomass coverage under extreme climatic conditions, and thus, the continued sequestration and regulation of CO₂ gases.

2.2.3 Project components, outcomes and outputs

2.2.3.1 Component 1: Policy dialogue - Support policy dialogue at the national and regional levels on the sustainable management of oasis agro-ecosystems

121 As illustrated in section I, a multitude of public institutions is involved in the management of oasis agro-ecosystems. The lack of inter-institutional/inter-sectoral and multi-level coordination has at times lead to mutually counterproductive results. The multiple challenges faced by oasis populations is only partially understood and as a result only partial answers are provided, neither benefitting populations in the long run, nor grasping the full development potential oasis agro-ecosystems can offer. Other results achieved through pilot projects and programmes, successful though with a limited scope in time and space, have remained poorly documented and have failed to feed into the decision making processes for public and private investment plans and strategies. Despite the existence of a complex and highly fragmented legal framework that regulates the conservation, restoration and rehabilitation of oases, the efficient implementation of these legal provisions is hampered by a lack of awareness and understanding of challenges and opportunities from integrated landscape approaches to manage oasis agro-ecosystems sustainably. As a result, the current policy, legal and institutional framework (a full assessment can be found in Annex 7) has supported the modernization of - what is believed to be - an archaic production system, with the attempt to increase the productivity of the agro-ecosystems through the development of monocultures (Rosaceae, fruit, date palm groves), unintentionally causing the progressive loss of traditional production systems (including traditional practices, skills and know-how), eroding the agro-biodiversity richness of the systems and pushing the carrying capacity of the oasis agro-ecosystems beyond their limits. The current polity, legal and institutional framework is unfit to respond to the rapidly evolving context to which oasis agro-ecosystems need to adapt in order to guarantee their very survival.

122 Through its first component, OASIL intends to lay out the enabling environment for further uptake, sustainability and outscaling of results that emanate from this and other

initiatives (including sister GEF funded projects in the country, region and worldwide – full list in section 4). The technical assistance under this component focuses on capacity building at national and regional levels and hopes to strengthen the current policy, legal and institutional framework for the sustainable, participatory and integrated management of oasis agro-ecosystems. Informed by capacity needs assessments at the national and regional levels, OASIL offers the required support to public and private (companies, NGOs, and others) decision makers in order for them to make informed decisions on investments into oasis agro-ecosystems, mainstreaming agro-biodiversity, climate mitigation, resilience, and SLWM concerns into plans, programmes, policies, strategies and budgets. To this end:

- Decision-makers at the national and regional levels need to be made aware of the unique challenges and opportunities oasis agro-ecosystems face. This sensitization element under component 1 is in support of the mandate of ANDZOA, which mission is to mainstream oasis concerns into policies and plans of line ministries in Morocco.
- Decision-makers at the national and regional levels need to have access to data, best practices, lessons, etc. on sustainable management options tailored to oasis agro-ecosystems and their different typologies in order to make the most cost-effective, durable and socially acceptable investment choices and therefore give direction to the change process. Experiences from OASIL (through components 2 and 3) and other projects (e.g. FAO-GEF project 5798, where 1 component is about collecting and disseminating lessons learnt and best (and worst) practices in Maghreb oasis ecosystems) will be made available to decision-makers via a multi-stakeholder platform. This platform will also greatly support the democratization of data and information, making it widely available for multiple purposes.
- As an expression of engagement, an internalization of the awareness and use of available actionable knowledge and data, decision-makers from multiple sectors, at multiple levels reflect the lessons into the strategies and plans, and engage in a ‘declaration’ for sustainable oasis agro-ecosystems. The idea for such a declaration has been inspired by the successful experience in the pastoral sector, where the Moroccan ‘Code Pastoral’ (Pastoralism Declaration) eventually informed and shaped the ‘Loi Pastoral’ (Law on Pastoralism).

Outcome 1.1 Actionable knowledge on oasis challenges and opportunities is used by the government and other national and regional stakeholders to promote the sustainable management of oasis agro-ecosystems through strategies and development plans

123 OASIL further builds on a change process that has already initiated. The ‘Sustainable Oases Initiative’ will be launched by ANDZOA at the Climate Change Conference in Marrakesh (COP22) and wishes to mobilize the international community for the recognition, preservation and inclusive development of oases as exemplary climate change resilient production systems. Through its tiered approach, OASIL aims at engaging partners in a declaration on sustainable oases (stepping up the momentum created around the Sustainable Oases Initiative), while translating the principles of the declaration into their development plans and strategies. Therefore, the indicators of success of outcome 1.1 are:

- Number of public and private institutions that adhere to a ‘Sustainable Oases Declaration’; and

- Agro-biodiversity, Sustainable Land and Water Management (SLWM) and climate-smart approaches are mainstreamed into the future regional development plans of the Draâ-Tafilalet Region, assisting the advanced regionalization process.

Output 1.1.1. Policy dialogues and knowledge exchange events involving different stakeholders from multiple sectors are held at regional and national levels on critical factors and innovative approaches to ensure the sustainability of oasis agro-ecosystems

124 The policy dialogues are considered to be an essential component of the policy and decision-making process at the national and regional levels as they contribute to informing, developing or implementing policy change following evidence-based discussions, workshops, and consultations on various issues related to oases. The policy dialogues that are being planned during the lifetime of the OASIL project, include events to discuss and check the quality and content of policy briefs, clarify judgements that are being made by different stakeholders, introduce new and relevant evidence not earlier accounted for, help ensure knowledge and data is understood, and help ensure knowledge and data is taken into account and used in the development of policies and plans.

125 Though the shape, participation and content of the policy dialogues will be identified after a rapid capacity needs assessment of key stakeholders at the national level, the dialogues are poised to be led and facilitated by ANDZOA, which has the mandate to develop, implement and monitor a global development plan for the oasis zones in Morocco in close collaboration and in consultation with multiple government authorities.

Output 1.1.2. A multi-stakeholder platform on oasis agro-ecosystems to exchange relevant information, data and best practices for integrated and sustainable management of oasis agro-ecosystems is developed to inform decision-making at national and regional levels

126 The multi-stakeholder platform will be hosted, animated and maintained by ANDZOA. The platform will be the depository of data, information, knowledge, best practices, and more on the state and sustainable management options of natural resources in oasis agro-ecosystems. The actionable knowledge and data are made available in a dynamic, interactive and user-friendly way to decision-makers from the public and private sectors at the national and regional levels. Lessons, best practices, approaches, tools and methods will be collected from the OASIL project, while also capturing the knowledge and data that emanate from other initiatives (e.g. FAO-GEF project 5798). The platform will furthermore facilitate the continued dialogue between concerned stakeholders. It will act as a concrete tool for ANDZOA to enact on its mandate to coordinate and federate sector specific inputs and investments into oasis agro-ecosystems.

Output 1.1.3. Capacity needs assessment and training programme developed and implemented for increased capacity of the National Extension Agency (ONCA), ORMVAT, ORMVAO, ANDZOA, INRA, ADR agents to incorporate agro-biodiversity, Sustainable Land and

Water Management and climate change mitigation approaches as well as improved climate-resilient agro-sylvo-pastoral practices in plans and policies

127 Where outputs 1.1.1 and 1.1.2 are aiming at information exchange and awareness raising of decision makers for the uptake of ABD, SLWM and climate-smart approaches into development plans and strategies, output 1.1.3 provides the tools to further disseminate selected practices, tools, approaches and methods. The functional and technical capacities of ONCA, ORMVAT, ORMVAO, ANDZOA, INRA, AREP will be assessed and a training programme tailored to their needs designed and implemented.

128 Furthermore, this training programme will support the re-regionalisation process in Morocco, while also equipping newly created institutes (in particular ONCA) with the tools and material (fiches techniques) to provide the extension services to farmer communities in support of sustainable NRM and sustainable production intensification (for instance on incorporation of new adaptive technologies and sustainable management approaches and standardizing and harmonizing services to preserve and sustainably manage critical ecosystem services). OASIL will support the uptake of tools and material into the curricula of extension colleges (Instituts techniques agricoles), do training of trainers and extension agents, in order to have a lasting impact beyond the lifetime of the project and the geographical scope of the project.

129 In final, the training programme foresees up to 3 study visits abroad in order to strengthen the understanding of relevant policy issues, knowledge exchange, lessons, and create South-South cooperation networks. As an example, regional and local stakeholders from the Drâa-Tafilalet region will have the opportunity to visit the project sites of the GEF-funded 5-year project 'In Situ/On Farm Conservation and Use of Agricultural Biodiversity (Horticultural Crops and Wild Fruit Species) in Central Asia'.

Output 1.1.4. A declaration (Charte des oasis durables) is developed in a multi-stakeholder process to inform sector policies and development strategies and plans

130 Building upon the findings from the policy dialogue, a draft Declaration will be prepared in a consultative fashion. This declaration will provide national stakeholders the opportunity to express political support to the protection and sustainable management of oasis agro-ecosystems, based on a set of standards/principles, and become the stepping stone to a national law on sustainable oases. OASIL will support the drafting of the declaration and facilitate endorsement of it by a multiplication of stakeholders, both from the private and public sector.

Component 2: Planning and monitoring – Improvement of Natural Resource Management and Sustainable Production Intensification planning and monitoring systems at regional and local levels

Outcome 2.1 Knowledge and information on the state and sustainable management of natural resources (water, land, biodiversity) in oasis agro-ecosystems are improved in the Drâa-Tafilalet region

131 Any strategy aiming at addressing the development of oasis ecosystems must be based on a thorough understanding of the natural resources base (water, land, biodiversity) and the spatial and temporal dimensions associated to it. Effective planning and negotiations are difficult if stakeholders are working with their own, differing, information bases. This outcome will provide a common information base that is acceptable to all stakeholders involved in planning, monitoring or other decision-making process in the Drâa-Tafilalet region. The information collected will feed oasis information systems (output 2.1.4) and therefore, the indicator which measures the success of Outcome 2.1 is the number of monitoring and information systems, including spatial information, which are operational.

Output 2.1.1 Participatory water accounting and auditing is conducted at regional level

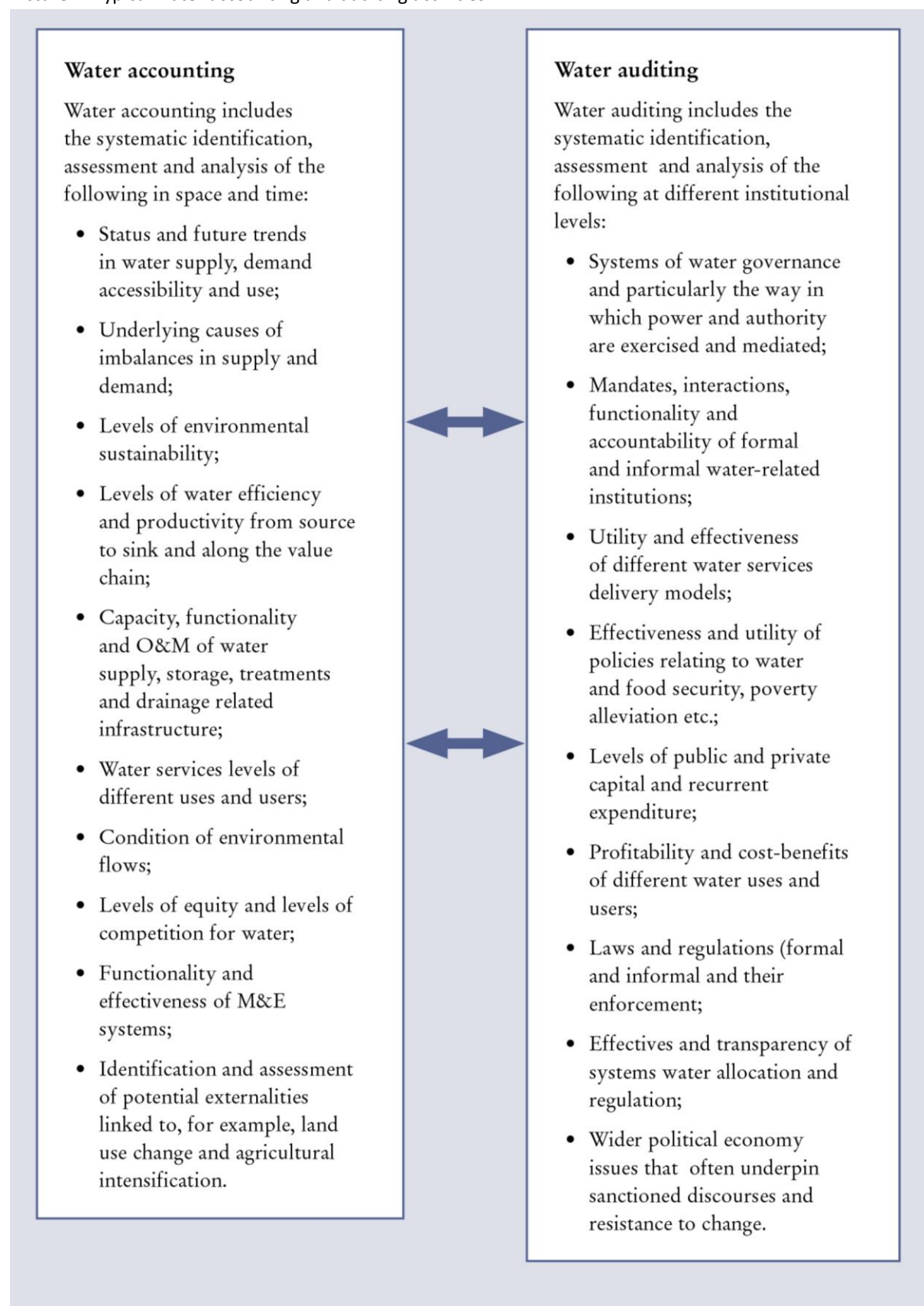
132 Water accounting and auditing refers to the systematic study of the hydrological cycle and the current status and future trends in both water supply and demand. Beyond the simple accounting of volumes and flows, it promotes an integrated approach focusing on issues relating to accessibility, uncertainty and governance including gender equity issues. Explicit consideration should also be given to the specific water requirements of aquatic ecosystems and the potential impact of drivers that are outside the control of water governance systems (e.g. climate change or energy prices).

133 Groundwater accounting and auditing will be key, given the increased dependence of local communities in the Region on groundwater resources for agriculture where over-abstraction is a particular cause of concern. Groundwater resources are very vulnerable and their good governance is a major political, economic and social issue in the Region.

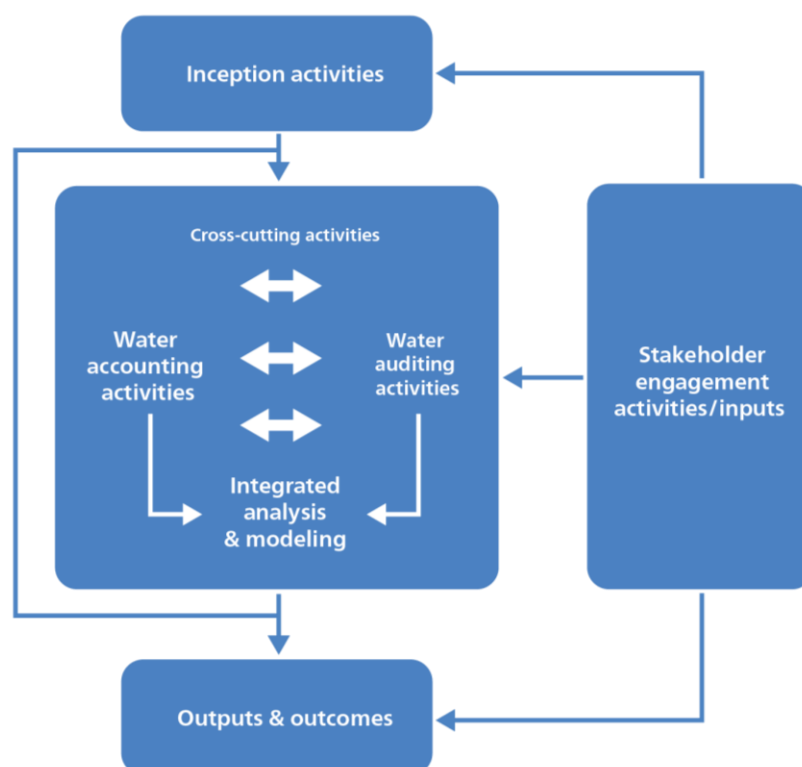
134 The FAO approach to water accounting and auditing¹⁷ considers a flexible, adaptable, inter-sectoral, multi-scalar process, based on a sound up-to-date understanding of the various disciplines involved (e.g. hydrology, civil and irrigation engineering, political science, economics, social sciences). It is also based on a process of active stakeholder engagement, concerted action and cycles of social and institutional learning. Furthermore, it recognizes the importance of developing and implementing a communication strategy as an integral part of the process (see pictures 1 and 2).

¹⁷ FAO Water accounting and auditing guidelines: <http://www.fao.org/3/a-i5923e.pdf>

Picture 1: Typical water accounting and auditing activities



Picture 2: Overall approach to water accounting and auditing



Output 2.1.2. Land degradation assessment is conducted at the regional level

135 Land degradation and desertification is a key sustainable development problem in oasis ecosystems. The assessment approach will consider land degradation as a biophysical, social, economic and environmental issue that must be dealt with through a combination of geo-informational, scientific and local knowledge tools.

136 The assessment will consider LADA (Land Degradation Assessment in Drylands) methods and tools that have been developed and validated in a range of ecosystems. LADA uses a variety of technologies, from satellite images to digital databases to soil and vegetation sampling. It takes into account both biophysical and socio-economic issues. Synergies will be established with the ongoing GEF project *Decision Support for Mainstreaming and Scaling up of Sustainable Land Management* implemented in 14 countries including Morocco, in which decision support tools for the effective use of LD and SLM assessments for integrated planning and management of land resources across sectors will be developed.

137 As part of the assessment, a land degradation map will be prepared using high-resolution satellite images to identify vulnerable and sensitive areas to desertification. The aim is to conduct a multi-date analysis of satellite images to assess the status of land degradation and also make projections for the future. The assessment will build on the study conducted by the HCEFLCD (Haut Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification) in the framework of the PAN – LCD (*Programme d'Action National de Lutte Contre la Désertification*). Through this work, a land degradation sensitivity map was developed considering the specific characteristics of different zones, in order to regionalize

the interventions and focus on priority areas. Zones are defined according to four criteria: climate, vegetation, erosion processes and grazing pressure.

Output 2.1.3. Genetic Diversity Assessment and Monitoring is conducted in selected oasis typologies

138 Participatory diagnostic protocols such as the Diversity Assessment Tool for Agrobiodiversity and Resilience (DATAR)¹⁸ will be used to assess and analyze the amount and distribution of unique diversity (crop and livestock) found only in target oasis agro-ecosystems. The diagnostics will include farmers' knowledge and beliefs on the amount of diversity they manage and their management practices together with field and laboratories analyses of the genetic variation of this diversity. Key crops that are essential for the function of the oasis agro-ecosystem will be investigated. Particular crop and livestock breeds will depend on the different oasis systems and farmers' interest, but based on the preliminary assessments conducted on priority crop and animal varieties (see annex 8). Protocols will also include assessment of indigenous management practices that support the maintenance of particular livestock breeds such as the D'man sheep as well as particular varieties of almonds, medicinal and aromatic plants (PAM) and bees.

139 The DATAR assessment will be carried out at project inception for baseline collection and at project completion for impact assessment. It will consist of household surveys, focus group discussions and on-farm assessments.

140 DATAR will support the development and/or updating of local catalogues and inventories that collect, categorize and make available for use, information on landraces, traditional cultivars and plant genetic resources. Moreover, in each selected oasis typology, a mapping exercise will be carried out to localize seed stock growers as to establish tracking and monitoring of seed exchange and seed flows.

141 Findings from DATAR will be used to undertake an attribute analysis/ utility ranking of oasis genetic diversity to estimate farmers' valuation of one trait or attribute versus another. This will serve to promote market niches for specific genetic diversity of the oasis

¹⁸DATAR is an evolving multicomponent tool to describe agricultural biodiversity and resilience at landscape level. It follows a heuristic framework to assess:

- Diversity of crop species and varieties, livestock breeds, and fish populations;
- Ability to access diversity and associated information;
- Extent of use of the available materials and information about them;
- Benefits obtained by the farmer and farming community from use of diversity;
- Community perspectives on social ecological resilience.

DATAR provides the information needed to support farming communities in the maintenance and use of traditional crop varieties, livestock breeds and fish populations to improve productivity and ecosystem resilience. It is a gender and age sensitive tool that allows for estimating the extent and distribution of diversity in the farmers' production systems. This is the first step in determining whether there is sufficient diversity of crop varieties or livestock breeds within a production system to meet the various needs of farming communities.

systems. Extension manuals will be developed demonstrating economic value of use of crop diversity, modified extension packages on the use of diversity, and benefit sharing mechanisms (output 3.2.1), all will promote the public awareness for sustainable use of crop and livestock diversity on farm.

Output 2.1.4. Oasis typology and mapping based on bio-physical and socio-economic factors (ecosystemic and livelihood approaches) are elaborated

142 Unlike traditional investment planning processes, which are based solely on the availability of natural resources (water, land) and available technologies, the project approach also considers the needs and characteristics of local population and other agro-ecological conditions that reflect the diversity in the oasis ecosystems. Therefore, one important aspect of the approach is to determine the oasis types where people share relatively homogeneous living conditions according to a set of biophysical and socioeconomic determinants and their location in the region. The different oasis areas identified will serve as territorial units for planning. These territorial units should not be limited to the oasis space in the strict sense of the term. Instead, they must integrate the oases and their environment (grazing areas, forest land, etc.) with which they maintain interactions. Indeed, many important farming systems in the region are closely linked to the oasis agro-ecosystems and contribute to their development. For instance, extensive livestock production systems, which are dominant in the region, are closely linked to the oasis areas. Livestock is an important economic (income sources, food) and environmental (soil fertility) factor in oasis agro-ecosystems.

143 The oasis typology will be based on biophysical and socio-economic criteria. These criteria will allow to define the different types of oasis that characterize the region landscape. Preliminary biophysical and socioeconomic criteria have been identified with regional stakeholders during the project formulation workshops (see Annex 9 – Project Formulation Workshop Report 28 – 29 September, Errachidia) and include (i) biophysical criteria: agro-ecological characteristics, water sources, irrigation typology; vulnerability issues and (ii) socio-economic criteria: poverty rate, main economic activities, market access.

Output 2.1.5. The sustainability of each oasis type is assessed in a participatory manner

144 The objectives of the sustainability assessment are:

- Identify the main sustainability issues of agriculture in oasis agro-ecosystems;
- Promote dialogue between national, regional and local stakeholders of the agricultural, natural resource and development sectors in order to foster a common vision of sustainability in oasis ecosystems; and
- Establish priorities for action to be considered in the Management and Investment Plans in Oasis agro-ecosystems.

145 A participatory process will identify and assess the main issues related to the sustainability of agriculture in different oasis agro-ecosystems. The analysis will consider the data collected through the different assessments (water accounting, land degradation, biodiversity), stakeholder surveys and a validation workshop to prioritize the sustainability issues. The assessment will built on FAO's Common Vision for Sustainable Food and Agriculture (SFA), as FAO is piloting the SFA approach in Morocco. Decent rural employment

considerations will guide and shape the assessment, particularly for vulnerable groups such as women and youth.

146 Since resilience¹⁹ is key factor of sustainability, a specific assessment of the climate resilience of farmers and pastoralists, also incorporating the views and needs of those people, will be conducted. To do this, the Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists (SHARP)²⁰ approach will be used. The approach uses a participatory self-assessment survey of smallholder farmers to both measure their resilience and to engender discussions on how to increase farmers' and pastoralists' resilience. This information in conjunction with climate data will serve as baseline information for monitoring and will also inform and guide farmers' practices as well as curricula and local and national policies.

Output 2.1.6. Practices and technologies in oasis agro - ecosystems including traditional ones, are collected and assessed, complementing other initiatives.

147 An inventory of practices and technologies, including innovative and locally-developed ones, will be conducted in the Region in order to identify the good practices that address some of the sustainability issues identified in the sustainability assessment (output 2.1.5.). During this exercise, synergies will be established with the FAO-GEF project *Adaptive management and monitoring of the Maghreb's oases systems* in which best practices for the adaptive management of oasis ecosystems will be selected, documented using a common methodology.

148 An assessment will be conducted in order to identify the suitability and potential of scaling-up of these practices and technologies. The potential for specific interventions will be characterized spatially, and the suitability domains will be mapped for specific technologies and practices. Datasets and criteria will be processed using GIS to generate maps that show the suitability domains. Suitability domains represent the area in the region where there are suitable biophysical conditions for the adoption of specific technologies and practices to benefit smallholder livelihoods and sustainability of oasis agro-ecosystems. The suitability assessment will consider the information collected through outputs 2.1.1., 2.1.2, 2.1.3, 2.1.4 and 2.1.5 as well as research case studies findings and local knowledge. Finally, the number of potential beneficiaries and the area of land that could benefit from these practices and technologies will be calculated.

149 Low emission technologies will be considered in particular. Menus of options of low emission technologies will be proposed to farmers and farmer communities for their consideration in the context of the planning processes under outcome 2.2. Technology options, whether new technologies for the region/pilot sites or traditional technologies that got abandoned over the years, will be assessed from a number of viewpoints, including

¹⁹ In the context of sustainable food and agriculture, resilience is the capacity of agro-ecosystems, farming communities, households or individuals to maintain or enhance system productivity by preventing, mitigating or coping with risks, adapting to change, and recovering from shocks.

²⁰ SHARP background document: <http://www.fao.org/3/a-i4495e.pdf>

emission reduction potentials, water use impact, social acceptance, employment opportunities, costs, and more. The work developed in the context of the *Monitoring Adoption of Key Sustainable Climate Technologies in the Agrifood Sector – Morocco* (FAO, European Bank) will be complemented with technologies specifically applicable to the oasis agro-ecosystem context.

Output 2.1.7. Oasis information systems are reinforced and improved using spatial analysis (GIS systems) at the regional level

150 This output will support the new Drâa-Tafilalet region to harmonize and complete existing data bases and information systems including oasis agro-ecosystems. This is key to provide baseline data for planning and priority setting of oasis development plans and to strengthen monitoring and evaluation of the performance and impacts of agricultural, rural development and environmental projects in reversing environmental problems.

151 The project will gather available information from existing data sources and will complete missing information through the synthesis data from the project assessments (outputs 2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.1.5 and 2.1.6.) to establish a GIS-based information system at regional level.

152 Data collected at the local and regional level will in turn inform the platform established under component 1 to initiate and facilitate the national dialogue process on sustainable management of oasis ecosystems.

Outcome 2.2 Oasis agro-ecosystem investment and management plans are developed in a participatory manner using an integrated landscape approach

153 The information collected through the different assessments conducted as part of Outcome 2.1., will allow to define investment and management plans which will address the specific needs of different oasis types and their local communities. Plans will be developed in a participatory manner and particular attention will be given to ensure women and young people participation. The indicators selected to measure this outcome are: (i) the number of sustainable and integrated oasis agro-ecosystem management and investment plans; and (ii) % of women representatives participating in the planning process.

Output 2.2.1. Sustainable and integrated management and investment plans, including inclusive governance mechanism, in selected pilot oasis are developed in a participatory manner

154 The selection of pilot oasis will be made according to a set of criteria including the representativeness of main oasis types (as established in output 2.1.4), number of beneficiaries, vulnerability of production systems, suitability of sustainable practices and technologies to be promoted.

155 In each pilot oasis, participatory and integrated management and investment plans will be developed taking into account their specific biophysical and socio-economic characteristics. The management and investment plans will intend to capitalize on on-going

efforts and investments while redirecting the focus on the conservation and sustainable management of land and water resources and ecosystem services to support the sustainable intensification of agricultural, rangelands, and forest oasis landscapes.

156 These plans will include direct investments that will contribute to the rehabilitation and revitalization of selected oases to complement and support the sustainability of the investments financed by the government, through for instance the Morocco Green Plan. Plans will also propose governance mechanisms to allow a sustainable and equitable management of natural resources, including integrated groundwater management. Focus will be put in entire sub-sectors or commodity value chains which provide a range of new activities to benefit the vulnerable segment of the population.

Component 3: Demonstration - Sustainable and integrated oasis agro-ecosystem management and investment plans are implemented in pilot oasis ecosystems in at least 2 sub-drainage basins

157 The purpose of this component is to support action and catalyse investments into sustainable management of oasis agro-ecosystems through the implementation of management and investment plans (developed under component 2). The plans will be implemented in selected pilot sites to demonstrate and use the functional and multiple benefits of natural resources in oasis agro-ecosystems. As a result, the sustainability of targeted oasis agro-ecosystems will be improved - maintenance and sustainable use of agricultural biodiversity enhanced, carbon sink potentials increased, land and water resources sustainably managed. The capacity of farmers and communities to manage and monitor these systems will be strengthened (outcome 3.1), and there will be improved economic valuation of the diversity maintained and used within oases (outcome 3.2).

158 SLM and water efficient technologies, as well as improved practices for plant and animal genetic diversity are being implemented in Moroccan oasis systems through a multitude of programmes and projects. Still, barriers identified in section 2.1, such as the lack of an integrated and ecosystem approach, have limited the scale of benefits achieved. While *PMV Pillar II* projects have achieved some progress in terms of awareness, no adequate financial incentives or financing mechanisms are in place that could provide a compelling economic argument to switch to more sustainable water and land management practices on private and collective land as well as to shift the balance in agricultural production in favour of diversity rich and climate smart approaches. Moreover none of the models advocated for have adopted a systematic approach to tackling the *root causes* of environmental degradation in the region or sought a fundamental *de-coupling* of traditional economic development models from one that fully accounts for the carrying capacity and the value of the natural resource base.

159 The project will pioneer a more participatory, integrated, green, low-emission and climate change resilient development model for sustainable production intensification via sustainable management and investment plans. Farmers and farmer community capacity development and empowerment (through participation in decision making, management and

monitoring) will enable them to exercise control over natural resource management in a sustainable fashion. This is a precondition for sustainability, and is therefore central to the project approach. The other essential component is the generation of income from the sustainable use of natural resources and agro-biodiversity through identifying the full economic value of its components and through the creation of improved market opportunities.

160 Local governance mechanisms will be strengthened, guaranteeing inclusiveness and ensuring meaningful participation of youth, women and minority groups, taking into account the specific constraints and barriers they may face. Training of women will be designed and organized at times and in locations that women can easily access and using tools and methods that are mindful of literacy levels, socio-cultural and language barriers.

161 During the inception phase of the project, the project team will consult with the indigenous groups living in the project area, to ensure they fully understand the project and are able to benefit equally from the project, in the expectation of securing Free, Prior and Informed Consent (FPIC) (see annex 10).

Outcome 3.1 Pilot Oasis agro-ecosystems are restored, safeguarded and sustainably managed through an integrated landscape approach

162 Through the implementation of four year management and investments plans, the project will ensure that oasis ecosystem services are valued and maintained. The plans will be developed for pilot oasis agro-ecosystems, based on selection criteria that have been decision and agreed upon in a consultative way (see annex 9).

163 The plans will consist of targeted locally adapted actions, intended to catalyze short term ecosystem resource dynamics and long term ecosystem stability. The aim is to increase production through sustainable intensification practices with due consideration of water and soil efficiency, increased carbon sequestration and increased genetic diversity and richness.

164 The projects investments will address the main drivers and begin the process of reversing land degradation, which is currently leading to the loss of ecosystem services. Significantly increasing the land area that is under effective agricultural, rangeland and pastoral management will support increased production and productivity of different food crops and livestock products in the target pilot sites.

165 In addition, the plans will support processes that enhance the resilience of the oasis agro-ecosystems in order to maintain ecosystem services (provisioning, regulating, habitat, supporting and cultural services alike).

Indicators:

- (i) # of ha under effective agricultural, rangeland and pastoral management
- (ii) # of ha directly contributing to biodiversity conservation and sustainable use
- (iii) Evenness or richness indicator from DATAR

- (iv) Change in water use efficiency

Output 3.1.1 Training, technical assistance and knowledge exchange for capacity development of local oasis agro and agro-pastoral communities in order to enable sustainable management and sustainable production intensification of oasis agro-ecosystems

166 Capacity development at pilot oasis level for INRM/SLM and for improved conservation and use of agro-biodiversity is paramount to Component 3. This will include training, technical assistance and knowledge exchange (between oasis agro and agro-pastoral communities) in SLM, improved practices increasing genetic diversity and sustainable production intensification to improve the livelihoods and resilience to climate change and environmental threats.

167 The capacity of local institutions to sustain project activities will be enhanced through training and inputs to local extension, NGOs, extension colleges, associations, and more. This will include programmes in participatory decision-making and developing collaborative action-research activities to enhance or create monitoring and management skills, and capacity to undertake ecosystem service enhancement and agro-biodiversity conservation activities.

