

MOROCCO CBA Programme

Community Based Adaptation

Form for Complete Proposal of CBA Project

SUMMARY PROJECT PRESENTATION

1. Project Title:

Building the forest ecosystem's resiliency and improving two communities' capacities to adapt to the effects of climate change, particularly the increase and intensification of drought periods, through a sustainable and integrated farming and forestry strategy in the Province of Azilal – High Atlas.

2. Project site

Two villages :

- Douar Swit Aït Ounir, commune of Aït Mohammed, Province Azilal, Région Tadla-Azilal, Maroc
- Douar Sremt, commune of Tabant, Province Azilal, Région Tadla-Azilal, Maroc

3. Project proponent :

Fondation Zakoura Education (FZE) – Pôle Environnement

131, Boulevard d'Anfa
Casablanca, Maroc

Moroccan Association working toward human development, in the fields of education and environment.

Role in the project

General project coordination, organization of activities, monitoring & evaluation, reporting, liaising with partners.

The FZE is the project proponent and will ensure leadership of the project from its headquarters and in the field (part-time project officer in the field)

4. Official representatives :

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5. Partners :

Programme CBA (Community Based Adaptation / Adaptation à Base Communautaire) PNUD-FEM / UNV/SGP

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Rabat, Maroc

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Role in the project

Funding, Support to project development, monitoring & evaluation. Participation in Steering Committee.

Fondation Crédit Agricole du Maroc pour le Développement Durable

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Role in the project

Funding, Support to project development, monitoring & evaluation. Participation in Steering Committee.

Corps de la Paix des Etats-Unis d'Amérique

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- Fatima Akabli
Coordinatrice du programme
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Role in the project

Monitoring and implementation of activities in the field. Support to inclusive community mobilization. The Peace Corps Volunteer will be an intermediate between the local communities and the project proponent, ensuring efficient implementation of activities.

Haut Commissariat des Eaux et Forêts et de la Lutte Contre la Désertification

Direction Régionale des Eaux et Forêts et de la Lutte Contre la Désertification TADLA – AZILAL

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Role in the project

Technical support for planting activities & training on sustainable management of forest ecosystem.

Centre de Recherche Forestière

- Abderrahim Ferradous
Chercheur au CRF de Marrakech
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Role in the project

Plants (cuttings of Juniperus Thurifera). Technical support for planting and sustainable management of forest ecosystem

Direction du Développement Forestier

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Role in the project

Plants (hedges & Atriplex).

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Role in the project

Fodder seeds. Technical support for planting activities & alternative fodder training.

Association d'Azilal pour le Développement, l'Environnement et la Communication (AADEC)

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Role in the project

Strengthening inclusive community mobilization: women's workshop facilitation, monitoring the participatory activities, preparing progress reports

6. Project dates :

October 2011 – December 2012 (15 months)

7. Total project cost :

1 247 874 MAD / 151 441 USD (*Taux dollar US 1 USD = 8,24 MAD – octobre 2011*)

8. CBA contribution

371 656 MAD / 45 104 USD (*Taux dollar US 1 USD = 8,24 MAD – octobre 2011*)

9. Cofunding

Contribution communautaire (in kind) : 158 880 MAD / 19 282 USD

Direction Provinciale de l'Agriculture d'Azilal (in kind) : 24 000 MAD / 2 913 USD

Haut Commissariat des Eaux et Forêts et de la Lutte Contre la Désertification : 193 500 MAD / 23 483 USD

Dont :

Centre de Recherche Forestière (in kind) : 120 000 MAD / 14 563 USD

Direction du Développement Forestier (in kind) : 64 500 MAD / 7 828 USD

Direction Régionale des Eaux et Forêts et de la Lutte Contre la Désertification Tadla-Azilal (in kind) : 9 000 MAD / 1 092 USD

Corps de la paix américain (in kind) : 120 320 MAD / 14 602 USD

Association d'Azilal pour le Développement, l'Environnement et la Communication (in kind) : 48 000 MAD / 5 825 USD

Fondation Zakoura Education (in kind) : 123 563 MAD / 14 996 USD

Fondation Crédit agricole du Maroc pour le Développement Durable (in cash) : 207 955 MAD / 25 237 USD

10. Project Goal:

Increase the resiliency of the subalpine zone's forest ecosystems, and build the capacities of the local populations, who live primarily from breeding, to reduce their vulnerability toward the impacts of climate change, which have led to the degradation of their strategic resources and livelihoods. Rehabilitating the *Juniperus thurifera*, experimenting with alternative fodder and implementing sustainable collective resource management structures and tools will be the strategies experimented to reduce the communities' vulnerability toward climate change.

11. Brief Project Description:

The project is aimed at two pastoral communities in the Azilal province, a mountainous region of the High Atlas with terrace farming in the valleys and high altitude forests. The two douars (villages), populated by approximately 2000 people, are located each on opposite sides of a crest at the summit, with an area of *Juniperus thurifera*, surrounded by slopes of green oak and *Juniperus oxycedrus* trees, which are endemic species in this region.

This territory is subject to difficult living conditions: rough climate, poor soils, strong isolation, poverty, illiteracy are all factors that explain the communities' great vulnerability to climate change. The forest represents an essential means of subsistence for the local communities, who depend on breeding for their resources. Forest species are exploited for pasture, but also as firewood and construction wood.

The zone's climate is semi-arid and presents strong ranges of temperatures between very cold winters and very hot summers (up to 40° C). Rainfall amounts to 500 mm on average per year, which is slightly below the national median. The climate changes observed by the communities over the last 20 years include an increase in the frequency and intensity of rainstorms, reduced snowfall (in quantity and duration), and especially increased drought and reduced water resources.

These changes, which are expected to intensify in the future, are having a direct impact on the communities' strategic resources and living conditions:

- The local ecosystems with great heritage value and strategic significance for the local resources are today showing signs of degradation, which have been challenging their capacity to regenerate and their resiliency toward climate change.
- The *Juniperus thurifera* species, which has already been facing the risk of disappearing because of overexploitation and excessive pasture, is severely threatened by the impacts of climate change, which have further reduced its capacity for regeneration and has led to the development of parasites.
- Breeding, the communities' principal source of income, has declined because of several factors, including the degradation of land reserved for grazing, resulting from poor forest management. These threats have intensified with climate change, particularly because of recurrent droughts.

The communities are therefore powerless to face these threats, and have been witnessing the degradation of their environment without being able to find solutions suitable for their needs and that of the local environment.

To meet these needs, the project aims to reduce the communities' vulnerability to the negative effects of climate change and increase the resiliency of the ecosystem on which they depend.

The project is implementing sustainable and supplemental forest, fodder and farming management strategies to enable the communities to protect their resources and face the growing impacts of climate change.

