



PACT

Climate Change Adaptation Programme in Tunisia's Rural Areas.

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK



PROGRAMME FOR TERRITORIAL ADAPTATION TO CLIMATE CHANGE – PACT

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK – FINAL VERSION

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ABBREVIATIONS	
DGACTA	General Division for the Improvement and Conservation of Agricultural Land
DGF	General Finance Division
DGFIOP	General Division of Finance of Investments and Professional Organisations
UTAP	Tunisian Union for Agriculture and Fisheries
AVFA	Agricultural Outreach and Training Agency
APIA	Agricultural Investment Promotion Agency
ROAD	Regional office for agricultural development
FFEM	<i>Fonds Français pour l'Environnement Mondial</i>
WUA	Water Users Association (French: <i>GDA</i>)
WSC	Water and soil conservation
FEU	Field extension Unit (French: <i>CTV</i>)
ADECIA	Agency for the development of international cooperation in agriculture, food and rural areas
FCGBV	Catchment Area Management Framework Finance
CIRAD	French Agricultural Research Centre for International Development
NEPA	National Environment Protection Agency
UTAP	Tunisian Union of Agriculture and Fishery
OEP	Breeding and grazing office
UMO	Unit of Management by Objective
INRM	Integrated Natural Resource Management
RDSO	Rural development support officers

SUMMARY

The Programme for Territorial Adaptation to Climate Change (PACT) is developed by the Ministry of Agriculture, water resources and fisheries in Tunisia. It shall be implemented in areas that are particularly vulnerable to climate change with a view to carrying out actions to preserve the resources through coordinated planning and a grassroots programme (territorial animation) combined with financial support to farms and the agricultural industry.

It is made up of 3 components:

- Component 1: Coordinated planning of natural resource management (NRM) and territorial animation
- Component 2: implementation investments
- Component 3: coordination of the programme and institutional support

On the regulatory level, natural resource management in Tunisia is governed by the texts relative to access to resources and the terms and conditions for their exploitation as well as environmental texts related to the preservation of nature and the protection of the environment. The main texts are: the Water Code (1975), the law relative to the protection of agricultural land (1983), the Forestry Code (1988), the law relative to the Conservation of the Water and the Soil (1995), the law on the redesign of the legislation relative to the protection vegetation (1992), the law on agrarian reform in the public irrigated areas (1963), Tunisian legislation relative aux Environmental Impact Studies initiated in 1991 and reformulated in 2005.

TERRITORIES THE PROGRAMME INTERVENES IN

The territories the Programme intervenes in have been identified within the framework of a diagnostic conducted in coordination with the stakeholders in five Governorates: Bizerte, Le Kef, Kairouan, Sidi Bouzid and Siliana. Furthermore, meetings with the regional bodies in charge of managing water, soil and forests in the Governorates of Kasserine, Mahdia and Zaghouan made it possible to identify territories that represent the principal problem issues addressed by the Programme. The territories identified are the following:

Sectors El Arab and Sidi Aissa (delegation of Ghézala - Governorate of Bizerte)

The principal problems are related to the vulnerability of the natural resources including the deterioration of the water, soil, forests and pastureland. Steep slopes, soil susceptible to erosion, erosive precipitations, landslides, reduced plant cover and the growing of crops in fragile areas, growing techniques that are sometimes inappropriate that increase the sensitivity of the land to deterioration and therefore its vulnerability. The lack of technical support for small farmers and of financial means encourages the abandoning of land in this area and exodus.

Sectors Msaid, Sayada North and Massiouta H'nachir North (delegation of El Alaa- Governorate of Kairouan)

The vulnerabilities of the natural resources is seen in the fragility of the soil accentuated by climate change, clearance for agricultural extensions, the cutting and mutilation of trees, over-grazing, poor management of water resources, as well as the intensity of the anthropic pressure weighing on the coniferous forest. The problem of the parcellation of the land has become a major constraint in the area, inciting an increasing exodus to other localities such as Sousse and Kairouan.

Sectors El Ksour and Ain Fdhil (delegation of El Ksour - **Governorate of Le Kef**)

The springs in this area are endangered by the practices of clearance of the natural rangeland and are sensitive to the consequences of climate change. Stream off and the erosion of the soils induces the risk of flooding in the plains and silting of the hillside catchment reservoirs.

Sector of Rihana (delegation of Rgueb - **Governorate of Sidi Bouzid**)

The vulnerability of the waters and soils is shown in the catchment areas that are largely bare, the surface stripping and sheet erosion, the undercutting of banks and landslides. The impoverishment of the plant cover upstream of the catchment area favours the stream off on bare soil in steep slopes on a high proportion of the catchment areas. The lack of protective structures and groundwater refill structures as well as the absence of rainwater storage structures limits the use that can be made of such water. For this reason, the area is experiencing a considerable exodus, especially of young people, to the major towns.

El Ayoun (El Ayoun sector, delegation of Cebalet Ouled Askar - **Governorate of Sidi Bouzid**)

The deterioration of the water and soil resources, the vulnerability of the natural forest resources and the vulnerability of the production systems constitute major environmental problems for this territory. Part of this territory is included in the Mghila National Park which straddles the Governorates of Kasserine and Sidi Bouzid. The forestry resources of the territory are subject to management methods that are relatively uncontrolled including in the National Park. Such practices, combined with the irregular precipitations and adverse weather conditions, constitute threats for the natural resources, amplified by the lack of involvement of the users in the management of the forestry and pastoral resources.

El Gabel-Sidi Mansour (delegation Siliana South - **Governorate of Siliana**)

The principal problems on an environmental level are related to the vulnerability of the resources including the deterioration of the water and soil, grazing resources, forests, pastureland and land. Erosion by the reduction in plant cover and subsidence through the trampling of cattle and poorly suited growing practices lead to important losses in land and the silting up of the reservoir of the dam in the area. On the level of land ownership, the parcellation of properties is leading to the abandoning of the land and a conversion to salaried employment, which favours exodus.

The zone of Foussana (**Governorate of Kasserine**)

The principal environmental concerns are related to the salinization of the water and to the over-exploitation of the groundwater, as well as water erosion. In addition to the works of the WSC, the areas intervention needs concern infrastructure and the development of certain agricultural sectors such as the collection of milk and the industrial transformation of apples.

The catchment area of Melamse oued (delegation of Boumerdes - **Governorate of Mahdia**)

The principal environmental concerns are related to over-grazing and the water erosion favoured by the torrential nature of the precipitations. The area's forests are currently deteriorating. They are artificial formations intended in particular to combat water erosion and protect the agglomerations and agricultural land against flooding.

The catchment area of Oued Sbaïhia (**Governorate of Zaghouan**)

The principal environmental problems in the area are related to over-grazing, clearance operations aimed at converting the forest areas into crop parcels and water erosion. The principal intervention needs of the Programme concern the WSC works in particular to protect the hillside lakes through the replanting of trees and infrastructure development and the creation of reserves of rangeland (plantation of Acacia and cactus) that can be used in lean periods by the herders in a forest environment.

ANALYSIS OF IMPACTS AND MITIGATION MEASURES

The actions of the PACT are oriented towards the preservation of the resources and adaptation to climate change in areas deemed particularly vulnerable. It is therefore expected that most of the interventions of the Programme generate rather positive effects on an environmental as well as social level. The analysis of the eventual adverse effects of the Programme actions shows that it is mainly component 2 of the programme which must be given special attention in terms of negative impacts on the environment. This component is in fact the most important of the Programme in terms of investment volume (80% of the budgets) and will comprise the execution of considerable physical investments for which mitigation measures will be required.

The most preoccupying aspect in terms of mitigation concerns the effects of the small WSC development structures the cumulative effect of which will have an important environmental impact, especially because the Programme plans to support the implementation of several thousand of these small structures (mechanical embankments, individual basins, stone cordons, etc.). It would be judicious, at the level of each area of intervention of the Programme where this type of small structure will be built, to assess their global impacts on the catchment area in question and on the natural habitats situated downhill of them. Such assessments of impacts should be carried out before the structures are put in place, and will therefore be based on the hypotheses and findings recorded for similar existing structures.

For the cleaning of the water ways planned in certain territories of intervention of the Programme, mitigation of the adverse environmental impacts related to this type of works requires precautions and measures before and during the cleaning operations. Before starting the works, the sediments to be moved must be characterised to make sure they are not contaminated by pollutants and identify their nature to decide what to do with them and the method and period.

Furthermore, the creation of hillside lakes may be responsible for loss of land and uses for part of the local population, compensation measures will be necessary to mitigate this type of social impact.

It is also important to make sure the actions for promoting production and/or transformation sectors to be carried out within the framework of the Programme do not contribute to aggravating environmental problems in the intervention areas and in the country in general, to wit: (i) the promotion of planting olive trees to combat erosion, the stabilisation of the embankments and the creation of additional sources of income must not aggravate the problems related to managing the vegetable water at the level of the localities concerned, (ii) the development of irrigated crops at the level of each zone taking into account the capacity of the groundwater to bear the extractions necessary without being altered, and (iii) the consolidation of the existing rangeland, the rehabilitation of the deteriorated rangeland and the creation of new areas of rangeland, taking into account the load capacity of the areas in question and the conservation of natural habitats.

To determine the environmental and social measures necessary for each action of the pact, these actions must be submitted to a procedure to assess the environmental and social risks. The procedure proposed is based on three stages:

- Stage 1: Screening and environmental classification
- Stage 2: drawing up of the environmental studies
- Stage 3: monitoring of the implementation of the mitigation measures

STEERING AND MONITORING OF THE PROGRAMME

The programme shall be placed under the Project management of the Ministry of Agriculture, Hydraulic Resources and Fisheries in Tunisia. It shall be endowed with a national Steering Committee to be placed under the responsibility of the Minister and involving the DGAFTA, the DGF, the DG FIOP, the Office of Livestock Breeding and Pasturing, the Agricultural Land Agency, UTAP, AVFA, APIA, the research institutions involved on the OSCAR observatory. It will also involve the commissioners of the ROAD and the representatives of the civil society organisations concerned by the Programme, the representatives of the technical and financial partners concerned, FDA and FFEM. The Steering Committee will meet once a year, in each of the regions concerned, in turn.

The operational monitoring of the activities shall be conferred on an operational monitoring technical committee which will meet every six months and group together the principal stakeholders: DGAFTA, DGF, OLBP, DGFIOF, FDA, FFEM, etc. This committee shall examine the quarterly activity reports of the Programme and will deal with a precise agenda including the technical, methodological, institutional, administrative and financial issues of the moment. It shall be tasked with finding solutions to the difficulties encountered.

The Programme shall be coordinated by the DG-ACTA through a Unit of management by objectives (UMO) dedicated to the pact. The UMO shall be responsible for the coordination, management and implementation of the Programme, at central levels (the Ministry of Agriculture, Hydraulic Resources and Fisheries in Tunisia/DG-ACTA) and decentralised levels. It will provide methodology support, assistance with facilitation and planning, administrative and financial management, communication, monitoring-evaluation/impact monitoring, capitalisation, etc. The DGF shall be a stakeholder in this UMO.

At the level of each Governorate concerned by the Programme, at least one full-time executive shall be involved with the person in charge of the RPS Division (Replanting of trees and Protection of the Soil) of the ROAD, thereby constituting the NRM Unit of the vulnerable rural territories at regional level. At local level of the intervention territory of the Programme, a territorial support Unit to the NRM in the intervention zones shall be set up within the field extension unit (FEU).

A mechanism enabling the objective appreciation of the changes caused by the intervention of the Programme on the dynamics of the natural resources, on the social capital of natural resource management and the economy induced in the short and medium term shall be put in place. A specialist will be called in to steer the choice of indicators and the methods necessary for collecting and analysing them.

To analyse the environmental and social impact of the Programme, a set of indicators shall be used to evaluate the changes in parameters deemed particularly important in relation to the overall aim of the Programme and the precautions to be taken to mitigate the adverse effects of the interventions.

Training on the environmental questions and the management of the environmental and social impacts will be necessary and must be part of the general capacity building programme allowed for under the Programme. These training sessions will concern in particular the legislative framework governing environmental aspects in Tunisia, the environmental impact assessments, the participatory environmental diagnostic, monitoring and environmental reporting.

1. PROGRAMME DESCRIPTION

The Programme for Territorial Adaptation to Climate Change (PACT) is developed by the Ministry of Agriculture, Water resources and Fisheries in Tunisia. It shall be implemented in areas that are particularly vulnerable to climate change with a view to carrying out actions to preserve the resources through coordinated planning and territorial facilitation combined with financial support to farms and the agricultural industry.

It is made up of 3 components:

- Component 1: Coordinated planning of management of natural resources (NRM) and territorial animation
- Component 2: Implementation investments
- Component 3: Coordination of the programme and institutional support

COMPONENT 1: COORDINATED PLANNING OF NATURAL RESOURCE MANAGEMENT (NRM) AND TERRITORIAL ANIMATION

This component aims to rally the players in the rural territories to draw up, implement and evaluate an integrated natural resource management plan on the scale of their territory.

Section 1.1: Information, territorial diagnostics and drafting of the NRM plans

In the first instance, this section consists in:

- Informing all the stakeholders of the Programme's intervention approach, through coordination workshops;
- Identifying with these players the key issues involved in integrated natural resource management at local level;
- Carrying out an environmental, social and economic diagnostic of the territory; powered by the acquisition and interpretation of satellite images.
- This coordination and diagnostic phase will make it possible to identify a set of consistent development actions that constitute an integrated natural resource management plan within each target territory. A Territorial Charter shall be drawn up on this basis, and will specify the commitments of the local players for the implementation of the INRMP. The animation arrangement will continue to be active after the draft phase of this Plan, to allow regular and joint assessment of the implementation of the scheduled activities.

Section 1.2: Topical diagnostics and associated development plans

The territorial diagnostics will identify, depending on the characteristics of the intervention zones, the specific topics for which in-depth studies will be required. This will, in particular, involve drawing up plans for the development of forest areas and pastures or protected areas in the intervention zones. Specifications documents will be drawn up defining the rules for using the areas concerned.

The Programme will support innovative forms of co-management of forestry and pastoral resources. It has therefore been agreed to make exceptions to the rules for awarding private companies contracts to make use of forestry resources, to enable local organisations (Water Users Associations - WUAs, Mutual agricultural service companies – SMSA, Development Associations) to have access to resources and exploit them sustainably.

The economic valorisation of the products from the agricultural, livestock and forestry sectors will also, once a development potential has been identified, be subject to technico-economic analyses leading to the formulation of economic development projects. Lastly, should operations of land reparcelling or clearing appear necessary, a social and land ownership diagnostic shall be conducted.

Section 1.3: Support to the Territory Committees

The Territory Committees shall constitute the coordinating body of the local players. They shall validate the INRMP and participate in monitoring the resulting investments. The terms and conditions of selection and monitoring of the investments supported by the Programme will be subject to specific procedures, defined at the start of the Programme.

To perform this function, the members of these committees will be given appropriate training. Buildings for the use of the players of the territory will be outfitted, to establish a rallying point independent of the government.

COMPONENT 2: INRMP IMPLEMENTATION INVESTMENTS

The Programme will finance the execution of the activities arising from the coordination and planning presented previously. These activities will take the shape of physical investments, technical-economic consulting services or land development.

Section 2.1: Physical investments

Different types of investment could be supported by the Programme:

- **Water and soil conservation (WSC) improvements** on the scale of catchment areas or farms;
- **Mobilisation and valorisation of water resources;**
- **Forestry improvements, replanting of trees** in the public or private forests, improvement of the rangeland ;
- **Improved access to the territories** through improvement of sections of track and watercourse crossings;
- **Promotion of agricultural, forestry and pastoral areas** by the acquisition, for the benefit of the producers and their organisations, of material and equipment for the production, transformation or commercialisation of products; investments by young, newly installed farmers will be supported in particular.

The investments will be subject to technical, economic and financial feasibility studies.

The initial feasibility study made it possible to identify, in each intervention zone and in coordination with the local players in each governorate, the priority needs for investment in infrastructure in response to local NRM issues. These investments will be carried out in the early years of the Programme, without waiting for the end of the coordinated planning process.

Section 2.2: Support-advice to producers and their organisations

This is a question of improving the technical and economic performances of the users of the resources, by mobilising specialist expertise. This section cannot be separated from the execution of physical investments, to the extent that it conditions the sustainability of their exploitation and profitability.

The actions involving advice will concern:

- Adapting new agricultural practices (agro-ecology, agro-forestry, etc.);
 - Sustainable exploitation of forestry and pastoral resources;
 - Management of hydraulic infrastructure;
 - Structuring of the players in the productive sectors;
 - Management of the farms of newly installed young farmers.
-

Section 2.3: Land improvement actions

These activities, which will be conducted in partnership with the Agricultural Land Agency (ALA), will be based on the social and land ownership diagnostics making it possible to establish the dispersion of the parcels of farms (fragmentation) and the land ownership status of the land concerned. Reparcelling plans will be drawn up by means of a coordinated approach. These operations will lead to the provision of support to the farmers concerned in obtaining land titles.

COMPONENT 3: COORDINATION OF THE PROGRAMME AND INSTITUTIONAL SUPPORT

Section 3.1: Programme Coordination and Management

This section covers the mobilisation of human resources from the Ministry of Agriculture, hydraulic and fishing resources, at central, regional and local levels, in charge of the implementation, monitoring-evaluation and capitalisation of the Programme (cf. institutional set-up), as well as the acquisition of the requisite material means.

Section 3.2: Technical support

The institutional and technical innovations introduced by the Programme require the mobilisation of technical support (TS) composed of (i) one international TS, to intervene regularly to provide methodology support throughout the duration of the Programme, (ii) two permanent national TS for eighteen months at the start of the Programme in support of the Project management and regional and local teams on methodology aspects but also in terms of animation on the territory and (iii) intermittent missions of national and international experts, mobilised on specific topics (sustainable agriculture, promotion of the agro-pastoral sectors, co-management of the forest, monitoring-evaluation, etc.).

Section 3.3: Institutional partnerships and support

The institutional partnership established between the DGACTA and ADECIA shall be extended. Other partners will be identified and could contribute to building the capacities of the DGACTA and the Ministry of agriculture, hydraulic resources and fishing, to establish good management and governance practices for territorial development. It essentially concerns the training of the agents from the Ministry involved in territorial animation. The agency for agricultural outreach and training (AVFA) could be included in the partnership and benefit from support in terms of training engineering, in order to have, at the end of the Programme, an autonomous mechanism for training territorial facilitators.

Prospective studies will also be conducted, to provide special support to the Ministry of agriculture, hydraulic resources and fishing for setting up new practices and instruments for the development of their territory. They could, in particular, concern the natural resource co-management systems of the public domain forests, and the implementation of a mechanism dedicated to the financing of the private investments in the management and promotion of natural resources.

Section 3.4: Monitoring-evaluation and audits

The expansion of the environmental and socio-economic observatory programme shall be supported. An initial driver of this programme, set up in partnership between the DGACTA and the CIRAD, shall be tested within the framework of the FCGBV. This section also includes the execution of the mid-term and final evaluation studies as well as the external financial audits.

2. PRESENTATION OF THE LEGAL AND REGULATORY FRAMEWORK APPLICABLE TO THE PROGRAMME

2.1 PRESENTATION OF THE TUNISIAN LEGAL AND REGULATORY FRAMEWORK

In Tunisia, natural resource management is governed by the legislation on access to resources and the terms and conditions of their exploitation as well as by environmental legislation related to the preservation of nature and the protection of the environment.