168 Through targeted training, women will also be empowered to participate actively in community planning processes related to their livelihoods.

169 Community-led and gender differentiated dissemination systems of selected technologies will also be established and user-friendly dissemination materials will be developed to specifically target women and women's groups for relevant technologies.

Output 3.1.2. Selected good agricultural practices are implemented in pilot oasis agro-ecosystems as identified in the plans

170 In order to ensure sustainable production intensification, agro-pastoral oasis communities in pilot sites will be provided with a menu of options of already tested agro-ecological approaches and SLWM best practices, that will be: a) selected in a participatory manner to ensure social acceptance by the target communities; b) gender sensitive; c) economically viable (production of crops and their wild relatives and livestock diversity that can be linked to viable value chains); and d) in support of the existing agro-ecosystem, biodiversity and natural habitats.

171 From this menu of options, the participatory planning process will select the most adequate technology/technologies taking into account a number of techno-economic criteria and technical GHG mitigation potential.

172 A comprehensive overview of agricultural practices and technologies in the oasis of the Drâa-Tafilalet based on agro-ecological zone and per commodity chain has been assessed during PPG. An overall summary of the agricultural practices includes the following:

- Supporting local agents in pruning and cleaning palm groves to avoid fire hazards and make space for production, and pollination to ensure a high quality of dates;
- Supporting farmers in understanding the advantages of crop rotation;
- Training farmers on use of organic fertilisers (compost from palm tree waste, manure), pollination and crop management;
- Installation and maintenance of drip irrigation systems and techniques of water harvesting;
- Training farmers on phyto-technical management techniques for palm dates and crops, including pollination; and
- Training on integrated livestock management with crop production including fencing livestock away from stream banks for improved water quality in pastured stream corridors.

Output 3.1.3. Selected traditional and innovative low-emission technologies are restored and/or introduced in pilot oasis agro-ecosystems, as identified in the plans

173 Traditional technologies will be restored and/or promoted through the management and investments plans – a menu of options will be selected based on the findings from the multiple assessments conducted under component 2, and implemented as identified in the plans. In order to guarantee that the most adequate and most cost-efficient technologies (which have multiple benefits beyond reduced GHG emissions) are introduced, the participatory planning process and selection of technologies will be accompanied by science-based criteria.

174 Innovative low-emission technologies will be introduced in a number of oasis agro-ecosystems, selected in a participatory fashion from a menu of options, including (i) conservation agriculture, (ii) drip irrigation, (iii) solar and/or wind powered pumping, and (iv) manure as soil amendment. A preliminary menu of low-emission technology options has been assessed during the PPG studies, including: (i) cleaning of the palm tufts, (ii) composting, (iii) rehabilitation of traditional irrigation systems (Khattara), (iv) the set-up of underground and/or hillside dams to promote groundwater recharge and therefore improved flow rates of khettaras and collective wells, (v) construction of flood structures to protect the oasis against flood damage, (vi) agro-forestry systems including introduction of fruit trees for more diversified diet, (vii) naturally assisted regeneration of highly degraded rangelands, and (viii) rehabilitation of traditional practices and institutions well adapted to climate change such as the Agdals. The multiple benefits evidenced by research of each proposed low-emission technology will be taken into account.

175 Moreover, there is a growing consensus that increased agro-biodiversity in agro-ecosystems can affect carbon sequestration by having an impact on recalcitrant carbon in the soil, carbon sequestered in wood products, and carbon in standing biomass. Thus, practices

increasing genetic diversity, at various time scales, that can help increase productivity year-round, can indirectly increase the ecosystem's ability to sequester carbon (Lal and Kimble, 1997; West and Post, 2002). The biomass the oasis system maintains, through the genetic richness of its crop varieties, has ensured continuous biomass coverage under extreme climatic conditions, and thus, the continued sequestration and regulation of CO₂.

176 Rangeland improvement techniques (exclosure, seeding, fodder plantations, seed reserves, Agdal rehabilitation ...) to be implemented within the development and investment plans will certainly increase plant cover and thus contribute significantly to carbon sequestration.

177 In terms of water management, substitution of fossil energy (gas and diesel oil) by the use of electric or solar energy for water pumping groundwater or for water discharge in networks under pressure irrigation and for lifting are promising options to reduce GHG emissions.

Output 3.1.4. Selected land degradation protection measures are implemented in pilot oasis agro-ecosystems, as identified in the plans

178 The ways in which available water resource are managed and used, and the actions taken to maintain land quality, lie at the heart of sustainable oasis development. There is virtually no oasis in Morocco that is not drawing on increasingly non-sustainable resources of water and suffering from increasing land degradation, including salinity. Increasing demands for water are leading to the need to obtain water from deeper sources. Many oases are now irrigated with water pumped from fossil or deep water sources, as natural shallow water sources have been depleted, these deeper sources are also declining in quantity and quality. Saline soils and limited water quantity and quality translate into fewer species and varieties adapted for cultivation. Sand encroachment is further intensifying the problem in many oases in Morocco.

179 Although the Government is allocating significant funds to support water saving practices in Moroccan oases, limited resources are being invested in activities supporting community based maintenance and collective management of traditional and sustainable water systems. 50 to 60% of these funds are subsidies to farmers to develop new systems and techniques for irrigation. Funds are used to help farmers move from furrow irrigation to drip irrigation. This replacement is undoubtedly providing short term relief and benefits to farmer communities, though its sustainability has not been accounted for.

180 OASIL will build the capacity of farmers on the collective management of traditional water harvesting systems and will support maintenance and rehabilitation activities, such as rehabilitation and development of dykes, khetarras, soil and water conservation techniques, improvement of soil fertility, preventive soil salinity measures. The project will also support construction, rehabilitation and maintenance work of small and damaged infrastructure.

181 Based on the land degradation maps and findings from the assessments conducted in Component 2, activities to combat land degradation and desertification will be proposed and implemented (annex 14).

Output 3.1.5. Agro-biodiversity is conserved in situ and used in a sustainable way

182 This output wishes to emphasize the need and urgency of integrating in situ conservation in investment plans targeting fragile oasis agro-ecosystems. Current investments in in situ conservation programmes are limited in scope and number. INRA conserves a number of good and selected date palm varieties in its experimental stations, recognizing that in situ conservation of cultivars threatened to disappear is needed, particularly when they are highly fragmented and present in limited locations. In situ conservation programmes promoted by INRA concern the following cultivars: i) in the Drâa area: R'Kiz, Lemloueka, Baria, Tinbaba, and Taqerqourte; ii) in the Tafilalet area: R'Mal, Lashib, Ghalmine, Ouamssa and Ghassala.

183 Support to *in situ* conservation of agricultural biodiversity remains inadequate although practices based on ancestral techniques are widely adopted/present in extensive farming areas. Not much mining of Moroccan oasis-grown landraces has been done in order to identify useful diversity against biotic and abiotic stresses. The useful diversity of selected species needs to be deployed through specific breeding programmes for genetic improvement and widening of the genetic base of selected crop/animal species. Availability of trained human resources in the areas of plant genetic resources conservation, evaluation (mining), utilization and farmers' participatory breeding is very limited. Training of farmers and researchers on farmers' participatory breeding is very much needed. Farmers have limited knowledge on harvesting, stocking and propagation techniques of cultivars and landraces.

184 Moreover, the seed sector is weak and with the dismantling of traditional productive systems, endangered endemic seed varieties and genetic resources continue to be severely threatened. Low yields due to unsustainable agricultural practices and the absence of appropriate technology for conservation and use of endemic seeds for production, coupled with the absence of a supportive structure for seed stockpiling, has led to the decreasing availability of landraces.

185 The project intends to leverage the capacity of government and local institutions in their efforts to promote oasis agricultural biodiversity conservation and use (see component 1) by covering the incremental costs to support in situ conservation initiatives such as (i) on-farm agricultural biodiversity conservation of traditional crop varieties and crop wild relatives, i.e. participatory plant breeding and participatory selection of landraces and cultivars for multiplication and distribution; (ii) genetic reserve conservation, i.e. monitoring of genetic diversity in natural wild populations within a delineated area and support to the regional center for seed conservation and multiplication of pastoral plants recently established in the region of Ouarzazate. Facilities of such center could be valued to collect and conserve seed of local crops; (iii) control of threats to biodiversity such as invasive alien species, living modified

organisms or over-exploitation; and (iv) preservation and maintenance of traditional knowledge and practices.

186 Activities will include trainings to technical colleges that train students as extensions agents in the application of diversity assessment, analysis and monitoring (DATAR training) and in integrating agricultural biodiversity into agronomic production (including study tours, field trips, workshops, seminars).

187 Demonstration gardens, community seed banks and community –managed nurseries will be established in target pilot sites, accompanied by training programmes for farmers on community seed banking, good quality seed production and on nursery establishment and management of clean saplings. The project will also support exposure of local farmers (men and women) to other seedbanks and nurseries outside Morocco – i.e. cross country visits to Uzbekistan and Central Asia for fruit and nuts and West Africa for crops.

188 Moreover, local and regional diversity fairs (crop and livestock) will be promoted to raise awareness amongst farming communities of the value of crop diversity and to support farmers in identifying diversified planting materials for their communities.

189 A thorough assessment and proposal of activities and species to target in the Drâa-Tafilalet region was conducted during the PPG phase (see annex 8 – Agro-biodiversity assessment report).

Output 3.1.6. Inclusive governance mechanism are established in oasis pilot sites

190 The project will build upon the existing baseline of governance structures, focusing on revitalising and strengthening them, and promoting improved integration, collaboration and complementarity between community and institutional (regional) levels. Attention will be paid to ensuring the inclusiveness of community-level structures, their ability to take into account in an equitable manner the diverse interests of the different stakeholders, and that they respect and complement other social and governance structures operating at community level.

Outcome 3.2 Livelihoods and income of oasis smallholders are more resilient, diversified and strengthened

191 Oasis populations in the Drâa-Tafilalet region have limited options to benefit from oases ecosystem services and oases production systems. Poor marketing opportunities, limited credit, inheritance practices that continually subdivided land holdings and resulted in poor land management, and inappropriate tourist development have increased the pressure on natural resources, increasing the damage to oasis ecosystems while impoverishing farmers. This coupled with the breakdown of land management practices has resulted in increased salinization, loss of soil fertility, and encroachment of sand. Limited opportunities within the oasis for capacity development, the existence of a number of inappropriate policies and

legislative instruments, the low involvement of women and the continuing loss of traditional knowledge.

192 To strengthen the livelihoods of oasis populations, the project intends to catalyze greater economic returns to oasis farmers and communities for their produce and to promote alternative income generating activities such as agro-ecotourism.

193 Morocco has a multitude of examples to show case the ways in which this can be achieved through a single crop, i.e. date palm. However, a sustainable approach requires attention to the whole production system and recognition of the different ways in which increased value can be realized from sustainable production of different products from crops, livestock and other components. The project will identify and develop value adding actions that include improving the quality of local material, increased access to preferred local material together with information on the adaptive qualities of local material, marketing strategies that include marketing of local agricultural input products, and new products.

194 Women's Groups and Women Organizations will be mobilized and involved in participatory implementation of the project activities. Emphasis will be given to community-based participatory approaches with a strong focus on women-headed households that are often the poorest, including targeted awareness and capacity development to improve their livelihoods.

Indicators:

% increase of average annual household income disaggregated by sex (sample oasis households in project area) from crop and livestock production

Output 3.2.1. Sustainable value chain development of a selection of agro-pastoral products from oasis agro-ecosystems is supported

195 Weak integration of biodiversity promotion in the mechanisms of the market, low marketing infrastructure and incentive schemes for farmers, and the weak institutional capacity of local and national actors (extension workers) to develop market strategies for agro-biodiverse products continue to challenge the development of the oasis agro-ecosystems. For instance, although in the past ten years Morocco has developed a significant regulatory and legal arsenal for the labelling of local products, boosting recovery in 16 of the country's regions, some shortcomings and gaps have however emerged with regard to the structure and implementation of certification systems, recognizing labels for Moroccan consumers, and in particular connections between valuation measures and protecting genetic and agricultural resources, which lie at the basis of primary production.

196 In relation to labelling mechanisms of agricultural products other than dates, the following barriers have been identified:

- Traditional local products enjoy quality labels linked to origin but implementing these labels has not become entrenched. As a result, the impact of labelling on the revenue of relevant sectors has not yet been felt by producers;
- Key sectors are not or poorly structured. They suffer from a lack of integration between upstream and downstream production processes;
- Valuation through agro-food processing is generally poorly developed;
- Commercialization is essentially carried out through intermediaries. There are however cases in which commercialization via short circuits has been adopted; and
- Aggregation projects are inexistent.

197 The project intends to leverage ongoing commitments (in particular CP - Dattes, PAGIE, PMV Pilier II) by strengthening the capacity of established cooperatives, producer's associations, GIE (Groupement d'Intérêt Economique) and agro-pastoralists, to transition to sustainable value chain practices while at the same time strengthening the capacity of local authorities and producer organizations on sustainable harvesting and product marketing at the regional and local levels.

198 The project will catalyse innovations in assisting farmers participate in value chains for portfolios of products rather than focusing on single value chains, as this will offer prospects for more resilient diversified farming systems. With an interest in valuing agro-biodiversity, the project will identify and develop value adding actions that include improving the quality of local material, increased access to preferred local material together with information on the adaptive qualities of local material, marketing strategies that include marketing of local agricultural input products, and new products.

199 Farmers targeted by this project are not commercially-oriented but semi-subsistence and thus operate under imperfect market conditions and prices do not reflect the price consumers are willing to pay for the service or good. Oasis farmers continue to grow diverse sets of traditional crop and animal varieties and breeds, even when scientifically-bred varieties are available, because traditional varieties are perceived to provide superior traits that are important to them, but that may not be valued in the market, such traits include taste, disease resistance, cultural uses, drought and cold hardiness, stalks for animal feed. An attribute utility ranking to estimate farmers' valuation of one trait or attribute versus another will be used to evaluate the value of this diversity and to inform policy makers of non-market values the diversity contains.

200 A full assessment on potential value chains/commodity chains the project could target and support through innovative approaches with due consideration to enhancing oasis agro-biodiversity and sustainable production can be found in Annex 8 (Agro-biodiversity assessment).

Output 3.2.2. The diversification of rural livelihoods is supported

201 Amongst the livelihoods diversification strategies that the project wishes to promote is agro-ecotourism - the project wishes to promote a form of tourism which capitalizes on the oasis culture as a tourist attraction, and whose primary appeal is the cultural oasis landscape and not exclusively the natural landscape. With GEF resources, the project wishes to redirect investments towards culture and heritage through the valuing of indigenous and traditional oasis agricultural patrimony.

202 Within the framework of *Vision 2020 for tourism in Morocco*, eight tourist destinations have been established in the country, each supported by six main programmes, aimed at making these destinations competitive and sustainable. The project wishes to build on Vision 2020 initiatives, and in particular the Patrimony and Heritage investment Programme that targets the construction of typical/ site-specific accommodation, reconversion of historical monuments, building important museums, enhancing and adding value to traditional festivals throughout the country.

203 The project will cover the incremental cost required to ensure careful and informed planning of agro-ecotourism in targeted oasis agro-ecosystems in the Drâa-Tafilalet region as an incentive for *in situ* conservation of animal and plant genetic resources, SLWM techniques and approaches, climate-smart solutions and as a livelihood diversification strategy. For instance, particularly pertaining to agro-biodiversity conservation and use, OASIL wishes to support the identification of interesting animal breeds and plant varieties and explore their potential for agro-ecotourism, while at the same time, gather and encourage the use of indigenous knowledge on the management and use of these breeds and varieties. This will not only help raise the population's awareness of the value of agro-biodiversity, it will also contribute to the long-term conservation of diversity.

204 Within the framework of Vision 2020, an analysis of the eight tourist destinations made it possible to establish a maximum tourist density that must not be exceeded if ecosystem degradation and adverse effects on local communities are to be avoided. That level has been determined separately for each destination, according to an environmental audit that assessed the fragility of the various ecosystems, the resources available and the environmental infrastructure.

205 Project activities will support the regional authorities of the Drâa-Tafilalet region, in expanding such assessments, to cover targeted oasis agro-ecosystems while ensuring that land degradation, water and climate mitigation aspects are embedded into these assessments and translate into concrete investments. Hence, the project intends to reinforce the recognition that the wealth of crop plants, traditional species and livestock breeds are also a valuable part of the cultural heritage.

206 A full assessment on potential diversified livelihoods options can be found in Annex 11 (Sustainable value chain development assessment).

Component 4: Project monitoring and evaluation and knowledge management

207 The objective of Component 4 is to ensure a systematic results-based monitoring and evaluation of project progress. Thus achieving project outputs and outcome targets that are established in the Project Results Framework, as well as promoting the wider dissemination of project information, data and lessons learned for mainstreaming, upscaling and out-scaling.

Outcome 4.1 Project progress and results are monitored and evaluated throughout project implementation

208 Details about the M&E of the project are found in section 5. The National Project Coordinator (NPC) will be responsible for preparing a Project Progress Report (PPR, six-monthly) in close cooperation with the PSC and the PCU. The PPR includes the project results framework with project output and outcome indicators, baseline, and six-monthly target indicators, the risk matrix monitoring, and identification of potential risks and mitigation measures for unexpected risks reduction.

209 On an annual basis, the Lead Technical Officer (LTO) in FAO will prepare the Project Implementation Report (PIR). The PIR includes the project results framework with project output and outcome indicators, baseline and yearly target indicators, the monitoring of the risk matrix, and identification of potential risks and mitigation measures to reduce those unexpected risks. The LTO will be supported by the NPC and PCU.

210 At mid-term, a mid-term project review will be conducted by an external consultant, who will work in consultation with the project team including the FAO-GEF Coordination Unit, the LTO, and other partners. At the end of project implementation, a final project evaluation will be conducted by an international external consultant under the supervision of the FAO Independent Evaluation Office, and in consultation with the project team including the FAO-GEF Coordination Unit, the LTO, and other partners.

Outcome 4.2 Project results and information disseminated

211 Project-related best-practices and lessons learnt emanating from the project activities are captured and disseminated via publications, project website and others.

212 A communication strategy will be developed to promote project visibility, knowledge sharing, and communication for development. The latter refers to use of specific communication tools to develop key messages to target community and national levels to support the attainment of project objectives. Tools for the communication strategy will include participatory rural radio programmes, participatory videos, articles written for local newspapers, journals and websites, as well as articles written for international websites including the project website, scientific articles, and presentations at conferences, TV reportage on national TV, and more.

213 In the first year of implementation, a webpage will be set up and hosted by FAO. The website will be maintained and updated by project staff during the project implementation phase in order to share experiences and lessons learned.

214 Over the course of the Project, at least three major publications will be issued on best practices and lessons learned.

2.2.4 Consistency with National Priorities

215 The project will contribute to Morocco's engagement towards the implementation of the Rio conventions through its focus on sustainable agriculture and land management, on the conservation and rehabilitation of key ecosystems and on the nexus between development objectives and environmental sustainability. In particular, the project proposal is aligned with the 5th NBSAP of Morocco (2015) as already evidenced in earlier sections of this document.

216 The project will contribute to the nation-wide effort to curb the GHG emission curve, as outlined in the iNDC (2015 – see sub-section 1.4 in this document). The project is further consistent with priorities identified in the NCs to the UNFCCC, particularly the Third National Communication (May 2016). This latter not only underlines the potential important contribution of the agriculture sector to achieving GHG emission reduction targets, but also underlines the fragility and vulnerability of oasis ecosystems to the impacts of climate change.

217 The project also establishes direct linkages with the recent initiative of the High Commissariat for Water, Forests and Desertification Control (HCEFLCD) related to the updating and implementation of the National Action Plan to combat desertification (PANLCD). The aim of such initiative is to include the adaptation of the NAP to specific homogeneous areas while taking into account the objectives of the ten-year strategy (2008-2018) of the UNCCD and interactive aspects with other Rio Conventions (UNFCCC, CBD) including the effects of climate change. Morocco is a participating country in the Land Degradation Neutrality Setting Programme, though a national report has not been finalized yet. Given the key cross-sectoral influence of the land sector, the process of setting national LDN targets is anchored in the national portfolio for implementing the SDGs. It leverages both on the national processes for the implementation of the other Rio Conventions and on the interventions of multiple development partners at the country level.

218 The proposed project establishes direct and clear linkages with the new Green Morocco Plan (Plan Maroc Vert) whose primary goal is a competitive upgrading of the agriculture sector through modernization, greater integration into the world market and the creation of wealth along the whole value chain, while assuring a sustainable management of natural resources. The project builds on the 2nd pillar of the Plan Maroc Vert by targeting mainly smallholders focusing on the reduction of poverty by significantly increasing the income of the most vulnerable farmers, particularly in mountain and marginal zones. The Plan Maroc Vert supports two types of projects within its second pillar: i) Intensification projects

(improving existing advances in animal and plant sectors by supervising the farmers to enable them to have better techniques and significantly improve their productivity and the value of their production); and ii) Diversification projects (support for the promotion of special local products or “produits de terroir” (honey, medicinal plants, etc.).

219 The project also builds on and works towards the objectives of the 2020 Strategy for Sustainable Rural Development by contributing to the increase in agricultural production, the increase in opportunities for agricultural employment and income, and the reduction in anthropogenic environmental degradation.

220 Recently the Ministry of Agriculture and Fisheries developed a very ambitious transregional program in pre-Saharan and Saharan zones of Morocco aiming the sustainable development of pastoral areas, through the rehabilitation and sustainable management of pastoral resources, organization and capacity building of pastoralists, promotion of the various local products associated with rangelands, as well as the regulation of transhumance flows and the development of socio-economic infrastructures.

221 The project is also relevant to the objectives of the Morocco’s National Poverty Reduction Strategy which is represented through the National Human Development Initiative (NHDI) which was launched by the Kingdom of Morocco with the aim of reducing poverty, vulnerability and social marginalization.

222 The project is perfectly in line with “National Charter for Environment and Sustainable Development” piloted by the Ministry delegated to the Minister of Energy, Mining, Water and Environment, for the environment.

223 Lately the Ministry of Interior initiated a national dialogue to "explore the future prospects of collective lands within a participatory approach, involving all stakeholders." Organized under the theme "collective land: for sustainable human development", this national debate aims to conceive with various stakeholders and partners, consensual and participatory future vision, which may integrate changes underway in order to meet the expectations of different stakeholders. With this respect juridical and institutional reforms relating to this issue are needed.

224 Among innovative outcomes of this project it is necessary to mention the fact that this region correspond to the new territorial organisation of the Moroccan administration. Indeed the project of advanced regionalisation has been implemented recently in 2015.

2.2.5 Comparative advantage of FAO

225 FAO’s Strategic Framework (2010-2019) highlights the twin objectives of sustainable production intensification to reduce hunger and poverty and sustainable management and use of natural resources. In adopting this framework, FAO assists member countries in their pursuit of food security, sustainable rural livelihoods, equitable access to resources, and

promotion of multidisciplinary and ecosystem-based approaches on sustainable agricultural and rural development. In the area of sustainable land and water management, climate-smart agriculture and agro-biodiversity conservation, FAO has a long history supporting member countries on a wide range of complementary technologies and approaches, assessments and tools, geospatial and remote sensing facilities that cater for global, regional and national/local agricultural resources and monitoring systems, training, information, communications, tools and equipment, advisory services for institutional strengthening, policy reforms and national programming.

226 As an intergovernmental body, FAO facilitates the promotion of sustainable traditional agricultural practices to its member constituencies, including civil society organizations in different fora through intergovernmental bodies. FAO continues to enhance awareness, knowledge and understanding of crop-associated biological diversity providing ecosystem services to sustainable agricultural production by demonstrating methods for conservation, sustainable management of agro-biodiversity, and promote mainstreaming of biodiversity conservation in sectorial plans and policies. FAO is already playing a pivotal role in the management of natural resources through a number of initiatives and projects in the Maghreb region, some of which are particularly related to oasis ecosystems (e.g. FAO is implementing GIAHS projects). The resulting experience and established network with the national partners in the Maghreb and in Morocco in particular are important elements of FAO's comparative advantage to implement the proposed project.

227 Furthermore, the FAO Representation in Morocco is equipped to:

- responsibly manage (financial and administrative) the project, with simple system management;
- exert its role as neutral platform and honest knowledge broker, for national partners to share, discuss and evaluate viewpoints, at times contrasting, and helps find a common ground based on thematic data and findings.
- deploy its broad networks and networking capacity within FAO, the executive partners and other stakeholders nationally and locally to the benefit of the project; and
- use its unparalleled source of information and institutional memory, in particular in the areas of interest to the project, including climate change, sustainable and integrated landscape approaches, GHG emission reductions from the agriculture sector, protection and sustainable use of agro-biodiversity, sustainable water management, improvement of natural resource management and sustainable production intensification.

228 Therefore, the FAO Representation in Morocco is able to respond to unforeseen needs of partners in order to achieve the expected project results. For instance, it is setting up a database (GIS) and a dynamic Atlas on oases of the Maghreb. This Atlas will improve our knowledge on state, challenges and opportunities of oases in the Maghreb region, so that development programmes and projects can be better tailored.

SECTION 3 – INNOVATIVENESS, POTENTIAL FOR SCALING UP AND SUSTAINABILITY

3.1 INNOVATIVENESS

229 OASIL will be the first of its kind to take an ecosystem and integrated approach to oasis development focusing on natural resources management and sustainable agricultural production intensification.

230 It will also be the first to attempt to develop management plans for oasis agro-ecosystems that take into account the specificities of the single systems based on a comprehensive typology study at the regional level.

231 This project provides the means by which local innovation and best practices can be identified, documented and shared. It will seek to increase the linkages between local communities to ensure that communication and learning occurs horizontally rather than following a more traditional top-down method.

232 The project seeks to create a platform for cooperation between research, government and communities to support and maintain the sustainable management of oases, as places of great ecological and cultural value. The advocacy strategy, while not innovative in itself, will seek to highlight the uniqueness of the oasis agro-ecosystems, and their place in the broader global environment and socio-economic context.

3.2 POTENTIAL FOR SCALING UP

233 The scaling-up of the project approach and innovations will be promoted in several ways throughout the project.

234 The information, including maps, arising from the assessments conducted under Component 2 will have the potential to increase the sustainability of future projects in oasis agro-ecosystems in the Drâa-Tafilalet region. Project outputs such as the oasis typology, water accounting and auditing, land degradation and biodiversity assessment, etc. will be an important information source for regional and national institutions, such as ANDZOA or ORMVA, which will enable decision-making on investments in oasis agro-ecosystems for at least the next decade. Furthermore, the characterization of oasis typologies will allow to extrapolate some sustainability issues and pilot-tested actions to the oases with similar characteristics outside the Region.

235 Furthermore, policy dialogues under Component 1 will promote sustainable approaches in oasis ecosystems and attract investments such as government funding, bank loans and external donor support, to revitalize oases in Morocco. Policy dialogues will also share and disseminate the experiences and lessons learnt of the project at national and regional level and will provide the elements to prepare a *Sustainable Oases Declaration* which will constitute the global framework for sustainable oases in Morocco. The success of the

approaches promoted and tested in selected pilot oasis agro-ecosystems, the involvement of multiple stakeholders across different levels, and the demonstration of new and re-introduction of traditional practices, tools and methods are believed to support a further uptake and up-scaling across similar territories in the Southern part of the country, while strengthening various agricultural and animal value chains nationwide.

236 The project intends to foster collaboration between and among oases communities. The potential for scaling up the project's approach will be encouraged through the dissemination of tested models for planning at the ecosystem level, lessons learned and experiences in implementing dynamic conservation of oases, and to raise awareness and ensure that the local communities and stakeholders understand and adopt the NRM, SLWM, and SPI approaches and tools.

3.3 ENVIRONMENTAL SUSTAINABILITY

237 OASIL puts environmental sustainability at the core of its approaches and change theory. It is poised to achieve and sustain healthy and productive oasis agro-ecosystems through a number of changes at the national, regional and local levels. The landscape approach, by focusing on place-based as opposed to sector-based, is used to integrate environmental, production and poverty alleviation goals.

238 The project will directly contribute to reduce land degradation and ground-water overexploitation, promote agrobiodiversity conservation and sustainable production intensification practices. The project will also generate important benefits with regard to adaptation to climate change, improving the resilience of local communities to climate change variability and increasing carbon sinks from better SLM practices. Low-emission technologies and practices will also be promoted.

239 It is also expected that policy dialogue activities will contribute mainstream the restoration and conservation of oases agro-ecosystems services in national and regional development and investment plans.

3.4 SOCIAL SUSTAINABILITY

240 One of the main objectives of the project is to improve and diversify the sources of income for vulnerable households living in and relying on oasis agro-ecosystems (see section 1). The social and economic benefits that emanate from the project for these vulnerable households form the exit strategy of the project, which is strongly rooted into FAO's Incentives for Ecosystem Services in Agriculture approach (IES). This approach considers that existing markets do not value ecosystem services fully.

241 Without short and long term incentives, farmers and people depending on natural resources for their incomes are not able to invest the time and money required to change or adopt practices and overcome technical, cultural or financial adoption barriers. It is thanks to

improved practices and resulting agro-ecosystem health, that farm productivity can be more resilient, rural livelihoods are protected and rural and urban food security ensured. IES are diverse, ranging from regulatory (permits, laws, ...) to voluntary (certification, labelling), public (subsidies, taxes,...) and private (PES, Corporate Environmental and Social Responsibility). OASIL will pilot some IES, including subsidies, labelling and certifications and will support a better understanding of how IES can support the revitalization of oasis agro-ecosystems in the medium-long term. These incentives and investments will also be fully captured in the sustainable and integrated oasis agro-ecosystem management plans, which include production intensification and/or diversification depending on oasis typology and priorities identified by its people in the participatory planning and management processes.

242 OASIL will also endeavor to create decent rural employment²¹, aligned with the social standards FAO applies throughout its portfolio of projects and programmes. More about DRE is found in section 3.4.4.

3.4.1 Stakeholder consultation and engagement

Stakeholders

243 Project stakeholders include national, regional and local governmental institutions from different Ministries (Ministry of Energy, Mining, Water and the Environment, Ministry of Agriculture and Marine Fisheries/ADA, Regional and Provincial Directorates of Agriculture/DRA-DPA, Regional Offices for the Agricultural Development of Ouarzazate and Tafilalet/ORMVAs, Agency for the Development of Oases and the Argan zones /ANDZOA, the National Office for Agricultural Extension Services/ONCA, Ministry of Urbanism and territorial planning, Ministry of Tourism.), research institutions (INRA), the National Office for Food Security and Safety (ONSSA), local communities, including traditional customary institutions (Jmaa), Non-Governmental organizations and the private sector (mainly composed by Economic Interest Groups/GIE of small-scale producers).

²¹ FAO developed an applied definition of DRE to facilitate the operationalization of the decent work concept to rural areas, and the agricultural sector in particular. The definition emphasizes six priority dimensions that are crucial to achieving decent employment in rural areas, irrespective of whether rural workers are covered in labour legislation at national level or relevant ILO Conventions are ratified by the country. In particular, FAO specifies that any activity, occupation, work, business or service performed by women and men, adults and youth, for pay or profit, in rural areas can be considered decent if it at least:

- respects the core labour standards as defined in ILO Conventions, and therefore: a) is not child labour; b) is not forced labour; c) guarantees freedom of association and the right to collective bargaining and promotes the organization of rural workers; and d) does not entail discrimination at work on the basis of race, colour, sex, religion, political opinion, national extraction, social origin or other;
- provides an adequate living income;
- entails an adequate degree of employment security and stability;
- adopts minimum occupational safety and health (OSH) measures, which are adapted to address sector-specific risks and hazards;
- avoids excessive working hours and allows sufficient time for rest; and
- promotes access to adapted technical and vocational training.

244 Civil society, through NGOs and local associations and professional organizations, farmers, women, the unemployed, youth, etc., will play an important role during the sizing of actions and identification and selection of pilot sites.

Table 11: Stakeholders of OASIL

Institution/ Stakeholder	Institutional role	Role in the project
Ministry of Energy, Mining , Water and the Environment (MoE)	Ministry responsible for the conservation, management, development and proper use of the country's environment and natural resources, including those protected areas, watershed areas and lands of the public domain, as well as the licensing and regulation of all natural resources utilization.	The Ministry of the Environment acts as GEF Operational Focal Point and it is responsible for the coordination of all GEF activities in Morocco. The MoE will be institutional anchor of the project and will chair the PSC.
Agency for the Development of Oases zones and the Argan (ANDZOA)	Agency of the Ministry of Agriculture (MAPM) responsible for the oases region, and for the promotion of the economic and social development. Lobby and public awareness. Policy advice.	ANDZOA will be part of the PSC and will host the PMU. ANDZOA will be the main executing partner and will provide technical assistance, supervision and monitoring across Project Components.
National Institute for Agricultural Research (INRA)	Lead agricultural research institute administered by the MAPM and governed by a Board of Directors representing several ministries and producer organizations. Responsible for coordination of programmes on agriculture and related environmental research. Main facilitator of policy and technical dialogues.	INRA will be the lead government counterpart and the Project Executing Partner with technical responsibility for the Project.
Hassan II Institute of Agriculture and Veterinary Medicine (IAV – Hassan II),	Morocco's largest and only graduate-level school of agriculture and veterinary medicine.	IAV – Hassan II will be a project partner and will take part of the TWG's.