Direct *Juniperus thurifera* regeneration activities through in situ plantings of cuttings produced by the Center for Forestry Research will be undertaken in parcels chosen in consultation with the communities, in order to contribute to the regeneration and resiliency of this species.

Moreover, a combination of techniques aiming at improving the currently produced fodder and at producing alternatives, will allow to adapt the resources to climate change and variability, to guarantee supply for the communities, and to promote forest protection.

The project therefore relies on two innovative measures of adaptation: planting productive and adapted species, such as *Atriplex*, known for its nutritional value for fodder, adapted to high mountain altitudes, and not demanding in terms of water consumption; and shrubs planted in hedges, referred to as "vegetative hedges" to increase short and medium term fodder production, with the idea of reducing congested grazing land in the green oak forest.

Capacity-building and awareness-raising activities in the communities will provide the technical knowhow to increase the ecosystem's resiliency, improve sources of income, and promote a better understanding of the issues of climate change. This training will also provide inhabitants with the tools required to maintain the plantings and continue breeding activities under good conditions.

A "*Groupement Villageois de Gestion Durable de la Forêt*" (Village group for sustainable forest management) will be formed in each douar as a hub for awareness raising and inclusive community mobilization, and to ensure the project's sustainability. It will be the direct beneficiary of technical training based on two themes: "forest and

sylvopasture” to change abusive harvesting practices, and “farming” to provide an alternative to foliar feed for the forest ecosystems. The group will be responsible for relaying this information to the communities.

To guarantee the project’s continuity and sustainability, the development of Income Generating Activities (IGA) will be initiated from the first months of the project and following the first community awareness-raising workshop to provide the conditions for implementing innovative artisanal activities using forest resources, in respect of the ecological balance. Particular attention will be given to the *Juniperus Thurifera*, which is known for its aromatic and medicinal virtues.

The project will have multiple positive benefits for the communities: local capacity building, mobilization and development of contributions from all, and increased resiliency of the ecosystem, which will enable residents to reduce their expenses and reliance on the markets. It will therefore directly allow the communities to reduce their vulnerability.

The project is being supported by the *Haut Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification* (Government Water & Forestry services), the *Direction Provinciale de l’Agriculture* (Agriculture extension services), the American Peace Corps, the *Fondation Crédit Agricole Maroc pour le Développement Durable* and the “Community Based Adaptation” (CBA) Programme (UNDP/GEF/SGP/UNV).

1.0 PROJECT JUSTIFICATION AND RATIONALE

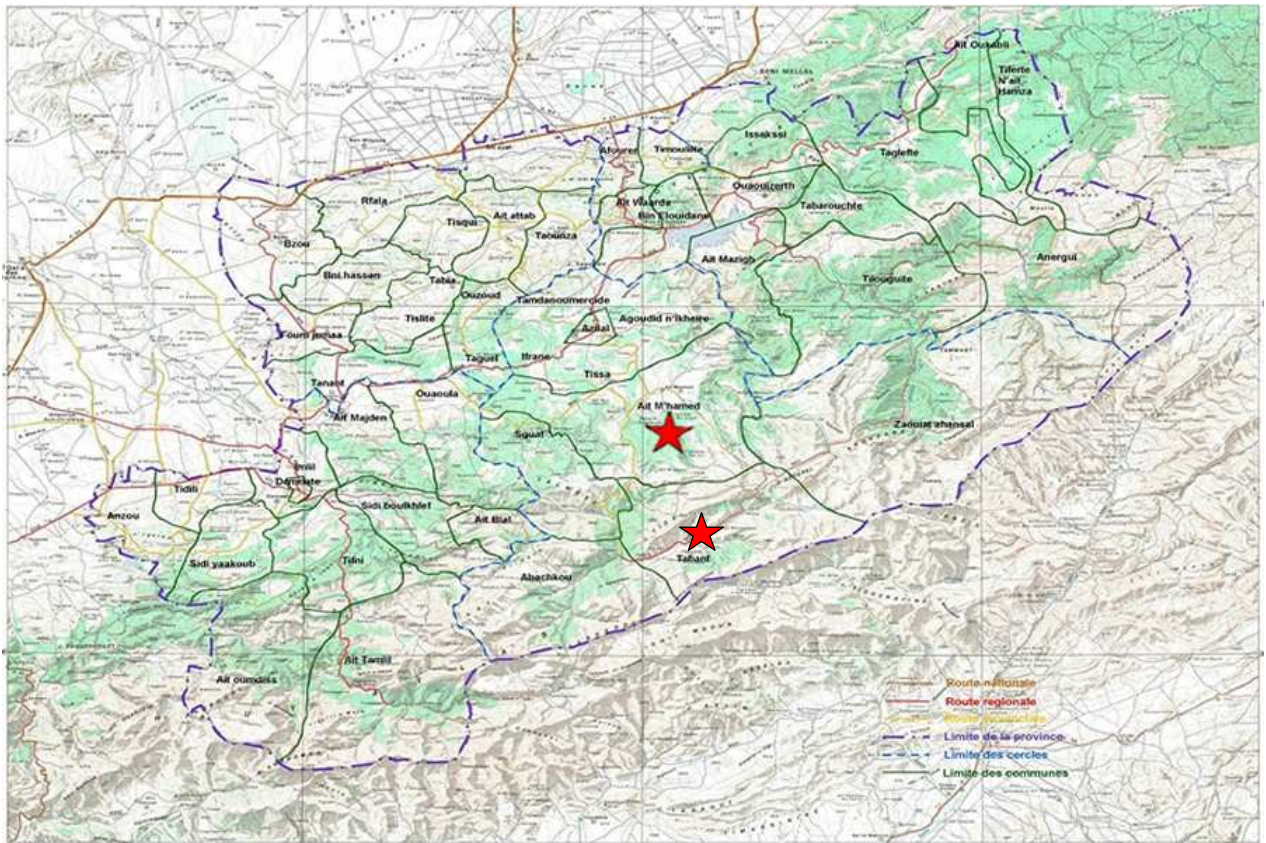
1.1 Project Context: Community and Ecosystem

Geographic and Socioeconomic Context

The project involves two douars located in two rural communes of the Azilal Province: the commune of Aït Mohammed and that of Tabant.

The commune of Aït Mohammed was created following the administrative division of 1960; the Tabant commune was created in 1961. They are located respectively at 21 km and 50 km south of the city of Azilal and administratively connected to the Caidat Ait Mhamed, district of Azilal, Province of Azilal.

Both communes share a limit that corresponds to the project zone itself.