Some of these texts are particularly relevant for the PACT, which includes actions that are subject to this legislation and therefore which must be carried out in compliance with the regulatory provisions in question.

The **Water Code** was promulgated in 1975 by law no. 75-16 of 31 March 1975 and amended on several occasions: law 87-35 of 06/07/1987, law 88-94 of 02/08/1988, law 2001-116 of 26/11/2001 and decree 2001-2606 of 09/11/2001. It considers water to be *“a national asset which must be developed, protected and used in a way that ensures the sustainability of the satisfaction of all the needs of the citizens and the economic sectors”*. Thus, its provisions concern, on the one hand, the preservation of the quality of the resource, and on the other hand, the regulation of the use by the different users. They deal with (i) the usage right (state-owned nature of water resources), (ii) the regulations of waste and the fight against pollution, (iii) the promotion and economy of water and (iv) of the re-use of waste water for irrigation and other uses.

Since the 2001 amendment, the Water Code places more importance on optimising the use of the resources. It stipulates in this respect that *“the planning and use of water resources must be based on the principle of the optimum use of the production of the cubic metre of water on the scale of the whole country according to acceptable economic and technical conditions”*. The water Code requires, in this respect, that *“works for transferring water from one reservoir to another must be preceded by an economic study for improved use of the quantities of water to be transferred”*.

The Water Code of Tunisia gives a central role to civil society for the management of water at the level of use. It has provided a basis for the creation of water users associations, the establishment and operating procedures of which are very closely framed by the administration which has an important right of review on these associations.

The **law relative to the protection of agricultural land** (law No 83-87 of 11 November 1983) introduced protection of agricultural land and fixed the necessary conditions for changing their intended use. Are considered agricultural land by this law, all land presenting physical and climatic potentialities and which have been or could be allocated to agricultural, forestry or pastoral production. It was amended by law 90-45 of 23 April 1990 to, among other things, boost the control, the observation of infringements and sanctions.

The **law relative to Water and Soil Conservation** (law No 95-70 of 17 July 1995) aimed at the restoration and protection of the soil from any kind of erosion and deterioration. Its field of application covers hills, foothills, slopes, rises, dried river beds, watercourses and areas threatened with water erosion, wind erosion and the build-up of silt. It also applies to structures and infrastructure situated in its intervention zone. This law introduces the *“national council for the conservation of water and soil”*, as a consultative body towards the Minister of Agriculture, as well as the *“Regional Groupings for the Conservation of Water and Soil”* in the Governorates. It comprises the provisions for the partnership between the administration and the users for the creation of associations for the conservation of water and soil inside each perimeter of intervention, grouping together the owners and farmers in the perimeter.

Intervention in the framework of this law must take into account the risks for the agricultural environment and for the ecological balance in general pursuant to the concept of global and sustainable development.

The **Forestry Code** was promulgated in Tunisia in 1966 and amended by law 88-20 of 13/04/1988 which completely revised the code to adapt it to the situation of the forests in Tunisia and take into account the evolution of the technical concepts of natural resource preservation and management. Some of its articles were subsequently amended by law 2001-28 of 19 March 2001 and law 2005-13 of 26 January 2005.

Note that the Tunisian Forestry Code institutes the forestry regime which applies to various types of forestry land ownership: (i) Public domain of the State, (ii) Private domain of the State, (iii) Private forest undivided between State and private individuals, (iv) Forests registered in the name of private individuals and (v) Rangeland (public domain, collective, private or alfa grassland).

Title III of this Code is devoted to the protection of nature and wildlife. This Title introduces the obligation to conduct impact studies for the improvement works and projects which, by their scale or incidences, may have an effect on the natural environment. It also introduces the possibility of creating National Parks and Nature Reserves and imposes measures to protect them against the negative impacts of certain practices. This same Title III provides protection for the wetlands and their fauna and flora. It prohibits the dumping of toxic products and pollutants and only allows wetlands to be dried out and filled in for imperious reasons in the national interest and with the authorisation of the Agriculture Minister.

In its current version, the Forestry Code favours the preservation of the forestry resources, without, however, taking into consideration the optimum use of the services provided by the forest ecosystems and other ecosystems covered by this Code. However, the modifications made to the Code in 2005 allowing the Minister in charge of forests to grant temporary occupation authorisations and concessions to State-owned forestry for reasons of public utility, sylvo-pastoral development, the exercise of activities or execution of projects compatible with the forest and preserving its initial vocation and sustainability. The conditions and the technical operating rules are fixed pursuant to specifications appended to the concession contract drawn up between the beneficiary and the Minister in charge of forests.

The Forestry Code grants usage rights to Tunisians who reside inside the forests. These usage rights concern certain forestry products and are strictly limited to the personal needs of the user and family members living with them and can never be of a commercial or industrial nature. Outside of this usage right, the exploitation of the forestry products is governed by the rules defining the way farms are attributed and the conditions concerning the removal and transport of forestry products. The exploitation for commercial or industrial purposes of five forestry products is obligatorily subject to adjudication: timber, cork, rosemary, myrtle and quarried products. For the remaining products, other forms of valorisation are possible, in particular for non-ligneous forestry products.

Law 92-72 of 3 August 1992 on the revision of the **legislation relative to the protection of plants**, fixes the general provisions relative to the protection of plants and the organisation of the sector of agricultural pesticides. In addition to the measures relative to phytosanitary checks at the borders of the country, this law comprises measures regulating the use of pesticides.

Law no. 63-18 of 27 May 1963, on the **agrarian reform in irrigated public perimeters (IPP)** was amended and completed by law 2000-30. It introduces an obligation on the part of farmers to develop at least 90% of the IPP area over a period of 5 years starting from the arrival of water on the perimeter. It imposes on farmers to protect their lands against deterioration, by regularly and continuously growing irrigated crops and maintaining and repairing the hydraulic equipment of the IPP. The farmers who do not comply with the provisions of this law can be deprived of access to water, or even subjected to fines proportional to the surface areas not exploited.

Tunisian legislation relative to **Environmental Impact Assessments** is constituted by law 88-91 of 2 August 1988 on the establishment of the National Environment Protection Agency (NEPA) and amended by law No 92-115 of 30 November 1992. Before this law, the Forestry Code of 1988 introduced the obligation to conduct impact studies for the improvement works and projects which, by their scale or incidences, may have an effect on the natural environment, without however defining the contents of such impact studies. The law on the creation of the NEPA established from 1991 the obligation in Tunisia of conducting an assessment of the impact on the environment (EIA) prior to the implantation of an industrial, agricultural or commercial plant whose activity presents by its nature or due to the means of production or transformation used or implemented, risks of pollution or deterioration of the environment. More regulatory details were then introduced by decree 91-362 of 13 March 1991 relative to the EIAs. This decree defined the contents of the EIA and specified that it must make it possible to assess, evaluate and measure the direct and indirect effects of the projects on the environment, in the short, medium and long term. It also indicated the procedures for producing, submitting and approving the EIA. In its appendices, this decree listed the types of units obligatorily subject to EIAs (annex 1) and the domains of activity where the projects are only subject to the obligation to present a brief description with the potential incidences on the environment (annex 2).

In 2001, through law 2001-14 of 30 January 2001, amendments were made to the Tunisian legislation relative to EIAs, in particular the introduction of the system of the Specifications Document. For certain categories of project, this means it suffices to apply the conditions of a specific Specifications Document. Decree no 2005-1991 of 11/07/2005 fixed the categories of units subject to the environmental impact assessment and the categories of units subject to specifications (annex 1).

Note that the EIA approval procedure in Tunisia is based essentially on the opinion of the NEPA, which coordinates with the administrations concerned before giving its decision on the environmental impact assessments submitted for its approval. But this procedure does not allow for public consultation even for the most important projects. Furthermore, Tunisian legislation does not require an environmental impact assessment for development programmes and plans. Meetings and executive training has been organised on the Strategic Impact Assessments (SIA), but no legislation has been promulgated on this subject.

Land planning is governed by the **Land planning and urban development code** promulgated by law 94-122 of 28 November 1994¹. This Code fixes the rules to be followed for the optimal organisation and exploitation of space, the planning, creation and development of urban agglomerations, within the framework of the harmonisation of economic and social development, and ecological balances, with a view to ensuring sustainable development and the right of the citizen to a healthy environment. The provisions concern (i) living conditions, (ii) rational use of resources, (iii) the protection of conservation areas and nature and cultural sites of interest, (iv) public health and safety (v) rational distribution between urban and rural areas.

Pursuant to this Code, the fundamental orientations of the improvement of the territories concerned are fixed by planning master plans. These must take into account the relations with the neighbouring regions and the balance to be maintained between urban expansion and agricultural and other economic activities. These master plans determine the general use of the soil, the routes of the major items of infrastructure, the general organisation of transport, the location of anchor facilities, services and the most important activities, cultural, including archaeological sites, conservation areas and historical monuments to be protected or promoted and the general orientations of the expansion and development of urban agglomerations. They also take into account the natural risks and impacts on the environment.

¹ The Land planning and urban development code was amended in 2003 (Law 2003-78 of 29/12/2003, in 2005 (Law 2005-71 of 01/08/2005) and in 2009 (Law 2009-9 of 16/02/2009).

2.2 WORLD BANK ENVIRONMENTAL AND SOCIAL POLICIES RELEVANT TO THE PROGRAMME

The present Environmental and Social Management Framework (ESMF) of the Programme is also designed to take into account the environmental and social procedures of the World Bank. The general mitigation measures envisaged were also identified through an analysis of the requirements and implications of the World Bank's Safeguard Policies. The actions planned as part of this programme require consideration of the following Safeguard Policies:

- OP 4.01 Environmental Assessment
- OP 4.04 Natural Habitats
- OP 11.03 Cultural Property
- OP 4.36 Forestry
- OP 4.12 Involuntary Resettlement

OP 4.01 ENVIRONMENTAL ASSESSMENT

This means assessing the risks a project may present for the environment and the effects it could have in its area of influence. Mitigation and management of nuisances are part of the environmental assessment that is the subject of this Guideline, which recommends the use of preventive measures preferably over mitigation measures or compensation and invites the examination of variants of the project, to identify the means of improving the selection of the project, its location, planning, design and execution by anticipating, minimising, mitigating or compensating for its adverse effects on the environment, and by boosting its positive effects.

As part of the implementation of the PACT, to minimise the environmental impacts, the stages and procedures for the environmental assessment will be followed.

OP 4.04 NATURAL HABITATS

This guideline considers that the conservation of natural habitats is essential to sustainable development in the long term. It supports the protection, maintenance and rehabilitation of natural habitats and their function. In terms of natural resource management, it calls for an approach based on the precautionary principle. The mitigation measures recommended by this guideline comprise the minimisation of the loss of habitats and the creation and management of protected areas.

Several of the zones concerned by the PACT contain natural habitats, in particular forests, garrigues and wetlands. They will be given special attention to substantially reduce, or even eliminate, the adverse impacts of the Programme on these habitats. **Furthermore, the Programme intervention territories in the Governorates of Bizerte and Sidi Bouzid contain or are directly related to a protected area with habitats of great heritage value.** The Programme must have no impacts that lead to the deterioration of these protected areas.

OP 11.03 CULTURAL PROPERTY

This Operational policy aims to show the procedures to follow with regard to the consequences of the projects on physical cultural resources and to favour the protection of the country's cultural heritage. The ultimate aim *"is not to oppose projects that could have an effect on cultural property, but rather to find ways of promoting the projects while at the same time adequately protecting the cultural heritage of the countries"*.

OP 4.36 FORESTRY

The provisions of this Operational Policy apply when a project has a direct or indirect incidence on forests. For projects designed in support of forestry management and community-based development, the extent to which the lifestyles of the local communities depend on the trees and use them in the project area and its surroundings must be taken into account. Also to be taken into account are the institutional, political and conflict management questions associated with the improvement of the participation of the native population and poor population and the problems related to the forestry products and services the resident and poor population groups take advantage of.

In the case of projects involving plantations, this Operational policy lists the elements to be taken into account in the project design and execution.

OP 4.12 INVOLUNTARY RESETTLEMENT

This Operational policy considers that if the appropriate measures are not carefully planned and implemented, involuntary resettlement can have consequences that are damaging in the long term, impoverishment and environmental damage. To mitigate the effects of a displacement, this guideline requires efforts to avoid, as far as possible, or minimise involuntary resettlement by examining all the alternatives that could be realised in the design of the project. If population displacement is inevitable, the resettlement activities must procure for the people displaced by the project sufficient means of investment to allow them to benefit from the advantages of the project. They should also be helped in their efforts to improve, or recover, their livelihood and their standard of living.

3. Environmental and Social Reference Situation

As part of the study carried out for the formulation of this Programme for the management of natural resources in the Vulnerable Rural Territories of Tunisia, work of diagnostics and coordination made it possible to identify the territories the Programme will intervene in, in five Governorates: Bizerte, Le Kef, Kairouan, Sidi Bouzid and Siliana. For the three other Governorates concerned by the Programme (Kasserine, Mahdia and Zaghouan), meetings with the regional bodies in charge of managing water, soil and forests led to the identification of territories representative of the principal problem issues addressed by the Programme. More in-depth coordination is planned as soon as the Programme starts, to finalise the selection of intervention territories in the said three Governorates.

GOVERNORATE OF BIZERTE

The territory selected for the intervention of the Programme in the Governorate of Bizerte covers the two sectors El Arab and Sidi Aissa belonging to the delegation of Ghézala. The population in the two sectors is composed of 740 households (445 in Sidi Aissa and 295 in El Arab) with 3,745 inhabitants, grouped in 33 douars which are attached to 17 *henchirs* (7 at El Arab and 10 at Sidi Aissa). The area covers a total 9,797 ha: 36% natural forests and rangeland, 52% agricultural land. The irrigated perimeters cover 618 ha belonging to 347 farm operators.

In this area, **the management and exploitation of natural resources** is characterised by rural activities in the territory targeted by the programme based essentially on the exploitation of the natural resources: steep maquis scrub rangeland, forests, agricultural land, often sloped in the massif, lands on the plains partially improved by irrigated perimeters.

Family-based livestock breeding, cereal production and rainfed treefarming are the subject of specific know-how but do not provide households with sufficient income. The local economy is therefore highly composite and diversified.

The production system on large farms (land rented from the State) focused on hay production in the irrigated perimeters and dairy cow breeding constitute an example of better use of water resources and land management (use of manure). However, this model is not replicated in small farms, due to lack of financial means and eligibility to existing sources of funding and encouragement.

The population has a right to use the resources in forestry areas and rangeland. The most common current usage remains grazing practiced by small family herds (on average 20 - 30 heads) composed of goats and sheep and a few cows.

The population also exploits aromatic and medicinal plants, harvests certain fruits (capers, pine nuts, Aleppo pine nuts), the coppicing of maquis and carbonisation (unlawfully). Other, indirect usages have no consequences for the resource, such as apiculture, which has an appreciable impact on household income (honey and fertilisation of fruit trees).

The **sylvo-pastoral resources** cover an area of approximately 2,838 ha, of which 2,640 ha are basic formations of maquis scrub and 198 ha forestry plantations and pasture.

The natural forest in its arboreal form is only represented in the region by a few native species: the cork oak (18 ha), wild olive (23 ha) and other species located along the continuous watercourses such as the alder, the weeping willow and sometimes the ash. A high proportion of the wild olive forest is the origin of the olive groves in the region through grafts, which represents an important potential.

Scrubland (e.g. covering of mastic tree on 981 ha, rockrose on 1,229 ha, heather on 173 ha, myrtle, caper bush, Calicotome, wild olive and Kermes oak, etc.) occupies the high ground dominating the rich agricultural land on the plain and plays an important role in the region on an ecological and economic level. The floristic diversity of these formations confer on them economic potential which is not valorised and which could constitute a means of improving the income of the users of these spaces.

The vulnerability of the natural resources in this area concerns in particular the deterioration of water and soil, forests and rangeland. The **deterioration of the forest and rangeland** is clearly visible in the areas extending from the crop growing areas where the downstream production systems are very inefficient, especially at the level of the irrigated perimeters where the rate of use is under 25%. The pressure is felt on the pastoral resources at Mouaïssia, Sidi Aïssa and Henchir Belouar in El Arab. The total clearance of the maquis there is responsible for landslides at Mouaïssia and the abandoning of agricultural land and the exodus from Henchir Belouar. The receding of pastoral and forestry formations in the El Arab and Sidi Aïssa sectors is estimated at 182 ha.

Steep slopes, soil that is sensitive to erosion, erosive precipitations, landslides, reduced plant coverage and the growing of crops in fragile areas, with the sometimes inappropriate growing techniques, all exacerbate the sensitivity of the land to deterioration and increase its vulnerability.

The vulnerability of the natural resources also affects the production systems. In the areas at an altitude, the majority of the farmers practice subsistence mountain farming (forest clearings and foothill areas). These are small, very fragmented family farms that do not exceed 5 ha in most cases and are based on:

- Extensive breeding of mixed bovine-ovine-caprine herds, a principal activity that is not very productive: milk production with a low level of commercialisation, overexploitation of maquis rangelands, which are not entitled to any rehabilitation action, through grazing.
- Rainfed cereal growing using traditional growing methods.
- Olive tree plantations, encouraged by different projects, are not always maintained and they are very low yield. These activities are very seasonal and the restricted surface areas lead the country people to export their labour force to the plains, in particular the large irrigated perimeters.

The vulnerabilities are even more accentuated in the plain areas and irrigated perimeters. In reality, the total irrigable area in the intervention zone, of 618 ha belonging to 347 farmers, is subject to a low rate of exploitation despite the existing potential. The irrigation system set up a long time ago is not suitable for the current social and land ownership situation (very small size of parcels, multiplicity of rights holders, no counter for the payment of the water).

The rate of exploitation of the irrigated perimeters is very low, and so the improved areas in the plain, potentially intensifiable through irrigation, are only very partially valorised at less than 25% of the improved lands. The parcels situated in the zone of influence of Ichkeul lake are underexploited, or even abandoned because of the salinity of the soil.

All these problems on the environmental level are the reflection of a socio-economic fragility and the repercussion of natural, human and structural factors on the exploitation of the natural resources. The farmers do not in fact benefit from the requisite technical support to grow their crops and develop their production systems within the framework of integrated natural resource management. The irrigated perimeters do not fully play their role of safety valve for the mountain and foothill areas in which there is strong demand for grazing and the collecting of firewood for cooking and heating.

Thus, the small, disadvantaged irrigation users mention a number of reasons for the low rate of exploitation of the perimeters that do not exceed 25% of the irrigable surface areas, to wit, the:

- lack of financial means and the difficulty accessing loans,
- high cost of intrants and especially water,
- absence of a WUA and a clean venue at each perimeter,
- difficulties of accessing the undeveloped parcels inside the perimeters,
- hydromorphy and salinity of the soil in the parcels situated in the area of influence of Ichkeul lake only allow the lands to be used for 3 months of the year.

The lack of technical support for small farms, and the lack of financial means and eligibility to existing sources of funding and encouragement, favour the abandon of land in this area and the exodus of people.