Ministry of Agriculture, and Marine Fisheries /ADA	State agency responsible for revitalizing agriculture, and responsible for sector policies on agricultural biodiversity and natural resource management. It is an Agency of the MAPM, established to support the implementation of the Green Plan Morocco.	ADA will be part of the PMU and will mainly be responsible for providing technical assistance, supervision and monitoring of Component 3 activities related to agricultural transformation and valuation of agricultural products.
Regional and Provincial Directorates of Agriculture (DRA/DPA)	Decentralized MAPM directorates responsible for operationalizing national strategies and policies as well as supervising county programme's at regional and provincial level.	DRAs and DPAs will coordinate activities at the regional/project site level.
The National Food Safety Authority (ONSSA)	State agency responsible in charge of regulating, implementing, and controlling conformity of products with the local regulations, including standards, labelling, and packaging.	ONSSA will be part of the PMCU and will mainly be responsible for providing technical assistance, supervision and monitoring of Component 1 and Component 3 Outputs.
The Office for Agricultural Extension Services (ONCA)	State agency responsible for improving the governance and efficiency of agricultural extension services.	ONCA will be part of the PMCU and will be responsible for providing technical assistance, supervision and monitoring of all project activities related to capacity building.
Regional Office for the agricultural development of the Tafilalet region (ORMVA-T).	Technical support during the project life, in different administrative areas.	ORMVA-T will be a key executing partner.
Non-Governmental organizations working directly with local communities.	Community mobilization, local capacity building, sharing lessons learnt. A vast number of NGOs providing agricultural/pastoral extension services are present in the pilot sites.	Local NGOs will be part of the PSC. They will have a key role in implementing and monitoring activities at pilot site level. They will be engaged through LOAs.
Small-scale farm households in pilot sites.	Main beneficiaries and key partners. Most of them are farmer-herders and belong to several ethnic groups subdivided in several clans. They are generally dependant on	Direct beneficiaries of the project. Representatives of producers organizations will be part of the PSC. Women cooperatives will be targeted and representatives from

	integrated crop-livestock systems. Across the Oasis systems, Women's role in breeding and farming is significant. Women are of key importance as they are the ones who are generally responsible for the small herds: collecting fodder, taking care of the animals. And they are the ones taking care of the small truck farming and fruit harvests (i.e gathering dates). Women are also active in handicraft activities (mats made of palm, sewing).	women cooperatives will be part of the PMC.
Traditional customary rights associations (Jmaa)	Local planning and community mobilization. They control the maintenance of the irrigation system and the repartition of the water rights. They are custodians of valuable cultural practices and traditional knowledge systems.	Will be part of the TWGs, and will be actively involved in Component 2 and Component 3 activities.
Economic Interest Groups (GIE) of small scale producers.	Constituted by two or more legal entities for a determined or undetermined period of time. The uniqueness of GIEs is that they bring about cooperation between public and private agents. Their objective is to facilitate or develop the economic activity of its members without profiting except on an ancillary basis.	Representatives of GIEs will be part of the PSC as well as the TWG.

Stakeholder engagement

245 During its implementation, the project will engage in a continuous conversation with different stakeholders and will facilitate the exchanges among multiple groups to contribute to policy debates related to the sustainable management and conservation of oasis agro-ecosystems. Relevant stakeholders will participate in the definition and mapping of the oasis typology and sustainability assessment, as well as in the discussion and implementation of successful approaches and strategies. The involvement of stakeholders will be facilitated through consultations and the use of participatory methodologies and tools.

Grievance Mechanism

246 FAO facilitates the resolution of concerns of beneficiaries/stakeholders of FAO projects and programmes regarding alleged or potential violations of FAO's social and environmental commitments. For this purpose, concerns may be communicated in accordance with the eligibility criteria, which apply to all FAO programmes and projects. All projects and programmes are required to publicize the mechanism for the receipt and handling of grievances at the local level.

Disclosure

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

248 The content of the Project Document, which outlines the actions that will be undertaken by OASIL, how and with whom has been validated by key national partners before submission to GEFSEC for CEO Endorsement and before formal appraisal and approval by FAO. A workshop was organized in the Drâa-Tafilalet region in order to disclose and validate the approaches and methodologies that will be adopted by OASIL during the project implementation. A report of this workshop is attached in annex 9.

3.4.2 Gender equality

249 In oases, social, cultural, moral and religious power is in the hands of men. The participation of women in the public life is still very limited. Even though the strong patriarchal mentality perpetuates and influences family relations, women are involved in decision making at the household level mostly.

250 It is recognized that women play a key role in the management, organisation and resilience of oasis agro-ecosystem. They handle all the domestic work and most of the livestock care making a significant contribution to agricultural activities. Women are also responsible for the education of children, for the caring of the elderly in the family as well as, for maintaining social relations with neighbors and relatives. In terms of agricultural activities, women support weeding operation, packaging harvesting of agricultural product and their transport to the storage site. Some women, among the poorest farmers, assist their husbands or replace them in the installation of crops and irrigation operations. In parallel with daily domestic, agricultural and livestock, women in oasis have cumulated skills in the packaging, processing and storage of many products (butter, dry vegetables, dry meat, dates). Women's know-how about medicinal and aromatic plants (recognition, use, preparation) is undeniable and needs to be safeguarded and promoted.

251 Still, the current situation of women in Moroccan oasis is changing. A degrading resource base and economy has pushed mostly men out of the oases, in search for a better

life in nearby cities. Consequently, the role of women remaining in the oases has changed. Moreover, new forms of social organizations are emerging, such as women associations and cooperatives, generating new productive activities, increasing their margin of economic and social maneuver (access to credit, sale of local products, literacy programs, education and training).

252 The project will directly involve women in all phases of project design and implementation (if needed, women will be involved in the participatory planning process separately). Some of the project outputs will be directly geared towards women for a more empowered and resilient community with equal voices for men and women. For instance, the management plans will put a particular emphasis on women issues, on the tasks and responsibilities they cover and their needs. Alternative livelihood options that will be explored will make the same considerations and ensure the project brings benefits to women and men alike.

3.4.3 Indigenous peoples

253 A description of the tribes that can be found in the Drâa-Tafilalet region is attached in annex 13. After pilot sites have been selected, the proper assessments will be done in order to establish whether indigenous peoples live in and are concerned by the project interventions. As per FAOs Environmental and Social Risk Management guidelines, in those cases where indigenous peoples are encountered, FPIC will be applied (see annex 10).

3.4.4 Human rights-based approaches

254 OASIL promotes an integrated human rights-based approach to achieve food security, rural development and poverty reduction. This integrated approach is believed to lead to more efficient and sustainable project results, as it focusses on:

- the progressive realization of the right to Decent Rural Employment; and
- the need for access to adequate and nutritious food.

255 The nutritional status in Morocco has improved over recent decennia, partly thanks to increased food consumption. Still, 10%²² of the population suffers from food deficits, anaemia affects 30% of women and 10% of men (explained in part by the Moroccan diet) and goitre remains endemic in several areas of Morocco, including in the Atlas Mountains. The nutritional status is better in urban than rural areas, and the southern regions are more affected than others. Though the focus of the project is *in primis* on the right to decent rural employment for rural development and poverty reduction, the project will not disregard the need to further strengthen the access of food insecure oasis populations to adequate and nutritious food. To this end, there is a strong emphasis on sustainable production intensification and on the diversification of agro-sylvo-pastoral products.

²² 2010 estimates carried out by the Agriculture and Consumer Protection Department at FAO

256 The right to Decent Rural Employment concept will guide the activities implemented under component 3 of the project (assessments for baseline information will be carried out in component 2, and include a rapid SFA where specific work-related indicators can be included). OASIL will particularly promote employment creation and enterprise development, while aligning to the other dimensions of DRE, including:

- Governance and social dialogue (support participation of rural poor in local decision-making and governance mechanisms empowering women and youth in particular);
- Social protection (promote safer technology for small-scale and commercial agriculture in extension support programmes); and
- Standards and rights at work (support socially responsible agricultural production, support MAPM in preventing and eliminating child labour in oases by tackling its root causes).

257 Furthermore, the rights-based concept includes rights to access resources. OASIL applies a nuanced notion of rights to access oasis natural resources instead of focusing on 'ownership' (tenure rights). This more nuanced notion of rights to oasis resources helps empower individuals (and in particular women who have limited tenure rights) and communities to access, use and manage resources sustainably, including water resources.

3.4.5 Capacity development

258 Capacity development plays a central role in OASIL and is built in into all 4 components. OASIL foresees capacity development activities at the local level and at the regional and national level, resulting in strengthened human and institutional capacities and creating a more conducive enabling environment for sustainable oasis agro-ecosystem management in the Drâa-Tafilalet region and eventually in Morocco overall.

259 As mentioned in the description of component 1 in section 2, national and regional stakeholders will be sensitized and mobilized and therefore a capacity development needs assessment and plan will be developed and implemented.

260 At the local level, as described under component 3 of section 2, capacities of farmers and farmer communities will be strengthened, not only to be able to deploy SLWM and SPI technologies and tools, but also to strengthen the governance systems for sustainable oasis agro-ecosystem planning, management and monitoring.

SECTION 4 – INSTITUTIONAL AND IMPLEMENTATION ARRANGEMENTS

4.1 INSTITUTIONAL ARRANGEMENTS

4.1.1 Roles and responsibilities of main institutions

261 The main stakeholders of the project have been listed in section 3. Moreover, their mandates have been shortly described, as well as their roles and responsibilities in the context of this project. Figure 3 below (organigramme of the OASIL project) depicts the inputs from different partners into the implementation of the project.

262 The Ministry of Energy, Mining, Water and Environment will be the institutional anchor of OASIL. As described below, it will chair the Steering Committee and ensure coherence with and relevance to plans and strategies, in particular the National Sustainable Development Strategy under its tutelage. MoE is involved also providing direct technical inputs to the project, through a designated focal point liaising with the Project Management Unit. Furthermore, the Ministry of Environment is the GEF Political and Operational Focal Point, and therefore is the delegated authority to oversee the GEF portfolio of projects and programmes in the country.

263 The Ministry of Agriculture and Maritime Fishery, MAPM is the main executing partner of the project, and is engaged in project oversight (Steering Committee), provides technical inputs (focal point liaising with the Project Management Unit) and implements project activities (LOAs) in a centralized and decentralized fashion. In particular:

- ANDZOA is an agency of the MAPM established in 2010 during the restructuring of the Department of Agriculture to support the implementation of the Morocco Green Plan. It is mainly responsible for promoting the management and sustainable development of oasis and argan ecosystems. ANDZOA and FAO will be responsible for providing technical assistance, supervision and monitoring of Components 1 and 2. ANDZOA is also poised to host the Project Management Unit in its decentralized offices.
- INRA is the main agricultural research and research for development institution in Morocco. INRA has greatly contributed to the modernization of the agricultural sector and agro-systems, and to the improvement of the competitiveness of the country's agriculture. Moreover, INRA is a member of several regional networks and maintains bilateral cooperation with several countries. In order to be responsive to different agricultural environments, INRA has an extensive capacity for field experiments: 10 Regional Agricultural Research Centres (RARC) encompassing all existing agro-systems; 23 experimental stations; 30 research units in charge of planning and implementing research activities; 10 services of research for development to serve as interface between research and development. INRA will provide technical inputs and support implementation, in particular in the context of components 2 and 3.
- ADA is mainly responsible for promoting the domestic supply of agricultural investments and organizing communication and information actions for investors and various stakeholders in the agricultural sector. It is an Agency of the MAPM, established to support the implementation of the Green Plan Morocco. It plays a key role in coordinating

agricultural policy. ADA will provide technical assistance and support implementation of activities under component 3 in particular.

264 Many others institutions operating within the mandate of MAPM will be involved in various capacities, in various project outcomes, and at various levels.

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

266 *Executing Responsibilities (Budget Holder).* Under the FAO's Direct Execution modality, the FAO Representative in Morocco will be the Budget Holder (BH) of this project. The BH, working in close consultation with the Lead Technical Officer (LTO), will be responsible for the timely operational, administrative and financial management of the project. The BH will head the multidisciplinary Project Management Unit (see below) that will be established to support the implementation of the project and will ensure that technical support and inputs are provided in a timely manner. The BH will be responsible for financial reporting, procurement of goods and contracting of services for project activities in accordance with FAO rules and procedures. Final approval of the use of GEF resources rests with the BH, also in accordance with FAO rules and procedures.

267 Specifically, working in close collaboration with the LTO, the BH will: (i) clear and monitor annual work plans and budgets; (ii) schedule technical backstopping and monitoring missions; (iii) authorize the disbursement of the project's GEF resources; (iv) give final approval of procurement, project staff recruitment, Letters of Agreement (LoAs), and financial transactions in accordance with FAO's clearance/approval procedures; (v) review procurement and subcontracting material and documentation of processes and obtain internal approvals; (vi) be responsible for the management of project resources and all aspects in the agreements between FAO and the various executing partners; (vii) provide operational oversight of activities to be carried out by project partners; (viii) monitor all areas of work and suggest corrective measures as required; (ix) submit to the GEF Coordination Unit, the TCID Budget Group semi-annual budget revisions that have been prepared in close consultation with the LTO (due in August and February); (x) be accountable for safeguarding resources from inappropriate use, loss, or damage; (xi) be responsible for addressing recommendations from oversight offices, such as Audit and Evaluation; and (xii) establish a multi-disciplinary FAO Project Task Force to support the project.

268 *FAO Lead Technical Officer (LTO):* A Land and Water Programme Officer based in Rome, Italy (AGL) will be the LTO for this project. The LTO will provide technical guidance to

the project team to ensure delivery of quality technical outputs. The primary areas of LTO support to the project include: (i) review and ensure clearance by the relevant FAO technical officers of all the technical Terms of Reference (ToR) of the project team and consultants; (ii) ensure clearance by the relevant FAO technical officers of the technical terms of reference of the Letters of Agreement (LoA) and contracts; (iii) review and ensure clearance by the relevant FAO technical officers of all the technical Terms of Reference (ToR) of Mid Term Review (MTR) report and Final Evaluation Report (FER); (vi) in close consultation with TCID (FAO/Rome), BH and MoE and ANDZOA (Morocco), lead the selection of the project staff, consultants and other institutions to be contracted or with whom an LoA will be signed; (v) review and clear technical reports, publications, papers, training material, manuals, etc.; (vi) monitor technical implementation as established in the project results framework (conducting annual monitoring missions to the field); (vii) review the Project Progress Reports (PPRs) and prepare the annual Project Implementation Review (PIR).

269 Within FAO, a multidisciplinary Project Task Force (PTF) will be established by the Budget Holder which is mandated to ensure that the project is implemented in a coherent and consistent manner and complies with the organization's goals and policies, as well as with the provision of adequate levels of technical, operational and administrative support throughout the project cycle. The PTF comprises of the BH (Head of the PTF), Lead Technical Officer (AGL) and the GEF/TCID Coordination Unit.

270 FAO/TCID GEF Coordination Unit will review and approve project progress reports, annual project implementation reviews, financial reports and budget revisions. The GEF Coordination Unit will provide project oversight, organize annual supervision missions, and participate as a member in the FAO Project Task Force and as an observer in the project steering committee meetings, as necessary. The Unit will participate in the selection process of key consultants to be recruited by the project, including the Project Manager. The GEF Coordination Unit will also assist in the organization of, as well as be a key stakeholder in, the mid-term review and final evaluation. It will contribute to the development of corrective actions in the project implementation strategy in the case needed to mitigate eventual risks affecting the timely and effective implementation of the project. The GEF Coordination Unit will in collaboration with the FAO Finance Division, request the transfer of project funds from the GEF Trustee based on six-monthly projections of funds needed.

271 The Investment Centre Division Budget Group (TCID) will provide final clearance of any budget revisions.

272 The FAO Finance Division will provide annual Financial Reports to the GEF Trustee and, in collaboration with the GEF Coordination Unit and the TCID Budget Group, call for project funds on a six-monthly basis from the GEF Trustee.

4.1.2 Coordination with other initiatives

273 OASIL will closely liaise with the teams of the programmes and projects that have been identified as baseline initiatives. The main partners of these programmes and projects are part of the steering committee of the OASIL project and will be engaged in the technical working groups of the relevant components (see description of implementation arrangements below).

274 In addition, the project will seek to coordinate with implementing and executing agencies of a range of ongoing initiatives related to sustainable management and monitoring of oasis ecosystems in Morocco so as to identify opportunities and facilitate mechanisms for achieving synergies with such relevant GEF-supported projects, as well as with projects supported by other donors mentioned below. These include other FAO activities in the region, to ensure that best practices are incorporated into project's approaches.

275 The coordination will focus on exchanging lessons learned and sharing technical expertise and will be established through the participation of representatives of sister project and programmes in technical working groups per component. The relevant projects include:

- *Integrating Climate Change Adaptation in the implementation of the PMV (PICCPMV)*. This is a World Bank project financed by the SCCF and implemented over 4 years. The objective of the PICCPMV is articulated around two components aimed at strengthening the capacity of public and private institutions and small farmers on climate change adaptation strategies. While the PICCPMV addresses the additional cost of mainstreaming climate change adaptation in the Plan Maroc Vert (PMV), the proposed project (OASIL) will address the incremental costs to achieve global environmental benefits in the attempt to make more sustainable the benefits of PMV Pillar II
- *Conservation of biodiversity and mitigation of land degradation through adaptive management of agricultural heritage systems in Morocco*. This is a FAO- GEF project that will be implemented over the period 2016-2019. The project aims at enhancing the sustainable management of the traditional oasis systems with a focus on biodiversity conservation and sustainable land management through the promotion of once valued oases agricultural practices, including conserving ancient efficient irrigation and water management systems, farming and sheep breeding practices, and customary community participatory management practices for natural resources. The project targets 5 pilot oasis systems in Morocco, one of them (Imilchil) is in the Draâ- Tafilalet Region. Joint workplans and a mechanism for systematic exchange of information between the two projects will be established.
- *Conservation and Adaptive Management of Globally Important Agricultural Heritage Systems (GIAHS)*. This is a FAO-GEF project with global coverage. The concept of Globally Important Agricultural Heritage Systems (GIAHS) was launched under the auspices of the FAO in 2002 with funding from IFAD, GTZ, and in partnership with UNESCO and the UN University . It aims to enhance the understanding of traditional knowledge, systems, culture, biodiversity, food security and livelihoods of the custodians. The project was successful in piloting the dynamic conservation and adaptive management approach for oases agricultural heritage in countries such as Algeria, Tunisia and Morocco. For instance,

in Algeria, the Wali passed the Wilaya decree establishing 4,900 ha of protected area in El-Ougla site, and National People's Assembly confirmed their support through the National Programme for Agricultural Development. It is expected that this project will contribute to the identification of oases of potentially global significance that could be recognized and supported through GIAHS. It will be important to coordinate with the GIAHS initiative as it will contribute to identify oases that could be recognized and supported as GIAHS and also because it was successful in the past in piloting the dynamic conservation and adaptive management approach for oases agricultural heritage in Morocco.

- *Adaptive Management and Monitoring of the Maghreb's Oases Systems.* This is a FAO-GEF project with regional coverage (Morocco, Tunisia, Mauritania) aimed at enhancing, expanding and sustaining the adaptive management and monitoring of the Maghreb oasis ecosystem. The project focuses on two main levels of activities: (1) to support country level information systems on oasis degradation trends, as well as monitoring systems that will enhance the national and regional monitoring and management of oasis ecosystems, and (2) linking and harmonizing initiatives at a local level while sharing knowledge on best adaptive management practices. It will be important to coordinate with this regional project for stock-taking of lessons learnt and data sharing.
- *A circular economy approach to agro biodiversity conservation in the Souss-Massa Drâa Region of Morocco.* This is a UNDP- GEF project that will be implemented over the period 2014-2019. This project seeks to ensure the promotion of an agricultural sector resilient to the impact of climate change and a low carbon economy. Activities include multiple aspects from the reutilization of non-conventional water resources to the adoption of good agricultural practices that can resist climate change. The proposed project will establish a partnership agreement with the executing agency, UNDP, to share experiences in relation to the labelling of local production and mainstreaming biodiversity conservation in the market mechanisms.
- *Participatory Control of Desertification and Poverty Reduction in the Arid and Semi-Arid High Plateau Ecosystems of Eastern Morocco (MENARID).* This project falls under the wider umbrella of the GEF's MENARID Programme which aims at combating desertification and protecting ecosystems functions. The proposed project will complement the activities under MENARID through knowledge sharing and regular exchanges of experiences related to strengthening the enabling environment for SLM as a way of reducing desertification and land degradation.
- *Land Degradation Assessment and Monitoring for Sustainable Land Management Decision Support and Scaling up of Best Practices (DS-SLM).* This is a FAO-GEF project with global coverage that aims at improving the capacities of the member countries of the UNCCD to assess and report on the status of their land resources and to adopt climate change resilient Sustainable Land Management (SLM) measures. The proposed project will seek coordination with DS-SLM for sharing of best practices, even though DS-SLM will be implemented in another region.
- *Integrated water resources management in Morocco.* This is a GIZ Project that will be implemented over the period 2008- 2018. The project concentrate on four main components: improving the monitoring and control systems in water management planning; protecting groundwater resources; promoting the reuse of wastewater;

reinforcing the participation of the various actors to enhance water resources planning and management. The proposed project will seek coordination with the GIZ initiative for the implementation of Component 2 and Component 3 activities.

4.2 IMPLEMENTATION ARRANGEMENTS

276 The Food and Agriculture Organization (FAO) will be the GEF Agency responsible for the supervision, and provision of technical guidance during the implementation of the project. ANDZOA will be the lead national executing partner and will host the Project Management Unit (PMU), which will be staffed by a dedicated Project Coordinator, supported by Liaison Officers from various line ministries.

277 The Ministry of Environment will chair a multi-stakeholder Project Steering Committee (PSC) which will bring together the key institutions including ANDZOA, ADA, DIAEA, DDFP, ONSSA, DRA of Drâa-Tafilalet, ORMVAO, ORMVAT, INRA, IAVHII, Ministère d'Aménagement Territorial, Ministère de l'Artisanat et de l'ESS, SMIT, ONCA, Conseil Régional de Drâa-Tafilalet, Agence Régionale d'Exécution des Projets de Drâa-Tafilalet, Chambre d'Agriculture de la Région Drâa-Tafilalet, Délégations Régionales de Tourisme d'Errachidia et Ouarzazate, Producers Associations including FIMADATTES, NGOs, the private sector and FAO. During project preparation, consultations were held with other UN agencies with related projects in Morocco. These agencies will be invited to participate in the PSC to ensure coordination of the project with key related initiatives.

278 The Project Steering Committee, meeting at least once a year, will guide and oversee implementation of the project. Specifically the PSC will:

- a) Provide guidance to ensure that project implementation is in accordance with the project document;
- b) Review and approve any proposed revisions to the project - project results framework and implementation arrangements;
- c) Review, amend (if appropriate) and endorse all Annual Work Plans and Budgets;
- d) Review project progress and achievement of planned results as presented in six-monthly Project Progress Reports, Project Implementation Reviews (PIRs) and Financial Reports;
- e) Advise on issues and problems arising from project implementation, submitted for consideration by the Project Management Unit or by various stakeholders; and
- f) Facilitate cooperation between all project partners and facilitate collaboration between the Project and other relevant programmes, projects and initiatives in the country.

279 The Project Management Unit will be established within ANDZOA in the Drâa-Tafilalet region. The PMU will be staffed by a full-time Project Coordinator, Project Assistant, national subject matter Experts and short-term consultants paid by the project. The PMU will work closely with Liaison Officers of the following institutions: ANDZOA, DRA Drâa-Tafilalet, ORMVAO, ORMVAT, INRA, ONCA, ONSSA, Agence régionale d'exécution des projets, Agence de bassin, Délégations Régionales de Tourisme d'Errachidia and Ouarzazate. The PMU will be responsible for the day to day management of the project and timely and efficient implementation of and monitoring of approved annual work plans. In close consultation with

other partners involved in the execution of project components, the PSC and FAO, the PMU will:

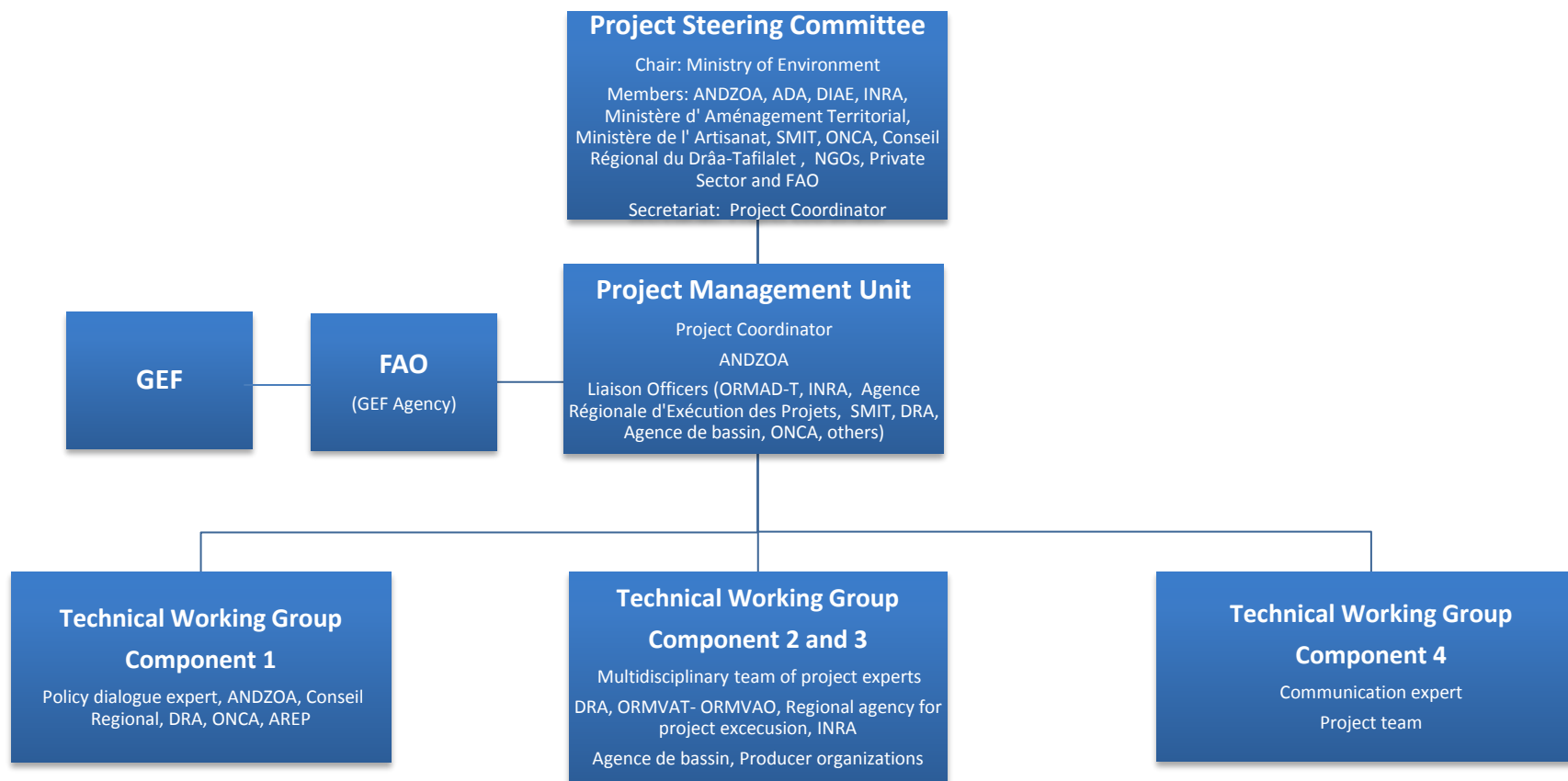
- a) Act as secretariat to the PSC;
- b) Organize project meetings and workshops, as required;
- c) Prepare Annual Work Plans and detailed Budgets (AWP/B) and submit these for approval by FAO and the PSC;
- d) Coordinate and monitor the implementation of the approved AWP/B;
- e) During project inception period, review the project's M&E plan and propose refinements, as necessary, and implement the plan;
- f) Prepare the six-monthly Project Progress Reports (PPRs) and give inputs in the preparation of the annual Project Implementation Review (PIR) by the FAO Lead Technical Officer. Ensure that all co-financing partners provide information on co-financing disbursed during the course of the year for inclusion in the PIR;
- g) Coordinate the project with other related on-going activities and ensure a high degree of inter-institutional collaboration; and
- h) Assist in the organization of midterm and final evaluations.

280 As well as the Project Coordinator, the PMU will be supported by Liaison Officers from the above mentioned institutes, which are government appointed officers guaranteeing a high level of integration with the relevant line ministries, ensuring among others that technical inputs are provided in an efficient and timely manner for the Technical Teams as needed; that high level officials are briefed and able to participate actively in the Project Steering Committee; and that the appropriate government procedures are smoothly navigated in terms of compliance monitoring.

281 **Technical Working Groups** (TWG) will be established to provide technical advice on specific project components and outcomes and will provide technical advice to the PSC, backstop the PMCU on request, advise the PMCU on other on-going and planned activities and facilitate collaboration between the Project and other programs, projects, and initiatives of sector agencies and research institutions. The TWGs may also be involved in technical evaluation of project progress and outputs, and identification of possible solutions and/or changes in project activities when technical issues arise in the course of project implementation.

282 The institutional arrangements of the components and project management mechanisms are schematized in the organogram below.

Figure 3: Institutional arrangements OASIL



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

Table 12: Preliminary Letters of Agreement for OASIL implementation

Description of LOA
GIS system development (including consultation and training)
Assessment, preparation of curricula and training for Moroccan Extension colleges on DATAR
Communication campaigns (logo, design, video,...)
Training programme (output 1.1.3)
Best practices (output 2.1.6)
Study tours (internationally)
Field visits (nationally)
Market analyses for high value oasis products
Implementation of the investment and management plans

284 OASIL PMU will collaborate with GEF, FAO, other projects funded by co-financing partners, development partners and NGOs to identify and facilitate synergies. Collaboration will be undertaken through: (i) informal communications among GEF agencies and implementing partners of other programmes and projects; and (ii) exchange of information and dissemination materials between projects. In order to guarantee an effective coordination and collaboration between different initiatives, specific coordination responsibilities have been assigned to the Project Management Unit and included in the terms of reference of the Project Manager, whose results shall be explicitly reflected in the Project Progress Reports (PPRs).

4.3 RISK MANAGEMENT

4.3.1 Significant risks

285 No significant risks have been identified.

4.3.2 Environmental and social risks

286 As per the Project Environmental and Social Screening (of which the checklist has been included in Annex 6) the project falls into category Medium of FAO's environmental and social risk classification's system. Therefore, for those ESS for which potential risks can arise, a mitigation plan has been developed and is summarised in Annex 4.

287 See Risk Log in Annex 3. A summary is found in the table 13 below.

Table 13: Risks to the project success.

Risk	Rating	Risk Mitigation measures
Institutional risk: Decrease in project ownership and support from governmental agencies (There is a large number of government actors from different institutions and ministries involved in oasis development. Mandates are different, though at times partially overlapping or steering in opposite directions. Institutional sensitivities can cause some partners to be only partially involved and engaged.)	L	OASIL will ensure relevant government agencies (MOE, MAPM, ADA, ANDOZA, INRA, ORMVAT) are fully involved in the project implementation through its institutional set-up which engages partners in different capacities through the project steering committee, the project management unit and focal points and the technical working groups per component. Roles and responsibilities have been discussed and agreed upon, and contributions and comparative advantage of each partner identified for successful project progress. Multi-stakeholder engagement will also be strengthened through Component 1 which will facilitate policy dialogues and knowledge exchange involving different governmental agencies.
Operational risk: Limited capacity of local/national institutions for implementing project activities	M	The limited capacity of the national, local and oases dependent communities will be addressed through targeted training and capacity-building activities. Training activities of local personnel will also be part of all aspects of the work and the relevant institutions will be encouraged to expand the staff base if it is weak in particular areas. A capacity needs assessment will be conducted to identify knowledge and capacity gaps and target project interventions. This assessment will look both at the technology/technical capacity gaps and the governance issues faced by local populations to engage in OASIL and similar processes.
Social risk: Lack of interest and participation of beneficiaries (This risk stems from both the lack of incentives to engage in alternative options as compared to BAU, the lack of awareness on co-benefits from proposed alternative options, and the lack of instruments to engage in alternative options.)	L	Envisaged interventions will include awareness-raising workshops on the negative impacts of climate change, land degradation and loss of biodiversity in oasis systems directly involving local institutions and communities. The project will promote a suite of participatory and gender sensitive approaches that intends to place communities at the driving seat of planning and monitoring processes. Moreover, OASIL will work at the regional and national level to strengthen an enabling environment for the larger adoption of OASIL demonstrated tools, approaches and technologies, including the development of a <i>multi-stakeholder platform on oasis ecosystems to inform decision-making at different levels</i> . It will also try to involve the private sector in order to support new and additional investments into oasis agro-ecosystems, alongside those already committed from the public sector.