Découpage administratif de la Région Tadla Azilal : communes rurales Ait Mhamed & Tabant - Province d'Azilal

Source : Plan stratégique de la commune Ait Mhamed 2006-2010 et Plan de Développement du Douar Sremt, Projectomundo Mla

Both communes extend to the High Atlas mountainsides. Like in other mountain communes the population is less numerous than in the valleys and plains below. Aït Mohammed has a population of 21,742 and Tabant has 13,012 inhabitants according to the 2004 census, which is approximately 6% of the Azilal province's total population.

The region presents a rugged and mountainous character, which increases the dispersed douars' isolation and makes their accessibility at times difficult in the winter.

The zones in higher altitude set up small terrace farming on the exposed slopes, but this is generally constrained by the steep valleys.

Above the cultivations, forests are used for pastures, in green oak plantings in the lower altitudes, or in pollarded *Juniperus Thurifera* plantations bordering the high mountain forest vegetation.

Ait Mohammed is one of the poorest communes in the Azilal province. The poverty rate is 22%, the vulnerability rate is 33%, and the population has a high illiteracy rate, at 68% for men and 88% for women.

Tabant has lower poverty and vulnerability rates – respectively 10.6% and 9.7%.

These communes are characterized by a young population (50% below the age of 20 for Ait Mohammed and 51% for Tabant, according to the 2004 census).

Description of the Douars and Communities

The Sremt douar is located north of the Tabant commune and is accessible through a 13-km trail. It has **132 homes, 1,120 residents**, including 350 children. 54% of the douar's resident are women (girls included).

The illiteracy rate in the douar is at 83%, primarily affecting women.

The douar suffers from strong isolation, which makes the population very vulnerable, since access to social and administrative services is quite limited. The douar has one school and health clinic with one nurse.

The Sremt douar is comprised of three villages: Ait Izga, Ait Daoud and Ait Ziyad, each made up of several lineages from the Ait Ouriâte tribe. Each village contains ancient homes.

The informal community social structures are essentially organized around a representative for each village (Ait Izga, Ait Daoud, Ait Ziyad), named Nayb. The population legally chooses him through the signature of an act before a trial court and the Caïd. This legal act gives him the authority to manage the village affairs. The lineage representatives and Nayb make up the Jmaâ¹ (customary authority).

Swit Ait Ounir is located south of the Ait Mohammed commune. It includes **112 homes, which corresponds to approximately 900 residents**. The douar did not undergo a census. These numbers are derived from the diagnostic conducted by the commune during the douar's electrification works.

We know that ethnical and lineage membership is not necessarily related to a given geographic location. In the case of Swit Ait Ounir, the knowledge collected during community workshops has highlighted only one lineage, but has not provided any information on the tribe.

In both douars, farming and breeding represent the communities' principal activities.

¹ Source: Projet de Développement du Douar Sramte/Ououssramte, UE, Progettomondo.mlal, FZE, February 2011

Principal crops are durum wheat and barley, cultivated on rain-fed parcels, but there are also walnut trees, fruit trees and truck farming (potatoes in particular). Local farming remains poorly developed and not very productive, leading residents to having to supplement by shopping at markets. Herds are diversified: sheep primarily, then goats, of small sizes. The most well-to-do sedentarized breeders own at most sixty heads. Breeds are local and raised extensively. Their feed is obtained mainly from forest resources.

Breeding relies on grazing pastures within various forests (green oak, *Juniperus oxycedrus* and *thurifera*), but in winter the most appetizing fodder is found in the *thurifera*.



Pasture land within the Juniper Grove – Swit Ait Ounir

During summer transhumances, herds coming from the Ouarzazate and Rachidia provinces settle in areas defined in agreement with local residents. The size of the livestock is then estimated at over 10,000 animals.

Selling the livestock and obtaining food and domestic supplies is done in the souks (markets) of Aït Mohammed or Azilal.

Breeding has experienced a decline due to several factors: the degradation of areas devoted to grazing caused by poor forest management, the existence of parasitic diseases, a lack of veterinary monitoring, and the use of non-productive local species. Breeding remains however the local population's primary activity and source of income through the marketing of animals, and livelihood through self-consumption.

Even though they have declined in the douar, traditional craft activities remain exclusively female. These activities are not gainful because they are reserved for household use. Selling these products cannot be considered because they would not be profitable due to low productivity and poor access to any marketing chain.

Generally, most of the activities conducted in the douar are intended for self-consumption: carpet weaving, breeding, farming, etc. Only breeding makes it possible to generate income.

In one day, women practice multiple activities that lead to an overload of daily work. Their daily occupations are divided among domestic work (preparing meals, household cleaning, rearing children, etc.), and work in the fields (collecting wood or hay, harvesting, collecting and guarding the herds).

Women are marginalized because of the douar's isolation and traditional customs. A number of factors make women particularly vulnerable: overload of daily work, acute illiteracy, fragile state of health, non-gainful occupations, lack of information and training, reluctance toward social organization, lack of support programmes, etc.

Children are responsible for certain activities, and are sometimes neglected, which has led many to abandon school.

The communities' living conditions are difficult because of rough climatic conditions in high altitude. Winters are very cold and summers are very hot. The only source of energy for cooking and heating is wood, which is collected in the nearby green oak forests.

To the physical constraints of mountain living, which challenge economic activities (mainly breeding and food-producing agriculture), are added the social constraints relating to the douars' isolation and the absence of basic services and equipment. This is why these areas have been targeted by the National Initiative for Human Development (NIHD – government programme) programmes, and several projects have been conducted within the framework of the 2005 emergency programme to fight against poverty in rural areas.

Description of the Targeted Ecosystem and Problematic

The project zone is harsh and not very productive high mountainous area. However, the Mediterranean forests are among the richest biodiversities in the world. The climatic gradients, effects of altitude and landscapes have led to very diverse ecological units, which are also fragile and sensitive to ecological upheavals such as deforestation and over-grazing², and particularly vulnerable to the impacts of climate change.

This is the case of the *Juniperus Thurifera* in the upper slopes, which have faced the risk of disappearing because of overexploitation and excessive breeding for this species, whose natural regeneration has practically stopped because of the loss of its capacity to produce and germinate seeds.

Although the *Juniperus Thurifera*'s situation in high altitude is a concern, other forest species are also being threatened, to various degrees.

The green oak, another forest species used for grazing is the dominant species in the project zone's slopes. In the areas outside collective management, signs of mutilation are observed: trees are often pruned up to the top and regeneration is generally lacking.

It is important to recall that tree degradations also have an impact on plant association, species growing beneath the trees and ground cover. The progress of these areas' ecological balance, besides their biological capital loss, has led to ground erosion and fertility loss.

Douar residents are ancient transhumants who became sedentary a long time ago, and mainly draw their income from farming. Breeding systems play a significant role in these sources of income and are closely related to forest resources.