Ichkeul National Park covers approximately 12.600 ha and encompasses a mountain with forestry formations (1,363 ha), a lake (8,500 ha) fed by a catchment area of 2,080 Km² and swamps (2,737 ha). Ichkeul lake is connected to the Mediterranean through Bizerte lagoon, via Tinja Oued. This site is very valuable from a heritage point of view. That is to say, it has been designated a National Park (decree no. 80-1608 of 18 December 1980). Furthermore, this site is subject to three international classifications:

- Biosphere Reserve (Man and Biosphere Programme), since 1977;
- UNESCO world heritage site, since 1979;
- Wetland of International interest in the framework of the RAMSAR convention since 1980.

This international importance is in particular due to the birdlife that frequents Lake Ichkeul, one of the principal wintering sites for birds in the Mediterranean area.

Lake Ichkeul is the largest inland body of water in North Africa. It is fed by six principal watercourses, but as for most of the wetlands of North Africa, this lake is subject to alternating periods of abundance of water and periods of drought. However, since the implementation of structures for the mobilisation of the surface waters of its catchment area (53 hill lakes and 3 major dams, since 1986), this wetland of international importance has experienced some extremely critical episodes. The accentuated elevations in the salinity led to perturbations in the plant life present. The site is currently listed on the Montreux record².

The territory selected for the intervention of the Programme in the Governorate of Bizerte borders the Ichkeul National Park, and so special attention must be paid to any improvement or activity which could have an adverse impact on this environment. The head ranger of the National Park must be consulted in the planning of the activities of the programme in the Governorate of Bizerte.

GOVERNORATE OF KAIROUAN

The territory covered by the Programme in the Governorate of Kairouan is situated in the Msaid, Sayada North and Massiouta H'nachir North sectors that come under the El Alaa delegation. This zone of intervention has a population of approximately 9,200 belonging to 24 douars spread over almost 15 km², or an average density of 60 per square km. It comprises approximately 1,952 ha of forestry formations and 3,837 ha of natural rangelands other than forestry. There are cactus plantations covering 1,170 ha, to which are added the fences of the parcels largely spread across the area. The area of the arable land is 6,025 ha, of which 3,665 ha are occupied by annual crops and 2,360 ha by fruit tree farming.

² The Montreux Record is a register of wetland sites on the List of Wetlands of International Importance where changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution or other human interference.

The **rural activities** in this hilly territory are based essentially on **the exploitation of forestry and rangeland resources**. The agricultural land in the East of the zone is valorised in the form of farmland combining olive groves, almond trees and cereals, crops that are enclosed by Prickly pear cactuses. **The garrigues** continue to play **a role of protecting the hills** that overlook the crops.

The **forestry resources**, situated largely in the central zone, are formed by conifers and formations of garrigues. The **coniferous forest** is formed mainly of Aleppo pines sometimes mixed with red cedar. In the majority of cases it's irregular tall-tree forest that tends towards the regular in places where there have previously been fires. **The garrigue formations** are composed essentially of rosemary and alfa grass, which play an **important role** in the area **on both an environmental and an economic level**. They cover 2,255 ha, and are composed mainly of ligneous shrubs with herbaceous annuals and perennials. They constitute indispensable areas of rangeland for extensive sheep rearing and are frequented all year round.

The **rangeland under forest** (1,950 ha) is composed of a majority of ligneous species and with low to average fodder value. The vegetation of the **natural rangeland** other than forestry is especially of the annual and perennial type with a few shrubs. It is used in particular during the autumn, after the first rains, and during the spring, which is also the case for agricultural fallow land. **The pastoral plantations** (1,262 ha) principally based on the cactus and a few Acacias, are used as a reserve for standing fodder during the difficult periods and dearths. The spineless cactus is exploited by cutting annually (sensitive to direct grazing), whereas the Acacia is coppiced on a 3 to 4 year rotation.

With the submission to the forestry regime, **the population's usage rights are regulated**, the most important being grazing and gathering of dead wood lying on the ground. Other rights are subject to prior authorisation, such as the gathering of the cones of the Aleppo pine to extract the seeds which are commercialised by the population. The most common usage of the rosemary covering is direct grazing for animals with average annual production of 480 FU/ha. The population uses rosemary as a condiment for their own needs and sometimes as a combustible.

The vulnerabilities of the natural resources can be seen in the **fragility of the soils**, the deterioration of the soil and the **poor management of water resources**.

The area has been subject to numerous improvements in terms of water and soil conservation, in particular contour benches that are very visible in the landscape and play an important role in water infiltration. The very friable soils make the benches extremely fragile and require essential planting work for the sustainability of these types of improvements.

The water resources are threatened given the high constraints on water due to the aridity and the depth of the water table. The area has no potentialities for large-scale hydro-agricultural improvements. Two hill dams were built in the 2000s at Mora and Oued el Khil (western zone) and are currently under-used due to technical and organisational problems. Only around fifteen farmers seem to actually use the water for irrigation of fruit trees and market gardening. There are three hill lakes, which were created in the 1990s; the three structures, lake Elabsa 1 and 2 and lake Kheil are currently silted up. More than half the area is characterised by gradients in excess of 8%. The nature of the soils (dominated by brown chalky soils and the rendzinas of varying depths) make them sensitive to erosion. More than 70% of the area falls into erosion classes average and strong, with deep ravines in places.

The coniferous forest is threatened by the intensity of the anthropic pressure, in particular around the douars. The forms of deterioration the most frequent in forestry are clearance for agricultural extensions, the cutting and mutilation of trees either to use the branches or when gathering cones. Overpasturing has the effect of compacting the ground and inhibiting regeneration. The principal threats leading to the deterioration of the rangeland are related to the growing of rainfed cereals and to overpasturing.

The production systems are centred on the association between dry orchards and extensive breeding. The territory under consideration is strongly dominated in the economy and in production methods by dry orchards based on olives, almonds to a lesser extent, cactus sometimes in dense parcels beyond the systematic enclosures. This agriculture in arid land is combined with extensive local livestock breeding. Irrigated lands are rare and insufficiently used.

The systems for feeding the herds are not autonomous in the area, they require the purchase of rough fodder, straw and hay, from wetter regions in the North. During dry years, the cereals are grazed and the dependency on the purchase of food for the animals becomes crucial and costly. The quantities of wheat bran made available through UTAP are not sufficient to complete the feeding provided on the spot by cactus racks. The traditional local varieties of this species are thorny and using it for feeding ruminants is labour-intensive because the thorns have to be burnt off. The use of the forestry rangeland as currently practiced, with no organisation or limitation, is a factor in the deterioration of the vegetation covering in the more or less long term. The consequences for socio-economic development of the pressure on natural resources and poor management are already being felt. The El Alaa area, favourable to nomadic herders, is densely populated, inducing a deterioration of the rangeland in parallel to the enrichment of certain local families who profit from this revenue.

The problem of the **parcellation of land** has become a major constraint in the area. The El Alaa area has inherited a complex land ownership situation which is often raised by the local players and constitutes an obstacle to the improvement and management of the land (fragmentation of the interests and of the centres of decision-making), as well as to the development of activities by young people. There follows an increasing **exodus** to localities such as Sousse and Kairouan to ensure an income to complement agro-sylvo-pastoral productions (e.g. the population of the Msaid sector decreased from 2,840 to 2,300 habitants between 2004 and 2014 and Sayada North from 2,796 to 2,332 over the same period).

The production systems in the area are particularly **vulnerable to climate change**. The hilly part of the catchment area Merguellil upstream and partially Zeroud in the region of Kairouan is particularly exposed to risks of this type. Family farms based on dry orchards and livestock breeding upstream of the reservoirs shall be impacted by the **prolonged droughts** announced, while the exceptionally heavy rains could accelerate the phenomena of **soil erosion, flooding the land** downstream and accelerating the dynamics of filling in the existing reservoirs downstream.

GOVERNORATE OF LE KEF

The two sectors El Ksour and Ain Fdhil belonging to the delegation of El Ksour constitute the territory selected for the intervention of the Programme in the Governorate of Le Kef. The delegation of El Ksour has 16,888 inhabitants scattered across almost 456 km², which is an average density of 37 habitants per km². The area covers a total 21,200 ha of which 5,300 ha are forest, garrigues and maquis scrub (23%), 2,700 is natural rangeland (13%), 59% agricultural land with annual crops (12,600 ha).

The rural activities targeted by the programme repose essentially on **the exploitation of the natural resources**: forestry resources for the villages in the central part, agricultural land, largely exposed to aridity and cold, foothills in the Western part near the town of El Ksour, a small part improved by the hill dam of Dfeili which is under-exploited, in the North East. **The forestry resources** cover an area of approximately 3,420 ha concentrated in the centre east (Ain Fdhil sector). There is another significant forestry formation in the West in the El Ksour sector. It is a 200-hectare private forest. There are also 400 hectares of collective rangeland subject to the forestry regime in the sector of Ain Fdhil.

The state-owned forest is dominated by a formation of variable density of Aleppo pine which is subject to an improvement plan ensuring exploitation of the wood over twenty years. It allows for the exploitation of the wood for an area of 300 - 400 hectares per year. The seeds of the Aleppo pine are subject to regular exploitation under the control of the forestry department. The rosemary covering is important and also subject to an adjudication each year (1,000 hectares in 2014 for the distillation). The improvement plan also allows for the valorisation of the lentisk, a product which is also in great demand, but not currently exploited contrary to the forecasts which would permit the exploitation of approximately 600 hectares every 3 years. Management of the state-owned forest also allows for different tree works – thinning, branch trimming, cuts to improve and plantations, but these works are not done regularly due to a lack of technicians and resources.

This intervention area constitutes **a heritage of water resources** to be developed and managed sustainably. The central forestry massif of the area is responsible for supplying several springs on the different slopes, springs that have a fundamental domestic and pastoral utility. However, certain improved springs are not compliant with the national standard for access to drinking water (AEP). Most of the drinking water access models in place in the zone are not very functional or long-lasting (indebtedness, management conflicts, dissolution of the WUA). The water from these AEPs is paid for by the users who generally also use the springs for animals and domestic water. These natural sources are also an important item in the social and land-ownership identity of the douars. **These springs are endangered by the practices of clearance of the natural rangelands** and are sensitive to the consequences of climate change. Thus, the droughts are factors of vulnerability for the herders who must constitute stocks in this face of these risks.

In terms of the **management of pastoral resources**, the territory concerned comprises more than 8,000 hectares of pasture not cultivated and access to which is regulated in different ways. There are more than 4,600 hectares of rangelands of mixed density but of great natural value which complete the lands for cereal growing with low productivity. It is this **combination of grazed cereals and natural rangeland** which is the source of the important **pastoral vocation of this massif**. Added to this are **potentialities in the management of wildlife** since the forestry area is relatively rich in small game and wild boar. The El Ksour delegation grants approximately 20 hunting permits a year. As a complement to these agro-pastoral productions, the forest offers these exploitations income derived from the labour force employed in forestry sites, apiculture and the sale of zgougou extracted from the pine cones.

agro-pastoral livestock breeding is at the heart of the local agricultural economy and constitutes a contribution to the regional economy. It supplies several markets on the periphery of the area and the breeders come regularly in transhumance to make use of the stubble fields in the South-Western part of the area following the terms and conditions of monetarised contracts. This breeding is considered extensive but it is the fruit of considerable know-how it is important to use, know-how that enables the combined exploitation of the vast zones of natural rangeland, the cereal stubble fields, and fodder crops exploited as feed (barley-oat mixtures).

The main problems on an environmental level are related to the vulnerability of the natural resources, in particular the deterioration of the water and soil, rangeland and agricultural lands. Run off and erosion of the soil leads to risks of flooding in the plains and the silting up of the hill reservoirs.

The **erosion** is average to strong in certain catchment areas and is visible in the stripping of the surface, sheet erosion and gulying as a consequence of the dominance of steep slopes in the area, irregular and erosive precipitations, and soils that are particularly sensitive to erosion. The rate of **silting of the hill lakes** (3 hill dams, one of which is totally silted up) seems high and the degree of use remains low.

The **deterioration of the rangeland** is a phenomenon that is taking on a worrying amplitude, in particular under the effect of the ploughing of the rangelands to transform them into land for growing cereal crops or into olive groves. The durability of these new usages is far from certain given the low yields of these lands on high slopes and the losses that follow in terms of soil and biodiversity. Note that through this change of exploitation method it is also the land ownership status of the land in question that changes.

Overpasturing, often mentioned by the players, leads to a loss of pastoral value of the rangeland in the areas close to the habitations, but it is much less visible in certain areas where the rangeland presents a great diversity of plants that resist drought and cold, including aromatic plants and plants with multiple uses such as Mauritanian grass.

The **production systems** are also **vulnerable** and are especially centred on mixed, extensive livestock breeding. The territory under consideration is largely dominated in the economy and production methods by extensive local livestock breeding that is nomadic and comes from the southern governorates of Kasserine and Sidi Bouzid. The vulnerability of the cereal production systems in the foothills areas of the South-West reside in their sensitivity to contingencies such as frost and drought. The absence of crop rotation and the introduction of legumes poses problems of soil fertility.

In view of the hilly landscape, the territory hosts little irrigable land, **and what irrigable land there is rare and poorly developed**. The existing improvements, such as the Feili hill dam, are not fully taken advantage of.

The exploitation of wood is subject to **pressure and is no longer regular**, due to a lack of technicians to organise the exploitation worksites. The exploitation of wood has an improvement plan, but it has not been implemented adequately due to a lack of human resources.

The vulnerabilities affecting the management and exploitation of natural resources may have imminent socio-economic repercussions. With the revolution, there was effervescence in the region and some abuses, in particular through the cutting of trees on the edges of the agricultural enclaves in forestry areas.

GOVERNORATE OF SIDI BOUZID

Two territories have been selected for the intervention of the PACT in the Governorate of Sidi Bouzid: the sector of Rihana and the area of El Ayoun.

The sector of Rihana is attached to the delegation of Rgueb administratively. The population comprises 718 households with 3,115 inhabitants, grouped in 6 principal separate localities where the distribution of space is related to access to land ownership and natural resource management (collective or state-owned rangeland). The area covers approximately 10,000 ha of which 4,000 ha of agricultural land (in private properties) and 6,000 ha of rangeland of which 2,000 ha of nature reserve (Rihana reserve, created in 2010 on the Jbel Gouleb).

In the **Rihana nature reserve**, the vegetation is composed essentially of alfa grass, associated with other tree species (Aleppo pine, pistachio tree, wild olive), shrubs (caper bush, *Rhus tripartitum*, *Periploca*) and garrigues (rosemary, absinth, astragalus, etc.). **This rich variety of plants** makes this the most important pastureland in the area, which was previously exploited by the local residents, exercising their usage rights. The reserve was created by administrative decision to slow down the process of accelerated deterioration of the natural resources and ensure their rehabilitation and preservation, without however offering an alternative to the users to compensate for the loss of part of their living territory.

The rangeland of the forestry domain, situated in the foothills of Jbel El Khachem, has been the subject of some pastoral improvement actions with essentially plantations of cactus on one area of 250 ha and various plantations of shrubs for fodder on approximately 150 ha (*Acacia*, *Periploca*, *Rhus tripartitum*). A large part of these improvements have been preserved to date. The cactus was exploited by cutting up until 2010 in the form of small products of 15 millimes/racket or 28 dinars/trailer load. **The collective rangelands** occupy 500 to 600 ha, and are situated in the foothills of the nature reserve. They have not been improved and over the past few years have been rapidly changing their vocation with significant clearances and plantations of olive trees that are advancing continuously in places as far as the foothills of the reserve.

The Rihana nature reserve and the forestry rangeland in the area were subjected to a number of infringements during the post-revolution period (destruction of fences, unlawful exploitation of alfa grass). The number of fines from the forestry service for offences during the period 2011-2013 was of 143 for an amount of 32,000 DT. These acts reflect a reaction to the deprivation of the right of use consecutive to the protection introduced since 2010.

The vulnerability of the water and soil can be seen in the catchment areas which are largely bare. These catchment areas suffer various forms of erosion which are evidenced in the concentration of run-off, the stripping of the surface and sheet erosion. The undercutting of banks and landslides are also seen in several places. In periods of spate, the different watercourses cause flooding with damage to crops and to the infrastructure situated downstream. **The impoverishment of the plant covering** upstream of the catchment area favours the run-off on bare ground that is in steep slopes on a high proportion of the catchment areas. Due to this, the plain does not take sufficiently advantage of the run-off which further on contributes to supplying the Rgueb watertable.

The lack of protection structures and structures to recharge the watertable as well as the **absence of structures for storing rainwater** limits the use that can be made of the water in an area with low rainfall. The rate of improvement in terms of water and soil conservation structures is around 24% the whole of the area and 37% of the arable land. The majority of these improvements require maintenance and consolidation.

The Rihana area is supplied by the Rgueb watertable which provides good quality water. This watertable is slightly **overexploited** with an increasingly accentuated drawdown from 0.6 metre/year on average. In addition to public drilling used for drinking water, there are 5 other private wells exploited for irrigation in the plain situated in the prolongation of the areas of rises occupied by the rangeland.

The **production system** in the Rihana area is based on two principal speculations that is to say olive growing and dairy cattle breeding. The creation of the reserve seems to be causing an important change in the system of breeding with the development of dairy cattle breeding to the detriment of extensive family-based sheep breeding (around ten heads per breeder). However, the durability of dairy cattle breeding in the area could be compromised, in the medium term, by the **deterioration of the collective rangelands** and the **absence of a plan to manage the reserve** enabling the rehabilitation of its pastoral resources and their utilisation within the framework of integrated and coordinated management (co-management), in complementarity with the other agro pastoral resources.

The rapid expansion of the olive plantations that occupy almost the entire plain and are steadily progressing on the rangelands requires much upkeep. The majority of these plantations do not benefit from the requisite maintenance operations (size, training, fertilisation). **These plantations, especially the most recent, are exposed to real risks of droughts which have become more frequent and longer lasting due to climate change.** The farmers do not possess the reserves of water they need to ensure the supplemental irrigation of their plantations. Currently, certain farmers rent water trucks for the purpose, and these are very expensive.

Part of this territory covered by the Programme is occupied by the **Rihana nature reserve** which was created in 2010 (decree No. 2010-1699 of 05 July 2010) in an area of 2,000 ha, under land ownership title no. 10762 of the State-owned forest. The aim of creating this reserve is the preservation of the flora and fauna representative of a region of high steppes that are threatened with extinction. Its proximity to urban centres such as Maknassy and Rgueb makes this site interesting from the point of view of science and tourism. The descriptive sheet drawn up by the DGF for this reserve lists 18 species of flora and 17 species of fauna of special interest and whose preservation constitutes one of the objectives of the reserve. The decree creating the reserve stipulates that it is subject to a participatory improvement and integrated management plan drawn up by the competent forestry services, approved by a commission comprising the representatives of the ministries concerned - of the environment, tourism, culture, higher education and scientific research and of the regional authorities designated by decision of the Minister in charge of agriculture. This plan comprises all the measures likely to ensure the conservation of the natural state of the above-mentioned nature reserve and the protection of the wildlife it contains, while at the same time respecting its specific scientific, cultural, educational, recreational and aesthetic features.