Risk	Rating	Risk Mitigation measures
Climate risk: An increasingly drier and hotter climate / More frequent droughts and floods	M	The changing climate and extreme events, as already experienced for the past decades and further estimated in various scenarios, accentuates social imbalances in oases, increases stress on water resources and negatively impacts production yields. OASIL gives high priority to climate resilience of oasis agro-ecosystems, particularly offering diversified and complementary development options (new livelihood options alongside sustainable production intensification options for instance). Climate variability and extreme events are built in the project approach and will be considered from assessment through to planning, implementation and monitoring. For instance, a specific assessment of the climate resilience of farmers and pastoralists, also incorporating the views and needs of those people, will be conducted. This information in conjunction with climate data will serve as baseline information for monitoring and will also inform and guide investment and farmers' practices as well as curricula and local and national policies.

4.4 FINANCIAL MANAGEMENT

288 The total cost of the project will be USD 49,901,050, to be financed through a USD 8,631,050 GEF Trust Fund grant and USD 41,270,000 co-financing from:

- a) MAPM/ADA/ANDZOA (USD38,970,000 grant and USD600,000 in-kind);
- b) INRA (USD800,000 grant and USD200,000 in-kind); and
- c) FAO (USD 500,000 grant and USD200,000 in-kind).

289 Table 14 below shows the cost by component and by sources of financing. The FAO will, as GEF Agency, only be responsible for the execution of the GEF resources and the FAO co-financing.

Table 14: Financial Planning (USD)

Component	GEF	Co-financing				Total	GEF %
		MAPM/ADA/ANDZOA	INRA	FAO	Total Cofinancing		
Component 1 - Policy dialogue	\$ 487,300	\$ 3,550,000		\$ 500,000	\$ 4,050,000	\$ 4,537,300	11%
Component 2 - Planning and monitoring	\$ 1,440,299	\$ 11,258,000	\$ 800,000		\$ 12,058,000	\$ 13,498,299	11%
Component 3 - Demonstration	\$ 5,753,949	\$ 22,116,948			\$ 22,116,948	\$ 27,870,897	21%
Component 4 - M&E and communication	\$ 538,500	\$ 2,045,052			\$ 2,045,052	\$ 2,583,552	21%

PMC	\$ 411,002	\$ 600,000	\$ 200,000	\$ 200,000	\$ 1,000,000	\$ 1,411,002	29%
Total	\$ 8,631,050	\$ 39,570,000	\$ 1,000,000	\$ 700,000	\$ 41,270,000	\$ 49,901,050	17%

290 GEF input - The present Project Document details how the GEF Trust Fund grant will be utilized and to what end. A detailed results-based budget is attached in Annex 2 and provides expected expense details per outcome and per year.

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

- In-kind contributions include staff time of government officials at the central and regional levels, office space and utilities (PMU will be hosted in fully functional offices within ANDZOA premises), and support for local travel.
- The parallel projects (baseline initiatives) managed by the government, have been detailed in section 2. Grant contribution by government amounts to USD 39,770,000.

292 FAO input - The representation of the FAO to Morocco as the Budget Holder (BH) will co-finance the project, in kind, mainly through staff time, service and logistic support for field activities for a total amount of USD 200 000. The GEF project will also be co-financed by parallel projects for a total amount of USD 500,000.

4.4.1 Financial management and reporting

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

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

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

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

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

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

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

299 Savings in one budget sub-line may not be applied to overruns of more than 20 percent in other sub-lines even if the total cost remains unchanged, unless this is specifically authorized by the GEF Coordination Unit upon presentation of the request. In such a case, a revision to the project document amending the budget will be prepared by the BH.

300 Under no circumstances can expenditures exceed the approved total project budget or be approved beyond the NTE date of the project. Any over-expenditure is the responsibility of the BH.

301 Audit. The project shall be subject to the internal and external auditing procedures provided for in FAO financial regulations, rules and directives and in keeping with the Financial Procedures Agreement between the GEF Trustee and FAO.

302 The audit regime at FAO consists of an external audit provided by the Auditor-General (or persons exercising an equivalent function) of a member nation appointed by the Governing Bodies of the Organization and reporting directly to them, and an internal audit function headed by the FAO Inspector-General who reports directly to the Director-General. This function operates as an integral part of the Organization under policies established by senior management, and furthermore has a reporting line to the governing bodies. Both functions are required under the Basic Texts of FAO which establish a framework for the terms of reference of each. Internal audits of imprest accounts, records, bank reconciliation and asset verification take place at FAO field and liaison offices on a cyclical basis.

303 Procurement. Careful procurement planning is necessary for securing goods, services and works in a timely manner, on a "Best Value for Money" basis. It requires analysis of needs and constraints, including forecast of the reasonable timeframe required to execute the procurement process. Procurement and delivery of inputs in technical cooperation projects will follow FAO's rules and regulations for the procurement of supplies, equipment and services (i.e. Manual Sections 502 and 507). Manual Section 502: "Procurement of Goods, Works and Services" establishes the principles and procedures that apply to procurement of all goods, works and services on behalf of the Organization, in all offices and in all locations, with the exception of the procurement actions described in Procurement Not Governed by Manual Section 502. Manual Section 507 establishes the principles and rules that govern the use of Letters of Agreement (LoA) by FAO for the timely acquisition of services from eligible entities in a transparent and impartial manner, taking into consideration economy and efficiency to achieve an optimum combination of expected whole life costs and benefits.

304 As per the guidance in FAO's Project Cycle Guide, the BH will draw up an annual procurement plan for major items, which will be the basis of requests for procurement actions during implementation. The first procurement plan will be prepared at the time of project start-up, if not sooner, in close consultation with the CTA/NPC and LTU. The plan will include a description of the goods, works, or services to be procured, estimated budget and source of funding, schedule of procurement activities and proposed method of procurement. In situations where exact information is not yet available, the procurement plan should at least contain reasonable projections that will be corrected as information becomes available.

305 The procurement plan shall be updated every 12 months and submitted to FAO BH and LTO for clearance, together with the AWP/B and annual financial statement of expenditures report for the next installment of funds.

306 The BH, in close collaboration with the CTA/NPC, the LTO and the Budget and Operations Officer will procure the equipment and services provided for in the detailed budget in Annex 2, in line with the AWO and Budget and in accordance with FAO's rules and regulations.

SECTION 5 – MONITORING, REPORTING AND EVALUATION

5.1. OVERSIGHT

307 Project oversight will be carried out by the Project Steering Committee (PSC), the FAO GEF Coordination Unit and relevant Technical Units in HQ. Oversight will ensure that: (i) project outputs are produced in accordance with the project results framework and leading to the achievement of project outcomes; (ii) project outcomes are leading to the achievement of the project objective; (iii) risks are continuously identified and monitored and appropriate mitigation strategies are applied; and (iv) agreed project global environmental benefits/adaptation benefits are being delivered.

308 The FAO GEF Unit and HQ Technical Units will provide oversight of GEF financed activities, outputs and outcomes largely through the annual Project Implementation Reports (PIRs), periodic backstopping and supervision missions.

5.2 MONITORING

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

5.3 REPORTING

310 Specific reports that will be prepared under the M&E programme are: (i) Project inception report; (ii) Annual Work Plan and Budget (AWP/B); (iii) Project Progress Reports (PPRs); (iv) annual Project Implementation Review (PIR); (v) Technical Reports; (vi) co-financing reports; and (vii) Terminal Report. In addition, assessment of the GEF Monitoring Evaluation Tracking Tools against the baseline (completed during project preparation) will be required at midterm and final project evaluation.

311 Project Inception Report. It is recommended that the PMU prepare a draft project inception report in consultation with the LTO, BH and other project partners. Elements of this report should be discussed during the Project Inception Workshop and the report subsequently finalized. The report will include a narrative on the institutional roles and responsibilities and coordinating action of project partners, progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. It will also include a detailed first year AWP/B, a detailed project monitoring plan. The draft inception report will be circulated to the PSC for review and comments before its finalization, no later than one month after project start-up. The report should be cleared by the FAO BH, LTO and the FAO GEF Coordination Unit and uploaded in FPMIS by the BH.

312 Results-based Annual Work Plan and Budget (AWP/B). The draft of the first AWP/B will be prepared by the PMU in consultation with the FAO Project Task Force and reviewed at the project Inception Workshop. The Inception Workshop (IW) inputs will be incorporated and the PMU will submit

a final draft AWP/B within two weeks of the IW to the BH. For subsequent AWP/B, the PMU will organize a project progress review and planning meeting for its review. Once comments have been incorporated, the BH will circulate the AWP/B to the LTO and the GEF Coordination Unit for comments/clearance prior to uploading in FPMIS by the BH. The AWP/B must be linked to the project's Results Framework indicators so that the project's work is contributing to the achievement of the indicators. The AWP/B should include detailed activities to be implemented to achieve the project outputs and output targets and divided into monthly timeframes and targets and milestone dates for output indicators to be achieved during the year. A detailed project budget for the activities to be implemented during the year should also be included together with all monitoring and supervision activities required during the year. The AWP/B should be approved by the Project Steering Committee and uploaded on the FPMIS by the BH.

313 Project Progress Reports (PPR): PPRs will be prepared by the PMU based on the systematic monitoring of output and outcome indicators identified in the project's Results Framework (Annex 1). The purpose of the PPR is to identify constraints, problems or bottlenecks that impede timely implementation and to take appropriate remedial action in a timely manner. They will also report on projects risks and implementation of the risk mitigation plan. The Budget Holder has the responsibility to coordinate the preparation and finalization of the PPR, in consultation with the PMU, LTO and the FLO. After LTO, BH and FLO clearance, the FLO will ensure that project progress reports are uploaded in FPMIS in a timely manner.

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

315 Key milestones for the PIR process:

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

316 Technical Reports: Technical reports will be prepared by national, international consultants (partner organizations under LOAs) as part of project outputs and to document and share project outcomes and lessons learned. The drafts of any technical reports must be submitted by the PMU to the BH who will share it with the LTO. The LTO will be responsible for ensuring appropriate technical review and clearance of said report. The BH will upload the final cleared reports onto the FPMIS. Copies of the technical reports will be distributed to project partners and the Project Steering Committee as appropriate.

317 Co-financing Reports: The BH, with support from the PMU, will be responsible for collecting the required information and reporting on co-financing as indicated in the Project Document/CEO Request. The PMU will compile the information received from the executing partners and transmit it in a timely manner to the LTO and BH. The report, which covers the period 1 July through 30 June, is to be submitted on or before 31 July and will be incorporated into the annual PIR. The format and tables to report on co-financing can be found in the PIR.

318 GEF Tracking Tools: Following the GEF policies and procedures, the relevant tracking tools for full sized projects will be submitted at three moments: (i) with the project document at CEO endorsement; (ii) at the project's mid-term review/evaluation; and (iii) with the project's terminal evaluation or final completion report. The TT will be uploaded in FPMIS by the GEF Unit. The TT are developed by the project design team. They are filled in by the PMU and made available for the mid-term review and again for the final evaluation.

319 Terminal Report: Within two months before the end date of the project, and one month before the Final Evaluation, the PMU will submit to the BH and LTO a draft Terminal Report. The main purpose of the Terminal Report is to give guidance at ministerial or senior government level on the policy decisions required for the follow-up of the project, and to provide the donor with information on how the funds were utilized. The Terminal Report is accordingly a concise account of the main products, results, conclusions and recommendations of the project, without unnecessary background, narrative or technical details. The target readership consists of persons who are not necessarily technical specialists but who need to understand the policy implications of technical findings and needs for insuring sustainability of project results.

5.4 EVALUATION

320 A Mid-Term Review will be undertaken at project mid-term to review progress and effectiveness of implementation in terms of achieving the project objectives, outcomes and outputs. Findings and recommendations of this review will be instrumental for bringing improvement in the overall project design and execution strategy for the remaining period of the project's term. FAO will arrange for the mid-term review in consultation with the project partners. The evaluation will, inter alia:

- review the effectiveness, efficiency and timeliness of project implementation;
- analyze effectiveness of partnership arrangements;
- identify issues requiring decisions and remedial actions;
- propose any mid-course corrections and/or adjustments to the implementation strategy as necessary; and
- highlight technical achievements and lessons learned derived from project design, implementation and management.

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

5.5 M&E PLAN

Type of M&E Activity	Responsible Parties	Time-frame	Budget
Inception Workshop (IW)	PMU in consultation with the LTO, BH, PSC	Within 1 month after Start-up	USD 6,000
Results-based Annual Work Plan and Budget (AWP/B)	PMU in consultation with the FAO Project Task Force	3 weeks after Start-up and annually with the reporting period July to June	Project staff time
Project Inception Report	-PMU in consultation with the LTO, BH FAO-Morocco -Report cleared by the FAO BH, LTO and the FAO GEF Coordination Unit and uploaded in FPMIS by the BH	1 month after Start-up	Project staff time
Project M&E Expert	Short Term Consultant	1 month after Start-up	USD 100,000
Finalisation of baseline information, and reassessment at mid-term and project closure	Short term consultants	During project year 1, 3 and 5	USD 34,400
Supervision Visits	FAO	Annually	Project staff time
Project Progress Reports (PPR)	-PMU based on the systematic monitoring of output and outcome indicators identified in the project's Results Framework - The PPR will be submitted to the BH and LTO for comments and clearance. BH to upload the PPR on the FPMIS.	No later than one month after the end of each six-monthly reporting period (30 June and 31 December)	Project staff time
Project Implementation Review report (PIR)	LTO (in collaboration with the PMU) will prepare an annual PIR covering the period July (the previous year) through June (current year) to be submitted to the BH and the TCI GEF Funding Liaison Officer	August 1, of each reporting year	Project staff time
Co-financing Reports (Disbursement, Output)	PMU	On a semi-annual basis, and will be considered as part of the semiannual PPRs	Project staff time
GEF Tracking Tools	PM and reviewed by FAO LTU	At mid-point and end of project	Project staff time
Technical Reports	Project staff and consultants, with peer review as appropriate	As appropriate	Project time + consultant costs
Mid-term Review	External consultant, FAO Office of Evaluation in consultation with PMU, GEF Coordination Unit and other partners.	During PY3, at mid term	USD 46,000

Independent Final Evaluation	External consultant, FAO Office of Evaluation in consultation with PMU, GEF Coordination Unit and other partner	3 months prior to terminal review meeting	USD 56,050
Terminal Report	PMU with assistance of other project staff and the FAO LTU	2 months before project end	USD 6,550
Lessons Learned workshop and impact assessment	Project Staff, short-term consultants and FAO	At project end	USD 6,000 USD20,000
Overall estimated cost of project staff time for M&E			USD 16,250
Total Budget			USD 291,250

5.6 COMMUNICATION

322 Communication for Development (ComDev) is a social process based on dialogue promoted by FAO to be used in its portfolio of development programmes and projects, as ComDev is a key driver in agriculture and rural development. It is a results oriented communication process based on dialogue and participation, that allows rural people to voice their opinions, share knowledge and actively engage in their own development.

323 Through the use of local media, a project website, policy dialogues, workshops, seminars, short video clips, and more, OASIL will apply ComDev to maximize its impact, fostering multi-stakeholders dialogue, informed decision making and collective action. All communication and outreach material, platforms and events will be made available in local languages (Berber, Arabic, French), and a specialized firm will be contracted to design a ComDev strategy and prepare a number of communication and outreach products.

ANNEXES

ANNEX 1: RESULTS MATRIX

Results Chain	Indicators	Baseline	Mid-term milestone	Target	Means of Verification (MOV)	Assumptions
Project Objective Revitalise oasis agro-ecosystems in the Drâa-Tafilalet region to be productive, attractive, and healthy and to sustain and make more resilient the livelihoods of the local communities	(i) % increase of investments into pilot oasis agro-ecosystems	(i) 0%		(i) 20% increase	(i) Monitoring reports of the investment plans	Private and public investors see an interest in investing in oasis agro-ecosystems
	(ii) # ha of oasis agro-ecosystems sustainably managed in an integrated and participatory manner	(ii) circa 136,000ha ¹		(ii) 60 000 ha	(ii) Oasis Information system including GIS supported by the project	Topic remains of high relevances to national and regional institutions The approach is adopted by the national, regional and local institutions
	(iii) # of tons of CO2e mitigated through project activities over a 20-year period	(iii) 0		(iii) 1,5 million tons of CO2e	(iii) EX-ACT estimation complemented by GIS data	
	(iv) Proportion of land that is degraded over total land area in pilot landscapes	(iv) 70%		(iv) 60% decrease	(iv) and (v) Oasis Information system including GIS supported by the project and assessment/water accounting reports	
	(v) Level of water stress (freshwater withdrawal as a	(v) 90% ²		(v) 10% decrease		

¹ Includes National Parks and Sibes, such as the Parc National du Haut Atlas Oriental (49,000 ha), SIBE El Kheng - Enclos de Cazelle (600 ha) and Enclos de Bouljir (19 ha), Grotte d'Akhyam, (4,000 ha), SIBE Merzouga - Jbel Sargho, Oued Todra, (22,700 ha), SIBE de l'Oued Mird (60,000 ha) and Lac de Tislit (200 ha), SIBE priorite 2: SIBE du Lac du barrage Mansour Ed Dahbi (5,000 ha).

² Formula: Fresh water withdrawal / Available fresh water resources= 1678.4 Mm³/1870 Mm³=0.8975

	proportion of available freshwater resources)					
Component 1: POLICY DIALOGUE: Support policy dialogue at the national and regional levels on the sustainable management of oasis agro-ecosystems						
Outcome 1.1 Actionable knowledge on oasis challenges and opportunities is used by the government and other national and regional stakeholders to promote the sustainable management of oasis agro-ecosystems through strategies and development plans	(i) Number of public and private institutions that adhere to a 'Sustainable Oases Declaration ' (ii) Agro-biodiversity, Sustainable Land and Water Management (SLWM) and climate-smart approaches are mainstreamed into the future regional development plans of the Draâ-Tafilalet Region, assisting the advanced regionalization process	(i) 0 (ii) PAR 2016 – 2020 is under development and extent of inclusion is TBD		(i) at least the 18 partner institutions of ANDZOA (ii) Regional Agriculture Development Plan (PAR) 2021 – 2026 of the Draa-Tafilalet Region.	(i)The declaration (ii)2021-2026 PAR	The sustainable development of oases remains a priority for the government
Output 1.1.1. Policy dialogues and knowledge exchange events involving different stakeholders from multiple sectors are held at regional and national levels on critical factors and innovative approaches to ensure the sustainability of oasis agro-ecosystems Output 1.1.2. A multi-stakeholder platform on oasis agro-ecosystems to exchange relevant information, data and best practices for integrated and sustainable management of oasis agro-ecosystems is developed to inform decision-making at national and regional levels						

Output 1.1.3. Capacity needs assessment and training programme developed and implemented for increased capacity of the National Extension Agency (ONCA), ORMVAT, ORMVAO, ANDZOA, INRA, ADR agents to incorporate agro-biodiversity, Sustainable Land and Water Management and climate change mitigation approaches as well as improved climate-resilient agro-sylvo-pastoral practices in plans and policies						
Output 1.1.4. A declaration (<i>Charte des oasis durables</i>) is developed in a multi-stakeholder process to inform sector policies and development strategies and plans						
Component 2: PLANNING AND MONITORING: Improvement of NRM and SPI planning and monitoring systems at regional and local levels						
Outcome 2.1 Knowledge and information on the state and sustainable management of natural resources (water, land, biodiversity) in oasis agro-ecosystems are improved in the Drâa-Tafilalet region	Number of monitoring and information systems, including spatial information, is operational	Partial mapping of land degradation in Ouarzazate Oasis database developed by INRA Information system of <i>Agence de Bassin</i>	One information system including oasis typology, water withdrawals, land degradation, biodiversity, technologies and practices in the Draa-Tafilalet Region operational	The information system is maintained and updated	Information systems	Information and data are made available by relevant partners
Output 2.1.1 Participatory water accounting and auditing is conducted at regional level Output 2.1.2. Land degradation assessment is conducted at the regional level Output 2.1.3. Genetic Diversity Assessment and Monitoring is conducted in selected oasis typologies Output 2.1.4. Oasis information systems are reinforced and improved using spatial analysis (GIS systems) at the regional level Output 2.1.5. Oasis typology and mapping based on bio-physical and socio-economic factors (ecosystemic and livelihood approaches) are elaborated Output 2.1.6. Practices and technologies in oasis agro - ecosystems including traditional ones, are collected and assessed, complementing other initiatives Output 2.1.7. The sustainability of each oasis type is assessed in a participatory manner						
Outcome 2.2 Oasis agro-ecosystem investment and management plans are developed in a participatory manner	(i)# of sustainable and integrated oasis agro-ecosystem management and investment plans	(i)0 (ii)0%	(i)4 Investment and management plans (ii)30%		(i)Management and investment plans and progress reports	Information is available Availability of relevant stakeholders Stakeholders validate the selection of pilot sites informed by knowledge based evidence

using an integrated landscape approach	(ii)% of women representatives participating in the planning process				(ii)Surveys and SHARP reports	
Output 2.2.1. Sustainable and integrated management and investment plans, including inclusive governance mechanism, in selected pilot oasis are developed in a participatory manner						
Component 3: DEMONSTRATION: Sustainable and integrated oasis agro-ecosystem management and investment plans are implemented in pilot oasis ecosystems in at least 2 sub-drainage basins						
Outcome 3.1 Pilot Oasis agro-ecosystems are restored, safeguarded and sustainably managed through an integrated landscape approach	(i)# of ha under effective agricultural, rangeland and pastoral management (ii)# of ha directly contributing to biodiversity conservation and sustainable use (iii)Crop variety/livestock breed evenness of traditional varieties of crops and animal breeds of global significance (DATAR) (iv)Change in water use efficiency	(i)TBC (once pilot sites selected) (ii)TBC (iii)TBC (iv)less than 40%		(i)60 000 ha (ii)15 000 ha (iii)TBC (iv)60%	Satellite images Project reports Oasis information system DATAR assessments	Concerned regional institutions agree to implement the activities included in the management and investment plans in a coordinated manner.
Output 3.1.1. Training, technical assistance and knowledge exchange for capacity development of local oasis agro and agro-pastoral communities in order to enable sustainable management and sustainable production intensification of oasis agro-ecosystems						
Output 3.1.2. Selected good agricultural practices are implemented in pilot oasis agro-ecosystems as identified in the plans						
Output 3.1.3. Selected traditional and innovative low-emission technologies are restored and/or introduced in pilot oasis agro-ecosystems, as identified in the plans						

Output 3.1.4. Selected land degradation protection measures are implemented in pilot oasis agro-ecosystems, as identified in the plans						
Output 3.1.5. Agro-biodiversity is conserved in situ and used in a sustainable way						
Output 3.1.6. Inclusive governance mechanism are established in oasis pilot sites						
Outcome 3.2: Livelihoods and income of oasis smallholders are more resilient, diversified and strengthened	(i)% increase of average annual household income disaggregated by sex (sample oasis households in project area) from crop and livestock production	(i) Minimum annual household income is 14400 - 15600 MAD (disaggregated data not available)		(i) 20% increase for women headed households and 20% increase for men headed households	Gender-sensitive surveys (SHARP reports)	Market prices of food products remain stable
Output 3.2.1. Sustainable value chain development of a selection of agro-pastoral products from oasis agro-ecosystems is supported						
Output 3.2.2. The diversification of rural livelihoods is supported						
Component 4: Project monitoring and evaluation and knowledge management						
Outcome 4.1: Project progress and results are monitored and evaluated throughout project implementation						
Output 4.1.1. Monitoring and evaluation indicators developed and collected during project implementation						
Output 4.1.2. Project Progress reports prepared						
Output 4.1.3. Mid-term and final evaluations conducted						
Outcome 4.2 Project results and information disseminated						
Output 4.2.1. Project website developed						
Output 4.2.2. Project communication products developed						
Output 4.2.3. Technical project reports prepared and disseminated						
Output 4.2.4. Project results and activities disseminated in national and international events						

ANNEX 2: BUDGET

[OASIL budget](#)

ANNEX 3: THE PROJECT RISK LOG

A. Risks

Risk No.	Risk statement	Impact	Likelihood	Overall ranking	Mitigating action	Action owner
1	Institutional risk: Decrease in project ownership and support from governmental agencies	MH	L	Green	OASIL will ensure relevant government agencies (MOE, MAPM, ADA, ANDOZA, INRA, ORMVAT) are fully involved in the project implementation through its institutional set-up which engages partners in different capacities through the project steering committee, the project management unit and focal points and the technical working groups per component. Roles and responsibilities have been discussed and agreed upon, and contributions of each partner identified for successful project progress.	PMU
2	Operational risk: Limited capacity of local/national institutions for implementing project activities	MH	M	Amber	The limited capacity of the national, local and oases dependent communities will be addressed through targeted training and capacity-building activities. Training activities of local personnel will also be part of all aspects of the work and the relevant institutions will be encouraged to expand the staff base if it is weak in particular areas.	PMU
3	Social risk: Lack of interest and participation of beneficiaries	ML	L	Green	A capacity needs assessment will be conducted to know knowledge and capacity gaps and target project interventions. This assessment will look both at the technology/technical capacity gaps and the governance issues faced by local populations to engage in OASIL and similar processes. Envisaged interventions will include awareness-raising workshops on the negative impacts of climate change, land degradation and loss of biodiversity in oasis systems directly involving local institutions and communities. The project will promote a suite of participatory and gender sensitive approaches that intends to place communities at the driving seat of planning and monitoring processes. Moreover, OASIL will work at the regional and national level to strengthen an enabling environment for the larger adoption of OASIL demonstrated tools, approaches and technologies. It will also try to involve the private sector in order to support new and additional investments into oasis agro-ecosystems, alongside those already committed from the public sector.	PMU
4	Climate risk: An increasingly drier and hotter climate	MH	M	Amber	The changing climate, as already experienced for the past decades and further estimated in various scenarios, accentuates social imbalances in oases, increases stress on water resources and negatively impacts	PMU

					production yields. OASIL gives high priority to climate resilience of oasis agro-ecosystems, particularly offering diversified and complementary development options (new livelihood options alongside sustainable production intensification options for instance). Climate variability and extreme events are built in the project approach and will be considered from assessment through to planning, implementation and monitoring.	
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B. Environmental and Social Risk Management Plan

This section is based on the risk matrix obtained during risk screening in the concept note (in FPMIS). Complete the information corresponding to each of the risks identified during concept note. The result will be an environmental and social risk management plan that will be monitored during project implementation and regularly reported upon through the project progress reports.

Risk identified	Risk Classification	Risk Description in the project	Mitigation Action (s)	Progress on mitigation action	Comments
<ul style="list-style-type: none"> Limited institutional support to mainstream gender equality and involvement of indigenous communities in the project. 	M	<ul style="list-style-type: none"> The human population within the project area comprises many tribes and confederations of tribes (Ait Atta, Marghad Ait Ait Hdidou, has Slimane Ait Sedrate, M'goun, Imeghrane, Aarib, Zbaar) who practice extensive farming (nomadism and transhumance, Agdals). It is recognized that women play a key role in the management, organisation and 	<ul style="list-style-type: none"> The landscape and participatory approaches promoted through the project consider social issues, as poverty and equality, together with production and environmental concerns. The project is monitored as per FPIC agreement with Indigenous Peoples and information is widely disseminated in a transparent and timely manner The project will directly involve 		

		<p>resilience of oasis agro-ecosystem. A degrading resource base and economy has pushed mostly men out of the oases, in search for a better life in nearby cities. Moreover, new forms of social organizations are emerging, such as women associations and cooperatives, generating new productive activities, increasing their margin of economic and social manoeuvre..</p>	<p>women in all phases of project design and implementation (if needed, women will be involved in the participatory planning process separately). Some of the project outputs will be directly geared towards women for a more empowered and resilient community with equal voices for men and women. For instance, the management plans will put a particular emphasis on women issues, on the tasks and responsibilities they cover and their needs. Alternative livelihood options that will be explored will make the same considerations and ensure the project brings benefits to women and men alike.</p>		
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Lack of agreement among different local community groups and institutions during the planning phase on the site selection and Investment and management Plans	M	Conflicts that may arise among the different groups who share resources in the oases agroecosystems during the planning phase. Conflicts between the traditional forms of land management and modern practices are continually growing.	<ul style="list-style-type: none"> • The project foresees to build a common information base that is acceptable to all stakeholders which will facilitate planning and other decision-making process. • A number of consultation workshops and knowledge-sharing events at different levels have been foreseen throughout the project in order to share information and build consensus among parties 		
Irrigation infrastructure	M	? Participatory investment plans will be designed in selected pilot sites. These plans may include the rehabilitation and modernization of existing traditional irrigation systems	Before investment plans are designed, a comprehensive water accounting and auditing will be conducted that will provide key information to plan water infrastructure rehabilitation and modernization in selected pilot sites		Pilot sites and tailored project activities will be identified during PY 1 and implemented during PY2.
Use of wastewater	M	? Participatory investment plans will be designed in selected pilot sites. These plans may include use of non-	Before investment plans are designed, a comprehensive water accounting and auditing will be conducted that will		Pilot sites and tailored project activities will be identified during PY 1

		conventional sources of water (wastewater) for irrigation.	provide key information to assess the potential and suitability of the use of non-conventional water for irrigation.		and implemented during PY2.
Water quality problems	M	A water accounting and auditing study will be conducted at regional level. This study will include information on water quality problems (salinization).	Participatory investment plans will be designed in selected pilot sites. These plans may include measures to improve water quality in oases agro-ecosystems.		Pilot sites and tailored project activities will be identified during PY 1.

ANNEX 4: RISK CLASSIFICATION CERTIFICATION FORM

(ANNEX 7 from the FAO Environmental and Social Management Guidelines)

After completing the Environmental and Social (E&S) Screening Checklist, the Lead Technical Officer (LTO) completes and certifies this Certification Form and attached the E&S Screening Checklist to this form.

Project symbol: 641869

Project title: Revitalising Oasis Agro-ecosystems through a Sustainable, Integrated and Landscape Approach in the Draâ-Tafilalet Region (OASIL)

A. RISK CLASSIFICATION

☐ Low ☒ Moderate ☐ High

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

- A. Risk associated with climate change and extreme weather events resulting in severe flooding or droughts which will prevent the project from achieving expected targets.
- B. Limited institutional support to mainstream gender equality and involvement of indigenous communities in the project. The human population within the project area comprises many tribes and confederations of tribes (*Ait Atta, Marghad Ait Ait Hdidou, has Slimane Ait Sedrate, M'goun, Imeghrane, Aarib, Zbaar*) who practice extensive farming (nomadism and transhumance, Agdals).
- C. Risk associated with conflicts that may arise among the different groups who share resources in the oases agroecosystems during the planning phase. Conflicts between the traditional forms of land management and modern practices are continually growing.

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

☒ Yes ☐ No

B. STAKEHOLDER CONSULTATION/ENGAGEMENT

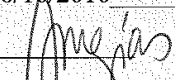
Identification of Stakeholder(s)	Date	Participants	Location
Identification mission	9-13/05/2016	<p><u>In Rabat</u>: the Secretary General of the Ministry of Agriculture (MAPM), Agence pour le Développement Agricole (ADA), Institut National de la Recherche Agronomique (INRA), L'Agence nationale pour le développement des zones oasiennes et de l'arganier (ANDZOA), Ministry of Environment (MoE), Direction de l'Aménagement du Territoire (DAT) and Société Marocaine D'ingénierie Touristique (SMIT).</p> <p><u>In Errachidia</u>: Conseil de la Région de Draa-Tafilalet; Office Régional de Mise en Valeur Agricole Tafilalet (ORMVA-T) ; Programme de développement territorial durable des Oasis Tafilalet (POT) ; Centre Régional INRA, Agence de Bassin. On the road from Errachidia to Ouarzazate we visited GIE-datte (Pillar II Plan Maroc Vert), and commune –level representatives that showed us the SIC (system d'information communal).</p> <p><u>In Ouarzazate</u> : Office Régional de Mise en Valeur Agricole Ouarzazate (ORMVA-O)</p>	Rabat, Errachidia and Ouarzazate
Project formulation launching workshop	26/07/2016	Producer's associations (FIMADATTES); NGO's (National Women Union of Morocco, UNFM and Elephant Vert); decentralized/regional offices of the Ministry of Agriculture (ORMVA-O and ORMVA-T); Institut Agronomique et Vétérinaire Hassan II (IAV H II); INRA; Credit Agricole; ANDZOA, ADA, MAPM, MoE.	Rabat
Consultation workshop	28-29/09/16	Regional offices of the Ministry of Agriculture and its services (ORMVA-O and ORMVA-T); Regional Directorate of Agriculture (DRA); Producer's organizations (GIE); ANDZOA; Regional Office of the Ministry of Environment; National Extension Services (ONCA) National Office for Health Security of Food Products (ONSSA), Société Marocaine D'ingénierie Touristique (SMIT). Direction de l'Aménagement du Territoire (DAT).	Errachidia

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

Inadequate coordination and alignment of actions across key ministries, national, regional and local institutions involved in oases development.