Herd numbers have been growing continuously for a century and the length of stay in the forest has grown from six to nine months for mountain forests, which has had a strong impact on the zone's grazing resources.

Feeding the herds during the cold season consists of using food that can be stored (cereals or food supplements). Persistent vegetation plays a strategic role in winter feeding. Leaves and acorns from forest areas represent an essential winter fodder stock for the herds. Exploiting this resource has had impact on the vegetation.

But breeding is not the only activity that depends on forest resources. Forest wood is the primary energy source used in the communities, for heating and cooking, which represents 90% of household consumption. When deadwood becomes hard to find or when winter lasts long, uncut wood is used.

Wood collection represents a heavy physical load for women; and more time is being spent performing this activity, because the wood source is more and more distant. In fact, unsustainable management of this resource has led to a deficit in wood energy and a loss of forest areas, which were already in a fragile state.

For a long time, the human population's density was so low that forest resources were sufficiently abundant and the communities did not have to worry. It is only over the last thirty years that residents have started being concerned about the situation.

Degradation of the forest environment and the increasingly frequent and harsh droughts have had a strong impact on the communities' livelihoods. Herds have suffered from the decrease in fodder available in the nearby forest.

Herd feeding strategies are actually affected by climate uncertainties. Fodder production in the Mediterranean zone can vary from 100% to 300% from one year to the next³.

In this zone where difficult environmental conditions are associated with high poverty levels and vulnerable communities, the expected climate changes will undermine their development possibilities as long as grazing and pasture-land management are continued in a way that leads to the overexploitation of forest resources.

² Source: « Quelques résultats obtenus par l'analyse de l'information mutuelle sur les observations phyto-écologiques recueillies dans la vallée des Aït-Bou-Guemmez (Haut Atlas, Maroc) » Rhanem, Flora Mediterranea, 2008

³ Source: « Appropriation, usage et gestion des ressources sylvo-pastorales à Wabzaza, Haut Atlas Central, Maroc », 2007

1.2 Climatic Context and Current Climate Risks

The project zone is located in medium-altitude mountain zone, at an altitude varying between 1500 and 2500 m.

The zone's climate is said to be **semi arid**, and presents strong ranges of temperatures between winter (very cold) and summer (hot and dry, with temperatures that can reach 40 °C).

Average annual rainfall is 500 mm, which is slightly below the average level for Morocco (varying between 100 mm in the south and 1200 mm in the western Rif).

According to the data collected in the communities, the climatic calendar for the study zone can be described according to the following four periods:

- **Rain falls generally between October and March and is concentrated between December and February.**
- **Storms can occur around the month of May and consist of short but strong rainfalls.**
- **The dry season lasts from April to September, with high heat observed particularly in July and August.**
- **Snow and frost are frequent in winter and until March.**

Current Climate Risks

The most significant climate uncertainties experienced by the local communities are the **torrential rains** that fall in the spring and summer, and **droughts** that can last from April to September.

- **Intense rainfall and storms** have become more frequent and unpredictable. They occur also beyond the usual springtime stormy periods, and can take place in the middle of summer. These changes have been observed by the communities since the early 1990s. With overall reduced rainfall, the communities have become powerless in the face of these rapid and violent occurrences, which can cause damage to infrastructures and crops. It has become increasingly common for communities to be isolated outside of the winter season (particularly in the spring, when in the past, isolation was limited to the winter because of snowfall), because flooded roads have become unsuitable for travel.
- **Reduced snowfall** is a well-observed and described occurrence by the communities. In the last few years, the communities have observed not only a decrease in the length of snow cover, but also in its volume. Besides being a cyclical problem, reduced snowfall has become a visible phenomenon. The year 2010 was noted for its lack of snow. Snowflakes fell for a few days, but there was no persistent snow. In comparison, 1957 was a significant year for the douars, because the snow that fell reached the rooftops.
- **Drought** is the most difficult change being experienced by the communities. It has been observed since 1990 with intensification since 2003. This occurrence is being translated by the following climate factors: temperatures have risen, including winter temperatures (the women of Sremt emphasized that the months of January to March were particularly hot this year); periods of heat have grown longer (last year was characterized by high temperatures during the entire year) and water reserves have been declining. The Sremt oued has been dry in the last three years during the summer. The douar experienced a drought in 2008 that forced women to travel over 5 km to find water. Drought, combined with a modified rainfall pattern that is dispersed outside the winter season, has affected the possibilities of irrigating the crops and farm production.

Impacts of Climate Risks

The principal impacts are in regard to the development of vegetation and therefore the availability of fodder resources throughout the year.

- **The impacts of torrential rains** have been observed in the Swit Aït Ounir douar, while Sremt has not noted any strong impacts due to the douar's geography and location: lower altitude, easier slopes and more significant earthworks to avert the impact of heavy rain on buildings or other constructions, yet still causing **the douar's access trail to be cut off**. In Swit, these rains have led to **degradation of the dwellings** (traditionally built out of clay or "Louh") **and trails** (cutting off access to the douar). Cutting access is an extremely strong social and economic constraint on the communities. Men are prevented from going to the souk to sell or purchase necessary products, and women and children need to be taken on foot over long distances to receive health care.
- **Springtime rains** have been having other impacts on crops. The effects can be beneficial on plant growth to late maturing crop parcels. Conversely, effects are negative on early crops. **Damage** from "torrents" cause crops to appear lying down, **damage to the quality of the products**, problems for grains with high humidity **during storage**, and **late season weed growth**, which take advantage of the soil's humidity.
- **The impact of droughts** affects farm production, and particularly, **fodder production**. Without sufficient feed for the herds during the winter season, **the communities have to purchase additional food in the souk and rely on forest areas** by pruning foliage from persistent species, including the Juniperus Thurifera.
- The project zone is located in middle mountain zone, where characteristic forest species are the green oak, Juniperus Oxycedrus and Juniperus Thurifera. The increasing frequency and intensity of droughts since the 1990s has led farmers to postpone tree cutting. The effects of climate change on forest ecosystems have been harmful because **these ecosystems have become fragile in spite of their diversity, because of increased pressure on the resource**.
- Farmers and breeders are directly affected by the decrease in fodder. **Women have to travel greater distances** to find wood and leaves to provide winter-feed to the herds, which do not have any other food supply. The link between breeders and forest ecosystems is very strong: it is a strategic resource for isolated populations.
- **The growing phenomenon of soil erosion**, along with the disappearance of tree cover exposes the communities to natural uncertainties: landslides, soil fertility loss, etc. The uncertainties of soil erosion are indeed visible today in the project zone and below: ravines, soil accumulation, tree root exposure on the most affected slopes.
- These difficult living conditions have led to **the occurrence of a rural exodus** that has led young men to leave their homes and migrate toward the cities to find means of livelihood for their families that remain in the douar. This exodus continues to exist today, but the young men return annually to help work in the fields, particularly during the harvest.