For more than 5 years, the nature reserve and the forestry rangeland have been subject to a prohibition (*mise en défens*) which for certain species may constitute a factor of deterioration, principally for alfa grass (risk of ageing and wasting). The sale of alfa grass for fodder has therefore become an increasingly important speculation and lucrative given the extent of demand and the sale price which varies from 0.280 to 0.300 DT/kg. This has encouraged infringements in the nature reserve and has led to the establishment of a circuit of supply/commercialisation starting from Kasserine where the deterioration of the alfa sheets is increasing constantly.

The area is among the most **vulnerable** in the Governorate **from an ecological and socio-economic point of view**, given the advanced state of deterioration of the natural resources and the loss of a considerable part of their production potential. Due to this, the area is experiencing a **considerable exodus**, especially of young people, towards the towns.

The **El Ayoun area** which comes under the sector of the same name and is part of the delegation of Cebalet Ouled Aska. The population comprises 546 households with 2,706 inhabitants, grouped in 7 principal separate localities, the main ones being Blahdia (270 households) and Saidia (170 households) and distributed in the space in relation to access to land ownership and natural resources.

The area covers 11,039 ha of which 6,000 ha are forest and forestry rangeland (54%) which are part of the forestry massif of Mghila composed essentially of Aleppo pine forest and garrigue (mixture of juniper and Aleppo pine), the rest is divided among agricultural lands and steppe rangeland of alfa grass.

The **forestry and rangeland resources** are constituted of four units of landscape, from upstream to downstream: (i) the Mghila National Park (Aleppo pine forest and garrigue), (ii) garrigue (with a mixture of Aleppo pine, juniper and rosemary), (iii) the alfa grass sheet and (iv) the rangeland planted with cactus.

In addition to its ecological role, the forest offers the local resident population a range of products. Hence a socio-economic interest through in particular the exploitation (i) **of Aleppo pine nuts**, (ii) **rosemary** as an aromatic plant and as firewood, occupying an area of 600 ha scattered in the forest and the garrigue and (iii) the **alfa sheet**. This last covers 1,680 ha and constitutes a vital space for the population and a source of income for 750 people including 300 inhabitants of El Ayoun. It is used as rangeland but is also exploited to supply a paper pulp factory at Kasserine.

The **agricultural land** (774 ha) is heterogeneous formed of (i) **crops and olive plantations** on rises with mild slopes occupying a good part of the agricultural land and which are constantly spreading to the rangelands and (ii) lands with **cereal crops**. Also found there are the jujube tree and sheets of *Peganum* offering, with the cactus and rosemary (in the forest), giving the area a potential for quality honey.

The main problems on an environmental level are related to the vulnerability of the natural forestry resources and rangelands, the deterioration of the water and soil, and the vulnerability of the production systems. The forestry resources are subject to management methods that are little controlled, including in the National Park, in particular **clearance, the deterioration of the rosemary** (formerly exploited for the extraction of the essential oils), as well as the **unlawful exploitation of alfa grass**. The remoteness of the area and the constraints related to insecurity and lack of resources on the part of the forestry department limit the control of these resources. These constraints are amplified by the lack of involvement of the users in managing the forestry and pastoral resources.

The vulnerability of the water and soil is seen through erosion, the concentration of run-off, the stripping of the surface, sheet erosion and gullyng as a consequence of the steep slopes in the west. The irregular precipitations and bad weather provoke considerable run-off on soil that is particularly sensitive to erosion (undeveloped mineral soils and slightly developed soils), associated with the undercutting of banks and landslides causing important losses of agricultural land in several places.

The **deterioration of plant covering** upstream and the **clearance of alfa grass** in the rangelands amplify these erosive phenomena across the area as a whole.

The ROAD has built 4 hill lakes at El Ayoun to store the run-off for supplemental irrigation of the olive plantations and for drinking water for animals to make up for the **deficit in water** and mitigate the effects of the **droughts** which have become more frequent and last longer in relation to **climate change**. These improvements are not fully taken advantage of and two lakes are clogged up under the effect of erosion and through lack of protection.

In addition, the rate of conservation of the water and soil remains very insufficient (20% of the lands affected by erosion of which only 9% of the arable land) and the resources in groundwater seem quite limited.

The production systems in the El Ayoun area, based on extensive livestock breeding and olives are **fragile**. For family-based **breeding**, the **livestock**, composed of small mixed sheep and goat herds (around twenty heads per herder) are not entitled to any development operations. It takes most of its feeding needs from the natural rangeland. Only 4 herders fatten lambs. Around twenty farmers have cows whose milk is consumed by the households.

Olive growing is hard hit by the **lack of water** and the absence of the requisite maintenance operations (size, fertilisation), which explains the low success rate for the planting of olive trees (80 ha planted between 2011 and 2014). These plantations are exposed to real risks of droughts which have become more frequent and longer lasting due to climate change. The farmers do not possess the reserves of water they need to ensure the supplemental irrigation of their plantations and often rent water trucks for the purpose, which are very expensive. Others practise subsoil tillage on skeletal soil which is subsequently planted with olive trees. Currently only one lake is used by one farmer for supplemental irrigation, essentially of olive trees.

The different **forestry resources** are exploited by the local residents who, to date, exercise their **right of use**. The forestry rangeland constitute vital spaces for maintaining the breeding of sheep and goats. Several households in the area and the neighbouring areas depend on alfa grass as a source of income, which, in addition to its pastoral use, continues to constitute an socio-economic activity of major importance.

Despite their importance, these different **resources are exploited in an almost uncontrolled manner** and are subject to a process of **deterioration**, which affects more particularly the **alfa sheet which is continuously receding**. Since the revolution, the rangeland and the alfa sheets have been subject to a strong dynamic of cultivation.

The land ownership situation of the agricultural land **is not the subject of conflicts** and does not seem to pose constraints on the development. However, given the advanced state of deterioration of the natural resources and the loss of a large part of production potential, the area is experiencing **a considerable exodus**, generally temporary, especially of young people, to the major towns (250 to 300 young people are concerned).

Despite the recent actions to improve basic infrastructure during the post-revolution period, **certain localities are still isolated** (Jouailia, Nguairia, El Mkhalfia).

The intervention territory of the PACT at Al Ayoun covers part of the southeast slope of **Mghilla National Park** which was created in 2010 (decree No. 2010-570 of 29 March 2010) on an area of 16,249 ha. This National Park covers areas in the delegations of Sbiba and Sbeitla, which come under the Governorate of Kasserine and the delegations of Jilma and Ouled Asker, which come under the Governorate of Sidi Bouzid. It was set up to preserve remarkable plant formations such as the clumps of red cedar, the most southerly Tunisian station of heather maquis, the remainder of a relic forest of Holm oak, as well as Atlas pistachio trees, carob trees and very valuable Aleppo pine seed trees. The fauna of this park is also very rich with remarkable species such as the Striped hyena, the Porcupine and several other species of protected mammals, reptiles and birds.

GOVERNORATE OF SILIANA

The area concerned by the Programme in the Governorate of Siliana is that of El Gabel-Sidi Mansour, which comes under the delegation of Siliana South. This zone of intervention has a population of 5,104 belonging to 1,242 households, in 40 douars and agglomerations spread over almost 138 km², or an average density of 37 per square km. In the eastern part, the area is marked by state-owned land and large estates, the majority of the population being concentrated in a para-urban hamlet (El Gantera) which hosts more than a third of the total population. In the West part, the landscape is hilly and the distribution of the population is scattered for related to small, mountain agriculture where habitat is an integral part of the farm.

The area covers a total 12,113 ha of which 940 ha are forest (7.7%), 2,560 ha (21.1%) garrigues and maquis scrub of natural rangeland, 8,613 ha agricultural land with dry annual crops (7,879 ha) and fruit trees (734 ha), or 64.9% and 6% respectively.

The **forestry and pastoral resources** are constituted by a dominance of pastoral spaces on the hills of the North-West, and by the natural forest that occupies the South-West of the zone. These forestry and pastoral formations encompass garrigues and rangeland under forest as well as pastoral plantations, crop residues and fallow land. **The garrigues** (approximately 4,000 ha) are formed by the garrigues of Mauritanian grass, alfa grass, rosemary, thyme and absinth. **The rangeland under forest** is composed of lentisk, wild olive, rosemary, alfa grass and of rockrose. The practice of grazing is free throughout the area and there is no real management of these rangelands. **The pastoral plantations**, essentially Acacia and spineless cactus on an area of approximately 40 ha exploited with little supervision. The cactus is exploited by cutting rackets to feed the herds. **The crop residues and fallow land** provide bulking food for a complement based on barley or compound feeding stuff. The area also comprises **artificial populations** which are plantations done within the framework of the fight against erosion and the protection of the catchment area of the Siliana dam against silting up. The **rosemary** sheet is important in the region, but has never been sold for distillation on an industrial scale because of its state of deterioration by overgrazing. The **lentisk** is also a resource with multiple uses (distillation of the twigs and extraction of the oil from the berries) which is not exploited in the area through lack of awareness and lack of training.

In addition to the common uses prescribed in the forestry code, other than grazing and the dead wood lying on the ground, and which are tolerated within the limits of the personal needs of the users, the natural forest known as "Nemeiria forest" offers non-ligneous products which can be exploited for commercial or industrial purposes in return for a permit and a licence fee. Among these products available at Nemeiria, there are Aleppo pine nuts of interest to 280 households among the communities of Nemeiria, Kef Cheïb, Ain Joza and Snoubrine during a period from November to May.

The **main problems on an environmental level** are related to the vulnerability of the natural resources, in particular the deterioration of the water and soil, pasture resources, forests, rangelands and agricultural lands. The catchment area of the Siliana dam is in fact subject to **anthropic pressure through the deterioration of the plant covering and unsuitable crop growing practices**. This has meant that the vulnerability of the land to erosion is increasing, causing the siltation of the reservoir of the dam. The **vulnerability of the water and soil is accentuated** in the hilly landscape with low yield cereal crops and deteriorated rangelands, where there is an extremely high degree of erosion. The crop growing practices, the relief and the nature of the soil mean that the threat of erosion weighs heavily on more than 50% of the total land. The most widespread forms of erosion are sheet erosion and gullying which is sometimes spectacular. The gravity of the erosion is perceptible through the rapid silting up of the hill lakes built to be used by the farmers. In the plain, the loaded run-off washes over the irrigated perimeter causing damage to the crops and infrastructure despite the fact that a canal was dug to collect the water from the most threatening gulleys. The lack, or even total absence, of maintenance of this canal amplifies these phenomena and contributes to the flooding of part of the agricultural land. In the framework of the strategy to mobilise and valorise the run-off, three hill lakes were built and a fourth has just been finished, but through lack of protection upstream, two are totally silted up. Physical and biological anti-erosion improvements have been produced on the slopes but these remain insufficient given the amplitude of the erosion phenomenon and the surface areas not treated.

The **vulnerability of the forests and rangelands** is accentuated by the absence of regulations for the use of the space and the limitation of the load. This *de facto* situation has caused a **deterioration of the pastoral resources in terms of quantity and quality** and consequently, an **aggravation of the erosion through a reduction in plant covering** and compacting by the trampling of cattle.

The **production systems** are rendered fragile by the sustained growing of crops on cereal soil and this is unfavourable to a sustainable management of this land. They are related to the topography and soil conditions and the availability of water resources. On the hills and slopes, it is the small, mountain agriculture with the agrarian structures characterised by their small size and the parcelling of the farm. The dominant speculations are dry tree farming based on olives. On the plain, where large, especially state-owned estates dominate, the soil is deep and rich, and there are two production systems that coexist, (i) irrigated crops in two irrigated perimeters, Lakhmes (1,277 ha) and the perimeter of El Kharouba (60 ha) which is being rehabilitated. The speculations practiced in irrigation are fruit tree farming, dominated by the olive, wheat, fodder crops and market gardening. This agriculture in arid land is combined with extensive local livestock breeding.

The majority of the households depend on an agricultural activity as a source of income, as direct farmers or as workers on the large farms. Dairy breeding and fattening are concentrated in the irrigated perimeters and large state-owned farms, while small-scale breeding, specially sheep and to a lesser extent goats, remains extensive and is concentrated on the deteriorated rangeland based on Mauritanian grass, Alfa grass and rosemary. A hub of dairy cattle breeding has developed in the small farms in the foothills with a circuit of milk collection already operational.

The problem of **parcellation** characteristic of the mountain farms currently affects the Lakhmès irrigated perimeter leading to a state of **abandon of the land** and conversion to salaried employment with a repercussion on the rate of intensification of the perimeter which encourages the **exodus**. For this reason, a large number of young people and heads of households have recourse to periodic internal migration, especially from the most underprivileged localities towards the large coastal towns for work in particular on the construction sites for five to six months a year. Thus, the population of the area fell by 506 from 2004 to 2014. There are several reasons for the exodus such as job search, the schooling of children and matrimonial commitment.

The effects of **climate change** are felt in the region through the increase in violence of the storms and the extension of the dry seasons. With the region's seasonal and torrential pluviometric regime, erosion is therefore more intense and its effect is added to that of over grazing, the strong anthropic pressure and the poor management of the resources. The fragility of the soils and erosion are factors which have dramatic repercussions on the socio-economic aspect of the area.

GOVERNORATE OF KASSERINE

On the basis of the preliminary coordination with the regional authorities directly concerned by the Programme, the Foussana area has been considered a possibility for the intervention of the Programme in the Governorate of Kasserine. It is representative of the principal concerns that the Programme addresses. However, the final definition of the territory to be covered in the Governorate of Kasserine shall be done at the start of the Programme on the basis of more in-depth coordination.

The Foussana area is a plateau surrounded by the highest mountains in Tunisia (Chambi, Semmama and Bireno). There are approximately 113,000 ha of which 35,000 ha of forest. The Foussana delegation has approximately 41,450 inhabitants with an average age of 30. The **agricultural production system** is dominated by the apple tree. This area is the second most important apple growing area in Tunisia. The other activities of the region concern market gardening, cereal crops and sheep and cow breeding. The latter is supplied with fodder from the irrigated perimeters with the addition of hay and concentrated feed. Activities related to the exploitation of **non-ligneous forestry products** exist in the sectors of Afrane and Hezza, including the extraction of essential oils and Zgougou (Aleppo pine nuts).

Being situated in a border zone, the area is known for smuggling and for some years has experienced problems of security.

The principal **environmental concerns** are related to the salinization of the water and the overexploitation of the watertable. The area has 320 private wells and 50 public wells supplying in total approximately 3,000 ha. The Foussana watertable is approximately 197 Km², its renewable resources were estimated in 1992 at 140 l/s. A dam is being examined for the Htab oued.

Water erosion constitutes another preoccupation in the zone. A study published in 2014 showed that the main parameter of erosion is run-off; which creates gullies in the Hazza Afrane area. The study area covers approximately 15,000 ha (or 16% of the total area of Foussana delegation) and is situated downstream of the catchment area of El Htab Oued. This study showed the extent of the phenomenon of water erosion and proposed a multitude of solutions each adapted to the local context of its implementation. These are cordons and thresholds in dry stone, gabions, masonry structures, earth dykes, gabion spreading, structures to protect banks, mechanical benches and hill dams. the study emphasised the importance of accompanying all these structures by biological consolidation works through suitable plantation.

In addition to the WSC works, the area's **intervention needs** concern infrastructure (rural tracks, electrification) and the development of certain sectors related to agriculture such as milk collection and the industrial transformation of apples. The development of such sectors will require training and support operations for young people and women.

GOVERNORATE OF MAHDIA

During interviews with the executives from ROAD in Mahdia in charge of the conservation water and the soil and forests, it appeared judicious to consider the catchment area of the Melamse oued as a possible territory for the intervention of the Programme in the Governorate of Mahdia. This area is part of the Boumerdes delegation whose population is estimated at 33,890 with an average age of 29.11.

The area is characterised by the growing of olive trees for which it offers optimum soil and climate conditions. It also contains forests, which, according to a study done in 2010, are artificial formations subject to much deterioration and whose main function is **to combat water erosion and protect the agglomerations and agricultural land from flooding**. The ligneous forestry production is only a second ranking alternative after protection. The same study stressed that the forests in the area are subject to conservable threats such as unlawful removal, excessive grazing of sheep and goats, clearance to plant olive trees, the lack of hydraulic facilities and the lack of maintenance of the WSC structures. It indicates in this respect that one structure is partially damaged (the spillway of the hill dam has collapsed), and it is very urgent to repair it. It also indicates that in the forest of Melamse Oued, the network of ways and forest paths (limits or fire protection) is in a poor state of repair, or even wiped out by erosion.

The **principal environmental concerns** are related to excessive grazing and water erosion favoured by the torrential nature of the rain. Note that, as in the rest of Tunisia, the treatment of vegetable waters produced by the crushing of the olives constitutes an environmental problem for which few effective solutions have been implemented.

GOVERNORATE OF ZAGHOUAN

Concerning the territory of intervention of the Programme in the Governorate of Zaghouan, during coordination with the executives from ROAD in charge of the Water and Soil Conservation and forests, It was agreed to consider the catchment area of Sbaïhia Oued as a reference area pending the refinement of the selection of the territory in the framework of agreements with the stakeholders to be conducted when the Programme starts up.

The area is part of the Zaghouan delegation and holds forest of approximately 2,000 ha of natural population of Thuja and Aleppo pines, as well as rangelands.

The **water resources** of the area are constituted by underground water and surface waters and the area has an irrigated perimeter of 120 ha (citrus, almond trees and seasonal crops). The infrastructure for the mobilisation of surface water comprises 5 hill lakes, some of which have been clogged up by water erosion.

The **agricultural production systems** are based on the breeding of cows and goats, cereal crops and olive trees. There is not enough pasture land for the herds in the area and the plantations to consolidate WSC are sometimes destroyed by the herds. However, the intervention of the Office of Livestock Breeding and Pasture (OEP) provides compensation in terms of feed for the animals as part of the agreements signed with the herders on condition that they prevent their herds from grazing in the consolidation plantation areas.

Forestry exploitation in the area is not subject to improvement actions. Resources in non-ligneous products are exploited in the zone in particular lentisk and rosemary which are distilled to extract the essential oils. This activity is assured by a WUA of women which was provided with support to set up the distillation activity and also to promote the commercialisation of the products, including through exportation.

The principal **environmental problems** in the area are related to over grazing, and clearance operations to convert forestry areas into land for crop growing. The principal needs in intervention from the Programme concern WSC works in particular to protect the hill lakes and in replanting trees and infrastructure improvements (tracks, fire ditches and maintenance of the drinking water network), creation of reserves of rangeland (plantation of Acacia and cactus) that can be used in lean periods by the herders in forestry environments. The intervention of the Programme could also facilitate the cleaning up of the land ownership situation and the drafting of official reports for the improvement of State-owned and private forestry areas.

4. IDENTIFICATION OF THE PRINCIPAL ENVIRONMENTAL AND SOCIAL IMPACTS

The actions of the PACT are oriented towards the preservation of resources and adaptation to climate change in areas deemed particularly vulnerable. Most of the interventions of the Programme are therefore expected to generate positive effects on an environmental as well as social level. However, the improvements to be made and other activities to be promoted by the Programme may generate adverse impacts if the necessary precautions are not taken to identify potential impacts and plan measures to prevent or attenuate them. Similarly, certain actions could have an impact on the land ownership status of the land with possible repercussions of a social nature.

Furthermore, in several of the Programme intervention areas, elements of remarkable heritage value from an ecological point of view are present and must be subject to special attention to avoid allowing them to deteriorate subsequently to the interventions of the Programme.