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

Stakeholders stressed the need to capitalize on the lessons learnt and experiences of previous projects and programs developed in the oases agroecosystems in the Region and to build synergies with existing investment plans, strategies and development projects.

The LTO confirms the information above	
Date	26/10/2016
Signature	

ANNEX 5: PROJECT ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST

(Annex 6 of the FAO Environmental and Social Management Guidelines)

Would the project, if implemented?	Not Applicable	No	Yes	Unknown
I. FAO VISION/STRATEGIC OBJECTIVES				
Be in line with FAO's vision?			x	
Be supportive of FAO's strategic objectives?			x	
II. FAO KEY PRINCIPLES FOR SUSTAINABILITY IN FOOD AND AGRICULTURE				
Improve efficiency in the use of resources?			x	
Conserve, protect and enhance natural resources?			x	
Protect and improve rural livelihoods and social well-being?			x	
Enhance resilience of people, communities and ecosystems?			x	
Include responsible and effective governance mechanisms?			x	
ESS 1 NATURAL RESOURCES MANAGEMENT				
❖ Management of water resources and small dams				
Include an irrigation scheme that is more than 20 hectares or withdraws more than 1000 m3/day of water?		x		
Include an irrigation scheme that is more than 100 hectares or withdraws more than 5000 m3/day of water?		x		
Include an existing irrigation scheme?				x
Include an area known or expected to have water quality problems?				x
Include usage of non-conventional sources of water (i.e. wastewater)?				x
Include a dam that is more than 5 m. in height?		x		
Include a dam that is more than 15 m. in height?		x		
Include measures that build resilience to climate change?			x	
❖ Tenure				
Negatively affect the legitimate tenure rights of individuals, communities or others ²⁵ ?		x		
ESS 2 BIODIVERSITY, ECOSYSTEMS AND NATURAL HABITATS				
Make reasonable and feasible effort to avoid practices that could have a negative impact on biodiversity, including agricultural biodiversity and genetic resources?			x	
Have biosafety provisions in place?				x
Respect access and benefit-sharing measures in force?			x	
Safeguard the relationships between biological and cultural diversity?			x	
❖ Protected areas, buffer zones and natural habitats				

²⁵ In accordance with Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGTT)
<http://www.fao.org/docrep/016/i2801e/i2801e.pdf>

Be located such that it poses no risk or impact to protected areas, critical habitats and ecosystem functions?			x	
ESS 3 PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE				
❖ Planted forests				
Have a credible forest certification scheme, national forest programmes or equivalent or use the Voluntary Guidelines on Planted Forests (or an equivalent for indigenous forests)?	x			
ESS 4 ANIMAL - LIVESTOCK AND AQUATIC- GENETIC RESOURCES FOR FOOD AND AGRICULTURE				
Involve the procurement or provision of pesticides?		x		
❖ Aquatic genetic resources				
Adhere (Aligned) to the FAO Code of Conduct for Responsible Fisheries (CCRF) and its related negotiated instruments?	x			
Be aligned, where applicable, with FAO's strategic policies established in the FAO Technical Guidelines for Responsible Fisheries (including aquaculture)?	x			
❖ Livestock genetic resources				
Be aligned with the Livestock Sector Strategy including the animal disease, public health and land degradation provisions?			x	
ESS 5 PEST AND PESTICIDES MANAGEMENT				
Involve the procurement or provision of pesticides?		x		
Result in increased use of pesticides through expansion or intensification of production systems?		x		
Require the disposal of pesticides or pesticide contaminated materials?		x		
ESS 6 INVOLUNTARY RESETTLEMENT AND DISPLACEMENT				
Avoid the physical and economic displacement of people?		x		
ESS 7 DECENT WORK				
Adhere to FAO's guidance on decent rural employment, promoting more and better employment opportunities and working conditions in rural areas and avoiding practices that could increase workers' vulnerability?			x	
Respect the fundamental principles and rights at work and support the effective implementation of other international labour standards, in particular those that are relevant to the agri-food sector?			x	
ESS 8 GENDER EQUALITY				
Have the needs, priorities and constraints of both women and men been taken into consideration?			x	
Promote women's and men's equitable access to and control over productive resources and services?			x	
Foster their equal participation in institutions and decision-making processes?			x	
ESS 9 INDIGENOUS PEOPLES AND CULTURAL HERITAGE				
Are there any indigenous communities in the project area?			x	
Are project activities likely to have adverse effects on indigenous peoples' rights, lands, natural resources, territories, livelihoods, knowledge, social fabric, traditions, governance systems, and culture or heritage (tangible and intangible)?		x		
Are indigenous communities outside the project area likely to be affected by the project?		x		
Designed to be sensitive to cultural heritage issues?			x	

Annex 6: TERMS OF REFERENCES OF PROJECT STAFF

A.6.1 Project Coordinator (national/full time)

Under the direct supervision of the FAO Representative in Morocco (Budget Holder) and the technical guidance of the Land and Water Division of the Natural Resources Management and Environment Department (AGL/LTO), the Project Coordinator (PC) will lead the Project Management Unit (PMU) that acts as Secretary to the Project Steering Committee (PSC). He/she will work in close collaboration with the FAO Representation in Morocco and all PMU staff and be responsible for the overall planning, daily management, technical supervision and coordination of all project activities. Specifically this will include the following tasks:

- Serve as the FAO's point of contact with the Project and project partners and be responsible for overall functioning and performance of the project;
- Manage and supervise human resources allocated to the PMU including: providing technical supervision/guidance in implementing project activities and day-to-day coordination and communication with the Project Executing Partners;
- Act as the Secretary for all PSC meetings and activities, including preparation of documents and the reports;
- Participate in the inception workshop, annual project progress review and planning workshops with local stakeholders and Project Executing Partners to prepare the Annual Work Plan and Budget (AWP/B) in collaboration with the PMU;
- Prepare six-monthly Project Progress Reports (PPRs) in coordination with the PMU, reporting on the implementation of activities, and monitoring the achievement of project outcomes and output targets;
- Support the LTO in preparation of the annual Project Implementation Review (PIR) report;
- Ensure preparation and submission of Annual Work Plans as well as the project's financial and technical reports as required;
- Establish working relations with appropriate national and local institutions (government and grass-roots organizations) to ensure effective implementation of project supported activities at national and local level;
- Coordinate the design of participatory project monitoring system and exercise overall management responsibility of the regular monitoring and review of the execution of the components and subcomponents including: 1) conducting regularly field M&E visits to project sites, which information will be included into the six-monthly Project Progress Reports (PPRs); 2) monthly monitoring progress in achieving all project outputs and outcome indicators; 3) providing technical and operational guidance to executing partners staff; and 4) proposing eventual shifts in project implementation strategies if the project is not performing as planned.

A.6.2 Operations and administrative officer (national/full time)

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

- Ensure smooth and timely implementation of project activities in support of the results-based workplan, through operational and administrative procedures according to FAO rules and standards;
- Coordinate the project operational arrangements through contractual agreements with key project partners;
- Arrange the operations needed for signing and executing Letters of Agreement (LoA) and Government Cooperation Programme (GCP) agreement with relevant project partners;

- Maintain inter-departmental linkages with FAO units for donor liaison, Finance, Human Resources, and other units as required;
- Day-to-day manage the project budget, including the monitoring of cash availability, budget preparation and budget revisions to be reviewed by the Project Coordinator;
- Ensure the accurate recording of all data relevant for operational, financial and results-based monitoring;
- Ensure that relevant reports on expenditures, forecasts, progress against workplans, project closure, are prepared and submitted in accordance with FAO and GEF defined procedures and reporting formats, schedules and communications channels, as required;
- Execute accurate and timely actions on all operational requirements for personnel-related matters, equipment and material procurement, and field disbursements;
- Participate and represent the project in collaborative meetings with project partners and the Project Steering Committee, as required;
- Undertake missions to monitor the outputs-based budget, and to resolve outstanding operational problems, as appropriate;
- Be responsible for results achieved within her/his area of work and ensure issues affecting project delivery and success are brought to the attention of higher level authorities through the BH in a timely manner,
- In consultation with the FAO Evaluation Office, the LTO, and the FAO-GEF Coordination Unit, support the organization of the mid-term and final evaluations, and provide inputs regarding project budgetary matters; and
- Provide inputs and maintain the FPMIS systems up-to-date.

A.6.3 Human Resources and administrative officer (national/full time)

Under the general supervision of the FAO Representative in Morocco (Budget Holder) and the Project Coordinator, and in close collaboration with the Operations and Administration Officer, the Human Resources and administrative officer will have the following responsibilities and functions:

- Initiate travel authorizations for staff and non-staff, prepare travel expense claims and secondment reports using the Organization's computerized travel system;
- Verify accuracy of coding, appropriate budget line and conformity with financial rules and regulations of transactions to be initiated;
- Maintain records of expenditure, verify conformity with administrative rules and availability of funds prior to review by the supervisors; enter forecast data in the BMM;
- Review Data Warehouse transaction monthly listings following each BMM refreshment to reconcile projects accounts and prepare requests for adjustment through journal vouchers;
- Draft routine correspondence with regard to budgetary, administrative, financial and accounting matters;
- Assist in the preparation of meetings, workshop and seminars, book meeting rooms and assure that all necessary arrangements are made;
- Create, maintain and update office files and reference systems; and
- Perform other related duties as required.

A.6.4 Social and Gender expert (national/full time)

Under the overall supervision of the Project Management Unit (PMU) and the direct supervision of the PC, the Socio and Gender expert will be part of the PMU and will work across Project Components providing overall support and guidance to the project team on social and gender issues (including FPIC) related to the project's implementation especially on safeguards and social inclusion. He/she will work in close collaboration with all PMU staff and will be developing the following tasks:

Technical duties:

- Provide guidance to the PMU in addressing social and gender issues;
- Develop a stakeholder analysis for undertaking multi-stakeholder and participatory assessments,
- In each project sites: identify the Indigenous Peoples' concerned and their respective representatives; document geographic and demographic information through participatory mapping; determine preliminary resources and time required to conduct FPIC; communicate effectively with the indigenous peoples throughout all stages of the process;
- Monitor and develop potential collaboration with specific key stakeholders, such as agencies dealing with cultural, religious, gender and ethnic issues;
- Assess potential impacts in cultural sites, cultural resources and religious areas;

Management duties:

- Support the Project Coordinator (PC) in developing, liaising and maintaining regular contacts and partnerships with governmental bodies and implementing partners to ensure effective implementation of project supported activities;
- Support the PC in guiding and backstopping project partners, regional assistants and staff of their technical duties of the project's components and sub components;
- Be responsible for ongoing monitoring of project partners' technical performance;
- Assist as required project committees, working parties and working groups of concerned with project technical components and sub components;
- Provide support to the PC in gathering inputs from the Technical Working Groups (TWG), local stakeholders, and Project Executing Partners for the preparation of the PIRs and PPRs;
- Provide support to the PC in the six-monthly monitoring of progress in achieving project outcomes and outputs targets;
- Support the preparation of the English version of PPRs and PIRs complying with GEF and FAO requirements;
- Participate in the inception workshop, annual project progress review and planning workshops;
- Perform other related duties as required.

A.6.5 Agronomist/Agro-ecologist (national/full time)

Under the overall supervision of the BH, the LTO and the direct supervision of the Project Coordinator (PC), the Agronomist/Agro-ecologist will directly assist the PC in the daily management, technical supervision and coordination of all project activities related to crop and livestock management, sustainable land management, and in gathering inputs from the Technical Working Groups (TWG) for the preparation of Project Progress Reports (PPRs) and the Annual Project Implementation Reviews (PIRs). Specifically this will include the following main tasks:

Technical duties:

- In collaboration with the PMU and members from the TWG's, support the elaboration of oasis typologies;
- Support the analysis of production and natural resource management systems that are in place in the identified oasis agro-ecosystems;
- In consultation with the agro-economist, develop cost-efficient proposals to establish incentive mechanisms for sustainable land use, conservation of agro-biodiversity and INRM involving public and private sector and civil society organizations;
- In each pilot site, identify already tested agro-ecological approaches and SWLM best practices that are: a) selected in a participatory manner to ensure social acceptance by the target communities; b) gender sensitive; c) economically viable (production of crops and their wild relatives that can be linked to viable value chains (with support from the agro-economist); d) in support of the existing agro-ecosystem, biodiversity and natural habitats.

- In each pilot site, conduct a baseline analysis of capacity needs and key gaps hampering local stakeholders, in improving and upscaling best SWLM, agro-biodiversity and climate smart practices;
- In each pilot site, conduct an assessment of technology, knowledge and information on barriers of sustainable food production intensification (including irrigation), negatively affecting global benefits in agro-biodiversity conservation and soil and water conservation.
- Participate in the establishment of mechanisms to collect appropriate information of the monitoring and evaluation system of activities.
- Prepare reports and other documents as required.
- Undertake any other related duties arising within the context of the project.

Management duties:

- Support the PC in developing, liaising and maintaining regular contacts and partnerships with governmental bodies and implementing partners to ensure effective implementation of project supported activities;
- Support the PC in guiding and backstopping project partners, regional assistants and staff of their technical duties of the project's components and sub components;
- Conduct regular monitoring and support visits to the project area to ensure maximum impact of the interventions;
- Assist as required project committees, working parties and working groups of concerned with project technical components and sub components;
- Provide support to the PC in gathering inputs from the PCU, local stakeholders, and Project Executing Partners for the preparation of the PIRs and PPRs;
- Provide support to the PC in the six-monthly monitoring of progress in achieving project outcomes and outputs targets;
- Support the preparation of the English version of PPRs and PIRs complying with GEF and FAO requirements;
- Participate in the inception workshop, annual project progress review and planning workshops
- Perform other related duties as required.

A.6.6 Agro-economist (national/full time)

Under the overall supervision of the BH, the LTO and the direct supervision of the Project Coordinator (PC), the agro-economist will develop the following tasks:

- Undertake an analysis of farming system typologies for each pilot sites;
- In close consultation with the agro-ecologist/agronomist and agro-biodiversity expert, support the identification in each pilot site, of tested agro-ecological approaches and SWLM best practices that are economically viable (production of crops and their wild relatives that can be linked to viable value chains);
- In each pilot site, map and analyze existent sustainable value chains and elaborate proposal to strengthen existing ones and establish new ones (market and value chain analysis).
- In close collaboration with the Agro-biodiversity expert, analyse the market potential and economic feasibility of selected varieties, including marketability of the targeted traditional species (consumers' willingness to pay a premium), access to market, private sector and supply chain actors.
- Conduct and analysis on how markets (local and regional) encourage the adoption of sustainable practices (demand and access).
- In consultation with the agro-ecologist, identify and assess existing incentive mechanisms for sustainable land use and integrated natural resources management in targeted oasis agro-ecosystems;
- Develop cost-efficient proposals to establish incentive mechanisms for sustainable land use, conservation of agro-biodiversity and INRM involving public and private sector and civil society organizations.
- Identify the investment needs for integrating green, low-emission and equitable climate change resilient measures into programmes and policies targeting oasis agro-ecosystems;

- Draft sustainable investment plans proposals by mapping available financial resources and assessing investment needs.
- Support and take a lead in awareness raising activities involving national institutions, to take into account investment plans within their budget frameworks.

Management duties:

- Support the PC in developing, liaising and maintaining regular contacts and partnerships with governmental bodies and implementing partners to ensure effective implementation of project supported activities;
- Support the PC in guiding and backstopping project partners, regional assistants and staff of their technical duties of the project's components and sub components;
- Conduct regular monitoring and support visits to the project area to ensure maximum impact of the interventions;
- Assist as required project committees, working parties and working groups of concerned with project technical components and sub components;
- Provide support to the PC in gathering inputs from the PCU, local stakeholders, and Project Executing Partners for the preparation of the PIRs and PPRs;
- Provide support to the PC in the six-monthly monitoring of progress in achieving project outcomes and outputs targets;
- Support the preparation of the English version of PPRs and PIRs complying with GEF and FAO requirements;
- Participate in the inception workshop, annual project progress review and planning workshops
- Perform other related duties as required.

A.6.7 M&E Specialist (national/part time)

Under the overall supervision of the PMU and the direct supervision of the Project Coordinator, the M&E Specialist will support the PMU in designing and establishing the M&E system of the Project. The M&E system will be used by the Project Coordinator when complying M&E tasks, as detailed: i) conducting regularly field M&E visits to project sites, which information will be included into the six-monthly Project Progress Reports; ii) monitoring progress in achieving project outputs and outcome indicators; iii) providing technical and operational guidance to executing partners and iv) proposing eventual shifts in project implementation strategies if the project is not performing as planned.

The M&E Specialist will perform the following main tasks:

- In collaboration with the Project Coordinator the PMU staff and the main executing partners, he/she will facilitate the M&E related tasks during the inception workshop, including: (i) presentation and clarification (if needed) of the Project Results framework with all project stakeholders; (ii) review of the M&E indicators and their baseline values; (iii) drafting the required clauses to include in consultants' contracts to ensure they complete their M&E reporting functions (if relevant); (iv) updated project risks matrix and mitigation measures, and (iv) clarification of the respective M&E tasks and responsibilities, including mitigation measures, among the different Project stakeholders;
- Design the M&E monitoring plan, agreed with all stakeholders based on the outcomes of the inception workshop and the project M&E plan summary;
- In coordination with the PMCU, support the development of mechanisms and methodologies for systematic data collection and recording in support of outcome and output indicators monitoring and evaluation.

Information system specialists (1 national and 1 international /part time)

Under the supervision of the Project Coordinator, the PSC, FAO Budget Holder and with technical support and guidance from the LTO, the international information system specialist will be responsible for:

- Supporting the project team to develop a platform for sharing geo-referenced data and information on the state and management of oases in the Draa –Tafilalet region;
- Identify the needs and requirements at national and regional levels for the creation of the platform;
- The harmonization and standardization of data collection and management practices at national and regional level;
- Take part of workshops and meetings to identify the best way for data collection management and harmonization/standardization;
- Train national staff to use the developed platform;
- Support the national consultant information system specialist for the harmonization and standardization of data collection and management practices;
- Assist with any other tasks related to the development of the geo-referenced platform.

A.6.8 Water management expert (national/full time)

Under the supervision of the Project Coordinator, the PSC, the FAO Budget Holder and with support from the focal points of the PMU and the TWG's, the water management expert will be responsible for:

Technical duties

- Contribute to data collection and analysis during participatory assessments/surveys, in particular: i) water accounting and auditing; ii) land degradation assessment iii) oases typology iv) stocktaking and analysis of water related practices and technologies; and iii) Development of Participatory Investment and Management Plans;
- Contribute to the implementation of Participatory Investment and Management Plans in project sites, in particular in water related activities.
- Support water management authorities in providing technical assistance and training to target communities, in shared decision-making, construction, management and maintenance of water facilities;

Management duties:

- Support the PC in developing, liaising and maintaining regular contacts and partnerships with governmental bodies and implementing partners to ensure effective implementation of project supported activities;
- Support the PC in guiding and backstopping project partners, regional assistants and staff of their technical duties of the project's components and sub components;
- Conduct regular monitoring and support visits to the project area to ensure maximum impact of the interventions;
- Assist as required project committees, working parties and working groups of concerned with project technical components and sub components;
- Provide support to the PC in gathering inputs from the PCU, local stakeholders, and Project Executing Partners for the preparation of the PIRs and PPRs;
- Provide support to the PC in the six-monthly monitoring of progress in achieving project outcomes and outputs targets;
- Support the preparation of the English version of PPRs and PIRs complying with GEF and FAO requirements;
- Participate in the inception workshop, annual project progress review and planning workshops
- Perform other related duties as required.

A.6.9 Communications specialist (national/part time)

Under the supervision of the Project Coordinator, the PSC, the FAO Budget Holder, the national communications specialist will be responsible for:

- Developing and implementing a communication plan that will support an active advocacy and awareness-raising strategy for oases agro-ecosystems;
- Tailor the communication strategy and key messages so that it reaches targeted audiences (i.e. civil society, government officials, private sector, research institutions);
- Identify the best and most appropriate way to share and disseminate the declaration of oases;

- Assist with any other relevant communication requirements to ensure successful implementation of the communication strategy;
- Develop an overall Project communications strategy and assist the PMU in implementing the project communication plan;
- Provide strategic guidance on communications related needs to Project technical, coordination and steering committees;
- Craft and tailor messages for media and other audiences and develop, maintain and update media relations contact list/database;
- Identify, develop, distribute and evaluate variety of media materials in multiple, appropriate formats (Press releases, feature stories etc). Ensure or enhance the quality, appropriateness of country specific communication materials, activities, processes and messages transmitted to the press, partners and public;
- Collaborate with mass media through activities such as organizing project site visits, facilitating photo coverage and TV footage and utilizing both web-based and traditional media as appropriate;
- Support the PMU in developing good practice notes and prepare briefs on specific contributions that the project is making.
- Provide guidance to the graphic designer on the establishment of the project website and ensure it is maintained and updated by Project staff during Project implementation.

ANNEX 7: POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK ASSESSMENT

A.7.1 Le cadre politique

Les oasis du pays en l'occurrence celles de la région du Drâa-Tafilalet ont fait l'objet, depuis déjà quelques décennies, de politiques de développement souvent à caractère sectoriel tel est le cas de la sauvegarde et de la reconstitution des palmeraies. Les politiques ayant un caractère horizontal ont bien pris en considération les impératifs de durabilité et ont intégré les objectifs nationaux de planification avec une vision de gestion durable des oasis.

Ainsi, l'on constate que ces politiques ont tenu compte de la préservation et la valorisation de la biodiversité agricole, de la conservation et la gestion raisonnée des ressources naturelles comme les sols et les eaux. Sur le plan de la productivité agricole, bien qu'en s'orientant vers une intensification, les aspects de fertilité des sols, d'économie d'eau et d'introduction de techniques de lutte intégrée contre les maladies et ravageurs ont été pratiquement pris en considération. Globalement, la préservation de l'environnement a constitué une préoccupation de base de ces politiques.

Sur le plan social, les aspects de lutte contre la pauvreté, la précarité et l'exclusion ont constitué des objectifs de ces politiques. Il en est de même pour l'égalité des sexes, la démocratisation, l'égalité des chances et la participation des populations et la société civile concernées.

Il est à souligner que l'analyse de ces politiques et programmes dédiés aux oasis permet d'avoir une vue assez exhaustive des problématiques des agroécosystèmes oasiens et de leur sauvegarde. Sur le plan conceptuel, les actions qui ont été réalisées ou celles en cours de réalisation répondent généralement aux principes de la durabilité. Cependant sur le plan de la perception de ces politiques, certaines insuffisances sont constatées en raison :

- d'une faiblesse à un manque d'intégration des stratégies et programmes adoptés. En effet, il a été constaté que quelle que la politique développée, on continue à la percevoir comme étant une activité sectorielle et non comme un cadre de travail horizontal et fédérateur permettant une synergie et une complémentarité entre les divers intervenants. Une telle perception se trouve même pour les stratégies horizontales telles que la SNADO, la SNDR, la SDZO ou le PAN-LCD. Ceci est probablement dû à une insuffisance de participation, de dialogue et de communication lors de l'élaboration de la stratégie ou du programme, voir même au cours de la mise en œuvre. Dans cette situation, la stratégie (ou programme) continue à être perçue comme celle de l'organisme porteur.
- d'une faiblesse de pérennité des actions du fait que les activités menées ont été beaucoup plus perçues comme celles d'un projet ayant bénéficié aux zones prises comme sites pilotes. Les actions cessent généralement avec l'achèvement du projet en question et les conditions de diffusion du modèle technico-socio-économique développé ne sont plus assurées.

Ainsi, en dépit de l'impact positif des stratégies et programmes mis en œuvre, des efforts restent encore à consentir pour aboutir à une gestion intégrée et durable de l'agroécosystème oasien. D'où l'intérêt d'avoir un projet qui, dès sa conception, prend en considération ces diverses faiblesses et lacunes et œuvre pour les corriger en vue d'une gestion durable des agroécosystèmes oasiens.

A.7.2 Le cadre juridique et réglementaire

L'analyse du contexte juridique et réglementaire montre que les agroécosystèmes oasiens sont généralement couverts par un arsenal de textes qui permet de les préserver, les restaurer, les réhabiliter et les conserver en tant que paysage et patrimoine naturel pour les générations présentes et pour le futur. Cet arsenal permet par conséquent de les gérer dans une vision de durabilité. Un tel constat concerne bien les textes nationaux que les accords et conventions établies avec des tiers aux échelles régionale et internationale.

En effet, les instruments juridiques disponibles, comme ceux portant sur les aires protégées, la protection et la mise en valeur de l'environnement, la Charte nationale pour l'environnement et le développement durable ou les dispositifs pris pour l'évaluation des impacts environnementaux, facilitent une gestion durable des agroécosystèmes oasiens. Dans ce cadre, il est bien indiqué de prendre en considération les aspects relatifs à l'intégration des composantes de l'agro-biodiversité, des approches d'adaptation au changement climatique, la préservation des ressources naturelles (eau et sol) ainsi que les patrimoines immatériels culturels.

Le problème réside dans la mise en application d'un tel dispositif juridique. A titre d'exemple, la loi portant sur la protection des palmeraies n'a pas encore de textes (décret et arrêtés) pour son application ou encore l'absence d'application des textes relative à la production biologique.

Une telle situation mérite qu'on lui accorde une attention particulière de manière à voir de près les causes de non application d'un tel texte ou d'un autre sur le terrain (au niveau de la région et au niveau local), qui sont dues notamment à:

- une insuffisance d'information et de communication sur ces textes, une absence d'une documentation accessible et d'un dispositif adapté pour leur application au niveau régional, provincial et local;
- absence de politique de formation permettant de mieux faire connaître cet arsenal et son impact pour la durabilité des systèmes oasiens ainsi que les intérêts pour préserver un tel système ;
- une insuffisance d'une politique d'ouverture au dialogue et à la participation dans le choix des orientations stratégiques, l'élaboration des plans de développement et l'exécution des actions retenues.

A.7.3 Le cadre institutionnel

Les agroécosystèmes oasiens de la région du Drâa-Tafilalet bénéficient d'un encadrement institutionnel consistant composé de plusieurs types d'organismes. Cette richesse dans la composition institutionnelle conduit à une diversification des apports et des contributions de chaque instance. Chacune aura à participer à la gouvernance des oasis selon sa vision et ses compétences. Cependant, cet avantage peut être accompagné parfois par des interférences d'attributions et de compétences, ce qui peut être à l'origine de conflits d'intérêt entre les intervenants.

Le projet OASIL bénéficiera de cette richesse institutionnelle mais il sera confronté en même temps à cette situation à risque conflictuel. La clarification des rôles de chacune des parties dans le processus de gestion du projet devient donc une nécessité. Dans ce sens, des efforts sont à fournir en termes de participation et de concertation pour que tout un chacun puisse assurer les tâches qui lui seront confiées pour une gestion durable de l'agro-biodiversité, des sols, de l'eau, des technologies à faible émission de gaz, d'adaptation aux changements climatiques, de lutte contre la pauvreté et la précarité. Aussi, est-il nécessaire d'éliminer toutes les causes qui peuvent être à l'origine de conflit et de compétition injustifiée, notamment :

- un départage non clair des missions et des rôles entre les institutions de consultation ayant un rôle de supervision stratégique et de suivi et de celles ayant des rôles opérationnels sur le terrain ;
- une faiblesse des scénarii de développement relationnel basé sur la complémentarité et le partenariat entre les intervenants dont notamment public-public ou public-privé où les représentants de la société civile qui peuvent jouer des rôles déterminants d'équité, d'égalité des chances et de mise en œuvre de la politique de genre ;
- une insuffisance dans la coordination pour mettre tous les acteurs au même diapason et les inciter pour que chaque partie assure son rôle dans les conditions requises;
- une insuffisance dans la politique de communication, d'information et de formation conduisant à des incompréhensions et des interprétations de situation injustifiées.

ANNEX 8: AGRO-BIODIVERSITY ASSESSMENT

La revitalisation des agro écosystèmes oasiens passe en premier lieu par la restitution et le maintien de leur productivité. Pour restituer l'agriculture dans les oasis, il faut réfléchir la réhabilitation des systèmes de production. Cette approche peut être abordée à deux niveaux complémentaires, la préservation des ressources naturelles : sol, eau et ressources génétiques et la valorisation des cultures et des produits.

L'objectif est l'élaboration des options de conservation in situ de l'agrobiodiversité dans les oasis de la Région Draa-Tafilalet, à travers la restitution des systèmes de production qui constituent le support de l'agriculture dans les oasis. Les cultures ciblées sont la fève (*Faba bean*), le blé dur (*Triticum turgidum ssp. Durum*), la lentille (*Lens culinaris*), la luzerne (*Medicago sativa*) et le figuier (*Ficus carica*).

La méthodologie proposée peut être étayé en plusieurs axes d'intervention donnant lieu à des actions concrètes, à finaliser avec les groupes cibles.

Activités proposée pour la conservation in situ des variétés locales :

1) Collecte et description des variétés locales

La variété locale désigne une entité végétale associée aux concepts, à la perception et aux pratiques des agriculteurs. C'est une unité de diversité large qui est sélectionnée sur la base des critères qui maintiennent son identité. Elle est désignée par un nom ou une description correspondant à un type de plantes identifiables.

La première étape dans la préservation des variétés locales est l'établissement d'un inventaire des variétés locales, utilisées par les agriculteurs dans une zone géographique considérée (le village, la commune, la région, etc..). Cet inventaire touchera à toutes les variétés locales de la fève (*Faba bean*), le blé dur (*Triticum turgidum ssp. Durum*), la lentille (*Lens culinaris*) et la luzerne (*Medicago sativa*). Ce travail sera réalisé par le biais d'enquêtes auprès des agriculteurs et des prospections des champs cultivés.

Des échantillons de semences des variétés locales seront prélevés et cultivées pour leur description botanique. Une partie des semences des plantes décrites seront stockées dans la banque de gènes à Settat pour une conservation ex situ à long terme et l'autre sera utilisée dans la l'amélioration des variétés locales par la sélection participative des agriculteurs et des techniciens et chercheurs (Participatory Plant Breeding : PPB).

La prospection de la qualité des figues sera entamée au moment de la maturité des figues sur l'arbre. Cette prospection permettra d'identifier des écotypes à prélever et analyser.

2) Amélioration de la production de semences de variétés locales

Dans les agrosystèmes oasiens, les agriculteurs pratiquent un système agricole, où la semence est issue de sa propre production. La restauration des bonnes pratiques agricoles tels que l'apport du fumier issu de l'élevage local, l'usage des techniques d'économie d'eau et l'utilisation des variétés locales adaptées au milieu et moins exigeantes en instants contribueront à la restauration des systèmes de production et garantissent la disponibilité de la semence.

Les variétés locales seront améliorées par le biais de la sélection participative PPB. Des séances de sélection participative seront organisées au cours desquelles les agriculteurs, les techniciens et chercheurs sélectionnent selon leurs critères les parcelles cultivées de la semence prélevées et décrites précédemment. La production des parcelles sélectionnées sera multipliée et commercialisée en tant que semence sélectionnée.

Dans le but de limiter les pertes post récolte causées par les insectes ravageurs, la sensibilisation des agriculteurs à l'utilisation de différents moyens de lutte fera l'objet des journées d'information et de démonstration. Ces séances seront portées sur la réduction du taux d'humidité des semences après la récolte avant le stockage par exposition au soleil, la stérilisation des sacs d'emballage par traitement aux insecticides, le nettoyage et désinfection des lieux de stockage et enfin la fermeture hermétique des lieux de stockage.

Un manuel en langue locale sera élaboré pour les traitements de la production entreposée contre les insectes ravageurs et diffusé à grande échelle.

Les informations relatives à la disponibilité de semences par espèces et variétés et leurs fournisseurs seront diffusées à une échelle plus large de la région cible.

Activité propose pour la création des coopératives de production et réseau d'échange de la semence locale :

1) Création des coopératives de production et de commercialisation de semences locales

Selon les modes de production envisagés, la production issue sera labélisée bio. Pour obtenir un label, les producteurs seront regroupés en coopératives pour garantir un niveau de production suffisant à commercialiser et pouvoir se conformer au cahier des charges. Pour assurer la commercialisation et marketing de leurs produits (participation à des foires nationales et internationales), les coopératives seront organisées en groupement d'intérêt économique (GIE).