Current Adaptation Strategies and Behavior Adopted by the Communities

- The first adaptation strategy has been to collect wood or leaves from the trees and draw water from the wells and in the oued further and further away from the village.
- A second adaptation observed with farmers-breeders has been that of **decreasing the size of the herds**. The decrease in production of fodder and difficulties removing the leaves from the trees has been temporarily compensated for. Some families have maintained fairly large herds and therefore have to move them to summer pastures for part of the year.

- Finally, to face the problems encountered, the communities have relied on products from the souk, such as additional food in case of shortages, which has led to new expenses. **The reliance on the market** has grown and become systematic for certain families.
- **Men, particularly the younger ones, leave the douars** to find work in the towns and support the families with additional income. **The women compensate for the additional duties** of managing the crops, animals and homes.
- The douars have shown a few examples of supportive practices, such as **Twiza**: collective irrigation networks, mosques and school. But the trend has grown toward a family grouping enabled by the management of natural and farm land as private property. The elders' ancient and traditional knowhow remains present, however, with regard to construction of buildings threshing the wheat with donkeys, etc.

1.3 Future Climate Risks

According to the CBA Country Programme Strategy in Morocco, average temperatures should be increasing and rainfall should be decreasing throughout the kingdom.

Higher average temperatures and increasingly unpredictable and erratic rainfall are threatening to increase the effects of drought and water scarcity particularly in regions where communities depend on agriculture for their food and economic safety. Increased erosion is also one of the possible impacts of climate change.

The Initial National Communication (2001) and Second Communication (2010) to the United Nations Framework Convention on Climate Change (UNFCCC) describe the principal climate change occurrences and their impacts as follows:

1. Progress of Rainfall:

The analysis of rainfall over 30 years shows a generalized decrease throughout the country (23 mm average). This deficit is particularly strong in the winter season, in spite of the significance of rainfall during this period for the rest of the year (to refill the water tables).

Annual rainfall volume could decrease on average by -6%, -13% and -19% respectively by 2015, 2045 and 2075. Forecasts also call for a seasonal precipitation disturbance (winter rains concentrated over a short period), and an increased frequency of frontal and convective storms north and west of the Atlas Mountains.

The length and area of snow coverage have decreased (migration in altitude of the 0°C isotherm and accelerated snow melting).

The clear-cut decrease of annual rainfall has affected the project region, since the communities of the High Atlas region have observed this regression. Models have projected decreasing rainfall between -10 and -20% for the project region.

Local observations tend to support climate change scientific estimations with regard to rainfall. The community has registered and experienced climate change since 1990.

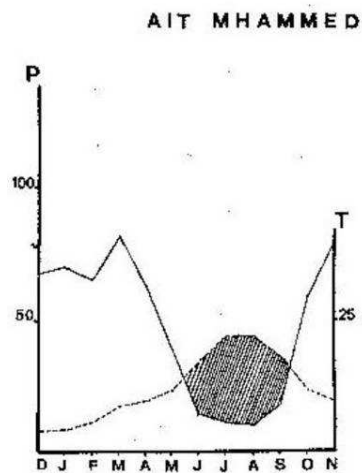
2. Progress of Temperature Parameters:

The analysis of average annual temperatures and projections indicate a clear trend toward increasing annual temperatures by +0,6°C, +1,8°C and +3,2°C respectively by 2015, 2045 and 2075.

Furthermore, we can expect growing heat waves at the expense of cold waves (with a decrease by 11 days observed over 45 years). The increased frequency of heat waves will increase the frequency and intensity of droughts in the South and East of the country.

3. Progress of Aridity

The analysis of the progress of regional climates has shown a progression of the semi-arid climate toward the north of the country. The most significant occurrence is the increase in the drought period by approximately 15 days, particularly during the February-March-April period.



As shown in this ombrothermic diagram produced in 1985, the period of June-September used to be characterized by a drought period defined by a precipitation curve located beneath the temperature curve.

This period now extends from April to September according to the local communities.

Source: « Appropriation, usage et gestion des ressources sylvo-pastorales à Wabzaza, Haut Atlas Central, Maroc », J. Gavinet, Mémoire ENGREF Agro Paris Tech, 2007

4. Other Impacts of Climate Change

Projections have announced a decrease in the production of cereals by 40% during dry years and by 10% during normal years, as well as an increase by 7 to 12% of the need for water for irrigated crops.

1.4 Context of the impacts

Probable impacts of future climate change risks on the ecosystem and on the community:

- Reduced precipitations, and even more so, their variability are a threat to the community's access to water and its food resources. Today, the communities experience the unpredictable rainfall in a two-fold manner. On the one hand, it provides resources for crop growth in the spring and for restored natural vegetation; on the other hand, it compromises the quality of fodder dried on the ground during the same period. In one case, like in the other, the communities are aware that they have to change their cultivation method (crop rotation), but they recognize that they do not have the capacities and knowledge to implement these changes.
- Drought periods can lead to crop losses or deficits, even in years where total rainfall would allow for a normal harvest.
- Increasing temperatures, reduced precipitations and reduced snow cover have all been affecting the vegetation cycle and possibility of forest species regeneration. The physiological weakening of forest species has weakened plantings and made them even more vulnerable to illnesses and attacks from parasites.
- Reduced agricultural yields have led farmers to resort to and increase pressure on the already fragile forest resources.
- Increasing storms or torrential rains will lead to increased erosion, which has already been intensified by the loss of vegetation cover on the slopes and crests. This phenomenon already exists in the region and would intensify.

How Would Community Members React to These Events?

- To face water scarcity, the communities could dig wells and establish new water sources. Faced with drying sources and oueds, farmers would have to wait for rainfall in order to irrigate the crops, which would lead to significant yield losses and force farmers to chose crops that adapt better to irregular irrigation. The communities could build reservoirs to store rainwater and an irrigation system to be connected to the reservoirs. But this solution involves building several infrastructures to adapt to the dispersion of cultivated lands.
- Farmers would be ready to **change the cultural systems**, but they require technical support to do so, as well as knowledge on agronomic and conservational methods.
- Grazing land would be extended over time and on peripheral soils to make up for the lack of fodder, which would come from either crops, or food supplements, because the latter represents a significant expense for families.
- **Rotating pastures and collective forest area management**, which were originally conducted privately would be a solution, but the communities would have to work together in order for these strategies to succeed.
- The most significant indirect effect of climate change and climate variability is the population's **growing mobility** toward the cities. Families are being separated, and it is the **young men who leave, thereby relegating more responsibilities on the women in the family**.
- Faced with a desperate situation, the communities have been considering **abandoning the land and douars**.