The purpose of this section is to analyse the actions whose implementation is planned within the framework of the Programme to identify their impacts. This analysis will deal with both the positive impacts and the negative impacts and will not be limited to the strict implementation area of the Programme but will also examine the possible impacts in the Programme's sphere of influence. The sphere of influence may well extend, for certain activities, well beyond the boundaries of the direct intervention zone of the Programme.

The analysis carried out in this section is done on the basis of the Tunisian regulations and the environmental and social procedures of the World Bank.

4.1 ANALYSIS OF THE POTENTIAL IMPACTS OF THE COMPONENTS

COMPONENT 1 - COORDINATED PLANNING OF NRM ACTION, TERRITORIAL ANIMATION AND TRAINING

- Section 1.1: Information, territorial diagnostics, drafting of NRM plans
- Section 1.2: Topical diagnostics and associated improvement plans
- Section 1.3: Support to the territory committees, training, capacity building for organisations

This Programme component as a whole will promote the participation of stakeholders in planning the management of natural resources in the Programme areas.

Positive impacts

The effects of Sections 1.1, 1.2 and 1.3 of this component will be essentially positive since it is a question of promoting the participation of the local population in the planning. This is in fact to encourage their acceptance of the process of sustainable use of the natural resources and boost the ownership of the Programme goals and expected results by the different stakeholders. On the economic and social level positive effects are expected in the income and living conditions of the local population, in particular provisions to be taken within the framework of Section 1.2 such as those relative to positive discrimination in favour of local organisations (Water Users Associations - WUAs, Mutual agricultural services companies – SMSA, Development Associations) for the contracts for the exploitation of forestry resources. Similarly, the training and capacity building actions planned within the framework of Section 1.3 will be beneficial to improve the aptitude of the local players to sustainably manage the natural resources through adequate planning.

Negative effects

This component, by its goals and planned actions, is not expected to generate any significant adverse impacts. However, it is possible that certain categories of players are excluded from the coordinated planning process or that the benefits of the Programme are not always equitably shared. The lack of involvement of the players already noted in certain territories selected for the intervention of the PACT is one of the factors that could accentuate such risks of exclusion and inequitable distribution of the benefits.

COMPONENT 2: INVESTMENTS OF IMPLEMENTATION OF THE INRMP

- Section 2.1: Physical investments
- Section 2.2: Support-advice to producers and their organisations
- Section 2.3: Land improvement actions

In terms of investment volume, this component is the most important of the Programme since it will consume the greatest share (more than 80%) of the budgets, which will be devoted to realising, in particular, physical investments. Different types of investment could be supported by the Programme:

- Water and soil conservation (WSC) improvements on the scale of catchment areas or farms;
- Mobilisation and valorisation of water resources;
- Forestry improvements, replanting of trees in the public or private forests, improvement of the rangeland ;
- Improved access to the territories through improvement of sections of track and watercourse crossings;
- Promotion of agricultural, forestry and pastoral areas by the acquisition, in favour of the producers and their organisations, of material and equipment for the production, transformation or commercialisation of products; investments by young, newly installed farmers will be supported in particular.

Positive impacts:

Section 2.1: By their nature, the types of investment envisaged within the framework of Section 2.1 of the Programme will satisfy the priority needs in infrastructure and address local issues in terms of natural resource management. The WSC and forestry improvements will make a decisive contribution to combating the different forms of deteriorations of the lands and to build the forestry potential at the level of the areas concerned. The improvement of sections of rural tracks as well as the crossing structures will reduce the isolation of the areas concerned, thereby contributing to encouraging the development of economic activities and improving the living conditions of the population.

Direct support through the supply of equipment for the valorisation of agro-sylvo-pastoral sectors shall be of great assistance to the producers by making the work less arduous and increasing their production capacity. By supporting the investments carried by the young, newly-installed farmers, the programme will have a particularly beneficial effect in the regions concerned and will help to maintain the sources of income and to stabilise the young farmers on their territory, thereby contributing to combating the abandon of the land and the rural exodus.

Section 2.2: the actions to be realised within the framework of Section 2.2 will have a particularly positive impact on the users of the natural resources, through an improvement of their technical and economic performances. This improvement shall also be beneficial for the resources for their use shall be more rational and less harmful for the environment. Section 2.2 is expected to have the following main positive effects:

- Introduction of new agricultural practices;
- More sustainable approach to the exploitation of forestry and pastoral resources;
- Better management of hydraulic infrastructure;
- Structuring of the players in the productive sectors;
- Special support for young, newly-installed farmers for the management of their farms.

Section 2.3: the complex prevailing land ownership situation in several of the areas concerned by the Programme is one of the causes of the lack of valorisation of the agricultural land. The planned intervention of the Programme with the support of the Agricultural Land Agency (ALA) aims to support the farmers in the regularisation of the ownership status of their land and in obtaining land title. This is of a nature to remove one of the greatest obstacles to rural development as emphasised by the diagnostic study.

Negative impacts:

Section 2.1: The principal foreseeable negative impacts concerning the implementation of Section 2.1 of this component are related to the works and improvements planned by the Programme.

The **mechanical benches, the individual basins and stone cordons** are small structures that are generally efficient in retaining water on small surface areas. Individually, they do not generate a significant negative impact. However, the cumulative impact of a large number of these structures could be non-negligible by changing the flow of the surface waters in the catchment areas of certain zones and habitats. These last will then find themselves deprived of the quantities of water they used to receive before the structures in question were implemented. This impact is generally more visible in the areas where water is naturally scarce. The wetlands and their habitats are among the environments the most affected by the massive use of these structures. Note that within the framework of section 2.1, the Programme allows for the installation of several thousand mechanical benches, individual basins and stone cordons.

The **cleaning of the waterways** is a practice often necessary to re-establish a normal flow and prevent the stagnation of water and the risks of flooding. However, it generates several environmental impacts through the displacement of sediment and the release of any pollutants it may contain. Cleaning can put sediment into suspension, cause the release or dissolution of pollutants imprisoned in the sediment, the contamination of the surface table, etc. Furthermore, if the cleaning is practiced during the rainy season, the sediment and pollutants can be carried by the run-off to the natural habitats which would therefore be impacted. (Excessive sedimentation, eutrophication in the case of sediments rich in organic matter and nitrate, chemical contamination by pesticides, etc.).

The creation of **hill lakes** and the opening of the tracks causes a series of impacts. The first of these impacts appears during the works phase with the production of dust that affects the neighbouring flora and the effect could also be felt by the people and animals living around the worksite. Furthermore, such structures have a footprint that may deprive the local population of certain usage of the agricultural land, forestry or rangeland covered by the structures. For the hill dams, the reservoirs they create could submerge tracks, roads or other elements of infrastructure used by the local population.

The **valorisation of the agro-sylvo-pastoral sectors**, if practiced without taking into account the load capacity of the areas in question, could lead to an increase in the pressure of extraction on the forestry resources and thus be a factor in their deterioration.

Section 2.2: The actions stipulated in the Programme in the framework of Section 2.2 are not likely to create any significant negative impacts.

Section 2.3: Reparcelling shall be carried out within the framework of Section 2.3 and may generate tension and conflicts between the owners and/or normal users of the land affected. Furthermore, the change of land ownership status of the collective rangelands could have the consequence of their transformation into land for growing cereals or fruit trees even though they are governed by the forestry regime. In effect, a high proportion of the public, as well as of the regional administrators, believe that the change of land ownership status from public to private will automatically lead to land being subtracted from the land in question under the forestry regime.

COMPONENT 3: PROGRAMME COORDINATION AND INSTITUTIONAL SUPPORT

As this component is mainly devoted to the coordination of the Programme, its actions are not likely to generate impacts on the environment. However, the prospective studies allowed for within the framework of Section 3.3 (partnership and institutional support) could have a positive social effect through the implementation of new practices and territorial development instruments, as well as through the promotion of the arrangements for the co-management of the natural resources in state-owned forests.

5. PRESENTATION OF THE GENERAL MITIGATION MEASURES ENVISAGED

As shown by the analysis of the impacts of section 4 above, Component 2 of the programme is expected to generate impacts requiring mitigation measures. But it also emerges from said analysis that Component 1 presents risks of exclusion of certain categories of players and unequal sharing of the benefits of the Programme.

To mitigate the risks mentioned for Component 1 of the Programme, it is recommended to promote the visibility of the Programme, in particular at regional and local levels. Due to the large size of some of the territories of intervention and the dispersion of the population in these territories, the mobilisation of the players will require information efforts and assistance in proximity to allow all the players to take part in the coordination process. In addition to the displacements inside the territories concerned to reach a maximum number of the population, actions on information on the occasion of the weekly Souks will promote programme visibility, given the important affluence of population to the Souks, even from the farthest places. The territorial NRM support units allowed for at local level by the Programme must have the requisite means to carry out this proximity work.

For Component 2 of the Programme, the aspect that causes the most concern in terms of mitigation concerns the effects of the small WSC improvement structures whose cumulative effect could have a considerable impact on the environment, especially as the Programme is intended to back the installation of several thousand of these small structures (mechanical benches, individual basins, stone cordons, etc.). Tunisian legislation in terms of Environmental Impact Assessments does not impose any particular measures for such improvements. It would nonetheless be wise, at the level of each Programme intervention area where this type of small structure will be built, to proceed to an assessment of their global impact on the catchment area in question as well as on the natural habitats situated downhill. This could be done within the framework of a unique assessment for each area, to be done after the drawing up of the integrated natural resource management plan.

Concerning the actions of cleaning the oueds, the mitigation of the negative environmental impacts related to this type of work requires precautions to be taken and measures prior to and during the cleaning operations. Before starting the works, the sediments that will be moved must be analysed to check whether they are contaminated by pollutants and identify their nature to decide what to do with them as well as the cleaning method and period. Often in Tunisia, the sediment displaced when cleaning the waterways is placed on the banks to consolidate them. Note, however, that even if no other areas are affected by the direct deposit of sediment, it is important to make sure there is no impact on other areas downstream of the waterway after the cleaning point.

According to the Tunisian legislation relative to environmental impact assessments, hill lakes are subject to the Specifications document procedure. A model of a specifications document has been drawn up by NEPA, detailing the environmental measures to be respected by the Contracting Authority or the company applying for a project to build a hill lake. This specifications model is appended hereto (annex 2). In most cases, hill lakes do not cause involuntary population displacements. They can, however, be responsible for the loss of land and uses for part of the local population. In this case, measures will be necessary to mitigate this type of social impact, taking into account the recommendations of Operational Policy OP 4.12 (involuntary resettlement) indicated above. Note, however, that the approach followed in Tunisia for the creation of hill lakes is based on the acceptance of local residents who are often in demand of these structures and even volunteer to make land available if the lake exceeds the limits of the public domain.

Most of the types of actions to be realised within the framework of the Programme are not of a kind that would lead to involuntary resettlement.

However, special attention should be given to consultation with local people to ensure their acceptance of WCS works on their land especially in the case of the creation of small lakes and the work on the tracks. The written record of such acceptances (written requests, consultation meeting minutes etc.) would be helpful. In the event that an action of the Programme is deemed likely to generate involuntary displacement of the population or loss of their sources of income, the Tunisian legal provisions in terms of expropriation and compensation must be applied. Furthermore, the requirements of the World Bank's Operational Policy PO 4.12 will be met. To this end, the viable alternatives and the possibilities of compensation must be examined right from the initial planning stages of the actions in close coordination with the local and national bodies concerned as well as with the population affected.

The types of structures planned within the framework of the Programme are:

WSC WORKS ON THE SLOPES

- Individual basins at the level of the existing olive groves
- Dry stone cordons, possibly with of pastoral plantations
- Manual benches
- Mechanical benches
- Consolidation of the existing and/or planned benches
- Safeguard and rehabilitation of the existing works

WSC WORKS AT THE LEVEL OF THE WATERWAYS

- Revegetation of the gulleys and/or supplementary plantation along the waterways treated with gabions (fodder trees)
- Thresholds in gabion for recharge, discharge or erosion control
- Cleaning and calibration of the water courses.

STRUCTURES RELATED TO LAND IMPROVEMENTS (AS PART OF REPARCELLING AND THE RECLAIMING OF ABANDONED AGRICULTURAL LAND, TO IMPROVE THE IRRIGATED PARCELS)

- Works of tracks and drainage related to the upgrading of the lands

MOBILISATION AND VALORISATION OF WATER RESOURCES

- Building of hill lakes
 - Dykes
 - Enhancement by complementary irrigation around the dams and hill lakes
 - Improvement of complementary irrigation perimeter around wells
 - Rehabilitation of the irrigated perimeters around the hill dams
 - Capture and development of springs
 - Buried tanks (water for animals, watering plants)
 - Protection of the infrastructure
 - Protection of tracks
 - Structures that cross the tracks.
-

Among the general mitigation measures to be implemented within the framework of the PACT, it is important to emphasise the necessity of making sure the actions of promotion of production and/or transformation sectors that will be done under the Programme do not aggravate any environmental problems in the intervention areas and in the country in general. In this respect, the following points must be underlined:

- The promotion of the planting of olive trees to combat erosion, the stabilisation of benches and the creation of additional sources of income, must not aggravate the problems related to the management of vegetable water³ at the level of localities concerned. In Tunisia, the vegetable water produced from crushing the olives are often poorly managed due to the lack of sufficient capacity of the stations collecting this pollutant. The expansion, in number and capacity, of such collection stations must be considered by the Programme every time it supports the expansion of the plantation of olive trees at the level of one of the intervention areas.
- The development of irrigated crops in each area must take into account the capacity of the water table to bear the extractions necessary without suffering alterations which would call into question their use in sustainable context. To prevent the Programme from having negative impacts on the sustainable use of water resources, the actions envisaged that require the use of water must necessarily be accompanied by monitoring of the aquifers concerned (piezometric level, salinity) and if necessary by compensations through structures enabling adequate recharge of these aquifers.
- As the rangeland is over grazed in several areas of intervention of the Programme, it is imperative that any action promoted within the framework of the Programme likely to increase the flocks or herds, only be envisaged if solutions are available to ensure the load capacity of the rangeland matches the grazing effort. Among these solutions is the consolidation of the existing rangeland, the rehabilitation of the deteriorated rangeland and the creation of new areas of rangeland. This last solution must not be achieved to the detriment of natural habitats.

³ Effluent from the extraction of olive oil.

6. DESCRIPTION OF THE SYSTEM FOR ASSESSING ENVIRONMENTAL AND SOCIAL RISKS

Each of the actions of the PACT must be subject to the procedure for assessing environmental and social risks described below. The purpose of the procedure is to determine the environmental and social measures necessary for each action. On the basis of this procedure, it shall be possible to identify (i) the actions that require in-depth environmental assessment to analyse the most significant impacts and propose appropriate mitigation measures pursuant to the legislation in force in Tunisia for Environmental Impact Assessments (EIA procedure), (ii) the actions that will be subject to the “Specifications” procedure and (iii) the remaining actions which are not subject to the “EIA” or “Specifications” procedures but require mitigation measures nonetheless.

The procedure for assessing environmental and social risks to be implemented is based on three stages:

STAGE 1: SCREENING AND ENVIRONMENTAL CLASSIFICATION

A screening sheet shall be drawn up for each action or group of similar actions to be carried out within the framework of the Programme at the level of one of its intervention territories. This sheet shall comprise a description of the action or group of actions (goal, location and geographical scope, plan or map of the position of the any facilities and works) and a preliminary assessment of its potential impacts. It will be drawn up according to the model in annex 3, by the appointed full-time officer in the NRM Unit of the vulnerable rural territories at the level of the ROAD concerned.

On the basis of the indications given on the screening sheet, the action in question shall be classified in one of the following classes:

- **Class A:** Actions likely to generate significant environmental and/or social impacts and to be subject to an Environmental Impact Assessment in compliance with the provisions of Law 2001-14 of 30 January 2001. This class includes all actions of the type listed in annex 1 of decree no 2005-1991 of 11/07/2005.
- **Class B:** Actions subject to the “Specifications” procedure according to the provisions of Law 2001-14 of 30 January 2001. This class includes all actions of the type listed in annex 2 of decree no 2005-1991 of 11/07/2005.
- **Class C:** Actions it is not necessary to place in class A or B but that the operational monitoring committee find likely to generate important environmental impacts requiring mitigation measures.
- **Class D:** Actions not requiring any particular mitigation measures. This class comprises actions whose impacts on the environment are deemed insignificant.

A provisional classification shall be done by the operational monitoring committee of the ROAD Programme concerned. As this committee is chaired by the Commissioner, all the services of the ROAD will be involved in the analysis of the screening sheet and the classification proposal. Furthermore, the Commissioner may also call upon the Regional council each time it is necessary to involve operators outside of the agricultural sector.

The screening sheet and the results of its examination and of the provisional classification by the Programme’s operational monitoring committee will then be sent to the UMO for opinion, finalisation and validation of the classification of the action in question into one of the classes A to C above. This shall be done by the UMO’s “Programming division – support for productions of INRM”.

STAGE 2: DRAWING UP OF THE ENVIRONMENTAL STUDIES

The actions of Class A will be subject to Environmental Impact Assessment studies that will be submitted to the NEPA in compliance with the provisions of the legislation in force.

For each actions in Class B, a Specifications document shall be drawn up and submitted to the NEPA.

Class C actions will be the subject of an environmental assessment that will define the mitigation measures necessary. The possible costs of this assessment shall be included in the total cost of each action in question. The assessment and the mitigation measures defined shall be validated by the operational monitoring committee of the ROAD programme concerned then by the UMO's "Programming division – support for productions of INRM".

Class D actions must be subject to a rationale explaining why the concerned actions are not to be classified as A, B or C

The NRM Unit of the vulnerable rural territories at the level of the ROAD concerned is responsible for drawing up the environmental studies that are the subject of this stage 2. It may call upon a Design Office or outside consultant to produce them.

STAGE 3: MONITORING OF THE IMPLEMENTATION OF THE MITIGATION MEASURES

Each NRM Unit shall appoint one of its officers to ensure the monitoring of the implementation of the mitigation measures defined during stage 2 above. This officer will provide, at the end of each action, a report on the implementation of said mitigation measures. This report shall be drawn up in coordination with the monitoring-evaluation cell set up within each PRS division and shall be transmitted by the NRM Unit concerned to the UMO.

7. DESCRIPTION OF THE INSTITUTIONAL FRAMEWORK ENVISAGED

The programme shall be placed under the Project management of the Ministry of Agriculture, Hydraulic Resources and Fisheries in Tunisia. It shall be endowed with a **National Steering Committee** to be set up at the start of the programme. The Steering Committee shall be placed under the responsibility of the Minister and involve the DGAFTA, the DGF, the DG FIOP, the Office of Livestock breeding and Pasturing, the Agricultural Land Agency, UTAP, AVFA, APIA, and the research institutions involved on the OSCAR observatory. It will also involve the commissioners of the ROADS concerned and the representatives of the civil society organisations structured on the scale of the users and the organisations beneficiaries of the Programme. The representatives of the technical and financial partners concerned, including FDA and FFEM, will also be invited. The Steering Committee will meet once a year, in each of the regions concerned, in turn.

The operational monitoring of the activities shall be conferred on an **operational monitoring technical committee** which will meet every six months and group together the principal stakeholders: DGAFTA, DGF, OEP, DGFIOP, AFD, FFEM, etc. This committee shall examine the quarterly activity reports of the Programme and will deal with a precise agenda including the technical, methodological, institutional, administrative and financial issues of the moment. It shall be tasked with finding solutions to the difficulties encountered.