Un programme d'encadrement et de suivi des techniques de production sera élaboré et réalisé pour cette fin. De même, un manuel technique de production bio dans la région sera élaboré.

2) Mise en place d'une réglementation de semences des variétés locales

La mise en place d'une législation de la semence locale (organisation, normes, répartition) et le contrôle de la qualité accompagnera la réalisation des actions précédentes pour assurer la pérennité et l'intégration de la conservation in situ dans le développement agricole du pays.

Pour qu'elle soit efficace, cette législation prend en considération les conditions physiques, socio-économiques et culturelles des régions concernées.

Activités proposées pour l'amélioration pastorale des parcours :

Il s'agit de la réhabilitation des systèmes ancestraux qui ont fait preuve de valorisation et conservation des ressources naturelles locales notamment le système de gestion communautaire des agdals. Aussi, dans le but de contribuer à la sauvegarde des ressources sylvo-pastorale, toute action visant l'atténuation de la pression sur les ressources végétales est primordiale. Les actions suivantes sont retenues pour cette fin. Le choix participatif des sites de réalisation des actions constitue la base pour assurer la pérennité et l'appropriation de ce type d'initiative conjointe.

1) Mise en repos

La mise en repos est une technique qui permet de protéger un territoire contre le pâturage, pendant quelques cycles de végétation afin de permettre la régénération du couvert végétal par le renouvellement du stock semencier dans le sol.

La mise en repos des terres de pâturages engendra des effets favorables sur la production des semences, la densité des espèces végétales, le recouvrement de la végétation, la phytomasse, la composition floristique et les conditions écologiques en contribuant à la lutte contre l'érosion du sol par reconstitution de la végétation. La délimitation des parcours à mettre en repos sera définie en collaboration avec les usagers de ces espaces.

2) Plantation des arbustes fourragers

La plantation d'arbustes fourragers est une technique d'amélioration pastorale des parcours dégradés. Cette technique joue un rôle important dans la protection du sol contre l'érosion hydrique et éolienne. Au Maroc, *Atriplex nummularia* est l'arbuste le plus utilisé dans les différents projets de développement pastoral. Cet arbuste a l'avantage de créer des microclimats qui favorisent l'établissement des espèces pastorales autochtones et offre un abri pour la faune. Les espaces à planter seront définis en commun accord avec les utilisateurs des parcours.

3) Ensemencements

L'ensemencement des parcours ne peut donner de résultats qu'en montagne où les conditions hydriques sont favorables. Cette technique est conçue pour les agdals de montagne par la collecte et la multiplication de semences des espèces pastorales autochtones et appétentes. Les semences produites seront semées dans les parcours dégradés pour assurer la régénération du couvert végétal.

Activités proposées pour l'amélioration de la gestion des plantes aromatiques et médicinales

Dans le but de préserver les plantes aromatiques, médicinales et tinctoriales (PAMT) et s'inscrire dans une gestion durable qui pourrait être bénéfique pour la population locale en général et les femmes rurales en particulier, les actions à entreprendre sont suivantes :

- Formation des femmes sur les techniques de récoltes des PAMT afin d'assurer la pérennité et la durabilité de différentes espèces. La formation portera sur les différentes techniques de récolte (stade de récolte, niveau de coupe, partie à couper, etc).
- Programme de sensibilisation sur l'importance de la protection des ressources naturelles en général et les plantes aromatiques et médicinales en particulier

Un manuel des pratiques de récolte des plantes aromatiques et médicinales sera élaboré et diffusé dans toute la région.

Activités proposées pour la sauvegarde de l'abeille saharienne

La biodiversité floristique est riche en espèces mellifères. L'apiculture est une activité très ancienne et très répandue dans toute la région et constitue une source financière importante pour la population. Les conditions climatiques, particulièrement sèches ces dernières années, se sont répercutées sur cette activité. Le programme de sauvegarde est composé des actions suivantes :

- Restitution d'un rucher pépinière d'abeille saharienne à partir des élevages sur place et/ou des colonies naturelles.
- Initiation de l'élevage de reines pour la production des essaims pour répondre aux besoins de toute la région de Drâa-Tafilalet

Le site de multiplication des essaims et des reines sera choisi parmi les nappes nectarifères du Haut Atlas Oriental pour garantir la pérennité de la production.

- Atelier de formations des groupes cibles sur les techniques de gestion des ruchers pour la production du miel, le pollen et les essaims.

- Elaboration d'un manuel des techniques de production apicole
- Labellisation bio de la production du miel de la région Draa-Tafilalet.

ANNEX 9: WORKSHOP REPORT (including consulted and agreed selection criteria for pilot oasis agro-ecosystems)

Compte-Rendu

Atelier de préparation du ProDoc du projet OASIL / FAO-FEM

en concertation avec les partenaires

**«Revitalisation des agroécosystèmes oasiens par une approche intégrée et durable
du paysage dans la région Drâa-Tafilalet (OASIL)»**



Errachidia 28-29 Septembre 2016- Siège ORMVA de Tafilalet

Compte rendu de l'atelier d'élaboration du ProDoc du projet OASIL

Errachidia, 28/09/16.

Conformément au programme de l'atelier proposé par la FAO, un atelier de deux journées a été organisé à Errachidia le 28 et 29/09/2016 (voir programme en annexe 1). Une note de synthèse sur le projet OASIL ses objectifs, sa zone d'action et ses composantes a été préparée et communiquée aux participants invités à cet atelier (voir liste des participants en annexe 2), et ce pour servir de support aux discussions prévus à ce sujet.

1. Ouverture de l'atelier

L'atelier de préparation du Prodoc est décidé et organisé pour partager les réflexions menées par l'équipe de consultants de la FAO avec les acteurs locaux et ce en vue de partager avec eux et valider et/ou réajuster les composantes du et du Prodoc en cours d'élaboration.

Cet atelier a été également une occasion pour vérifier la pertinence des actions proposés par l'équipe des consultants pour les différentes composantes du projet et pour compléter les informations à disposition et affiner les idées en profitant de l'expérience locale des acteurs au niveau de la région de Drâa-Tafilalet.

L'atelier a été initié par une allocution de Mr. le Directeur Régional de l'Agriculture de la Région de Drâa-Tafilalet qui a remercié les participants et a rappelé l'objet de l'atelier. La parole a été donnée à Mr. le Wali de la Région de Drâa-Tafilalet pour ouvrir les travaux de la journée.

Après avoir remercié les partenaires du projet OASIL et les participants, l'élocution de Mr. le Wali a mis l'accent sur les points suivants :

- ✓ La diversité biologique, architecturale et culturelle qui joue un rôle dans la conservation des écosystèmes oasiens ;
- ✓ Des menaces anthropiques conjuguées avec les effets du changement climatique et avec l'exode rural menacent la pérennité des oasis ;
- ✓ Recommandation : aller vers des actions pratiques qui vont permettre de revitaliser : agriculture, artisanat et tourisme
- ✓ Gestion durable des ressources naturelles (eau, sol et végétation) dans les écosystèmes oasiens.
- ✓ Le projet concorde avec les orientations royales insistant sur le développement durable des oasis.

Mr. le DRA de la région de Drâa-Tafilalet a ensuite intervenu et a souligné l'espoir qu'accorde la région au projet OASIL pour proposer des solutions pertinentes susceptibles d'accompagner les efforts entrepris au niveau des agro écosystèmes oasiens, en particulier le nettoyage des palmes et des touffes de palmiers et les autres bonnes pratiques de gestion durable des ressources. Il s'agit d'opérations susceptibles de donner l'essor à une valorisation des sous-produits du palmier dattier.

Le discours de Mr. le représentant de la FAO a été lu par Mr. SEDRA Moulay El Hassan, le coordonnateur national du projet OASIL, qui a rappelé le cadre du projet, son objectif général, son approche ainsi que l'ensemble des étapes et efforts fournis pour l'aboutissement du document du projet. L'élocution a également précisé l'objectif et les attentes de l'atelier de préparation du Prodoc.

Après présentation de l'équipe des consultants et du programme de l'atelier, un exposé détaillé a été présenté par Pr. Yesséf pont focal de l'équipe de consultants, pour partager le concept du projet et les attentes de cet atelier. Ensuite les travaux de l'atelier ont été initiés selon l'ordre suivant :

- ✓ Discussions sur les critères et les indicateurs de typologie des oasis et ceux pour le choix des sites pilotes en session plénière ;

- ✓ Discussions sur les résultats et produits proposées pour les 1 et 3 du projet, en groupe thématique restreint (voir liste des participants en annexe 3);
- ✓ Discussions sur les résultats et produits proposées pour les composantes 2 et 3, en groupe thématique restreint ;
- ✓ Restitution des travaux de groupe et recommandations en plénière (voir liste des participants en annexe 4).

La deuxième journée du 29/9/2016 a été consacrée aux réunions de travail avec les principaux acteurs concernés par le projet en vue d'affiner certaines questions d'ordre technique. Ces réunions ont concerné les services techniques des deux ORMVA de Tafilalet et d'Ouarzazate, l'ANZOA, le Ministère du Tourisme.

2. Résultat des travaux en plénière.

2.1. Discussion sur les critères de typologie des oasis

Une version provisoire étoffée de critères et d'indicateurs à adopter pour la typologie des agro-écosystèmes oasis a été présentée aux présents en vue de son affinement. Après les diverses interventions ayant oscillé entre des remarques, questions, ajouts, suppressions et clarifications, les participants se sont mis d'accord sur l'adoption des critères biophysiques et socio-économiques suivants pour affiner la typologie des oasis dans la région de Drâa-Tafilalet :

Critères biophysiques :

- ✓ Zones agro-écologiques ;
- ✓ Types des ressources en eau ;
- ✓ Types d'aménagements hydro-agricoles ;
- ✓ Vulnérabilité des écosystèmes oasiens.

Critères socio-économiques :

- ✓ Démographie ;
- ✓ Activités économiques et organisation ;
- ✓ Infrastructures (eau potable, électricité et pistes rurales).

2.2. Critères de choix de sites pilotes

Les critères de choix des sites pilotes seront affinés lors de la phase de l'implémentation du projet. Lors de l'atelier, des propositions ont été faites et des questions soulevées pour affiner les critères potentiels du choix des sites pilotes. Une synthèse des principales idées discutées est présentée ci-dessous :

- ✓ L'objectif dans le choix des sites doit être basé sur l'identification des modèles à suivre ;
- ✓ Etudier la possibilité de choix d'un site par type d'oasis ;
- ✓ Le choix des sites doit prendre en compte les attentes du projet ;
- ✓ Les indicateurs sur le niveau de vulnérabilité pourrait orienter le choix des sites ;
- ✓ Mettre l'accent sur la population, le territoire (communes) et les programmes de développement en cours ou déjà réalisés. Le degré d'acceptabilité de la population et l'équité (territoires qui n'ont pas bénéficié d'autres projets) doivent être pris en considération dans les choix des sites à conditions que les nouveaux sites disposent des informations de base nécessaires.
- ✓ Les sites doivent réunir toutes les conditions pour la réussite du projet ;
- ✓ Identifier le maximum de situations différentes en tenant compte des autres projets et en se basant sur la cartographie de ce qui se passe actuellement en matière de projets (notamment de l'Etat) pour chercher des complémentarités et des innovations ;
- ✓ Tenir compte de l'interaction entre les sites et les actions ;

- ✓ Considérer les synergies entre les acteurs.

3. Résultat des travaux du groupe thématique 1.

Les travaux de ce groupe ont duré 4 heures et ont porté sur le dialogue politique (composante 1), l'appui au développement des filières (Produit 3.2.1) et la diversification des sources de subsistance des populations oasiennes (Produit 3.2.2).

Les points saillants durant les travaux de discussion et de réflexion de groupe ont permis de s'accorder sur les points suivants :

3.1. Le dialogue politique

Il a été souligné que le dialogue doit être individualisé et renforcé à l'aide de :

- ✓ Renforcement des capacités : au niveau régional, provincial et communal en relation avec l'intégration et la durabilité de la planification. A cet effet, il est recommandé d'orienter le projet vers la production de manuels et de guides dont la durée de vie va au-delà d'un mandat électoral et de la période de mise en œuvre du projet ;
- ✓ La charte des oasis a été jugée pertinente et son adoption est jugée nécessaire et même urgente ;
- ✓ Plateforme de partage des données et de l'information sur les écosystèmes oasiens : la mise à disposition des acteurs d'un Géo-portail accessible pour le partage et la consultation des données et des informations concernant les agro écosystèmes oasis de la région (données sur le climat, eau, sol, végétation, agro biodiversité, socio-économie ; données sur les projets déjà réalisés, projet en cours, etc..) est jugé comme étant une réponse à un réel besoin ;
- ✓ La communication est un volet important pour promouvoir la conservation et le développement intégré des oasis. Il est suggéré à ce qu'une politique de communication intensive et agressive soit promue dans le cadre du projet.

3.2. Résultat 3.2.1 : l'appui au développement durable des filières :

- ✓ La création de plateformes d'innovation pour les deux filières olivier et dattes est jugée pertinente ;
- ✓ Les filières présentant un manque à gagner, retenues en vue de leur besoins en renforcement sont : les PAM, amandier et apiculture (abeille jaune) ;
- ✓ L'idée des micro entreprises est pertinente mais il faut que le projet vise des projets qui soient durables et accompagnés par des incitations attractives ;
- ✓ Les projets d'énergies renouvelables doivent être intégrés aux autres activités économiques et penser par exemple à étudier la faisabilité d'utilisation de l'énergie solaire pour le séchage des fruits, légumes et viandes et pour le stockage frigorifique des dattes ;
- ✓ Proposer des thématiques pour projets et ne pas figer le type et la nature des projets au préalable pour laisser l'initiative d'innover aux répondants aux appels à projets ;
- ✓ La création de micro entreprises pour le compostage des sous-produits du palmier dattier est à étudier pour statuer sur sa faisabilité (disponibilité de matières premières et risques de propagation du Bayoud) ;
- ✓ Les projets de fabrication de fromage de chèvre local ne présentent pas de potentiel pour une valorisation intéressante en vue de la morosité de l'activité des deux unités existantes dans la région ;
- ✓ Les activités touristiques doivent être inscrites sous l'appellation « tourisme durable ou tourisme vert » pour cadrer avec l'orientation générale du ministère de tourisme dans la région ;
- ✓ Prendre en considération les labels touristiques que le ministère de tourisme envisage de promouvoir au niveau de la zone des oasis, notamment le label « oasis verte » le label « goutte à goutte » faisant partie d'une convention multipartite en instance de signature ;
- ✓ La labellisation des produits agricoles est un choix qu'il est souhaitable d'éviter comme activité en vue de sa non efficacité démontré par les expériences passées. L'opérationnalisation des multiples labels existants est suggérée comme option potentielle.

3.3. Résultats 3.2.2 Diversification des moyens de subsistance des oasiens :

- ✓ Les activités génératrices de revenus destinées aux femmes doivent être regroupées en thèmes, l'objectif étant de laisser la possibilité aux acteurs et bénéficiaires de proposer des activités adaptées à leurs conditions et leurs milieux socio-économiques ;
- ✓ L'activité valorisation des produits agricoles (sirops, confiture, condiments, etc...) est jugée pertinente et doit prendre en considération le volet appui technique et accompagnement pour la qualité et la commercialisation ;
- ✓ La valorisation de la race ovine D'man est jugée moins opportune que la valorisation de la filière viandes rouges dans sa globalité.

4. Résultat des travaux du groupe thématique 2.

L'objectif des discussions est de valider et/ou compléter par les partenaires la liste des actions proposées dans les différentes composantes du projet notamment les composantes 2 et 3 du projet.

4.1. Composante 2 : Planification et suivi

Produit 2.1.1 : Comptabilité de l'eau

- ✓ La région Drâa Tafilalet est couverte par deux Agences de Bassins Hydrauliques (Guis-Ziz-Rheris et Drâa) ;
- ✓ Les documents des PDAIRE contiennent suffisamment de données pour l'élaboration de la comptabilité de l'eau. L'ABH est disposée à mettre à la disposition du projet des données sous forme de shapefile en concertation avec l'ANDZOA et l'ORMVAT ;
- ✓ Le PDAIRE sera actualisé en 2017.

Produit 2.1.2 : Evaluation de l'état de dégradation des terres

- ✓ Peu d'informations sur les sols et la dégradation des sols. Des méthodes existent pour produire rapidement ce type de cartes ;
- ✓ La carte des sols devrait être envisagée à l'échelle de la région ou des zones concernées par les sites pilotes ;
- ✓ Commencer par élaborer des esquisses de cartes de sols au niveau de la région puis faire des focus sur des zones agricoles ;
- ✓ Une fois les sites choisis il faut y concentrer les efforts, il faut élaborer des cartes détaillées des sols à l'échelle des sites pilotes.

Produit 2.1.3 : Base de données sur l'agro-biodiversité

- ✓ L'information ponctuelle existe à Draa sous forme de tableaux ;
- ✓ Manque de données sur l'agro biodiversité.

Produit 2.1.4. : Systèmes d'information sur les ressources naturelles.

- ✓ Chaque organisme fournira l'information le concernant ;
- ✓ L'ANDZOA se propose d'héberger la plateforme de l'information oasienne (Géo-portail).

Produit 2.2.1. : Analyse de la durabilité de chaque type d'oasis.

- ✓ Analyse de la durabilité doit être couplée à l'étude de la vulnérabilité (classe de vulnérabilité à différents niveaux et à différents facteurs) ;

- ✓ Définir les critères de durabilité : rentabilité des systèmes de production pratiqués et partant l'attractivité de l'oasis, pérennité de l'eau, disponibilité et motivation du facteur humain.

4.2. Composante 3 : Démonstration

Produit 3.1.1 : Développer et renforcer les capacités des communautés oasiennes :

- ✓ Les nouveaux métiers qui découlent des activités à l'intérieur des oasis doivent être soutenus et accompagnés. Ex. : papier à partir des palmes, industrie de transformation autour des produits des oasis ;
- ✓ Les actions proposées sont-elles exhaustives ou y a-t-il une possibilité d'ajouter d'autres actions lors de la phase de mise en œuvre du projet ?
- ✓ Accompagnement pour la création des emplois à l'intérieur des palmeraies ;
- ✓ Les AUEA ne sont pas à jour dans leur attribution en raison de leur capacité financière. Il serait important de renforcer les capacités institutionnelles des GIE et des AUEA.

Produit3.1.2: Promotion des bonnes pratiques agricoles :

- ✓ Irrigation par les eaux de crue concernant uniquement des oasis traditionnelles ;
- ✓ Proposer des techniques de collecte des eaux de pluie adaptées à l'agriculture pluviale ;
- ✓ Reconvertir les systèmes de production vers des systèmes à haute valeurs ajoutée et économique ;
- ✓ Techniques de lutte contre l'ensablement et la désertification ;
- ✓ Dans les oasis traditionnelles des guides de bonnes pratiques existent mais il faut les compléter et diffuser ;
- ✓ En grande hydraulique, un site pilote pour tester la reconversion collective de l'irrigation par submersion à l'irrigation localisée, jumelée avec la plantation de nouveaux palmiers de bonne qualité en respectant la biodiversité ;
- ✓ En zones de labour en Bour, il est proposé de lancer des essais de démonstration de l'agriculture de conservation (Agroforesterie, semis direct...) ;
- ✓ Beaucoup de projets collectifs d'irrigation localisée n'ont pas fonctionné en raison de l'absence d'approche pour leur mise en œuvre. Les projets individuels ont par contre réussi ;
- ✓ La question sur la pertinence des pratiques des cultures en terrasses s'est posée ;
- ✓ Les zones de parcours : Réhabilitation des Agdal, les mises e en report, plantations d'arbustes fourragers CES..., constituent des bonnes pratiques à promouvoir.

Produit 3.1.3 : Technologie à basses émissions à GES

Il a été convenu de construire un tableau relatif (ce qui a été réalisé par l'ORMVAT, l'ORMVAO, ANDZOA et les autres acteurs) à renseigner par ces institutions.

Produit 3.1.4. : Lutte contre la désertification

- ✓ Des études existent qu'il il faut compléter et capitaliser ;
- ✓ Les mesures de lutte doivent être mesurée par rapport aux facteurs (érosion hydrique, érosion éolienne, surpâturage, salinisation, collecte des ligneux pour bois de feux et comme PAM).

Produit 3.1.5 : Conservation de la biodiversité :

La création d'une banque de semences et de stations de stockage des semences a été recommandée. La station d'Idelsane dans la région d'Ouarzazate est à appuyer pour servir à cet effet.

Annexe 1 : Programme de l'atelier Errachidia 28-29/9/2016.

Date/Horaire	Activités	Intervenant (s)
Mercredi 28/9/2016		
08h30 - 09h00	Inscription des participants	
09h00 - 09h20	- Mot du Directeur de la DRA/ORMVAT - Mot du Wali de la région de Drâa-Tafilalet - Mot du Représentant de la FAO	
09h30 - 10h00	Présentation projet OASIL et les résultats et attentes de l'atelier	FAO
10h00 - 10h20	Pause-café	
10h20 - 11h20	Discussion en plénière sur les aspects liés à : - la typologie des oasis, - le choix des sites pilotes et - les modalités d'élaboration des plans d'investissements au niveau de ces sites	Animation par Yessef (point focal des consultants)
11h20 - 11h30	Constitution des groupes thématiques de travaux ^[1] .	
11h30 - 13h30	Travaux de groupes sur les détails des principales interventions et actions à prévoir dans le cadre du projet OASIL.	Animateur par groupe
13h30 - 14h30	Pause déjeuner	
14h30 - 16h00	Poursuite des travaux de groupes	
16h00 - 16h30	- Restitution, conclusions, recommandations - Clôture (en plénière)	FAO-ORMVAT
Jeudi 29/9/2016	Visites des services techniques de l'ORMVA et de l'ANDZOA, et autres pour la finalisation du programme d'action du projet OASIL (dimensions, budgétisation, source de financement...)	Consultants

^[1] A priori deux groupes : un groupe production et valorisation (agro écologie, agro biodiversité, ressources en eau, socio économie) et un groupe actions transversales (institutions, genre/sociologie et SIG).

Annexe 2 : liste des participants à l'atelier.



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« Revitalisation des agroécosystèmes oasiens par une approche intégrée et durable
du paysage dans la région Drâa-Tafilalet (OASIL) »
Errachidia 28-29 Septembre 2016- Siège ORMVA de Tafilalet

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Annexe 3 : Liste des participants aux travaux de groupe thématique 1.

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Annexe 4: Liste des participants aux travaux de groupe thématique 2.

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ANNEX 10: FPIC

An FPIC process will vary according to the specific local context in which a project is to be developed. It may also be the case that the Indigenous Peoples affected already have their own FPIC guidelines. That said, in any given FPIC process, it is equally important to assess the qualitative aspects as well as the time devoted to it, with the following six key steps that any project manager must consider within different phases of the project cycle:



The following are a list of activities guiding the implementation of FPIC:

1. Identify the Indigenous Peoples' concerned and their respective representatives

- ✓ Find diverse sources of information to know which Indigenous Peoples are being affected by the project
- ✓ Carry out interviews and consultations in and around the project area
- ✓ Approach the Indigenous Peoples' self-governance systems and structures
- ✓ Encourage broader community participation
- ✓ Explain who you represent, your organization mandate, allowing sufficient time for discussion and negotiation within the community
- ✓ Formalize the community's decision
- ✓ Set the agreement

2. Document geographic and demographic information through participatory mapping

- ✓ Conduct a participatory mapping and documentation of land usage, natural resources, communication channels/media and customary rights - ensuring all communities affected are equally involved
- ✓ Document land usage and natural resources
- ✓ Identify Indigenous Peoples or project team non-negotiables
- ✓ Identify customary rights, spiritual practices or traditional ethical codes, and relevant legal frameworks

3. Determine preliminary resources and time required to conduct FPIC

- ✓ Financial resources
 - Human resources
 - Communication materials' elaboration and translation into the local indigenous languages etc.

- Capacity building activities
- ✓ Factor time and be flexible about time management
- ✓ Design participatory communication plan and carry out iterative consultations over which project information will be disclosed in a transparent way
- 4. Communicate effectively with the indigenous peoples throughout all stages of the process**
 - ✓ Publicise the outcomes and decisions reached after the meetings
 - ✓ Reach consent and document Indigenous Peoples' needs that are to be included into the project
 - ✓ Agreements reached must be mutual and recognized by all parties (when a community is opposed to certain parts of a project, the project team needs to be flexible)
 - ✓ In case negotiations fail to produce an agreement and a stalemate is reached, agree in advance what steps will be taken.
 - ✓ Where consent is withheld, establish the causes, the conditions that would need to be met for the communities to give their consent, whether the community will consider renegotiation, and the terms and timing of eventual renegotiation.
 - ✓ Document the agreement process and outcome in forms and languages accessible and made publicly available to all members of the community
 - ✓ Identify additional needs
- 5. Monitoring and evaluating the agreement.**
 - ✓ Jointly define modes of monitoring and verifying agreements
 - ✓ Ensure participation of individuals from the indigenous peoples' community in the project task force
- 6. Establish the grievance mechanism and implement it**
- 7. Determine provision of access to remedy and conflict resolution, and exit strategy**
- 8. Document lessons learned.**

For more information, please see the FPIC manual for project practitioners: <http://www.fao.org/3/a-i6190e.pdf>

ANNEX 11: SUSTAINABLE VALUE CHAIN DEVELOPMENT ASSESSMENT

L'alternative GEF étayée par le projet OASIL vise à accompagner les efforts déployés dans la région pour structurer les filières et améliorer leur contribution à l'économie locale, en intervenant selon une approche novatrice privilégiant l'interaction collective et collaborative non linéaire et une relation intense entre les acteurs au sein des chaînes de valeur phares de la région de Draa-Tafilalet.

Par « chaîne de valeur » / « filière » nous désignons : « la gamme complète des activités à valeur ajoutée nécessaires pour conduire un produit ou un service à travers les différentes phases de production, y compris l'approvisionnement en matières premières et autres intrants, l'assemblage, la transformation physique, l'acquisition des services nécessaires tels que le transport ou le refroidissement, et, finalement, la satisfaction de la demande du consommateur final »

La situation de base révèle la coexistence de plusieurs chaînes de valeur où l'essentiel des efforts est orienté vers l'amélioration de la production et de la valorisation commerciale des produits. Se trouvant à différents stades de développement et en étant situées à des niveaux de performance distincts, le projet OASIL propose de distinguer entre les chaînes de valeur agro-pastorales selon leur importance économique et leur niveau de contribution à l'économie aux niveaux local et national. Cette distinction vise à axer la stratégie du projet sur les besoins spécifiques des chaînes de valeur en fonction de leur état de développement actuel. En ce sens, deux types de chaînes de valeur seront ciblés : un premier type composé de chaînes de valeur d'une grande importance économique pour la région (dattes et viandes rouges) et un deuxième type regroupant des chaînes de valeur encore peu évoluées et qui présentent un potentiel et un manque à gagner qu'il convient de rattraper (les PAM, l'amandier et l'apiculture).

La distinction entre ces deux types de filières permettra d'apporter un appui dimensionné en fonction des besoins de chacune des chaînes de valeurs qui nécessitent des solutions différentes, en fonction de leurs problèmes respectifs, en vue des spécificités qui les caractérisent.

A/ Appui aux filières à forte valeur ajoutée

L'objectif est d'introduire une nouvelle approche consistant à développer des « écosystèmes d'affaires » pour les deux filières retenues comme cadre d'analyse et de développement des chaînes de valeur. L'approche insiste d'une part sur l'importance des interactions (interdépendance) entre les différents acteurs économiques, de l'amont à l'aval de la chaîne d'acteurs qui contribuent au processus de valorisation. Le développement d'un tel climat d'affaires enrichit le capital social et humain au niveau local et peut ouvrir, en se basant sur les atouts socio-culturels et technico-économiques, des perspectives intéressantes à l'innovation et au développement des filières.

A cet effet, le projet OASIL conduira une expérience pilote qui associe un ensemble hétérogène d'acteurs concernés par la valorisation des produits agro-pastoraux (MAPM, ANDZOA, ADA, ONCA, INRA, IAV Hassan II, ENAM, Conseil régional, GIE, organisations de producteurs, entreprises, commerçants, transporteurs, industriels...).

Pour James Moore (1993), le père fondateur de l'approche, un écosystème d'affaires représente « une communauté économique supportée par l'interaction entre les organismes du monde des affaires : des entreprises et des individus. Cette communauté économique va produire des biens et des services en apportant de la valeur aux clients, qui feront eux-mêmes partie de cet écosystème. Les organismes membres vont également inclure les fournisseurs, les producteurs, les concurrents et autres parties prenantes. A travers le temps, ils vont faire co-évoluer leurs compétences et leurs rôles, et vont tendre à s'aligner eux-mêmes sur la direction d'une ou de plusieurs entreprises centrales [...]. Ces entreprises vont

détenir un rôle de leader qui peut évoluer à travers le temps mais la fonction d'un leader de l'écosystème sera d'apporter de la valeur à la communauté car il va engager les membres à agir en partageant une vision pour adapter leurs investissements et trouver des rôles d'appui mutuels ».

Le cadre de développement proposé prévoit la conception d'un Business Model par chaîne de valeur et la mise en place et l'opérationnalisation de deux plateformes d'innovation destinées à promouvoir la collaboration et la coopération au sein des deux filières Dattes et Viandes rouges. Les plateformes d'innovation auront le rôle d'animer les filières et d'apporter une contribution significative et durable au processus actuel de dynamisation entrepris dans le cadre des projets et programmes en cours de mise en œuvre (CP-Dattes, PAGIE, PMV Pilier II, ...).

Etape 1 : La conception de Business Models pour les chaînes de valeur

Dans le but de structurer des synergies autour d'une vision commune au sein de chaque chaîne de valeur, un business model sera élaboré par chaîne de valeur. Les Business Models vont émaner d'un diagnostic participatif et d'une large concertation et une forte implication des différents acteurs de la filière (y compris ceux situés en dehors de la zone du projet et les consommateurs). Ils seront destinés à toute la région et les organisations professionnelles (fédérations, GIE, coopératives, associations de producteurs,...) y joueront un rôle intermédiaire où ils vont se partager les rôles dans le cadre d'une collaboration collective coordonnée par la plateforme d'innovation. Ces BM vont intégrer les avantages comparatifs émanant du contexte propre des écosystèmes oasiens en termes de capacités d'action, de savoir-faire locaux, de besoins en investissements et en financements, d'impact sur les petits agriculteurs, etc.

Les quatre critères à privilégier sont la mise en évidence :

- des retombées en terme de création de valeur, d'activité économique ou d'emploi (cette création de valeur est appréciée localement pour l'ensemble de la chaîne de valeur et doit être suffisante pour justifier la création d'un écosystème d'affaires);
- d'un contenu technologique innovant;
- du développement de nouveaux produits ou services pouvant être mis sur le marché à moyen terme (financements bancaires et commercialisation possibles et possibilités de labels, de brevets, etc.);
- de la cohérence des projets avec la stratégie du gouvernement, de la région et des entreprises concernées (y/c les GIE).

Etape 2 : La mise en place de plateformes d'innovation

L'écosystème d'affaires envisagé dans le cadre de l'alternative GEF se base sur l'innovation drainée par une unité de planification et de gestion de la chaîne de valeur dont le projet appuiera la mise en place. Cette unité va être composée d'un Directeur et d'une assistante et veillera à orchestrer, à coordonner la collaboration des acteurs au sein de la filière, suivra et évaluera le développement de la chaîne de valeur en concordance avec les orientations définies dans les Business Models.

L'unité de planification et de gestion (une par filière) est destinée à être « un leader de l'écosystème d'affaires ». La forme juridique et le montage des unités de planification et de gestion seront arrêtés par le concours du projet OASIL et la participation active des autres acteurs (institutionnels, professionnels, société civile et secteur privé). Néanmoins, la structure de chaque plateforme dépendra de ses rôles et la nature de ses activités ainsi que de son champ d'action. Toutefois, il y a des missions horizontales auxquelles une plateforme peut participer comme la participation à d'autres projets ayant une incidence directe ou indirecte soit sur les activités au sein de la filière soit sur l'environnement naturel dans laquelle les acteurs de chaque filière opèrent.

Le projet OASIL coordonnera et assurera l'élaboration de contrats et de conventions types qui délimitent l'objet, la durée et les termes de collaboration par type de collaborateurs des chaînes de valeur en retenant la possibilité d'élargissement du rayon de collaboration au-delà des limites de la zone du projet lorsque cela est justifié.