1.5 Project Approach

“Baseline” threats weighing on the Global Environmental Benefits (GEB) in the absence of climate change:

- There has always been a balance in the project zone between local community use and forest areas. The forest provides strategic resources for the communities' living conditions: a place for pasture, foliar fodder, firewood and wood for construction.
- Overexploiting the forest has led to its degradation, which can be observed in many ways according to ownership and use, at distances from the douars, and according to forest species, each with particular characteristics.
- The degradation of forest areas has been impacting local biodiversity. The current forest ecological balance has been broken. Visible signs of degradation are present at various degrees among forest plants. The *Juniperus Thurifera* species, which is adapted to the local climate conditions, has been the primary target (see below), although the project will take all species into consideration.
- The disappearance of vegetation cover has led to soil erosion and fertility loss. This phenomenon has also caused access roads to the douars to be cut off.

Additional Threats from Climate Change on the Global Environmental Benefits (GEB):

- Climate change (recurrent droughts and increasing temperatures among others) has had a negative impact on the forest ecosystems, which in spite of their diversity, have already become quite fragile as a result of pressure on the resources.
- Baseline anthropic pressures have been reinforced by **climate change, which has caused the communities to overexploit the ecosystems, thereby feeding a vicious circle of degradation and impoverishment.** In the case of the *Thurifera*, overgrazing and man's excessive pruning of the plantings have caused significant degradation. Climate change has further increased ecosystem degradation by making the environmental conditions too difficult for the regeneration of standing specimens.
- Although the *Juniperus Thurifera* is adapted to unfavorable high mountain conditions, it has experienced a regression of its area of distribution and reduced tree production. The *Centre de Recherche Forestière* (Forestry Research Center, CRF) estimates that only 1 to 2% of seeds reach maturity.
- Climate change combined with the poor productivity of the degrading *Thurifera* species exposes the grove to parasite attacks. In fact climate variations and particularly the trend toward decreasing rainfall and rising temperatures has led certain pests to adapt to the new climate change context.
- Increasing droughts and violent and sudden rainfalls have contributed to the intensified degradation of already severely vulnerable soils. In turn, erosion and soil deterioration will impact the ecosystem and the local farming productivity, which will again increase the deterioration of the environment and local population's living conditions.

How Can the Project Alleviate Baseline Pressure on the Ecosystems and GEB?

- The project includes a portion dedicated to experimentation in situ of *Juniperus Thurifera* regeneration techniques.

The *Centre de Recherche Forestière* has been developing this technique, and will provide technical and human guidance to replanting operations.

The preferred technique by the CRF is to take cuttings and propagate them, to respond to the poor germination rate problem that characterizes the species. Replanting by seedlings will also be conducted from the CRF bank of *Juniperus Thurifera* seeds in order to monitor germination limitations in situ and identify the parasites attacking the species.

Planting zones have been defined together with the communities, which will be participating in the community work of preparing, planting and maintaining the parcels.

The CRF will use these onsite experimentation zones for research and application on *Juniperus Thurifera* germination (identification of parasites, natural and sustainable solutions to combat them, and germination testing).

- Establishing local compost production will at first supply *Juniperus Thurifera* regeneration test parcels. Creating a production structure and collective management for composting will enable to improve fodder cultivation. This technique will provide quality compost that retains humidity, and lead to increased fodder crop yields and reduced water consumption.
- Finally, the project includes a significant step of a negotiation meeting with the DRELFCD, which should lead to a presentation of the project's results by community representatives and should lead to concrete propositions or collective management of pasture land, in order to improve practices toward sustainable natural resources management.
- All of these activities are being funded by partner co-funding (DRELFDC, CRF, DPA and *Fondation Crédit Agricole du Maroc pour le Développement Durable*).

How Will the Project Make the Ecosystems and GEB More Resistant to Climate Change, Including Climate Variability?

The project implements six types of adaptation measures, aiming at reducing the communities' vulnerability to the negative effects of climate change and variability:

1 - Capacity Building and Awareness Raising

- The project includes local capacity building through the establishment and technical training of two "*Groupements Villageois de Gestion Durable de la Forêt*" (Village groups for sustainable forest management) (one per douar) based on two themes aiming at strengthening the ecosystem's resiliency: one "forest – sylvopastoralism" axis to support adjustment toward sustainable and community forest management (and particularly to end abusive pruning), and a "resilient and conservational farming" axis.

The capacity building programme provided in the project will train participants in sustainable forest spaces management techniques and in methods of improving the productivity of existing farming systems, while creating a forum for awareness raising, debate and discussions on these issues.

Training will focus on solutions and methods for adaptation to climate change and promote new techniques that are innovative and sustainable:

- Reasonable pruning and trimming techniques to ensure regeneration of forest plantings
- Control over grazing according to the forests' natural balance

- Cultivation of alternative fodder suitable for high mountain altitudes
- Conservational and resilient farming
- Etc.

These trainings will provide the operational tools to maintain the plantings and pursue breeding activities under good conditions.

- The *Groupements Villageois de Gestion Durable de la Forêt* will communicate and disseminate the results of these trainings to the douar populations during monthly community workshops (adults and children). The village groups, as groups of community representatives involved in the project (representatives from the different community groups including women and experimental farmer representatives for alternative experimental techniques) will be the community catalysts for adjustment to climate change. Their capacities will be developed so that they in turn can help the rest of the community obtain technical training in an inclusive and participative manner.

The *Groupements Villageois de Gestion Durable de la Forêt* will encourage women effectively and genuinely to participate in these groups and their meetings. Women representatives within each village group will communicate information to other women in the douars. Moreover, through the village groups for sustainable forest management, women will participate actively in decision-making with regard to the collective management of grazing lands.

Supported and prepared by the AADEC, FZE and the Peace Corps volunteer, the **Groupements Villageois de Gestion Durable de la Forêt** of both douars will lead the community meetings for the dissemination of technical trainings and their general appropriation.

These inclusive and participative community meetings will integrate various goals:

- Community mobilization: Maintain community mobilization throughout the project's duration and launch a dynamic to sustain the project.
- Community appropriation: Disseminate the issues of climate change, new techniques and their relevance for adapting to climate change.
- Community participation: Integrate all community groups by putting the gender approach into practice with the support of local coordinators, including the amazigh leaders. The results of these sessions will be used to lead the **Groupements Villageois de Gestion Durable de la Forêt** to build the bases for proposals to forestry services with regard to improving the management of pasture-land in the project zone (see measure 6 below).

Women will be strongly required to participate effectively in the community workshops and all the activities planned.