ACTA/DGF Unit of management by objective National coordination			
National Management division	Programming division – support for productions - mobile 5 regions	Territorial animation division - mobile 5 regions	Valorisation monitoring- evaluation division

REGIONAL OFFICE FOR AGRICULTURAL DEVELOPMENT ROAD Management Division

REGIONS
Programme operational monitoring committee

Line one:

Extension and promotion of agricultural production division
Rural hydraulic equipment division
Replanting of trees and soil protection division
Agricultural studies and development division
Administrative and financial division

Line two:

Vegetation production division
Rural engineering dept.
Programme monitoring dept.
Agricultural studies and statistics dept.
Personnel dept.

Line three:

Livestock production dept.
Water resources dept.
Forest dept.
-
Finance dept.

Line four:

Financing of encouragement dept.
Exploitation of irrigated perimeters dept.
Conservation of Water and Soils dept.
-
Buildings & Materials dept.

Line five:

Outreach activities coordination unit
Equipment Maintenance dept.
Soils dept.

DELEGATION

FEU Field Extension Units
Territorial support team for NRM attached to FEU integrated into territory 2 Rural Development Support Officers
1 economic development officer (regional association)

Organizational chart of overall institutional system

The Programme shall be coordinated by the DG-ACTA through a **Unit of Management by Objectives** (UMO) dedicated to the PACT. The UMO shall be responsible for the coordination, management and implementation of the Programme, at central levels (the Ministry of Agriculture, Hydraulic Resources and Fisheries in Tunisia/DG-ACTA) and decentralised levels. It will provide methodology support, assistance with facilitation and planning, administrative and financial management, communication, monitoring-evaluation/impact monitoring, capitalisation, etc. It will also fully ensure the implementation of *result 5: Support for dialogue on national policies, institutional partnership, technical support and research*.

The DGF shall be a stakeholder in this UMO and will take part fully in the coordination of the actions in the regions and at central level, especially in relation to the implementation of results 3 and 5 of the programme.

The UMO shall be formed of 4 Divisions supervised by the Head of the UMO:

- Management division
- Division for territorial animation ROAD network territorial development players
- Programming division – support for productions of INRM
- Valorisation and monitoring-evaluation division

At the level of each Governorate concerned by the Programme, at least one full-time officer shall be involved with the person in charge of the RPS Division (Replanting of trees and Protection of the Soil) of the ROAD, thereby constituting the **NRM Unit of the vulnerable rural territories at regional level**. The unit's remit shall be to coordinate the implementation of results 1, 2, 3 and 4 of the programme by the local team positioned in the territory. It should also facilitate the mobilisation of the services of the ROAD in their involvement for the territorial diagnostics and the implementation of the actions recorded in the territorial charters. It should also facilitate the mobilisation of the other regional players, in particular the non-profit organisations and private players. Furthermore, within the RPS division, a **monitoring-evaluation cellule** shall be set up and will work in direct relation with the Valorisation and monitoring division of the central level, to draw up, implement and exploit the system of monitoring-evaluation and impact of the Programme.

At local level of the intervention territory of the Programme, a **Territorial support Unit to the NRM in the intervention zones** shall be set up within the field extension unit (FEU). Its remit shall be to ensure the functions of animation with the players of the territory under result 1, special support for the preparation and implementation of the actions of sustainable management of water and soil (result 2), management and co-management of the forests and rangelands (result 3). It shall comprise three Rural development support officers (RDSO).

Among the elements of this structure, the NRM units of the vulnerable rural territories at regional level and the Operational Monitoring Committees of the Programme established by ROAD will play an important role in the implementation of the procedure for assessing environmental and social risks and monitoring implementation of the mitigation measures. Their functions in this respect will be as follows:

- NRM units:
 - Draw up the action screening sheet (stage 1 of the procedure)
 - Draw up the environmental studies (stage 2 of the procedure)
 - Monitor the implementation of the mitigation measures defined in stage 2 and draft a report on the implementation of said mitigation measures at the end of each action (stage 3 of the procedure)
- Operational monitoring committees of the Programme:
 - Examination of the screening sheet drawn up by the NRM Unit (stage 2 of the procedure)
 - Preliminary classification of the actions according to Classes A, B, C and D (stage 2 of the procedure)

- Examine the NRM Unit's reports on the implementation of mitigation measures at the end of each action (stage 3 of the procedure)

8. MONITORING & EVALUATION OFFICER

The Programme formulation document (Deliverable 5 – Detailed Programme) allows for the setting up of a mechanism enabling the objective appreciation of the changes caused by the intervention of the Programme on the dynamics of the natural resources, on the social capital of natural resource management (governance of natural resources and land ownership) and the economy induced in the short and medium term. As part of this mechanism, a specialist will be called in to steer the choice of indicators and the methods necessary for collecting and analysing them. For each indicator selected in the ESMF a sheet shall be drafted by the specialist, giving:

- The definition of the indicator,
- A description of the indicator (type, frequency of measurement, unit of measurement, reference value and target value),
- Possible breakdown into sub-indicators,
- The method for calculating the indicator,
- The basic data required for calculating the indicator,
- The data collection method,
- The person in charge of filling in data in the M&E system.

The specialist should, in close coordination with the heads of the UMO divisions and in particular the Head of the “Valorisation of data, business report, evaluation” division, assist all the other agents, including at the level of the “NRM Unit of the vulnerable rural territories at regional level”, to collect the data necessary for calculating the indicators and drawing up the planned assessment reports for the Programme.

At the level of each NRM Unit, An officer will be appointed to monitor the implementation of the environmental and social measures of the ESMF in all the stages of identification of the actions, their planning and execution on the ground. Their role shall be to make sure the planned environmental and social mitigation measures are respected when executing the actions and providing, at the end of each action, a report on the degree of implementation of such mitigation measures. This report shall be forwarded by the NRM Unit to the UMO where it shall be analysed by the “Valorisation of the data, activity reports, evaluation” Division and shall be available for the execution of the annual reports and mid-term and final evaluations of the Programme.

MONITORING INDICATORS

To analyse the environmental and social impact of the Programme, a set of indicators shall be used to evaluate the changes in parameters deemed particularly important in relation to the overall aim of the Programme and the precautions to be taken to mitigate the adverse effects of the interventions. The reference values of certain indicators can only be obtained after the start-up of the Programme because they require, on the one hand, investigations and the collection of data which will only be carried out after the Programme has started, and, on the other hand, coordination at local and national level to define them.

Indicator	Reference year	Source of reference data	Unit	Reference value	Target value
Changes in forest covering (forest and rangeland)	Year of Programme start-up	Satellite image	ha (increase or decrease)	To be defined at Programme start-up	To be defined during coordination conducted in the start-up year of the Programme
Area of rangeland being overgrazed	Year of Programme start-up	ROAD	ha	To be defined at Programme start-up	0
Rate of silting up of hill lakes and dams	Year of Programme start-up	ROAD	%	To be defined at Programme start-up	To be defined during coordination conducted in the start-up year of the Programme
Size of catchment area equipped with WSC structures or improvements by the Programme	Year of Programme start-up	NRM Unit	ha	0	
Size of the land subject to agricultural or pastoral practices that are efficient and/or favourable in terms of climate	Year of Programme start-up	NRM Unit	ha	0	
Innovative mechanisms in terms of sustainable management of soil and forests introduced by the Programme	Year of Programme start-up	NRM Unit	Number	0	
Improvement plans for forestry and pastoral areas or protected areas within the framework of the Programme	Year of Programme start-up	DGF, Forest <i>arrondissement</i>	Number	0	
Number of households having benefitted from the support of the Programme for income generating activities related to natural resources	Year of Programme start-up	NRM Unit	Number	0	

9. TRAINING, ORGANISATIONAL AND OPERATIONAL CAPACITY BUILDING NEEDS

Training on the environmental questions and the management of the environmental and social impacts will be necessary and must be part of the general capacity building programme allowed for under the Programme.

A training programme shall be set up as soon as the Programme starts and shall concern, in particular:

- The legislative framework governing environmental aspects in Tunisia, including the relevant international conventions
- The environmental impact assessments
- The participatory environmental diagnostic study
- Management of natural habitats and wildlife
- Environmental monitoring reporting
- Environmental awareness raising and education

The training operations the most recommended are:

- Sessions and practical workshops
- Ground visits accompanied by trainers
- Exchange visits to countries presenting examples of good practices in natural resource management

The target audience for such training is constituted by the personnel of the UMO and the personnel assigned to the Programme at the level of the ROAD concerned. The partner administrations, at national, regional and local levels will be invited to take part in training for the Programme, as will the CSOs involved.

Furthermore, awareness raising for the local population is necessary to allow them to contribute effectively to the participatory environmental diagnostic to be done within the framework of the Programme. Such diagnostics will make it possible to better identify the environmental and social impacts that could be generated by the actions of the Programme.

10. DRAFT BUDGET

The draft budget presented here covers the additional costs required for the system of assessment of environmental and social risks and the actions relative to the monitoring and evaluation framework. This budget also covers training on the environmental questions and the management of the environmental and social impacts that will be necessary to build the capacity of the teams concerned by the implementation of the Environmental and Social Management Framework of the Programme.

The costs relative to the execution of the possible environmental impact studies and implementation of the corresponding mitigation measures are not included in this draft budget. This is because said impact studies and mitigation measures will be decided on when the physical investments and other actions to be carried out by the Programme will be identified for each territory of intervention. The costs of the environmental impact studies and necessary mitigation measures will then be considered, as required, in the costs of the physical investments and other actions to be conducted by the Programme.

Estimation of additional costs required for the system of assessment of environmental and social risks and the actions relative to the monitoring and evaluation framework:

	Budget (DT)	Budget (Euros)	Year of the Programme
Study to evaluate the reference values of the indicators	135 000	60 000	1
Coordination workshops on the diagnostic of the reference status and to fix targets for the indicators	60 000	26 000	1
Study of the rate of silting up of hill dams (1 at start of Programme, 1 at mid-term and 1 at the end of the Programme to be done on a reference reservoir in each intervention territory)	500 000	217 400	1, 3 and 5
Training on the environmental questions and the management of the environmental and social impacts	120 000	52 000	1 and 2
Total	815 000	355 400	

(This estimate does not take into account the cost of the permanent staff of the Programme at the level of the UMO and the Governorates)

ANNEXES

Annex 1.

Decree relative to environmental impact assessment and fixing the categories of units subject to the environmental impact assessment and the categories of units subject to a specifications document.

Décret 2005-1991 relatif à l'étude d'impact sur l'environnement et fixant les catégories d'unités soumises à l'étude d'impact sur l'environnement et les catégories d'unités soumises aux cahiers des charges

Le Président de la République,
Sur proposition du ministre de l'environnement et du développement durable,

Vu le code du travail promulgué par la loi n° 66-27 du 30 avril 1966, ensemble les textes qui l'ont modifié ou complété et notamment la loi n° 96-62 du 15 juillet 1996,

Vu le code des eaux promulgué par la loi n° 75-16 du 31 mars 1975, ensemble les textes qui l'ont modifié ou complété et notamment la loi n° 2001-116 du 26 novembre 2001,

Vu la loi n° 82 -60 du 30 juin 1982, relative aux travaux d'établissement, à la pose et à l'exploitation des canalisations d'intérêt public destinées au transport d'hydrocarbures gazeux, liquides ou liquéfiés telle que modifiée et complétée par la loi n° 95 - 50 du 12 juin 1995,

Vu le code forestier promulgué par la loi n° 88 -20 du 13 avril 1988, telle que modifiée par la loi n° 2001- 28 du 19 mars 2001 portant simplification des procédures administratives dans les secteurs de l'agriculture et de la pêche,

Vu la loi n° 88-91 du 2 août 1988, portant création d'une agence nationale de protection de l'environnement telle que modifiée par la loi 92-115 du 30 novembre 1992 et la loi n° 14-2001 du 30 janvier 2001, portant simplification des procédures administratives relatives aux autorisations délivrées par le ministère de l'environnement et de l'aménagement du territoire dans les domaines de sa compétence et notamment l'article premier,

Vu la loi n° 89-20 du 22 février 1989, relative à l'exploitation des carrières telle que complétée par la loi n° 98-95 du 23 novembre 1998 et par la loi n° 2000 - 97 du 20 novembre 2000,

Vu le code de l'aménagement du territoire et de l'urbanisme promulgué par la loi n° 94-122 du 28 novembre 1994, telle que modifié et complété par la loi n° 2003-78 du 29 décembre 2003,

Vu la loi n° 96-41 du 10 juin 1996, relative aux déchets et au contrôle de leur gestion et de leur élimination telle que modifiée et complétée par la loi n° 14-2001 du 30 janvier 2001 portant simplification des procédures administratives relatives aux autorisations délivrées par le ministère de l'environnement et de l'aménagement du territoire dans les domaines de sa compétence et notamment l'article 4,

Vu le code des hydrocarbures promulgué par la loi n° 99-93 du 17 août 1999, telle que modifié et complété par la loi n° 02- 23 du 14 février 2002,

Vu le code minier promulgué par la loi n° 2003-30 du 28 avril 2003,

Vu le décret n° 68-88 du 28 mars 1968, relatif aux établissements dangereux, insalubres et incommodes,

Vu le décret n° 362-1991 du 13 mars 1991, relatif aux études d'impact sur l'environnement,

Vu le décret n° 2004-2644 du 10 novembre 2004, portant nomination des membres du gouvernement,

Vu l'avis du ministre de la défense nationale, du ministre du commerce et de l'artisanat, du ministre de l'intérieur et du développement local, du ministre de l'agriculture et des ressources hydrauliques, du ministre de l'équipement de l'habitat et de l'aménagement du territoire, du ministre des affaires sociales, de la solidarité et des Tunisiens à l'étranger, du ministre de la culture et de la sauvegarde du patrimoine, du ministre du tourisme, du ministre de la santé publique, du ministre de l'industrie, de l'énergie et des petites et moyennes entreprises,

Vu l'avis du tribunal administratif.

Décète :

Article premier. - Au sens du présent décret on entend par les termes ci-après :

- 1- L'unité : Tout équipement ou tout projet industriel, agricole ou commercial dont l'activité est génératrice de pollution ou de dégradation de l'environnement,
- 2- Etude d'impact sur l'environnement : L'étude qui permet d'apprécier, d'évaluer et de mesurer les effets directs et indirects, à court, moyen et long terme de la réalisation de l'unité sur l'environnement et qui doit être présentée à l'agence nationale de protection de l'environnement pour avis avant l'obtention de toutes autorisations administratives relatives à la réalisation de l'unité.
- 3- Les termes de références sectoriels: Des termes de références générales relatifs aux secteurs concernés par l'annexe 1 du présent décret, élaborés par l'agence nationale de protection de l'environnement afin d'être pris en considération par le maître de l'ouvrage ou le pétitionnaire, au cours de la préparation de l'étude d'impact sur l'environnement.

Art. 2. - Sont obligatoirement soumises à l'étude d'impact sur l'environnement les unités énumérées à l'annexe 1 du présent décret.

L'étude d'impact sur l'environnement doit être élaborée par des bureaux d'études ou des experts spécialisés dans le domaine.

Art. 3. - Les unités énumérées à l'annexe 2 du présent décret sont soumises à un cahier des charges approuvé par arrêté du ministre chargé de l'environnement et qui fixent les mesures environnementales que le maître de l'ouvrage ou le pétitionnaire doit respecter.

Art. 4. - L'activité de l'unité soumise à l'étude d'impact sur l'environnement ou au cahier des charges doit être conforme à la vocation de la zone d'implantation, aux plans d'aménagement et aux normes en vigueur relatives à la protection de l'environnement.

Art. 5. - L'autorité ou les autorités compétentes ci-dessus visées ne peuvent délivrer l'autorisation pour la réalisation de l'unité soumise à l'étude d'impact sur l'environnement qu'après avoir constaté que l'agence nationale de protection de l'environnement ne s'oppose pas à sa réalisation ou après réception du cahier des charges signé et légalisé conformément au modèle approuvé par le ministre chargé de l'environnement.

Le maître de l'ouvrage ou le pétitionnaire ne peut se prévaloir d'une autorisation administrative non conforme à ces dispositions.

L'autorisation de réalisation délivrée à chaque unité soumise à l'étude d'impact sur l'environnement ou au cahier des charges doit comporter parmi ses visas le respect et la mise en oeuvre des mesures citées dans l'étude d'impact sur l'environnement ou dans le cahier des charges.

Art. 6. - Le contenu de l'étude d'impact sur l'environnement doit refléter l'incidence prévisible de l'unité sur l'environnement et doit comprendre au minimum les éléments suivants :

- 1- Description détaillée de l'unité,
 - 2- Analyse de l'état initial du site et de son environnement portant, notamment sur les éléments et les ressources naturelles susceptibles d'être affectées par la réalisation de l'unité.
-

3- Une analyse des conséquences prévisibles, directes et indirectes, de l'unité sur l'environnement, et en particulier les ressources naturelles, les différentes espèces de la faune et de la flore et les zones bénéficiant d'une protection juridique, notamment les forêts, les zones et les paysages naturels ou historiques, les zones sensibles, les espaces protégés, les parcs nationaux les parcs urbains.

4- Les mesures envisagées par le maître de l'ouvrage ou le pétitionnaire pour éliminer ou réduire et, si possible, compenser les conséquences dommageables de l'unité sur l'environnement et l'estimation des coûts correspondants.

5- Un plan détaillé de gestion environnementale de l'unité.

Le détail des éléments requis au terme du présent article est défini dans des termes de références sectoriels élaborés par l'agence nationale de protection de l'environnement.

Art. 7. - Le maître de l'ouvrage ou le pétitionnaire doit élaborer l'étude d'impact sur l'environnement de son unité en se basant sur les termes de références sectoriels mentionnés au dernier paragraphe de l'article 6 du présent décret.

Les frais de la réalisation de l'étude d'impact sur l'environnement sont à la charge du maître de l'ouvrage ou du pétitionnaire.

Art. 8. - Le maître de l'ouvrage ou le pétitionnaire doit déposer trois exemplaires (3) de l'étude d'impact sur l'environnement ou un exemplaire (1) du cahier des charges signé et légalisé auprès de l'agence nationale de protection de l'environnement et en un exemplaire (1) auprès de chaque ministère habilité à intervenir dans l'octroi de l'autorisation.

Art. 9. - L'agence nationale de protection de l'environnement dispose d'un délai de vingt et un jours ouvrables (21 jours) à compter de la réception de l'étude d'impact sur l'environnement pour les unités énumérées à la catégorie A de l'annexe 1 du présent décret, et d'un délai de trois mois ouvrables (3 mois) pour les unités énumérées à la catégorie B de l'annexe 1 du présent décret pour notifier sa décision d'opposition à la réalisation de l'unité, et à l'expiration de ces délais, l'accord est considéré tacite pour la réalisation de l'unité.

Le délai de vingt et un jours ouvrables (21 jours) est prolongé à trois mois ouvrables (3 mois) pour les unités énumérées à la catégorie A de l'annexe 1 du présent décret et qui peuvent avoir des impacts sur les zones bénéficiant d'une protection juridique, notamment les forêts, les zones et les paysages naturels ou historiques, les zones sensibles, les espaces protégés, les parcs nationaux, les parcs urbains et les différentes espèces de la faune et de la flore.