Les plateformes d'innovation seront de type mixte (fonctionnelle, de recherche et collaborative) où l'adhésion des acteurs de la filière est tout à fait volontaire ayant pour bénéfice une coévolution des adhérents et une contribution à la dynamique d'innovation collective (Moore[1], 2006) au sein de chacune des deux chaînes de valeur. Ces plateformes travailleront sur le développement de la capacité à explorer de nouvelles innovations (recherche appliquée), de nouveaux espaces de marché (exploration), à gérer l'incertitude et à mobiliser des ressources (exploitation) via l'animation des acteurs au niveau du territoire et l'instauration d'un climat favorable au partage des connaissances et à l'innovation. En outre, ces plateformes apporteront du conseil et assisteront des porteurs de projets et/ou d'idées de micro-entreprises, les jeunes et les femmes en particulier, de façon à les orienter vers des créneaux rentables qui contribuent à combler des maillons vides au sein des chaînes de valeur.

Les interventions des différents types d'acteurs au sein de chacune des filières graviteront autour des Business Models arrêtés pour les filières et leurs actions coordonnées avec l'unité de gestion de la plateforme d'innovation pour chacune des filières pour garantir une cohérence d'ensemble au niveau des territoires oasiens.

Aussi, les rôles et les tâches des plateformes seront développés de manière participative avec les membres de la plateforme et les activités seront largement déterminées selon les priorités que les acteurs adhérents accorderont collectivement à chaque objectif retenu.

A titre indicatif, les missions spécifiques des plateformes d'innovation au niveau de la région comprendront:

- La coordination et la synergie des diverses activités du projet traitant de questions liées au renforcement des capacités, l'accès aux intrants et les services, la convention locale et la gestion des infrastructures
- L'échange périodique d'expériences et de connaissances pour favoriser l'apprentissage et la maturité des activités au sein des filières ;
- L'intensification des efforts pour les meilleures pratiques et les leçons tirées de bassins primaires et des sites secondaires du projet ;
- La conduite d'un plaidoyer sur les questions clés concernant les opérations des chaînes de valeur (par exemple, les intrants, les services et la fourniture d'informations de marché par les secteurs privés et publics, les politiques de marché et la réglementation) et la gestion des ressources naturelles (Exemple: les institutions, les règles et politiques du Ministère de l'Agriculture)

De même, les activités des plateformes, chacune dans sa filière cible, comprendront:

- ü Identifier la vision partagée, des objectifs et tâches, ainsi que l'évolution du champ et de la composition de la plateforme ;
- ü Utiliser les expériences au niveau local pour identifier des opportunités d'amélioration (technique, organisationnelle, institutionnelle et politique) ;
- ü Faciliter le dialogue entre les principaux projets/réseaux et acteurs influents (bailleurs de fonds, décideurs politiques, etc.) et dans tous les secteurs pour une meilleure coordination et, s'efforcer d'adopter les approches complémentaires et intégrées ;
- ü Élaborer une stratégie pour améliorer la communication entre les membres de la plateforme, entre la plateforme et ses partenaires et entre la plateforme et les autres acteurs au-delà du territoire d'action ;
- ü Identifier et offrir des opportunités de renforcement des capacités et d'appui à l'ensemble des acteurs de la chaîne de valeur et en particulier aux micro et petites entreprises fondées par des jeunes et des femmes issues des oasis ;

- ü Promouvoir et appuyer la commercialisation des produits agro-pastoraux basée sur internet et sur le paiement électronique ;
- ü Identifier les contraintes institutionnelles et politiques et accroître leur visibilité et entreprendre un plaidoyer auprès des pouvoirs appropriés pour qu'elles soient levées ;
- ü Assurer la mise en œuvre d'une stratégie de suivi et d'évaluation de la plateforme ;
- ü Identifier les meilleures pratiques et leçons et élaborer des stratégies d'expansion.

La mise en fonction des plateformes d'innovation nécessite de choisir des emplacements adéquats et de concevoir les outils nécessaires à la conduite de leurs activités dans le respect des réglementations en vigueur.

Le choix des emplacements pour les deux plateformes

Le projet prévoit à ce que les plateformes d'innovation soient domiciliées dans les locaux d'une administration (ORMVA ou ANDZOA) ou, dans le cas où cela est possible, chez la profession (pour les dattes spécialement). Néanmoins, le choix de l'emplacement d'une plateforme d'innovation doit tenir compte de la facilité de la collaboration avec l'ensemble des acteurs de la filière aussi bien en amont qu'en aval. Il est à noter que la proximité des principaux bassins de production par filière, des GIE est de l'intermédiation sera indispensablement optimisée au mieux pour choisir un emplacement approprié. En ce sens, deux types de proximité sont à considérer :

- ü une proximité spatiale et géographique ;
- ü une proximité « organisationnelle » portant sur des complémentarités potentielles de savoir-faire avec les acteurs en amont de la chaîne de valeur, notamment les coopératives et les GIE.

La conception des outils de travail

Le projet appuiera la mise en place des outils nécessaires au fonctionnement des plateformes. Il engagera une assistance technique qui sera chargée de la conception des outils de suivi et de gestion ainsi que de la concertation avec les acteurs publics, associatifs, privés,... pour arrêter et valider les outils choisis pour coordonner les filières, pour promouvoir la recherche et opérationnaliser l'action au niveau des filières.

Etape 3 : opérationnalisation des plateformes et signature des premiers contrats

Muni des Business Models spécifiques à chacune des quatre filières retenues, le projet OASIL contacte et invite les acteurs concernés pour une première réunion de chaque Plateforme dans le site du projet, qui sera organisée avec le soutien de l'ANDZOA et de la FIMADATTES. Les premières réunions des plateformes sont destinées à familiariser les participants avec le concept de la Plateforme d'innovation, leur rôle au niveau du territoire oasisien, et de discuter la mission et les résultats attendus de l'action des plateformes d'innovation. A ce niveau, une configuration spéciale de chaque plateforme d'innovation sera décidée dans chaque site. Un produit final clé de ce processus est la création officielle des quatre plateformes d'innovation au niveau de la région Draa-Tafilalet.

Après la première réunion de la Plateforme d'innovation, les partenaires de recherche (INRA, IAV et ENAM) devraient organiser une réunion en collaboration avec l'ANDZOA dans chaque bassin de drainage concerné par le projet OASIL pour discuter des dispositions à mettre en place pour faciliter le suivi et l'évaluation des activités de la plateforme d'innovation. Le projet OASIL en consultation avec l'INRA, l'ANDZOA, l'ONCA et les autres services du ministère de l'agriculture, devrait prendre l'initiative d'adapter davantage le cadre de suivi et d'évaluation et le plan de travail en fonction de la structure exacte et participative des plateformes d'innovation et les expériences/capacités du personnel.

Peu après la première réunion des plateformes d'innovation, le projet organisera un atelier sur l'analyse participative des contraintes et des opportunités pour améliorer respectivement la performance des chaînes de valeur spécifiques ou la gestion des ressources naturelles, en s'appuyant sur les Business Models et les résultats des diagnostics approfondi

des chaînes de valeur qui sera réalisé en phase de pré-établissement des plateformes. Les priorités et les actions proposées sont identifiées de manière participative.

Pour opérationnaliser la mise en œuvre des premières actions, le projet OASIL apportera son appui aux plateformes d'innovation pour les accompagner dans la signature des premiers contrats pour le programme d'action prioritaire défini de façon participative.

B/ Appui aux autres filières

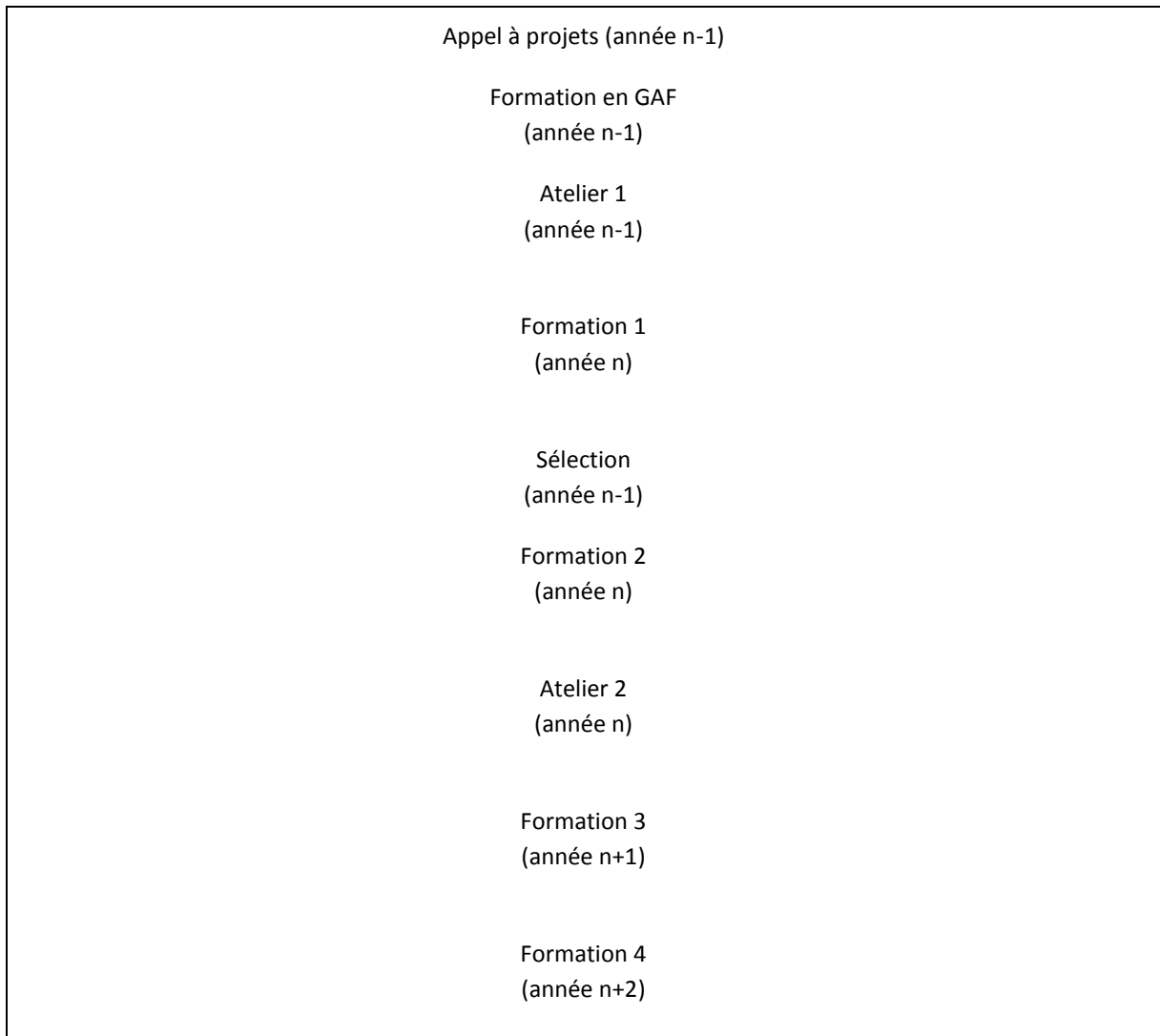
En se basant sur les filières phares sur lesquels des efforts sont actuellement engagés dans le cadre du plan agricole régional (PMV-Pilier II) et des projets de développement agricole et d'appui aux filières au niveau de la région du Draa-Tafilalet, le projet visera à contribuer au développement des filières liées permettant de valoriser les productions les plus représentatives de la diversité agro-biologique des écosystèmes oasiens, notamment les plantes aromatiques et médicinales (PAM), l'amandier et l'apiculture basée sur l'exploitation de l'abeille jaune. En outre, il est également prévu à ce qu'il y ait une implication de deux grandes associations de développement dans tous le processus de valorisation envisagé dans le cadre du projet pour s'approprier la démarche et développer des compétences permettant de les ériger en pôles d'excellence pour la dynamisation des projets d'appui aux filières.

Le projet propose de cibler la sélection de projets innovants susceptibles non uniquement d'ouvrir des opportunités de valorisation économique mais de mettre aussi en place des projets pilotes durables dont la multiplication ultérieure au niveau de la région de Draa-Tafilalet aurait un impact positif à la fois sur l'économie locale et sur la conservation de la diversité biologique.

La procédure préconisée pour la sélection des projets se base sur des appels à projets pendant trois années à raison d'un appel par an. Le projet OASIL encouragera les micro et petits projets d'investissement de moins de 300 000 MAD basés sur des idées innovantes en termes de leur objet de valorisation, de leur organisation ou de la pertinence des procédés utilisés, notamment l'utilisation de procédés non polluants et économes en énergie ou utilisant des énergies propres (ex. énergie solaire).

Pour favoriser l'émergence de nouvelles idées innovantes, le projet OASIL prospectera, préalablement aux appels à projets, les opportunités de projets innovants pour mettre en place une banque de projets qui seraient proposés à titre indicatif aux jeunes et aux femmes de la zone du projet. La banque de projets sera mise en place en coordination avec les services locaux du ministère de l'agriculture et avec le recours à un conseil spécialisé dans la valorisation et la transformation des produits agropastoraux. Les projets seraient proposés à titre indicatif et feront objet d'une prospection des possibilités de leur financement partiel à des taux préférentiels auprès des banques et des organismes locaux de micro-crédit.

En vue d'inciter la population à participer aux appels à projets et à investir dans des projets nouveaux et innovants, le projet apportera une incitation financière et des avantages en nature sous la forme d'accompagnement et de renforcement de capacités dans le domaine de la gestion. L'incitation financière aura la forme d'une participation à hauteur de 50% au financement de l'investissement initial (hors terrain et construction).



En vue de durabiliser les projets financés et de les accompagner à démarrer sur des bases solides, le projet OASIL leur apportera de l'appui en leur facilitant, d'une part, l'accès à l'information et le contact avec les acteurs gouvernementaux clés au niveau de la région. D'autre part, le projet organisera des ateliers (1 atelier/an pendant 2 ans) autour de l'entreprenariat dans la région pour recenser de façon participative les besoins en formation et en accompagnement pour renforcer de façon ciblée les capacités des jeunes entrepreneurs sélectionnés.

Les sessions de formation selon les besoins ressortis des ateliers seront programmées au bénéfice du personnel des entreprises sélectionnées à raison de 2 formations/ an pendant 2 ans en plus d'une formation que le projet fournira au démarrage des projets dans le domaine de la gestion administrative et financière en collaboration avec la Direction Régionale du Ministère de l'agriculture.

Les associations locales de développement seront associées à tout le processus à partir de la phase de la mise en place de la banque de projets et de l'appel à projets afin de capitaliser l'expérience du projet OASIL et d'acquérir des capacités dans le domaine du diagnostic des besoins en renforcement des capacités et dans l'aide aux jeunes investisseurs par l'analyse des problèmes et l'organisation des sessions de formation au profit des jeunes investisseurs dans chacun des bassins de drainage choisis. Ces associations seraient, à la fin du projet, capables d'agir comme des pôles de développement des filières choisies comme porteuses d'activités durables pour les bassins de drainage. Leur mission est d'aider à l'émergence d'initiatives d'investissement locales et d'accompagner des projets d'investissements dans

des activités durables à s'établir et à évoluer au service de la dynamisation des différentes filières en fonction des spécificités des bassins d'action.

En ce qui concerne le Produit 3.2.2 du projet (« La diversification des moyens de subsistance des oasiens est promue ») les activités suivantes sont proposées :

Le projet OASIL vise à initier un processus de dynamisation de l'économie rurale en appuyant l'émergence de nouvelles opportunités de diversification des sources de subsistance au niveau local. Ceci en exploitant les opportunités et les avantages comparatifs offerts par les oasis, notamment la valorisation touristique des pratiques agricoles traditionnelles propres aux oasis, la valorisation des paysages agricoles, la valorisation des activités artisanales féminines ainsi que l'exploitation des opportunités offertes par la région en termes de production et d'utilisation des énergies propres et celles offertes par le nouveau contexte technologique caractérisé par une utilisation de plus en plus forte des technologies d'information et de communication.

L'initiation et la mise en place de produits de « tourisme vert »

En profitant de la fréquentation touristique élevée au niveau de la zone d'action, le projet OASIL concevra des produits agro-touristiques basés sur la valorisation des pratiques agricoles locales et appuiera les acteurs privés au sein des sites pilotes à les mettre sur le marché pour à la fois varier leur offre et contribuer à l'amélioration des revenus des exploitants agricoles qui accepteraient de diversifier leur activité par une composante agro-touristique.

Le projet OASIL, en profitant des pratiques agricoles les plus emblématiques dans la zone d'action, va initier trois produits agro-touristiques pilotes dont il coordonnera le montage et appuiera la mise en œuvre.

La conception des produits : en profitant du contact permanent et de la proximité des agro-pasteurs au niveau de la zone d'action, le projet OASIL va identifier deux exploitations agricoles (de préférence sur des types d'oasis différents) qui disposent d'attraits intéressants en termes de productions et de pratiques agricoles pour les assister, pour ceux qui acceptent de façon délibérée et volontaire, à développer un partenariat avec des prestataires de service d'hébergement et de récréation locaux, un produit d'agro-tourisme. Le produit consistera en l'élaboration d'un calendrier d'activités agricoles et de disponibilité des productions agricoles pour organiser des visites à l'exploitation au profit de touristes nationaux et internationaux. Les visites seront à la fois un produit que les hébergeurs offrent à leurs clients, sous le forme de packages coordonnés avec des tours opérateurs drainant une clientèle nationale et/ou internationale, pour les aider à découvrir le territoire. D'habitude ce genre de services donne lieu à des recettes au profit d'un guide local ou bien au profit de la structure d'hébergement qui l'emploie à temps plein ou saisonnièrement.

Dans le cadre de ce dispositif, l'agro-pasteur profitera des visites pour vendre les diverses productions agricoles. Pour que le fonctionnement de l'exploitation agro-pastorale ne soit pas interrompu (ce qui est le cas généralement dans les oasis), l'une des cibles potentielles sur laquelle les produits peuvent également compter est la population urbaine des villes et celle des agglomérations voisines.

Les produits agro-touristiques peuvent aussi, selon l'intérêt des concernés, être conçus sous la forme de journées (une ou plusieurs) passées avec des transhumants pour découvrir la vie des transhumants et partager leur culture. C'est un type de produits fortement dépaysant formant un package thématique pouvant attirer un public aussi bien national qu'international.

L'établissement des produits : en étroite collaboration avec la Société Marocaine de l'Ingénierie Touristique (SMIT) et les Délégations Provinciales du tourisme, le projet OASIL va choisir des hébergements touristiques en milieu rural les

plus actifs et qui offrent, en plus de l'hébergement, des services de randonnée et/ou des bouquets d'activités aux visiteurs (nationaux et internationaux) de la région. Dans les sites pilotes, des exploitations typiquement oasiennes seraient sélectionnées en fonction de la typicité et de l'emblème de leurs pratiques agricoles et/ou de leurs productions agro-pastorales. Des conventions spécifiques de partenariat seront signées avec le concours du projet OASIL et la collaboration des Délégations Provinciales du Tourisme concernées. Le projet OASIL assistera les deux parties à la définition des termes contractuelles et à l'arrêt des modalités de collaboration bilatérales.

En vue de qualifier les agro-pasteurs à la gestion durable de leurs activités agro-touristiques respectives, le projet leur assurera une formation sur l'agro-tourisme et les bonnes pratiques de gestion qui vont leur permettre de rentabiliser et de faire évoluer leurs activités.

La promotion des produits : Le projet produira des supports communicationnels (des flyers) présentant les produits agro-touristiques pour les promouvoir directement par les parties impliquées ou indirectement à partir des hôtels situés dans les principaux points de chute des touristes (villes de Ouarzazate et d'Errachidia, Erfoud, Rissani, Zagora,...) pour viser, en plus des groupes drainés par des tours opérateurs, la clientèle individuelle.

Des activités artisanales féminines pour améliorer les revenus des femmes

Le projet OASIL vise à améliorer la contribution des femmes dans la dynamisation de l'économie rurale locale en les aidant à s'impliquer de façon effective dans des activités économiques rentables et durables. Pour ce faire, l'action du projet concernera le développement de l'artisanat via la mise en avant du genre créateur des femmes oasiennes dans le domaine de la tapisserie/tissage.

La tapisserie est pratiquée depuis longtemps dans la région pour valoriser la laine locale disponible en grandes quantités et à un prix faible, néanmoins elle a lieu de façon informelle en absence d'organisation et dans l'insuffisance de connaissances et de moyens matériels leur permettant de dépasser la subsistance vers une activité économique rentable et durable. L'intervention du projet OASIL concernera en particulier l'appui à l'organisation et à la qualification des mono-artisanes ainsi que leur accompagnement pour la mise en place et la gestion de deux ateliers pilotes au niveau de la zone d'action.

L'approche de travail à promouvoir : le projet vise à promouvoir le travail coopératif des femmes dans un cadre de coopératives de production adoptant une démarche innovante conciliant entre l'initiation des visiteurs au travail artisanal et l'échange culturel récréatif avec la production et la commercialisation des produits de l'artisanat. L'idée est de mettre en place une coopérative qui offre un espace d'échange avec des visiteurs sous la forme d'un atelier de production et d'une boutique pour la commercialisation in-situ des produits. La coopérative sera composée de deux espaces physiques distincts et communiquant à savoir une boutique pour l'exposition et la vente des produits de l'artisanat local et un atelier de production accessible pour les visiteurs afin de s'informer sur les techniques utilisées, les étapes parcourues ainsi que l'ensemble des détails liés à la fabrication et à l'échange avec les artisanes sur l'histoire des produits.

L'observation du travail artisanal et l'implication dans la réalisation de certaines opérations ainsi que la réception d'explications données par les artisans commentant eux même leur travail, le temps consommé et les techniques utilisées permet de contourner la contrainte du travail individuel à domicile, de créer de l'emploi et de vendre les produits sur place et à des prix intéressants internalisant le savoir faire mobilisé et la valeur intrinsèque des attributs culturels des produits.

Le choix des sites d'implantation : deux sites seront identifiés par le projet en coordination avec les délégations provinciales d'Errachidia, de Ouarzazate et de Tinghir du Ministère de l'artisanat. Les propositions de site seront suivies

par un diagnostic participatif auprès des femmes rurales dans les sites pilotes en vue de choisir un emplacement adéquat. Ce dernier privilégiera la disponibilité locale d'un nombre suffisant d'artisans ayant un savoir-faire et une disposition à s'inscrire dans une démarche de production coopérative.

L'organisation des artisanes : l'expérience au Maroc montre que les coopératives familiales bénéficiant à un nombre réduit de femmes ne sont, souvent, pas durables. La coopérative doit être constituée, à titre indicatif et selon les possibilités offertes, par un minimum de quinze femmes travaillant à temps plein dans la fabrication d'articles d'artisanat. Le projet procédera au recensement des femmes intéressées et leur apportera le soutien nécessaire à la constitution de la coopérative et au démarrage de ses activités. Les femmes diplômées ou instruites feront partie des coopératives pour faciliter la mise en place et la gestion des coopératives.

L'assistance à l'équipement et au démarrage de l'activité : Les deux coopératives seront équipées par le projet OASIL et elles auront à charge d'assurer un local adéquat en sollicitant un financement dans le cadre de l'INDH. Le projet facilitera aux femmes le montage des dossiers et le contact avec les services locaux et provinciaux chargés de la sélection et du financement des initiatives locales.

La formation aux techniques de gestion et de commercialisation: le bon fonctionnement de telles structures est obligatoirement tributaire d'un accompagnement et d'un encadrement étalé sur les trois premières années de fonctionnement. Ainsi, des formations sur différents aspects et techniques de commercialisation, la tenue des registres de comptabilité, de fixation des tarifs, gestion de stocks,...etc. seront définies de façon participative avec les concernées en fonction des besoins et dans la limite des budgets alloués par le projet.

Appui pratique à la commercialisation : le projet apportera son appui aux femmes pour insérer les coopératives dans les circuits touristiques locaux en produisant des supports informationnels (flyers et brochures) pour promouvoir les attributs culturels et techniques des coopératives dans la région, en particulier dans les hôtels, gîtes ruraux et auberges. En outre, la participation aux manifestations nationales et aux expositions dans différentes régions du Maroc seront appuyées par le projet en coordination avec les services déconcentrés du ministère de l'agriculture et les délégations de l'artisanat concernées.

L'appui à l'émergence de projets de séchage solaire et de conditionnement de produits agro-pastoraux

Le séchage et le conditionnement des fruits et légumes est une activité prometteuse en vue des avantages offerts par le climat local caractérisé par une forte exposition annuelle au soleil. Dans le but d'appuyer la diversification des revenus dans la zone d'action, le projet OASIL vise à initier la mise en place de trois projets pilotes de séchage solaire de produits agricoles. Ces derniers peuvent être des fruits et légumes comme des viandes ovines et/ou caprines. Le choix sera effectué de façon participative avec les bénéficiaires qui seront identifiés via des appels à projets.

Le choix des sites d'implantation : trois sites seront identifiés en collaboration avec les services locaux du Ministère de l'agriculture en fonction de critères suivants : (i) les possibilités d'un approvisionnement régulier en produits agricoles ; (ii) la disponibilité de jeunes intéressés à investir dans l'activité ; (iii) la disponibilité d'un local qui s'apprête à l'activité ; et (iv) une bonne desserte en infrastructure routière et disponibilité de moyens de transport.

L'organisation des jeunes : le projet ciblera les jeunes ruraux de la région ayant un niveau d'enseignement leur permettant de mener convenablement l'activité (niveau collège minimum). Les intéressées seront identifiées à l'aide d'appels à projets et seront formés et accompagnés à la mise en place d'une petite entreprise de séchage solaire.

La qualification des jeunes : Les jeunes entrepreneurs seront formés dans les domaines de la gestion administrative et financière de l'entreprise ainsi que sur les techniques de séchages et les techniques de commercialisation des produits.

Les entrepreneurs bénéficieront des formations prévues pour les jeunes entrepreneurs identifiés dans le cadre du développement des filières agricoles pour ce qui est des aspects transversaux (gestion administrative et financière et techniques de commercialisation) et bénéficieront d'une formation sur les techniques de séchage et les normes d'hygiène et de sécurité sanitaire des aliments qui leur sera livrée au démarrage du projet.

L'incitation à l'investissement : le projet OASIL prendra en charge 50% des coûts d'investissement plafonnés à 200 000 MAD par entreprise.

L'assistance à la gestion et à la commercialisation : pour faciliter l'insertion dans le marché local, le projet OASIL assistera les trois entreprises, durant les deux premières années de leur fonctionnement, pour développer les canaux de commercialisation et adapter les produits en fonction des besoins des consommateurs.

Des activités de valorisation des sous-produits agricoles

Le projet OASIL s'intéressera à l'organisation et/ou capitalisera sur les organisations en place (coopératives, GIE) de la population rurale pour la valorisation des noyaux de dattes sous la forme d'aliment de bétail et des débris du palmier dattier pour la fabrication de granules pour le chauffage appelés des agro-pellets. Les deux types de valorisation adoptent des procédés de fabrication semblables et peuvent faire l'objet d'une valorisation intégrée au niveau d'une même unité de valorisation comme elles peuvent être initiées séparément selon la volonté des bénéficiaires.

Les bénéficiaires : le projet privilégiera les populations au sein des sites pilotes pour appuyer la création de coopératives et/ou l'appui de coopératives ou des GIE existants. La sélection de l'entité porteuse du projet aura lieu sur la base d'une évaluation des capacités humaines et financières et des capacités de gestion susceptibles de rentabiliser durablement l'activité.

Les lieux d'implantation : les sites pilotes seront privilégiés pour la domiciliation spatiale des projets. Toutefois, l'approvisionnement peut avoir lieu à partir de producteurs, coopératives ou individus au-delà des sites pilotes.

L'accompagnement et le renforcement des capacités : deux projets seront aidés à l'équipement en matériel nécessaire (selon l'option choisie) et les ressources humaines des entités porteuses de projets seront assistées pendant leur première année d'activité par des formations sur la gestion administrative et financière et sur les procédés de fabrication et les techniques de valorisation technico-commerciale des produits.

Des activités basées sur l'utilisation des NTIC pour la promotion et la vente de produits agricoles

En appui à l'emploi des jeunes, le projet OASIL appuiera un groupe de 4 jeunes diplômés au chômage, issus de la zone du projet, au montage et à la gestion d'un site internet dédié à la commercialisation électronique, au niveau local et national, d'une gamme diversifiée de produits et d'activités ayant lieu au niveau de la région. Le site sera dédié à la fois à l'amélioration de l'attractivité du territoire oasien et à la facilitation de l'approvisionnement à distance des produits, agricoles et dérivés, des oasis.

Le projet OASIL apportera son appui en facilitant aux jeunes investisseurs l'accès à l'information sur les produits et les possibilités de commercialisation ainsi que pour l'élaboration d'un business plan susceptible de fonder leur projet sur des données fiables et réalistes. L'appui comprendra aussi une aide à la mise en marché des premières promotions de produits locaux sous la forme de deals de la région.

Pour pouvoir financer durablement leur activité, le projet OASIL incitera les jeunes par un apport de fonds pour la mise en place et la domiciliation du site durant la première année.

Développement et valorisation des plantes aromatiques et médicinales

Avec cette activité, le projet veut contribuer à l'amélioration des conditions de vie des populations locales à travers le développement du secteur des Plantes aromatiques et Médicinales dans la zone du projet. En effet, les plantes aromatiques font partie intégrante du patrimoine biologique des oasis, mais leur valorisation n'est pas mise en œuvre et bien des opportunités ne sont pas exploitées à ce sujet. Le projet OASIL va contribuer au développement durable du secteur des PAM notamment à travers les actions suivantes:

Identification et caractérisation des PAM

1) La réhabilitation de ce patrimoine naturel passera par l'identification et la caractérisation des PAM et de valoriser les espèces d'intérêt économique ;

2) Mise en culture des espèces de PAM à forte valeur ajoutée

Le développement du secteur passe aussi par la mise en culture des PAM, le projet permettra l'identification des espèces de PAM cultivables. Des essais en station expérimentale et chez les agriculteurs seront conduits.

3) Renforcement des capacités et organisation des acteurs (collecteurs, producteurs)

Le projet prévoit aussi un appui aux exploitants par la formation, l'encadrement et l'accompagnement.

L'organisation des acteurs impliqués dans la filière PAM en particulier les collecteurs et les producteurs est aussi important pour la durabilité du secteur. Le projet prévoit, le renforcement des capacités des associations, coopératives qui groupement d'intérêt économique qui travaille dans le secteur des PAM. Des sessions de formation sur les PAM seront organisées afin de sensibiliser et former les acteurs sur une gestion durable de ce secteur, de même des formations seront organisées sur: les méthodes de valorisation des PAM; sur les circuits de commercialisation et sur la gestion administratives et financières des organisations professionnelles.

Renforcement de l'élevage de la race locale D'Man

L'élevage de la race ovine D'Man est une spécificité des zones oasiennes. Cette race ovine, élevée en stabulation, a pour avantage de présenter une remarquable prolificité avec un maximum de 7 agneaux par portée. La dégradation des ressources naturelles au niveau des oasis a entraîné une forte diminution de cet élevage. Actuellement le potentiel productif des ovins D'Man n'est pas suffisamment exploité. Cette race représente outre un intérêt en terme de biodiversité, un intérêt économique évident, vu d'une part son adaptation parfaite au milieu, et la demande grandissante de reproducteur pour croisement avec les grandes races du Maroc afin d'en augmenter la prolificité.

Plusieurs actions ont été menées par les acteurs publics pour le développement de l'élevage D'Man en l'occurrence l'ORMVAT et l'INRA. Le projet se propose de contribuer au développement durable de cette race, afin d'une part d'améliorer la situation financière du foyer oasien, et d'autre part aider au maintien d'une race locale à fort potentiel.

Les actions à mener dans le cadre de cette activités sont:

1. Renforcement des capacités des éleveurs. La réalisation de cette action passe par une identification participatives des besoins des éleveurs en matière de formation. Sur la base de cette première étape des sessions de formations seront organisées aux profits des éleveurs mais aussi au profits des jeunes et des femmes qui sont impliqués dans l'élevage D'man

2. Appui technique, encadrement, suivi sanitaire,

3. Organisation des producteurs en associations et coopératives
4. Valorisation par la labellisation, pour améliorer la commercialisation.

Promotion de la femme oasienne à travers la valorisation du travail et la diversification des activités génératrices de revenus.

De nombreuses coopératives de femmes et foyers féminins existent dans les Oasis du Tafilalet et de Draa plusieurs d'entre eux ont bénéficié des programmes et initiatives nationaux (ORMAVA, ADS, INDH, projets de coopérations). Divers aspects sont concernés qui cherchent tous à améliorer les conditions de vies des femmes rurales et ceci à travers l'éducation (alphabétisation fonctionnelle ..), et le développement d'activité génératrice de revenu qui leurs permettent d'avoir un revenu propre (élevage, artisanat...). Le projet OASIL, dans ces sites d'intervention, appuiera l'action déjà entreprise au niveau de la région, en favorisant le plus possible l'implication des organisations féminines dans son travail de restauration de noyaux de vie humain viables dans les oasis en voie d'abandon.