To approve the contents of awareness raising and community training during workshops, concrete activities and educational outings open to the douars populations will complete the programme in order to implement sustainable actions onsite and increase resiliency.

- The communities will contribute actively to the project by being responsible for organizing workshops and trainings within the douars, and will make locations available in order to organize them. Furthermore, the communities will be implementing the project on their land through the planting activities in which they will be participating.

2 - Improving and Adapting Local Farming Techniques Toward A Resilient Agriculture

The project is relying on combined techniques to adapt crops to climate change and variability, and to ensure a supply of food and fodder products for the communities, in order to reduce the impact on household expenses, which are currently very dependent on market product for supplementary animal feed. This goal will also enable to have a sustainable impact on forest areas by reducing tree-cutting for fodder and promoting reasonable and sustainable collective management.

To that end, improving winter fodder production will enable to provide sustainable and controllable fodder resources while reducing breeders' pruning from forest areas during periods of shortages. An integrated process of capacity building on conservational and resilient farming techniques will complete these activities.

Improving fodder production for the herds and technical training on resilient farming are two strategic options that will enable the community to regain a sense of autonomy from the markets and exterior.

Techniques for quantitative and qualitative improvement of local farming techniques:

- With support and guidance from an expert trainer on resilient farming techniques, the local communities will benefit from capacity building on two levels:
 - 1 technical training on resilient farming practices intended for the **Groupements Villageois de Gestion Durable de la Forêt** (see measure 1 above), which will deal with the different solutions for local production adapted to climate change, integrating new practices, and improving existing techniques.
 - 3 practical workshops open to all community farmers based on the farming school model with the following themes: “producing compost” / “cultivating alternative fodder” / “sustainable management of vegetative hedges” to support the project activities
 - These workshops aim at answering technical, agronomic and economic questions from participants while encouraging farmers to reflect on and review their personal knowledge whenever necessary. The trainer’s role will be to update this knowledge and teach new techniques and help improve local practices’ resiliency.

This training will also involve the *Direction Provinciale de l’Agriculture d’Azilal* (Asili Agriculture extension services), in order to ensure the dissemination of knowhow within extension staff, and to foster integration of community adaptation to climate change in their practices.

- The introduction of productive and appropriate species such as Atriplex, known for its nutritional benefits in fodder, suitable for high mountain farming and with a low water consumption, which makes it particularly resilient to climate change.

Atriplex is known to be rich in protein and for being good quality fodder. Atriplex nummularia has been used as an example for numerous plantings conducted in Morocco.

It is planted in lines. Fodder seeds are then planted in parcels between the lines (agroforestry) in order to optimize planting space, as well as plant growth cycles. These parcels provide fodder production during every season of the year: in the summer with the harvest, and drying between the lines, and in winter with standing Atriplex cultivation.

Other alternative fodder recommended by the DPA will have the following characteristics:

- Resistance both to cold (winter frost) and drought
- Capacity to adapt to poor soil with low water reserves
- Rapid growth and high foliar yields

- Persistent leaves or the possibility of the resource's winter postponement (namely through drying and storing)
 - Appetence for herds and a good nutritional value
- Planting fodder shrubs in hedges called "vegetative hedges," with species such as *Chamaecytisus* (brooms) and *Fraxinus* (ash). These plants' goal is to increase fodder production in the short and medium term in order to ease the pressure of pasture, by providing feed to the herds that is less dependent on rainfall fluctuations, which is essential during periods of drought, and during the lean period ("hunger gap").
 - 1 technical training intended for the **village groups for sustainable forest management**, to acquire reasoned and sustainable silvo-pastoral management techniques to rehabilitate the ecosystems and forest grazing lands, to be conducted and disseminated during community awareness raising sessions (see measure 1 above).

A consultant and expert supported by DREFLCD agents will be providing this training in collaboration with the local coordination team. They will provide the conditions required to establish a first dialogue between forest departments and the communities, at the local level, and will work to disseminate knowhow with the State's extension staff and integrate community adaptation to climate change within their practices.

3 – Forest Planting and Thuriferal Regeneration

- The technique of taking cuttings and propagating them, developed by the Forest Research Center will be implemented in situ to enable the regeneration of *Juniperus Thurifera* without going through germination, which is strongly limited today.
- Other plantings responding to the issues of high altitude arborescent levels of regeneration, soil maintenance and the production of a fodder resource for the communities will be implemented within the framework of vegetative hedges (see measure 2 above).

4 – Research and Development

- Plant zones using the technique of taking cuttings and their monitoring will provide a place for onsite experimentation for the Forest Research Center, which is conducting part of its research activities on the *Juniperus Thurifera*.
- Encouraging scientific research is a significant part of the project. Research is the vehicle of knowledge and understanding that enables communities to adapt to climate change.

5 – Development of an Income-Generating Activity

- To ensure the project's continuity and sustainability, and Income-Generating Activity (IGA) is initiated to provide the conditions for implementing innovative craft activities based on materials provided from forest areas, with respect toward the ecological balance. Particular attention will be given to the *Juniperus Thurifera*, which is known for its aromatic and medicinal virtues.
- To implement the conditions of sustainable IGA, a socioeconomic study will be conducted together with the local communities (to learn about local traditional knowhow and analyze the economic potential for such activities).
- A feasibility study including a participative assessment (relying on a community session in each douar and integrating the gender approach) will be launched as of the 5th month following the project's launch in order to guarantee the communities' mobilization around the project by working on this essential component to the project's sustainability. The launch in the 5th month enables to start planning as winter exits (less limited

access to the douars) and to rely on the project's Monitoring Committee's preparations and trainings, as well as on a first community awareness-raising workshop on climate change (3rd month).

- Previously identified contacts in the douars will receive training on project & IGA management. These contacts will be preferably women since they hold artisanal activities in the commune.
- Two post-training workshops will be dedicated specifically to women in the communities in order to strengthen their inclusion and increase their autonomy.
- Finally, at the end of the project, an onsite visit by partners, investors and potential donors will be organized for the development of such an activity within the subsequent project. The communities will be able to present their project directly.

6 –Better Knowledge of Local Practices in Order to Capitalize on Local Knowhow While Increasing Adaptation Capacities As the Project Progresses.

This measure represents a series of continuous activities throughout the project, as a basis that will sustain and solidify the five other measures. The territory in question is complex in its social and spatial organization. Understanding it is key to integrate the local and endogenous knowhow and facing climate change in a sustainable manner.

- Successive meetings of community members will be the opportunity for the project team to understand local dynamics.

Managing grazing lands in the region is very complex and often linked to ethnical or tribal components that need to be understood well in order to help the communities find solutions with regard to sustainable collective management.