Art. 10. - Lorsque l'unité peut avoir un effet sur les zones bénéficiant d'une protection juridique, notamment les forêts, les zones et les paysages naturels ou historiques, les zones sensibles, les espaces protégés, les parcs nationaux, les parcs urbains et les différentes espèces de la faune et de la flore, l'agence nationale de protection de l'environnement demande l'avis du gestionnaire de ces zones ou ces espaces pour la réalisation de l'unité.

Le gestionnaire de ces zones ou ces espaces doit faire connaître son avis à l'agence nationale de protection de l'environnement dans un délai maximum de quinze jours ouvrables (15 jours) à compter de sa notification. A l'expiration de ce délai, l'accord est considéré tacite pour la réalisation de l'unité.

Art. 11 - Au cas où les mesures mentionnées dans l'étude d'impact sur l'environnement ou dans le cahier des charges n'ont pas été respectées, l'autorisation sera retirée par l'autorité ou les autorités compétentes concédantes.

Art. 12 - Les dispositions du présent décret s'appliquent aux nouveaux équipements ou projets industriels, agricoles ou commerciaux ainsi qu'aux équipements ou projets industriels, agricoles ou commerciaux existants qui font l'objet d'extension, de transformation ou de changement de leurs

procédés de fabrication, cités aux deux annexes du présent décret.

Art. 13 - Sont abrogées, les dispositions du décret n° 91-362 du 13 mars 1991, relatif aux études d'impact sur l'environnement.

Art. 14 - Le ministre de l'environnement et du développement durable, le ministre de la défense nationale, le ministre du commerce et de l'artisanat, le ministre de l'intérieur et du développement local, le ministre de l'agriculture et des ressources hydrauliques, le ministre de l'équipement, de l'habitat et de l'aménagement du territoire, le ministre des affaires sociales, de la solidarité et des Tunisiens à l'étranger, le ministre de la culture et de la sauvegarde du patrimoine, le ministre du tourisme, le ministre de la santé publique et le ministre de l'industrie, de l'énergie et des petites et moyennes entreprises sont chargés, chacun en ce qui le concerne, de l'exécution du présent décret qui sera publié au Journal Officiel de la République Tunisienne.

Tunis, le 11 juillet 2005.

ANNEXE 1

Unités soumises obligatoirement à l'étude d'impact sur l'environnement

- Catégorie A : Unités faisant l'objet d'un avis ne dépassant pas le délai de vingt et un jours (21 jours) ouvrable

- 1) - Unités de gestion des déchets ménagers et assimilés d'une capacité ne dépassant pas vingt tonnes par jour (20T/j).
- 2) - Unités de traitement et fabrication des matériaux de construction, de céramique et de verre.
- 3) - Unités de fabrication des médicaments.
- 4) - Unités de fabrication des métaux non ferreux.
- 5) - Unités de traitement des métaux et de traitement de surface.
- 6) - Projets d'exploration et d'extraction du pétrole et du gaz naturel.
- 7) - Les carrières industrielles des granulats et du sable dont la capacité de production ne dépassant pas trois cent milles tonnes /an (300000 tonnes/an), et les carrières industrielles d'argile et des pierres marbrières.
- 8) - Unités de fabrication de sucreries et de levure.
- 9) - Unités de teinture du textile, du fil et des vêtements, de tricotage et de délavage de jeans et de finition.
- 10) - Projets d'aménagement des zones industrielles dont la superficie ne dépassant pas les cinq (5) hectares.
- 11) - Projets de lotissements urbains dont la superficie est comprise entre cinq (5) et vingt (20) hectares.
- 12) - Projets d'aménagement des zones touristiques dont la superficie est comprise entre dix (10) et trente (30) hectares.
- 13) - Unités de fabrication de fibres minérales.
- 14) - Unités de fabrication, de transformation, de conditionnement et de conservation des produits alimentaires.
- 15) - Les abattoirs.

- 16) - Unités de fabrication ou de construction des automobiles, camions ou leurs moteurs.
- 17) - Projets de chantiers navals.
- 18) - Unités de fabrication et d'entretien d'aéronefs.
- 19) - Unités de conchyliculture.
- 20) - Unités de dessalement de l'eau dans les unités industrielles et touristiques.
- 21) - Unités de thalassothérapie et de thermalisme.
- 22) - Unités d'hôtels d'une capacité supérieure à trois cent lits (300 lits).
- 23) - Unités de fabrication de papier et de carton.
- 24) - Unités de fabrication d'élastomère et de peroxydes.

- Catégorie B : Unités faisant l'objet d'un avis ne dépassant pas le délai de trois mois (3 mois) ouvrables.

- 1) - Unités de raffineries de pétrole brut et installations de gazéification et de liquéfaction d'au moins cinq cent tonnes de charbon ou de schistes bitumineux par jour (500 tonnes / jour).
 - 2) - Unités de production d'électricité d'une puissance d'au moins trois cent MW (300 MW).
 - 3) - Unités de gestion des déchets ménagers et assimilés d'une capacité d'au moins vingt tonnes par jour (20 tonnes / jour).
 - 4) - Unités de gestion des déchets dangereux.
 - 5) - Unités de fabrication du ciment, de la chaux et du gypse.
 - 6) - Unités de fabrication de produits chimiques, des pesticides, de peinture de cirage et de l'eau de javel catégorie 2 selon la nomenclature des établissements classés dangereux, insalubres et incommodes.
 - 7) - Unités sidérurgiques.
 - 8) - Les carrières industrielles des granulats et du sable dont la capacité de production dépassant trois cent milles tonnes /an (300000 tonnes / an), et les projets d'extraction des ressources minérales.
 - 9) - Unités de fabrication de pâte à papier et de traitement de cellulose.
-

- 10) - Projets de construction de voies ferrées, d'autoroutes, des routes expresses, des ponts et des échangeurs.
- 11) - Projets de construction d'aéroports dont la piste de décollage et d'atterrissage ayant une longueur supérieure à deux milles cent mètres (2100 mètres).
- 12) - Projets de ports de commerce, de pêche et de plaisance.
- 13) - Projets d'aménagement des zones industrielles dont la superficie dépassant les cinq hectares (5 hectares).
- 14) - Projets de lotissements urbains dont la superficie dépassant les vingt hectares (20 hectares).
- 15) - Projets d'aménagement des zones touristiques dont la superficie dépassant les trente hectares (30 hectares).
- 16) - Equipements de transport du pétrole brut et du gaz.
- 17) - Unités de traitement des eaux usées urbaines.
- 18) - Unités collectives de traitement des eaux usées industrielles
- 19) - Unités de tannerie et de mégisserie.
- 20) - Projets de périmètres irrigués par les eaux usées traitées à des fins agricoles.
- 21) - Projets de grands barrages.
- 22) - Projets d'aquaculture non énumérés dans la catégorie A de l'annexe 1.
- 23) - Unités de dessalement pour l'approvisionnement en eau potable des villes.
- 24) - Projets de villages de vacances d'une capacité supérieure à mille lits (1000 lits).
- 25) - Unités d'extraction, de traitement ou de lavage des produits minéraux et non minéraux.
- 26) - Unités de transformation de phosphate et de ses dérivés.

ANNEXE II

Unités soumises au cahier des charges

- 1) -Les projets de lotissements urbains dont la superficie ne dépassant pas les cinq (5) hectares et les projets d'aménagement des zones touristiques dont la superficie ne dépassant pas les dix (10) hectares
 - 2) - Les projets de réalisation des établissements scolaires et d'enseignement.
 - 3) -Les projets d'installation des canaux de transport ou de transfert des eaux.
 - 4)- Les projets de transport d'énergie non énumérés à l'annexe I et qui ne traversent pas les zones naturelles ou sensibles (les zones bénéficiant d'une protection juridique).
 - 5) -Les projets d'aménagement côtier non énumérés à l'annexe I.
 - 6) - Les unités de trituration d'olive (huileries).
 - 7) -Les unités d'extraction des huiles végétales et animales.
 - 8) -Les unités classées d'élevage d'animaux.
 - 9) -Les unités d'industrie textile non énumérés à l'annexe I.
 - 10) -Les unités d'emboutissage, découpage de grosses pièces métalliques.
 - 11) -Les unités de stockage, de distribution des hydrocarbures ou les stations de lavage et graissage des véhicules.
 - 12) - Les unités de fabrication de féculants.
 - 13) - Les carrières traditionnelles.
 - 14)- Les unités de stockage de gaz ou de produits chimiques.
 - 15) – chaudronnerie, construction de réservoirs et d'autres pièces de tôlerie.
 - 16) -Buanderie utilisant l'eau pour le lavage des vêtements et des couvertures.
 - 17) – Les lacs collinaires.
 - 18) – Unités de fabrication de produits parapharmaceutiques.
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Annex 2.

Model of specifications document drawn up by NEPA

**Cahier des charges fixant les mesures
environnementales que doit respecter le maître de
l'ouvrage ou le pétitionnaire d'un projet de
réalisation d'un lac collinaire**

Article premier : Le présent cahier des charges fixe les mesures environnementales que doit respecter le maître de l'ouvrage ou le pétitionnaire d'un projet de réalisation d'un lac collinaire.

Article 2 : Le présent cahier des charges comprend seize (16) articles et quatre pages (04).

Ce cahier des charges doit être signé et légalisé par le maître de l'ouvrage ou le pétitionnaire.

Article 3 : Le maître de l'ouvrage ou le pétitionnaire doit respecter les textes législatifs et réglementaires en vigueur et notamment :

- La loi n°88-91 du 02 août 1988 portant création d'une Agence Nationale de Protection de l'Environnement telle que modifiée par la loi 92-115 du 30 novembre 1992 et la loi 93-120 du 27 décembre 1993.
- Le décret n°2005 - 1991 du 11 juillet 2005 relatif à l'étude d'impact sur l'environnement et fixant les catégories des unités soumises à l'étude d'impact sur l'environnement et les catégories des unités soumises aux cahiers des charges

Article 4 : Le maître de l'ouvrage ou le pétitionnaire doit respecter la vocation de la zone d'implantation du projet, les plans d'aménagement et les normes en vigueur.

Article 5 : Le maître de l'ouvrage ou le pétitionnaire doit choisir les techniques appropriées qui garantissent la préservation de l'environnement.

Article 6 : Le maître de l'ouvrage ou le pétitionnaire doit prendre toutes les mesures préventives pour ne pas endommager l'environnement limitrophe, notamment les zones bénéficiant d'une protection juridique et les terres agricoles.

Article 7 : Le maître de l'ouvrage ou le pétitionnaire doit collecter les déchets et assurer leur mise en décharge autorisée.

Article 8 : L'incinération des déchets en plein air est interdite.

Article 9 : Le maître de l'ouvrage ou le pétitionnaire doit arroser le site des travaux et l'isoler, de façon à éviter les émissions de poussières.

Article 10: Le maître de l'ouvrage ou le pétitionnaire doit procéder à la maintenance des équipements, et du matériel utilisé pour la réalisation du projet et assurer le changement de ses huiles dans des établissements spécialisés, le cas échéant ; il est possible de changer les huiles sur place à condition d'assurer leur collecte dans des conteneurs réservés à cet effet et placés dans des endroits couverts et accessibles aux véhicules de collecte de ces déchets et de les livrer à des personnes autorisées à exercer les activités de gestion de ces déchets, conformément à la législation et à la réglementation en vigueur.

Article 11: Le maître de l'ouvrage ou le pétitionnaire s'engage à prendre les mesures nécessaires pour limiter le bruit pendant la période des travaux.

Article 12: Le maître de l'ouvrage ou le pétitionnaire est tenu d'exercer un autocontrôle continu pour se conformer à la législation, à la réglementation, aux normes en vigueur et aux procédures mentionnées dans le présent cahier des charges.

Article 13: Le maître de l'ouvrage ou le pétitionnaire est tenu de notifier au préalable à L'Agence Nationale de Protection de L'Environnement toute modification dans les données déclarées.

Article 14: Les experts contrôleurs de l'Agence Nationale de Protection de l'Environnement sont chargés de contrôler l'application des dispositions du présent cahier des charges.

Article 15: Toute infraction aux dispositions du présent cahier des charges donne lieu aux poursuites et pénalités prévues par la législation en vigueur

Article 16: Le présent cahier des charges peut être retiré des services relevant du ministère de l'environnement et du développement durable, de l'Agence Nationale de Protection de l'Environnement, du Journal Officiel de la République Tunisienne ou par internet.

**Données relatives
au maître de l'ouvrage ou le pétitionnaire**

Personne physique (1) :

Prénom.....

Nom.....

Date et lieu de naissance.....

CIN : délivrée à le

Profession.....

Adresse N° Rue / Avenue Code Postal

Commune Délégation Gouvernorat

Tel Fax E-mail

Personne Morale (2) :

Nom de la société

Type de la société Objet de l'activité

Siège Social N° Rue/Avenue

Commune Délégation Gouvernorat

Tel Fax E-mail

Représentant légal :

Prénom.....

Nom.....

Date et lieu de naissance.....

CIN : délivrée à Le

Description et spécificité du projet (3) :

Nom du projet :

Site N° Rue/Avenue

Commune Délégation Gouvernorat

Source des eaux et sa qualité.....

Superficie du lac.....

Capacité du lac

Hauteur de la digue.....

Longueur du barrage.....

Origine des remblais et leurs qualités

Durée des travaux.....

Date de démarrage des travaux :.....

Je soussignésignataire du
présent cahier des charges, atteste l'exactitude des données ci-dessus mentionnées.

Fait àle.....

Signature légalisée

**Cahier des charges fixant les mesures
environnementales que doit respecter le maître
de l'ouvrage ou le pétitionnaire d'un projet
d'installation des canaux de transport ou de
transfert des eaux**

Article premier : Le présent cahier des charges fixe les mesures environnementales que doit respecter le maître de l'ouvrage ou le pétitionnaire d'un projet d'installation des canaux de transport ou de transfert des eaux.

Article 2 : Le présent cahier des charges comprend quinze (15) articles et quatre (04) pages.

Ce cahier des charges doit être signé et légalisé par le maître de l'ouvrage ou le pétitionnaire.

Article 3 : Le maître de l'ouvrage ou le pétitionnaire doit respecter les textes législatifs et réglementaires en vigueur et notamment :

- La loi n°88-91 du 02 août 1988 portant création d'une Agence Nationale de Protection de l'Environnement telle que modifiée par la loi 92-115 du 30 novembre 1992 et la loi 93-120 du 27 décembre 1993.
- Le décret n°2005 - 1991 du 11 juillet 2005 relatif à l'étude d'impact sur l'environnement et fixant les catégories des unités soumises à l'étude d'impact sur l'environnement et les catégories des unités soumises aux cahiers des charges

Article 4 : Le maître de l'ouvrage ou le pétitionnaire doit respecter la vocation de la zone d'implantation du projet, les plans d'aménagement et les normes en vigueur.

Article 5 : Le projet doit être implanté dans une zone autorisée, en dehors des zones bénéficiant d'une protection juridique et notamment les zones naturelles ou sensibles, et son implantation ne doit causer aucune dégradation à l'environnement.

Article 6 : Le maître de l'ouvrage ou le pétitionnaire doit choisir les techniques appropriées qui garantissent la préservation de l'environnement.

Article 7 : Le rejet des eaux usées dans le milieu naturel est interdit.

Article 8 : Le maître de l'ouvrage ou le pétitionnaire doit prendre toutes les mesures nécessaires pour évacuer les eaux pluviales, éviter leur stagnation et assurer leur gestion de manière à préserver l'environnement.

Article 9 : Le maître de l'ouvrage ou le pétitionnaire doit collecter les déchets et assurer leur mise en décharge autorisée.

Article 10 : L'incinération des déchets en plein air est interdite.

Article 11 : Le maître de l'ouvrage ou le pétitionnaire doit arroser le site des travaux et l'isoler, de façon à éviter les émissions de poussières.

Article 12: Le maître de l'ouvrage ou le pétitionnaire doit procéder à la maintenance des équipements, et du matériel utilisé pour la réalisation du projet et assurer le changement de ses huiles dans des établissements spécialisés, le cas échéant ; il est possible de changer les huiles sur place à condition d'assurer leur collecte dans des conteneurs réservés à cet effet et placés dans des endroits couverts et accessibles aux véhicules de collecte de ces déchets et de les livrer à des personnes autorisées à exercer les activités de gestion de ces déchets, conformément à la législation et à la réglementation en vigueur.

Article 13 : Le maître de l'ouvrage ou le pétitionnaire s'engage à prendre les mesures nécessaires pour limiter le bruit afin de ne pas provoquer de gêne aux riverains pendant la période des travaux.

Article 14 : Le maître de l'ouvrage ou le pétitionnaire est tenu d'exercer un autocontrôle continu, pour se conformer, à la législation, à la réglementation, aux normes en vigueur et aux procédures mentionnées dans le présent cahier des charges.

Article 15 : Le maître de l'ouvrage ou le pétitionnaire est tenu de notifier au préalable à L'Agence Nationale de Protection de L'Environnement toute modification dans les données déclarées.

Article 16: Les experts contrôleurs de l'Agence Nationale de Protection de l'Environnement sont chargés de contrôler l'application des dispositions du présent cahier des charges.

Article 17: Toute infraction aux dispositions du présent cahier des charges donne lieu aux poursuites et pénalités prévues par la législation en vigueur

Article 18: Le présent cahier des charges peut être retiré des services relevant du ministère de l'environnement et du développement durable, de l'Agence Nationale de Protection de l'Environnement, du Journal Officiel de la République Tunisienne ou par internet.

**Données relatives
au maître de l'ouvrage ou le pétitionnaire**

Personne physique (1) :

Prénom.....
 Nom.....
 Date et lieu de naissance.....
 CIN : délivrée à le.....
 Profession.....
 Adresse N°..... Rue / Avenue..... Code Postal.....
 Commune..... Délégation..... Gouvernorat.....
 Tel..... Fax..... E-mail.....

Personne Morale (2) :

Nom de la société.....
 Type de la société.....
 Activité.....
 Siège Social N°..... Rue/Avenue.....
 Commune..... Délégation..... Gouvernorat.....
 Tel..... Fax..... E-mail.....

Représentant légal :

Prénom.....
 Nom.....
 Date et lieu de naissance.....
 CIN : délivrée à le.....

Identification et spécificités du projet (3) :

Nom du projet.....
 Situation du projet.....
 Source des eaux et ses caractéristiques.....
 Zone à alimenter par les eaux.....
 Débit de l'eau..... m3/heure.....
 Longueur de la canalisation-Longueur globale.....
-Longueur de la canalisation souterraine.....
Longueur de la canalisation apparente.....

Diamètre de la canalisation.....
 Typologie de la canalisation.....
 Nombre des réservoirs et leur capacité de stockage.....
 Nombre des stations de pompage.....
 Durée des travaux.....
 Date de démarrage des travaux :.....

Je soussignésignataire du présent
 cahier des charges, atteste l'exactitude des données ci-dessus mentionnées.

Fait àle.....

Signature légalisée

(1) joindre une photo de la carte d'identité

(2) joindre une copie du statut de la société publié au J.O.R.T

(3) joindre un plan du site.