Le développement des AGR féminines essentiellement consacrées à l'artisanat et à l'élevage nécessite une approche spécifique qui tient compte des contraintes particulières des femmes (analphabétisme, charges domestiques importantes)

L'application de l'approche participative est importante pour l'atteinte des objectifs de cette activité, en particulier dans le travail de diagnostic et d'identification des besoins.

De même le projet prévoit contribuer au renforcement des structures féminines, association et coopérative à travers l'encadrement, l'appui technique et financiers et la formation. Le projet doit aussi coordonner avec les autres programmes qui travaillent dans la promotion de la femme rurale en particulier, l'ADS, l'INDH et l'ORMVA.

Intégration des jeunes et des femmes par la promotion de la microentreprise

Les possibilités d'intensification et d'augmentation de la production agricole dans les oasis restent relativement limitées par la petite taille même des exploitations, le niveau de dégradation des ressources et les impacts des changements climatiques, il serait nécessaire de promouvoir des activités de type artisanales, de service, de tourisme rural, de transformation agricole, ou de commercialisation, pour inciter ou dynamiser les initiatives, en particulier celles issues des groupes les plus défavorisés (sans terre, femmes, jeunes).

Le projet OASIL travaillera en collaboration avec ces partenaires locaux et régionaux pour encourager les jeunes et les femmes à développer des activités économiques dans le cadre de micro entreprises Les principales actions à entreprendre sont:

Développement de services financiers adaptés.

La promotion des microentreprises passe obligatoirement par le développement de services financiers adaptés en montant et en durées et en modalités de remboursement afin de faire face à une gamme de besoins allant du fonds de roulement à l'équipement de microentreprises.

Pour encourager le recours au financement par crédits des actions d'information et de sensibilisation seront menées au profit des jeunes et des femmes sur les types de financement existants, les durées et les modalités de remboursement.

Accompagnement par l'appui technique et la formation

La promotion des micro entreprises existantes ou à créer, passe aussi par des services de formations, d'appui-conseils à la gestion et d'aide à la commercialisation. Le projet OASIL, organisera des ateliers et sessions de formation au profit des jeunes et femmes porteurs de projets. Les thèmes qui seront traités sont: Gestion administrative et financière, techniques de commercialisation.

ANNEX 12: PROPOSED METHODOLOGY FOR TYPOLOGY STUDY

Contrairement aux processus classiques de planification des investissements, qui sont basés uniquement sur la disponibilité des ressources (eau, terre) et les technologies disponibles, l'approche du projet considère aussi les besoins et caractéristiques de la population ainsi que d'autres caractéristiques agro-écologiques du territoire pour tenir compte de la diversité des espaces dans le milieu oasien.

Un des objets de l'approche est de déterminer des zones oasiennes où les populations partagent des conditions de vie relativement homogènes en fonction d'un ensemble de déterminants biophysiques et socio-économiques. Les principaux critères permettant de définir les différents types d'oasis peuvent être : les conditions agro-climatiques prédominantes qui influencent les activités agricoles et l'accès aux marchés, la source principale des revenus, les ressources naturelles accessibles aux habitants et la manière dont elles sont utilisées.

Les différentes étapes dans le cadre de l'analyse seront :

1. Etablir une typologie des oasis selon des critères agro-écologiques et socioéconomiques établis en consultation avec les acteurs concernés.
2. Cartographier les principaux types des oasis, en répondant aux questions suivantes :
 - a. Quelles sont les différents types d'agricultures et stratégies
 - b. Quels sont les principaux besoins et contraintes liés à l'eau dans les différents contextes sociaux-ruraux ?
 - c. Quel est la vulnérabilité des différents systèmes oasiens (Mesure dans laquelle un système est sensible – ou incapable de faire face – aux effets défavorables y compris le changement climatique, et la variabilité du climat et les phénomènes extrêmes).
3. Cartographier les possibilités et opportunités d'amélioration des moyens d'existence des petits exploitants agricoles grâce à des interventions. Estimation du nombre et pourcentage de ménages ruraux de bénéficier des interventions.
4. Cartographier le caractère favorable d'une série de solutions spécifiques, ainsi que la demande pour ces interventions, en montrant où elles pourraient avoir les plus importantes répercussions sur les moyens d'existence ruraux.
5. Estimer pour chaque solution et dans chaque système oasien, le nombre de bénéficiaires possibles, la zone d'application et les coûts totaux d'investissement.

L'analyse et la cartographie se fera en étroite collaboration avec les partenaires nationaux et régionaux. L'analyse doit suivre une approche progressive incluant la collecte et le traitement des données statistiques au niveau régional et local, l'analyse des études de cas et la consultation locale. Des ateliers de cartographie participative rassemblant des experts nationaux et régionaux en différents domaines (agriculture, eau, sciences sociales, géographie, et..) et des diverses institutions (gouvernement, recherche, ONGs, groupes d'agriculteurs) seront organisés.

Le processus peut s'articuler en plusieurs phases :

1. Collecte des données et capitalisation des expériences.
2. Un premier atelier dont l'objectif est d'établir la base d'analyse et la typologie des oasis.
3. Une série d'événements visant à définir les cartes et affiner les critères pour définir les solutions à proposer et leur potentiel dans les différents types des oasis.

Les résultats de l'atelier seront améliorés par la consultation d'experts nationaux et internationaux et par l'analyse de données secondaires grâce aux ensembles de données et statistiques disponibles au niveau national et infranational.

ANNEX 13: TRIBES (INDIGENOUS PEOPLES) IN THE DRAA-TAFILALET REGION

Le système tribal et l'organisation de l'espace dans la Région de Draa-Tafilalet

La tribu est une entité humaine, territoriale, politique et une communauté d'intérêts économique bien individualisée. Elle constitue un groupe social «cohérent», réunissant plusieurs villages sur un territoire déterminé. Le regroupement est souvent suscité par des intérêts et des besoins, pénétrés constamment par une idée d'unité ou de complémentarité territoriale.

L'appartenance ethnique, l'unité religieuse, l'unité linguistique, les traditions et l'histoire forment autant d'éléments qui contribuent au renforcement du sentiment tribal. Au niveau des groupes, les structures segmentaires demeurent essentielles dans toute organisation (la tribu, la fraction, le lignage et la famille). Elles gèrent la répartition des rares ressources entre les membres de la communauté et règlent les querelles internes. L'affiliation à des organisations supra tribales peut jouer un rôle dans l'organisation, la gestion et l'occupation de l'espace (confédération de tribu). Le rôle des zaouias et confréries, celui des diverses institutions et organisations joue aussi un rôle dans la cimentation.

Dans une communauté, le contrôle social est rendu aisé par la stabilité des groupes locaux, leurs petites dimensions et par le fait que tout le monde connaît les règles à respecter et les rend siennes. Le contrôle social, le regard collectif, comptent pour beaucoup de chose au niveau de l'organisation et personne n'y échappe. Ce contrôle instaure un conformisme favorable à la reproduction indéfinie des modèles qui se transmettent de génération en génération.

Le support écologique sur lequel une communauté tribale vit est exploité de manière la plus efficiente. Pour la communauté, la question des ressources est primordiale. Il faut en assurer un usage durable. La rotation dans l'utilisation des espaces permet la régénération du sol, du couvert végétal et la régulation de l'alimentation des nappes (transhumance, l'assolement). Cette rotation permet aussi de bien se servir de la main d'œuvre, de l'outillage et des bêtes. Une certaine discipline est indispensable si l'on veut que chacun produise ce qui lui est nécessaire. L'organisation repose sur la juxtaposition de segments qui assument la gestion des ressources rares. Ces segments peuvent être des lignages, des classes d'âge ou des ordres sociaux. Les règles de la soumission aux aînés suffisent à résoudre les problèmes socio-économiques fondamentaux.

La structure politique donne aux segments leur cohérence et confère aux plus âgés ou à ceux qui représentent les branches, par exemple, une autorité et une influence décisive.

L'autorité est représentée par l'assemblée de la communauté ou la Jmaâ qui assure la discipline indispensable à la vie communautaire et concentre entre ses mains des pouvoirs qualifiés, aujourd'hui, par : politiques, économiques, juridiques et administratifs. Cette institution garantit la cohésion sociale, la solidarité entre les membres de la tribu, la protection du groupe et de l'individu, mais elle est aussi l'opérateur qui organise la mise en valeur de l'exploitation du finage et assure la distribution des biens.

La jmaâ n'a pas besoin de force physique pour faire appliquer ses décisions. La pression sociale est essentielle dans l'organisation de la vie locale. La société vit dans la crainte d'affrontements, la sagesse est de recourir à des régulations et à des solutions négociées. En cas de friction avec des étrangers, toute la tribu se trouve mobilisée.

Le peuplement de la région du Tafilalet est ancien et il est marqué par la prédominance de deux confédérations berbères :

- Les Ait Yeffelmane (constituée des tribus des Ait Morghad, Ait Hdiddou, Ait Izdeg, Ait Khelifa et Arab Sebbah du Ziz) et
- Les Ait Atta, qui demeure la masse la plus importante et la plus compacte avec les tribus des Ait Ounegbi, Ait Yezza , Ait Alouane, Ait Ouahlim, Ait Oullal et Ait Khebbach,

Le Tafilalet a connu ses heures de gloire au 8 ème siècle, quand l'ancienne Sijilmasa, fut capitale commerciale et spirituelle de cette contée, avant de devenir, à la fin du 16 ème siècle, le principal relais caravanier entre l'Afrique noire, l'Europe et l'Orient.

Aperçu sur les principales confédérations de la région de Tafilalet :

Les Aït Atta :

Essentiellement formés par des nomades sanhajiens, venus probablement de la zone du Sahara, la confédération des Aït Atta s'est cristallisée autour de l'ancêtre prétendu Dada Atta et Sidi Abdellah B. Hsayn²¹. Avec l'arrivée des Beni-Maqil dans le Dra et Sijilmasa à partir du 13^{ème} siècle, et leur poussée vers le nord, les Aït Atta s'installaient dans le Saghro. La confédération ainsi constituée, n'est pas formée par une ethnie homogène, mais par un ensemble de groupes qui cherchait force, fortune et puissance pour s'accaparer des terres arables, de l'eau, des parcours ou la maîtrise des axes du commerce caravanier. La confédération des Aït Atta est formée, selon les historiens spécialistes, de cinq grands segments appelés "khoms".

- Aït Wallal et Aït Ounir ;
- Aït Wahlim ;
- Aït Yazza (Aït yazza, Aït Khelifa et Aït El Fersi) ;
- Aït Isfoul et Aït Alouan ;
- Aït Ounebgui (Aït khebbach, Aït Oumnasf et Beni Mhammed).

La confédération s'est imposée aux autres en les protégeant ou en les assimilant. La grande étendue que couvre son territoire, la nécessité de sa sauvegarde, pesaient sur les relations que maintenait la confédération avec ses voisins du Haut-Atlas et de ses confins du sud.

Aït Yafelmane

Aït Yafelmane (ceux qui veulent la paix) est une confédération de tribus berbères Sanhaja, ils vivaient avant le XVI^e siècle au sud du Haut Atlas Oriental, dans le Todgha, le Ghriss, le Dadès, l'Imedghass et le Haut Ziz. A partir du XVI^e siècle ils ont dépassé les cols de Jbel El Ayachi et de Jbel Maaskar pour occuper le vaste pays qu'ils habitent aujourd'hui. EN 1645 les tribus, Aït Izdeg, Aït Merrhad et Aït Hdiddou signent en 1645-1646, dans la Zaouia d'Assoul, un pacte d'entente, c'était l'acte de naissance d'Aït Yafelmane.

La vallée du Draâ

L'origine (non arabe et non juive) du mot Draâ est incertaine ; elle est peut-être une déformation du mot berbère *Targa* signifiant " cours d'eau, canal d'irrigation, rigole, vallée ".

Ces populations ou tribus sont, en effet, d'origines ethniques variées (voir liens externes) :

- Population d'origine arabe dont certains se disent Chorfa, (Le terme chérif ou chérifien au singulier (et chorfa au pluriel) est utilisé pour désigner des personnes ayant un ancêtre descendant du prophète de l'islam Mohammed.).
- Populations d'origine berbère
- Populations de confession juive
- Populations issues d'anciens esclaves d'origines subsahariennes diverses (Draouas)
- Populations issues de métissage entre ces différentes communautés.

Cette vallée regroupait des populations sédentaires (vivant de l'agriculture) et nomades (vivant du commerce et/ou du pastoralisme). La vallée du Draâ, ancienne route caravanière entre le Sahara et le nord du Maroc, exerçait durant sa longue histoire un important attrait sur des populations venues du sud comme du nord. Il en a résulté un brassage ethnique considérable.

Outre les Draouas (population noire), ("Draouas" : dérivé du mot "Dra". Le mot signifie les populations qui habitent la vallée du Drâa. Mais par extension, le concept désigne des populations noires, probablement d'origine saharienne ou subsaharienne, ayant généralement un statut d'homme attaché à la terre agricole, mais sans terre) supposés être les autochtones, la population de la vallée se composait des Arabes venus du Sahara, de tribus venues du nord :

Les Aït Sedrate qui est une tribu makhzeniënne qui, sur appel des Zaouia Idrissides, a migré vers le sud et arrive vers le Dades puis dans le Drâa pour protéger les Draouas.

Les anciens nomades (Aït Atta), qui forment une tribu ou confédération de tribus essentiellement nomade(s). Arrivées du Sahara et au contact des autres tribus, les Aït Atta se sont constitués en confédération sur un territoire qui s'étend jusqu'au Tafilalet, au Haut Atlas, voire même jusqu'aux plaines de Tadla et du Haouz au nord de l'Atlas. Et les communautés à caractère sacro-saint (Chorfas et Morabitines) et de Juifs.

De cette mosaïque, la vallée a hérité une structure socio-ethnique très diversifiée et très hiérarchisée. Ce brassage, souvent effectué dans des conditions conflictuelles, entre dominants et dominés, anciens et nouveaux arrivants, a marqué la mémoire collective, malgré le laminage sous l'effet de l'école, de l'exode, de la migration, du tourisme et de l'urbanisation croissante.

ANNEX 14: GOOD PRACTICES AND TECHNOLOGIES FOR SPECIFIC AGRO-ECOLOGICAL ZONES

Zone agro écologique	Principales filières à promouvoir	Bonnes pratiques/technologies adaptées
Zone irriguée oasis traditionnelle	Phoeniculture Oléiculture Arbres fruitiers Maraîchage Culture fourragères Céréaliculture VR/lait	Khettara Seguia Tour d'eau Technique culturales Nettoyage des touffes de palmier
Zone d'extension des Oasis	Phoeniculture Maraîchage Culture fourragères Céréaliculture Apiculture Cultures de rente (pastèque)	Seuil de dérivation des eaux nettoyage des touffes de palmiers
Oasis de montagne	Arbres fruitiers /pommier Maraîchage Culture fourragères Céréaliculture Apiculture Cultures spéciales (rose, safran...)	Terrasses de cultures Seguia Technique culturales
Zone d'agriculture pluviale	Céréaliculture	Collecte des eaux de ruissellement Tabia Agroforesterie
Irrigation par des eaux de crues (faïd)	Céréaliculture	Collecte des eaux de ruissellement Tabia Agroforesterie.
Zone de parcours	Viandes rouges PAM Paysage Apiculture	Agdals Mise en repos Plantations d'arbustes fourragers Ensemencements Réserves semencières Travaux de CES
Zones forestières	Viandes rouges PAM Bois énergie Paysage Apiculture	Agdals Mise en repos Plantations d'arbustes fourragers Ensemencements Réserves semencières Travaux de CES Fixation des dunes

ANNEX 15: CO-FINANCING LETTERS

المملكة المغربية
Royaume du Maroc



وزارة الفلاحة والصيد البحري

Ministère de l'Agriculture et de la Pêche Maritime

1129

n° DF/DF

Rabat, le : 17 JUIN 2016

LE MINISTRE DE L'AGRICULTURE ET
DE LA PÊCHE MARTIME


A

MONSIEUR LE REPRESENTANT
DE LA FAO AU MAROC

Objet : Lettre de cofinancement - Projet «Revitalising Oasis Agro-ecosystems through a Sustainable, Integrated and Landscape Approach in the Draâ-Tafilalet Region (OASIL) ».

Dans le cadre du Projet «Revitaliser les agroécosystèmes des Oasis à travers une approche intégrée et durable dans la Région de Daraâ-Tafilalet » (OASIL), j'ai l'honneur de vous confirmer que **le cofinancement pris en charge par le Ministère de l'Agriculture et de la Pêche Maritime** concernera les dépenses liées à l'exécution de 31 projets Pilier II en cours de mise en œuvre dans la région de Daraâ-Tafilalet.

A titre indicatif, le coût global prévisionnel de ces projets Pilier II, sur lesquels les actions du projet OASIL vont se greffer, serait d'environ **2 Milliards de DH** sur la durée totale des dits projets.

Tout en souhaitant l'aboutissement de ce projet et en vous exprimant mes vifs remerciements pour votre précieuse collaboration, je vous prie de croire, Monsieur le représentant, en l'assurance de ma considération distinguée. 

Pour le Ministre de l'Agriculture
et de la Pêche Maritime
Le Directeur Financier

Signé : Fehd AlHoussein BOUAB



DIRECTION FINANCIERE

B.P: 607 - Chellah - Rabat

Tél. : 0530 10 31 82 / 31 83

Fax : 0537 76 15 57 : الفاكس

مديرية المالية

صندوق البريد : 607 شالة - الرباط

الهاتف : 0530 10 31 82 / 31 83



Programmes et projets en cours de réalisation par l'ANDZOA et ses partenaires

Programme	Source du financement	Composantes du projet cofinancées	Répartition estimée en %	Montant estimé (\$)
Contrat Programme palmier dattier (2010-2020)	Etat Marocain 65 % La profession 35 %	1-Soutien au dialogue politique au niveau national et régional sur la gestion durable des écosystèmes oasiens	-	770 millions USD
		2-Planification et suivi : amélioration des systèmes de planification et de suivi aux niveaux régional et local	-	
		3-Démonstration : restauration protection et gestion durable des écosystèmes oasiens grâce à une approche intégrée	90	
		4-Suivi et évaluation du projet et gestion des connaissances	10	
Projet d'Appui des Groupements d'Intérêt Economique pour le Développement de la Filière Phoenixicole au niveau des Oasis Marocaine (PAGIE) (2016-2020)	CTB 60% MAPM 40 %	1-Soutien au dialogue politique au niveau national et régional sur la gestion durable des écosystèmes oasiens	10	24 millions USD
		2-Planification et suivi : amélioration des systèmes de planification et de suivi aux niveaux régional et local	40	
		3-Démonstration : restauration protection et gestion durable des écosystèmes oasiens grâce à une approche intégrée	40	
		4-Suivi et évaluation du projet et gestion des connaissances	10	
Projet d'Adaptation aux Changements Climatiques dans les Zones Oasiennes PACZO (2015-2019)	Fonds d'adaptation 60 % Etat Marocain bénéficiaires 40 %	1-Soutien au dialogue politique au niveau national et régional sur la gestion durable des écosystèmes oasiens	20	9,97 millions USD (Contribution FA)
		2-Planification et suivi : amélioration des systèmes de planification et de suivi aux niveaux régional et local	35	
		3-Démonstration : restauration protection et gestion durable des écosystèmes oasiens grâce à une approche intégrée	35	
		4-Suivi et évaluation du projet et gestion des connaissances	10	

Programme	Source du financement	Composantes du projet cofinancées	Répartition en %	Montant (\$.)
Projet de partenariat de l'ANDZOA (2016-2020)	ANDZOA 40 % Partenaires 60%	1-Soutien au dialogue politique au niveau national et régional sur la gestion durable des écosystèmes oasiens	5	60 Millions USD
		2-Planification et suivi : amélioration des systèmes de planification et de suivi aux niveaux régional et local	5	
		3-Démonstration : restauration protection et gestion durable des écosystèmes oasiens grâce à une approche intégrée	85	
		4-Suivi et évaluation du projet et gestion des connaissances	5	
Etudes (2012-2020)	ANDZOA 90 % Partenaires 10%	1-Soutien au dialogue politique au niveau national et régional sur la gestion durable des écosystèmes oasiens	-	1 Million USD
		2-Planification et suivi : amélioration des systèmes de planification et de suivi aux niveaux régional et local	-	
		3-Démonstration : restauration protection et gestion durable des écosystèmes oasiens grâce à une approche intégrée	-	
		4-Suivi et évaluation du projet et gestion des connaissances	-	
Autres projets de coopération (2016-2020)	ANDZOA 30 % Fondation OCP et autres 70 %	1-Soutien au dialogue politique au niveau national et régional sur la gestion durable des écosystèmes oasiens	-	1 million USD
		2-Planification et suivi : amélioration des systèmes de planification et de suivi aux niveaux régional et local	-	
		3-Démonstration : restauration protection et gestion durable des écosystèmes oasiens grâce à une approche intégrée	100	
		4-Suivi et évaluation du projet et gestion des connaissances	-	

Unofficial Translation of Co-financing Letter from the Ministry of Agriculture and Maritime Fisheries from Morocco

Signed in Rabat on 17 June 2016

From the Ministry of Agriculture and Maritime Fisheries

To the FAO Representative to Morocco

Subject: Co-financing Letter for the Project ‘Revitalising Oasis Agro-ecosystems through a Sustainable and Integrated Landscape Approach in the Drâa-Tafilalet Region (OASIL) ’

In the context of the project Revitalising Oasis Agro-ecosystems through a Sustainable and Integrated Landscape Approach in the Drâa-Tafilalet Region (OASIL), I have the honor to confirm that the co-financing from the Ministry of Agriculture and Maritime Fisheries will be provided through a portfolio of 31 projects under implementation in the Drâa-Tafilalet region in the context of Pillar II of the Green Morocco Plan (Plan Maroc Vert).

Indicatively, the overall cost of these projects under Pillar II, on which OASIL is going to build, is approximately 2 billion Moroccan Dirhams, for the total duration of these parallel projects.

Wishing a good development of the project, and thanking you for the positive collaboration.

Sincerely,

Signed by Fehd Al-Houssein Bouab



N° 408 INRA/DS /DERN
Hr

Rabat, le 24 JUIN 2016

**Le Directeur de l'Institut National de la
Recherche Agronomique**

A

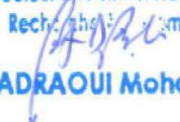
Monsieur Le Représentant de la Fao Au Maroc

Objet : Lettre de cofinancement- Projet «*Revitalising Oasis Agro-ecosystems through a Sustainable, Integrated and Landscape Approach in the Draâ-Tafilalet Region (OASIL)* ».

Dans le cadre du Projet «Revitaliser les agroécosystèmes des Oasis à travers une approche intégrée et durable dans la Région de Daraâ-Tafilalet » (OASIL), j'ai l'honneur de vous confirmer que le cofinancement pris en charge par l'Institut National de la Recherche Agronomique concernera les dépenses liées à l'exécution des douze projets de recherche dans le cadre du programme de recherche moyen terme (PRMT) en cours de réalisation par nos chercheurs sur le palmier dattier et l'espace oasien.

A titre indicatif, le coût global prévisionnel de ces projets, sur lesquels les actions du projet OASIL vont se greffer, serait d'environ **1 000 000 USD** sur la durée totale du PRMT.

Tout en souhaitant l'aboutissement de ce projet et en vous exprimant mes vifs remerciements pour votre précieuse collaboration, je vous prie de croire, Monsieur le représentant, en l'assurance de ma considération distinguée.

Le Directeur de l'Institut National de la
Recherche Agronomique

BADRAOUI Mohamed

Unofficial Translation of Co-financing Letter from INRA from Morocco

Signed in Rabat on 24 June 2016

From the Director of the National Agronomic Research Institute INRA

To the FAO Representative to Morocco

Subject: Co-financing Letter for the Project ‘Revitalising Oasis Agro-ecosystems through a Sustainable and Integrated Landscape Approach in the Drâa-Tafilalet Region (OASIL) ’

In the context of the project Revitalising Oasis Agro-ecosystems through a Sustainable and Integrated Landscape Approach in the Drâa-Tafilalet Region (OASIL), I have the honor to confirm that the co-financing from INRA will be mobilized through 12 ongoing research projects on palm dates and oasis zones in the context of the medium-term research programme (PRMT).

Indicatively, the overall cost of these projects, on which OASIL is going to build, is USD1,000,000 for the total duration of programme.

Wishing a good development of the project, and thanking you for the positive collaboration.

Sincerely,

Signed by Mohamed Badraoui

منظمة الأغذية والزراعة للأمم المتحدة

ORGANISATION DES NATIONS UNIES POUR L'ALIMENTATION ET L'AGRICULTURE

REPRESENTATION DE LA FAO AU MAROC



ممثلية المنظمة بالمغرب

GEF - OASIL
LET/FAOR/2016/N°

28 October 2016

To: M. Jeffrey Griffin
Senior Coordinator, FAO- GEF Unit
Investment Center Division
Technical Cooperation Department FAO Rome

Co-financing for GEF project 9537 'Revitalising Oasis Agro-ecosystems through a Sustainable, Integrated Landscape Approach in the Draâ-Tafilalet Region (OASIL)

In my capacity as FAO Representative in Morocco, I confirm full participation in the above mentioned FAO-GEF project.

Accordingly, I am pleased to confirm that USD 700 000 will provide co-financing to the above mentioned project in the form of both grant and in-kind contributions, through the following initiatives/projects/programmes that are active in the country:

Programme	Source of funding	Component of SALMA project	Amount (USD)
	Grant	Component 1 – Policy Dialogue	500 000
FAO-Representation in Morocco	In-kind	PMC	200 000
TOTAL			700 000

Michael George Hage
Représentant de la FAO au Maroc

4, Rue Prince Sidi Mohamed, Souissi - Rabat - B.P 1369 ص ب 1369 زنقة الأمير سيدي محمد - السويسي - الرباط
Tel : (212) 37 65 43 08 / 38 Fax : (212) 37 65 45 52 E-mail : fao-ma@fao.org

ANNEX 16: CALCULATIONS OF DIRECT AND INDIRECT CARBON BENEFITS

Introduction

This *EX-ACT Brief* concisely presents the results of the ex-ante GHG assessment of the *Revitalising Oasis Agro-ecosystems through a Sustainable, Integrated and Landscape Approach in the Draâ-Tafilalet Region, Morocco*.

The brief intends to quantify direct and indirect GHG impacts from the project and transparently document the input data of agricultural field activities and areas on which the assessment is based. It thus allows subsequent GHG assessments at mid-term and project finalization stages to update area target and monitor ongoing achievements of GHG benefits.

The EX-ACT appraisal used Tier 1 level of specification and is based on area targets of sustainable land management provided by the project appraisal team.

Project Activities

The EX-ACT tool utilizes area estimates of improved land management and production practices at project end as input data and compares them to an alternative baseline scenario that would materialize in absence of the project. The current analysis adopts the continuation of the status-quo as the baseline scenario. In the absence of refined field data it is thus conservatively assumed that in absence of the project land degradation processes would not further intensify beyond current stages. This decision avoids that strong claims of mitigation benefits are made on a basis without the provision of justifying field data. The analysis below describes the impacts that are achieved by direct project activities.

Table 1: Direct and indirect project activity targets with GHG mitigation impacts

Project activity	Direct project targets (ha)	Indirect project target (ha)
Avoiding siltation of oasis cropland (land loss due to sand encroachment) E.g. construction of structures to fix sand dunes, naturally assisted regeneration of highly degraded rangelands surrounding oases croplands, etc.	2,000	5,000
Avoiding siltation of pasture land (land loss due to sand encroachment) E.g. set up of underground and/or hillside dams to promote groundwater recharge, etc.	6,000	15,000
Cropland rehabilitation E.g. composting, conservation agriculture, rehabilitation of traditional irrigation systems, construction of flood structures to protect the oasis against flood damage, etc.	13,000	86,142
Grassland rehabilitation E.g. rehabilitation of transhumance routes, fencing, naturally assisted regeneration of highly degraded rangelands, agro-forestry systems, etc.	39,000	258,000
Total	60,000	364,142

Results – direct GHG benefits ([see calculation sheet here](#))

Considering the above activity scenario, the *Revitalising Oasis Agro-ecosystems through a Sustainable, Integrated and Landscape Approach in the Draâ-Tafilalet Region, Morocco* project will provide direct total mitigation benefits of roughly 1.5 million t CO₂-eq over a period of 20 years. This is equivalent to annual mitigation benefits of 1.2 t CO₂-eq per hectare.

Table 2: Ex-ante Carbon-balance of direct project impacts on 60,000 ha

Project Name	Revitalising oasis agro-eco		Climate	Warm Temperate (Dry)			Duration of the Project (Years)		20		
Continent	Africa	Dominant Regional	Soil Type	HAC Soils			Total area (ha)		60000		
Components of the project	Gross fluxes			Share per GHG of the Balance					Result per year		
	Without	With	Balance	All GHG in tCO2eq			N2O	CH4	Without	With	Balance
	All GHG in tCO2eq			CO2							
	Positive = source / negative = sink			Biomass	Soil	Other					
Land use changes											
Deforestation	0	0	0	0	0		0	0	0	0	0
Afforestation	0	0	0	0	0		0	0	0	0	0
Other LUC	609,451	0	-609,451	-70,407	-536,433		-2,610	0	30,473	0	-30,473
Agriculture											
Annual	-5,700	-304,950	-299,250	0	-299,250		0	0	-285	-15,248	-14,963
Perennial	0	0	0	0	0		0	0	0	0	0
Rice	0	0	0	0	0		0	0	0	0	0
Grassland & Livestocks											
Grassland	0	-573,788	-573,788	0	-573,788		0	0	0	-28,689	-28,689
Livestocks	0	0	0				0	0	0	0	0
Degradation & Management	0	0	0	0	0		0	0	0	0	0
Coastal wetlands	0	0	0	0	0		0	0	0	0	0
Inputs & Investments	0	0	0			0	0	0	0	0	0
Fishery & Aquaculture	0	0	0			0	0	0	0	0	0
Total	603,751	-878,738	-1,482,488	-70,407	-1,409,471	0	-2,610	0	30,188	-43,937	-74,124
Per hectare	10	-15	-25	-1.2	-23.5	0.0	0.0	0.0			
Per hectare per year	0.5	-0.7	-1.2	-0.1	-1.2	0.0	0.0	0.0	0.5	-0.7	-1.2

Table 3: Ex-ante Carbon-balance of indirect project impacts on 364,142 ha

Project Name	Revitalising oasis agro-ecosyste		Climate	Warm Temperate (Dry)			Duration of the Project (Years)		20		
Continent	Africa		Dominant Regional Soil Type	HAC Soils			Total area (ha)		364142		
Components of the project	Gross fluxes		Balance	Share per GHG of the Balance				Result per year		Balance	
	Without	With		All GHG in tCO2eq			N2O	CH4	Without		With
	All GHG in tCO2eq										
	Positive = source / negative = sink			Biomass	Soil	Other					
Land use changes											
Deforestation	0	0	0	0	0	0	0	0	0	0	
Afforestation	0	0	0	0	0	0	0	0	0	0	
Other LUC	1,523,626	0	-1,523,626	-176,018	-1,341,083	-6,525	0	76,181	0	-76,181	
Agriculture											
Annual	-14,250	-1,832,533	-1,818,283	0	-1,818,283	0	0	-713	-91,627	-90,914	
Perennial	0	0	0	0	0	0	0	0	0	0	
Rice	0	0	0	0	0	0	0	0	0	0	
Grassland & Livestocks											
Grassland	0	-3,442,725	-3,442,725	0	-3,442,725	0	0	0	-172,136	-172,136	
Livestocks	0	0	0	0	0	0	0	0	0	0	
Degradation & Management	0	0	0	0	0	0	0	0	0	0	
Coastal wetlands	0	0	0	0	0	0	0	0	0	0	
Inputs & Investments	0	0	0			0	0	0	0	0	
Fishery & Aquaculture	0	0	0			0	0	0	0	0	
Total	1,509,376	-5,275,258	-6,784,634	-176,018	-6,602,091	0	-6,525	0	75,469	-263,763	
Per hectare	4	-14	-19	-0.5	-18.1	0.0	0.0	0.0			
Per hectare per year	0.2	-0.7	-0.9	0.0	-0.9	0.0	0.0	0.0	0.2	-0.7	

Results – indirect GHG benefits (see calculation sheet here)

Outscaling of OASIL project results SLM and rehabilitation/restoration best practices and approaches would provide indirect total mitigation benefits of roughly 11.7 million t CO₂-eq over a period of 20 years. This is equivalent to annual mitigation benefits of 0.8 t CO₂-eq per hectare. Outscaling efforts have been considered to benefit roughly 10% of the reported area to be threatened by sand encroachment in the Drâa-Tafilalet region and 50% of oasis cultivated land from further degradation and improved management.