**Cahier des charges fixant les mesures environnementales
que doit respecter le maître de l'ouvrage ou le
pétitionnaire d'une unité classée d'élevage d'animaux**

Article premier : Le présent cahier des charges fixe les mesures environnementales que doit respecter le maître de l'ouvrage ou le pétitionnaire d'une unité classée d'élevage d'animaux.

Article 2 : Le présent cahier des charges comprend vingt (20) articles et quatre (04) pages.

Ce cahier des charges doit être signé et légalisé par le maître de l'ouvrage ou le pétitionnaire.

Article 3 : Le maître de l'ouvrage ou le pétitionnaire doit respecter les textes législatifs et réglementaires en vigueur et notamment :

- La loi n°88-91 du 02 août 1988 portant création d'une Agence Nationale de Protection de l'Environnement telle que modifiée par la loi 92-115 du 30 novembre 1992 et la loi 93-120 du 27 décembre 1993.
- Le décret n°2005 - 1991 du 11 juillet 2005 relatif à l'étude d'impact sur l'environnement et fixant les catégories des unités soumises à l'étude d'impact sur l'environnement et les catégories des unités soumises aux cahiers des charges

Article 4 : Le maître de l'ouvrage ou le pétitionnaire doit respecter la vocation de la zone d'implantation du projet, les plans d'aménagement et les normes en vigueur.

Article 5 : L'unité doit être implantée dans une zone autorisée, en dehors des zones bénéficiant d'une protection juridique et notamment les zones naturelles ou sensibles, et son implantation ne doit causer aucune dégradation à l'environnement.

Article 6 : Le maître de l'ouvrage ou le pétitionnaire doit choisir les techniques appropriées qui garantissent la préservation de l'environnement.

Article 7 : Le maître de l'ouvrage ou le pétitionnaire doit évacuer les eaux usées sanitaires dans le réseau public d'assainissement.

En cas d'absence du réseau public d'assainissement, des fosses étanches , couvertes et clôturées doivent être réalisées pour la collecte des eaux usées sanitaires et vidées périodiquement dans la station d'épuration la plus proche par des camions appropriés.

Article 8 : Le maître de l'ouvrage ou le pétitionnaire doit mettre en place les équipements nécessaires pour limiter la pollution engendrée par les eaux usées afin de garantir leur conformité aux normes tunisiennes en vigueur.

Article 9 : Le maître de l'ouvrage ou le pétitionnaire doit prendre toutes les mesures nécessaires pour évacuer les eaux pluviales, éviter leur stagnation et assurer leur gestion de manière à préserver l'environnement.

Article 10 : Le maître de l'ouvrage ou le pétitionnaire doit collecter les déchets et assurer leur mise en décharge autorisée.

Article 11 : Le maître de l'ouvrage ou le pétitionnaire s'engage à enfuir les cadavres des animaux dans une fosse couverte et à rajouter une couche de chaux vive suivie d'une couche de terre.

Article 12 : L'incinération des déchets en plein air est interdite.

Article 13 : Le maître de l'ouvrage ou le pétitionnaire doit prendre toutes les mesures nécessaires pour limiter l'émission des mauvaises odeurs.

Article 14 : Le maître de l'ouvrage ou le pétitionnaire doit gérer les huiles usagées conformément à la réglementation en vigueur et effectuer la maintenance des équipements, et du matériel utilisé et assurer le changement de ses huiles dans des établissements spécialisés.

Article 15 : Le maître de l'ouvrage ou le pétitionnaire doit prendre toutes les mesures nécessaires pour limiter le bruit et équiper son unité de matériels isolants pour garantir le respect des valeurs limites autorisées.

Article 16 : Le maître de l'ouvrage ou le pétitionnaire est tenu d'exercer un autocontrôle continu, pour se conformer, à la législation, à la réglementation, aux normes en vigueur et aux procédures mentionnées dans le présent cahier des charges.

Article 17 : Le maître de l'ouvrage ou le pétitionnaire est tenu de notifier au préalable à L'Agence Nationale de Protection de L'Environnement toute modification dans les données déclarées.

Article 18 : Les experts contrôleurs de l'Agence Nationale de Protection de l'Environnement sont chargés de contrôler l'application des dispositions du présent cahier des charges.

Article 19 : Toute infraction aux dispositions du présent cahier des charges donne lieu aux poursuites et pénalités prévues par la législation en vigueur

Article 20 : Le présent cahier des charges peut être retiré des services relevant du ministère de l'environnement et du développement durable, de l'Agence Nationale de Protection de l'Environnement, du Journal Officiel de la République Tunisienne ou par internet.

**Données relatives
au maître de l'ouvrage ou le pétitionnaire**

Personne physique (1) :

Prénom.....

Nom.....

Date et lieu de naissance.....

CIN : délivrée à le.....

Profession.....

Adresse N°..... Rue / Avenue..... Code Postal.....

Commune..... Délégation..... Gouvernorat.....

Tel..... Fax..... E-mail.....

Personne Morale (2) :

Nom de la société.....

Type de la société.....

Objet de l'activité.....

Siège Social N°..... Rue/Avenue.....

Commune..... Délégation..... Gouvernorat.....

Tel..... Fax..... E-mail.....

Représentant légal :

Prénom.....

Nom.....

Date et lieu de naissance.....

CIN : délivrée à le.....

Identification et spécificité du projet (3) :

Nom du projet.....

Situation du projet.....

.....

Description du projet.....

.....
Activité.....

.....
Adresse N°.....Rue/Avenue.....

Commune.....Délégation.....Gouvernorat.....

Superficie totale du projet.....

Superficie couverte

Date de démarrage des travaux :

Je soussignésignataire du présent

cahier des charges, atteste l'exactitude des données ci-dessus mentionnées.

Fait àle.....

Signature légalisée

**Cahier des charges fixant les mesures
environnementales que doit respecter le maître de
l'ouvrage ou le pétitionnaire d'une unité
d'extraction des huiles végétales et animales**

Article premier : Le présent cahier des charges fixe les mesures environnementales que doit respecter le maître de l'ouvrage ou le pétitionnaire d'une unité d'extraction des huiles végétales et animales.

Article 2 : Le présent cahier des charges comprend dix huit (15) articles et cinq (05) Pages.

Ce cahier des charges doit être signé et légalisé par le maître de l'ouvrage ou le pétitionnaire.

Article 3 : Le maître de l'ouvrage ou le pétitionnaire doit respecter les textes législatifs et réglementaires en vigueur et notamment :

- La loi n°88-91 du 02 août 1988 portant création d'une Agence Nationale de Protection de l'Environnement telle que modifiée par la loi 92-115 du 30 novembre 1992 et la loi 93-120 du 27 décembre 1993.

- Le décret n°2005 - 1991 du 11 juillet 2005 relatif à l'étude d'impact sur l'environnement et fixant les catégories des unités soumises à l'étude d'impact sur l'environnement et les catégories des unités soumises aux cahiers des charges

Article 4 : Le maître de l'ouvrage ou le pétitionnaire doit respecter la vocation de la zone d'implantation du projet, les plans d'aménagement et les normes en vigueur.

Article 5 : Le maître de l'ouvrage ou le pétitionnaire doit choisir les techniques appropriées qui garantissent la préservation de l'environnement.

Article 6 : Le maître de l'ouvrage ou le pétitionnaire doit évacuer les eaux usées sanitaires dans le réseau public d'assainissement.

En cas d'absence du réseau public d'assainissement, des fosses étanches , couvertes et clôturées doivent être réalisées pour la collecte des eaux usées sanitaires et vidées périodiquement dans la station d'épuration la plus proche par des camions appropriés.

Article 7 : Le maître de l'ouvrage ou le pétitionnaire doit mettre en place les équipements nécessaires pour limiter la pollution engendrée par les eaux usées

industrielles afin de garantir leur conformité aux normes tunisiennes en vigueur et assurer la maintenance de ces équipements d'une façon continue et périodique.

Article 8 : Le maître de l'ouvrage ou le pétitionnaire doit évacuer les eaux pluviales dans le réseau principal.

En cas d'absence du réseau principal, les eaux pluviales doivent être gérées d'une manière qui garantit la préservation de l'environnement.

Article 9 : Le maître de l'ouvrage ou le pétitionnaire doit collecter les déchets et assurer leur mise en décharge autorisée.

Article 10 : L'incinération des déchets en plein air est interdite.

Article 11 : Le maître de l'ouvrage ou le pétitionnaire doit prendre toutes les mesures nécessaires pour limiter les émissions de poussières et les émissions des gaz polluants, en utilisant des sources d'énergies non polluantes et en mettant en place les équipements pour limiter la pollution et assurer leur maintenance d'une façon périodique.

Article 12 : Le maître de l'ouvrage ou le pétitionnaire doit gérer les huiles usagées conformément à la réglementation en vigueur et effectuer la maintenance des équipements, et du matériel utilisé pour la réalisation du projet et assurer le changement de ses huiles dans des établissements spécialisés.

Article 13 : Le maître de l'ouvrage ou le pétitionnaire doit prendre toutes les mesures nécessaires pour limiter le bruit et équiper son unité de matériels isolants pour garantir le respect des valeurs limites autorisées.

Article 14 : Le maître de l'ouvrage ou le pétitionnaire est tenu d'exercer un autocontrôle continu pour se conformer à la législation, à la réglementation, aux normes en vigueur et aux procédures mentionnées dans le présent cahier des charges.

Article 15 : Le maître de l'ouvrage ou le pétitionnaire est tenu de notifier au préalable à L'Agence Nationale de Protection de L'Environnement toute modification dans les données déclarées.

Article 16 : Les experts contrôleurs de l'Agence Nationale de Protection de l'Environnement sont chargés de contrôler l'application des dispositions du présent cahier des charges.

Article 17 : Toute infraction aux dispositions du présent cahier des charges donne lieu aux poursuites et pénalités prévues par la législation en vigueur

Article 18 : Le présent cahier des charges peut être retiré des services relevant du ministère de l'environnement et du développement durable, de l'Agence Nationale de Protection de l'Environnement, du Journal Officiel de la République Tunisienne ou par internet.

**Données relatives
au maître de l'ouvrage ou le pétitionnaire**

Personne physique (1) :

Prénom.....

Nom.....

Date et lieu de naissance.....

CIN N° : délivrée à le.....

Profession.....

Adresse N°..... Rue / Avenue..... Code Postal.....

Commune..... Délégation..... Gouvernorat.....

Tel..... Fax..... E-mail.....

Personne Morale (2) :

Nom de la société.....

Type de la société.....

Activité.....

Siège Social N°..... Rue/Avenue.....

Commune..... Délégation..... Gouvernorat.....

Tel..... Fax..... E-mail.....

Représentant légal :

Prénom.....

Nom.....

Date et lieu de naissance.....

CIN : délivrée à le.....

Identification et spécificité du projet (3) :

Nom du projet.....

Activité.....

Situation du projet.....

Description du projet.....

.....

**Cahier des charges fixant les mesures environnementales
que doit respecter le maître de l'ouvrage ou le
pétitionnaire d'une unité de trituration d'olive (huilerie)**

Article premier : Le présent cahier des charges fixe les mesures environnementales que doit respecter le maître de l'ouvrage ou le pétitionnaire d'une unité de trituration d'olive (huilerie)

Article 2 : Le présent cahier des charges comprend vingt (20) articles et quatre (04) pages.

Ce cahier des charges doit être signé et légalisé par le maître de l'ouvrage ou le pétitionnaire.

Article 3 : Le maître de l'ouvrage ou le pétitionnaire doit respecter les textes législatifs et réglementaires en vigueur et notamment :

- La loi n°88-91 du 02 août 1988 portant création d'une Agence Nationale de Protection de l'Environnement telle que modifiée par la loi 92-115 du 30 novembre 1992 et la loi 93-120 du 27 décembre 1993.
- Le décret n°2005 - 1991 du 11 juillet 2005 relatif à l'étude d'impact sur l'environnement et fixant les catégories des unités soumises à l'étude d'impact sur l'environnement et les catégories des unités soumises aux cahiers des charges

Article 4 : Le maître de l'ouvrage ou le pétitionnaire doit respecter la vocation de la zone d'implantation du projet, les plans d'aménagement et les normes en vigueur.

Article 5 : L'unité doit être implantée dans une zone autorisée, en dehors des zones bénéficiant d'une protection juridique et notamment les zones naturelles ou sensibles, et son implantation ne doit causer aucune dégradation à l'environnement.

Article 6 : Le maître de l'ouvrage ou le pétitionnaire doit choisir les techniques appropriées qui garantissent la préservation de l'environnement et la santé publique.

Article 7 : Le maître de l'ouvrage ou le pétitionnaire doit évacuer les eaux usées sanitaires dans le réseau public d'assainissement.

En cas d'absence du réseau public d'assainissement, des fosses étanches , couvertes et clôturées doivent être réalisées pour la collecte des eaux usées sanitaires et vidées périodiquement dans la station d'épuration la plus proche par des camions appropriés.

Article 8 : Le maître de l'ouvrage ou le pétitionnaire doit prendre toutes les mesures nécessaires pour évacuer les eaux pluviales, éviter leur stagnation et assurer leur gestion de manière à préserver l'environnement.

Article 9 : Le maître de l'ouvrage ou le pétitionnaire doit équiper son unité par des bassins étanches capables de contenir au moins la quantité de la margine résultant de

l'exercice de l'activité pendant une semaine, et assurer périodiquement sa mise en décharge autorisée.

Article 10 : Le maître de l'ouvrage ou le pétitionnaire est tenu de collecter le lixiviat des grignons et les eaux de lavages des olives dans un bassin étanche raccordé au bassin de collecte de la margine.

Article 11 : Le maître de l'ouvrage ou le pétitionnaire doit collecter et stocker les grignons sur une plateforme étanche, spécialement aménagé et de les livrer à des personnes autorisées à les gérer.

Article 12 : L'incinération des déchets en plein air est interdite.

Article 13 : Le maître de l'ouvrage ou le pétitionnaire doit gérer les huiles usagées conformément à la réglementation en vigueur et effectuer la maintenance des équipements, et du matériel utilisé pour la réalisation du projet et assurer le changement de ses huiles dans des établissements spécialisés.

Article 14 : Le maître de l'ouvrage ou le pétitionnaire doit prendre toutes les mesures nécessaires pour limiter l'émission des mauvaises odeurs.

Article 15 : Le maître de l'ouvrage ou le pétitionnaire s'engage à prendre toutes les mesures nécessaires pour limiter le bruit afin de ne pas provoquer de gêne aux riverains pendant la période des travaux.

Article 16 : Le maître de l'ouvrage ou le pétitionnaire est tenu d'exercer un autocontrôle continu pour se conformer à la législation, à la réglementation, aux normes en vigueur et aux procédures mentionnées dans le présent cahier des charges.

Article 17 : Le maître de l'ouvrage ou le pétitionnaire est tenu de notifier au préalable à L'Agence Nationale de Protection de L'Environnement toute modification dans les données déclarées.

Article 18 : Les experts contrôleurs de l'Agence Nationale de Protection de l'Environnement sont chargés de contrôler l'application des dispositions du présent cahier des charges.

Article 19 : Toute infraction aux dispositions du présent cahier des charges donne lieu aux poursuites et pénalités prévues par la législation en vigueur

Article 20 : Le présent cahier des charges peut être retiré des services relevant du ministère de l'environnement et du développement durable, de l'Agence Nationale de Protection de l'Environnement, du Journal Officiel de la République Tunisienne ou par internet.

**Données relatives
au maître de l'ouvrage ou le pétitionnaire**

Personne physique (1) :

Prénom.....

Nom.....

Date et lieu de naissance.....

CIN : délivrée à le Profession.....

Adresse N° Rue / Avenue..... Code postal.....

Commune..... Délégation..... Gouvernorat.....

Tel..... Fax..... E-mail.....

Personne Morale (2) :

Nom de la société.....

Type de la société.....

Objet de l'activité.....

Siège Social N° Rue/Avenue.....

Commune..... Délégation..... Gouvernorat.....

Tel..... Fax..... E-mail.....

Représentant légal :

Prénom.....

Nom.....

Date et lieu de naissance.....

CIN : délivrée à le

Identification et spécificité du projet (3) :

Nom du projet.....

Activité.....

Situation du projet.....

.....

Description du projet.....

.....

.....

Adresse N°.....Rue/Avenue.....
Commune.....Délégation.....Gouvernorat.....
Superficie totale du projet.....Superficie couverte du projet.....
Capacité de production.....Tonnes / jour.....Tonnes / an
Capacité de trituration.....Tonnes / jour.....Tonnes / an
Capacité de stockage de la margine en m3.....(La capacité de stockage doit
dépasser la quantité de la margine résultant de l'exercice de l'activité pendant une semaine)
La superficie de la plateforme de stockage des grignons (en m2).....
Nom de la Décharge de margine autorisée:.....
Lieu de la décharge de la margine
Distance entre la Décharge autorisée et l'Huilerie.....Km
Equipements et Moyens de transport (type et nombre).....
Date du démarrage des travaux :.....

Je soussignésignataire du présent
cahier des charges, atteste l'exactitude des données ci-dessus mentionnées.

Fait àle.....

Signature légalisée

Annex 3.

Model of environmental and social screening sheet

Modèle de Fiche de tamisage environnemental et social

Titre de l'Action:

Initiateur:

Territoire d'intervention du Programme:

Dans le cadre de quel Volet du Programme cette action est proposée:

Description de l'Action

Localisation exacte

Etendue (superficie, joindre une carte ou un plan)

Objectif(s)

Résultat(s) attendu(s)

Bénéficiaires

Travaux et/ou aménagements prévus

Description de la zone de mise en œuvre

Nature du site

Population locale

Statut foncier

Topographie et nature du sol

Couvert végétal

Principaux usages actuels

Ressources en eau et leur état (nappes, cours d'eau, puits, sources, plan d'eau, etc.)

Principaux éléments d'infrastructure

Principaux éléments du patrimoine (naturel et/ou culturel)

	Oui	Nom	Remarque/Commentaire
L'Action est de nature à entraîner un déplacement involontaire de population			
L'Action peut entraîner des restrictions importantes quant à l'usage des ressources naturelles par la population locale			
Un site naturel sensible est situé sur le site ou dans son voisinage immédiat			
Un site culturel (monument ou autres) sensible est situé sur le site ou dans son voisinage immédiat			
L'Action est du type d'unités figurant sous la Catégorie A de l'Annexe 1 (Unités obligatoirement soumises à l'étude d'impact sur l'environnement) du Décret no 2005-1991 du 11/07/2005 relatif à l'étude d'impact sur l'environnement			
L'Action est du type d'unités figurant sous la Catégorie B de l'Annexe 1 (Unités soumises à l'étude d'impact sur l'environnement) du Décret no 2005-1991 du 11/07/2005 relatif à l'étude d'impact sur l'environnement			
L'Action est du type d'unités figurant à l'Annexe 2 (Unités soumises au cahier des charges) du Décret no 2005-1991 du 11/07/2005 relatif à l'étude d'impact sur l'environnement			
Impacts prévisibles			
Pollution atmosphérique			
Pollution chimique			
Pollution organique			
Dégradation du couvert végétal			
Impact sur la faune sauvage			
Risques de maladies			
Introduction d'espèces non indigènes ou génétiquement modifiées			
Diminution des ressources en eau disponibles			
Nuisances sonores ou autres			
Altération de paysages remarquables			
Impact négatif sur une aire protégée			