This goal will be easier to meet as awareness-raising will help breeders understand the benefits of rotation in order to rationalize the use of grazing land out of concern for prolonging the grazing period in the forest and improving their contribution to fodder conservation.

- The other component will be the best knowledge of the different grazing lands, beginning with the mapping of forest plantings, types of properties and uses made of them.

To do so, the project plans to equip the local teams with GPS and an Geographic Information System (GIS) in order to establish a dynamic mapping of the territory, integrating forest and local social data. This mapping will be a great asset to the project as well as a significant tool for Water and Forest departments and the population, who will be trained to use them throughout the project.

It will be the preferred tool for designing a grazing rotation pattern according to movements in the different territories that will take the level of fodder production into consideration (based on plantings and their condition).

Engaging in dialogue with the forest authorities will enable the communities to defend their interests as best as possible and in a lasting manner; and promote their needs by aiming to prevent the degradation of their living conditions because of climate change.

How Will the Community Benefit From the Project?

- The project will provide sustainable techniques to reduce vulnerability toward climate change with the introduction of changed practices in local farming systems, which are strongly subject to climate variability and expected climate changes (increased droughts, reduced water resources, unpredictable rainfall, etc.).
- The project's benefits toward the communities are multiple: local capacity building, increased ecosystem resiliency. It will enable inhabitants to reduce their expenses and dependence on the market. This will therefore directly allow them to improve their incomes. Moreover, the project will promote the development of new income in the medium term.

- Breeding, the principal means of livelihood for the communities, will see its capacities improved through better management of forest resources and the planting of alternative fodder. In parallel, forest ecosystems will see their capacities for resiliency improved through reduced pressure.
- Furthermore, the dialogue engaged with public services and other local development players will be an opportunity for the communities to express their needs directly and report on the capacities acquired throughout the project through regular participative workshops.
- Finally, communities will benefit from an income-generating activity with the *Juniperus Thurifera* ready to be deployed. A feasibility study will be conducted, community resource persons will be trained – most of them women who are the primary group concerned with artisanal activities in the douars, and future partners mobilized during a day of onsite presentation of the project. The communities will therefore be put into contact with the players likely to support them in achieving the IGA project.

How will the project increase knowledge and understanding about climate change and adjustment to this change within the community? What are the limitations in terms of capacities or awareness, and what will be done to overcome them?

- Awareness raising and acquiring new knowledge will be done gradually throughout the project:
 - First, through the training of a local leadership and coordination team comprised of AADEC members, a local partner association, and the Peace Corps volunteer. The team will be trained on CBA project management, community mobilization techniques and climate change awareness-raising.
 - Second, there will be the **Groupements Villageois de Gestion Durable de la Forêt**. They are the local responsible entity, supported by the local leadership and coordination team.
 - Finally, the communities that will be trained by the **Village groups on sustainable forest management**.
- These three levels will provide direct benefits with regard to new understanding on climate change, with the advantage of the speech being adapted to the target audience.
- These benefits will be continuously evaluated throughout the project (progress reports, internal and external evaluations) with the project indicators.
- The choice of gradually increasing capacities is in response to the limitations in abilities and knowledge and will make it possible to overcome them. Today, the communities are observing the phenomenon of climate change, but it is not being explained to them. With this lack of understanding, the communities feel incapable of fighting against this phenomenon and are facing their future with fatalism to the extent that some are considering abandoning the area if conditions become too difficult. Gradual awareness raising and capacity building will ensure sustainable local support to restore confidence by providing suitable answers to the communities' questions.

How can the project's activities be reproduced at different levels and have an impact on local and national policies and practices?

- At the local level, the strong involvement of the two rural communes' municipal teams concerned by the project will promote the dissemination of results and lessons learned from the project at the local level and their incorporation in local planning (Community Development Plans).
- Moreover, the **Village groups for sustainable forest management** will have acquired the skills required to promote the project and its results to other local communities (horizontal dissemination, community to community), and will be equipped to promote the lessons learned to the authorities and partners (advocacy).
- From the regional to the national level: Strategic partnerships developed with the State's regional departments, which are the Water & Forest and Agriculture departments, will promote gradual awareness raising on climate change for the extension staff involved in the project. They will also enable to incorporate the concerns relating to community adaptation within these government institutions' plans. This in turn will

promote the dissemination of results and lessons learned from the project to other regions facing similar problems.

- To promote dissemination, the project's results will be synthesized in communication pamphlets focusing on two themes:
 - Sustainable management of the forest ecosystems
 - Alternative fodder and conservational farming at high altitude

This will offer possibilities of double dissemination according to territorial problems.

- The Fondation Zakoura Education, through its national presence, will be responsible for disseminating these brochures. It will also implement a programme to replicate the experimental project on territories meeting the implementation criteria.

2.0 COMMUNITY OWNERSHIP

2.1 Project Development

- The project's initial goal was formulated by the community of one douar of the commune of Aït Mohammed, on which the FZE has been conducting a socio-educational programme since 2008, within the "School and Development" project framework, in collaboration with the Italian NGO Progettomondo MLAL, project leader.
- During the organization of awareness raising activities on the environment for Earth Day 2010, the communities (children and parents) were able to express themselves on the environmental problems affecting them directly. Community members in the Aït Mohammed commune drew the attention of FZE representatives on the disappearance of the *Juniperus Thurifera*, locally called Tawalat.
- A field visit and consultation with local representatives of the Ministry of Environment (Regional Director for Water and Forests and the Ministry of Environment's foreign service), confirmed the advanced state of degradation of *Juniperus Thurifera* plants in Morocco, particularly in the Azilal province.
- The analysis of the origins of degradation has raised the question regarding other forest resources in the target zone's mountain regions. Due to the complex interactions between the communities and forest resources, and because of the limited areas of distribution for the *Juniperus Thurifera*, a first "forest" exploration phase has been conducted.
- This first step was conducted by the FZE with support from the DREFLCD's provincial management and Peace Corps. The work achieved guided the analysis of the territory based on two criteria: the presence and use of the *Thurifera*, and the lack of conflict regarding its use between forest departments and the communities. A target site was then identified, more specifically, two douars presenting favorable characteristics for the pilot project.
- The two douar communities were invited and actively participated in designing the project through three community workshops in each douar, gathering forest and farming land owners, members of local associations, young and old people, according to a gender approach (organizing separate workshops for women).
- More specifically, four Vulnerability Reduction Assessment workshops (two per village, one for men and one for women, in order to respect local customs) have provided an opportunity to discuss the issues related to climate change and decreasing local natural resources (water, forest vegetation, fodder production). Throughout these sessions, the different community groups discussed solutions that could be considered to meet these problems, the limitations and problems encountered, but also existing resources within the communities. These workshops enabled to assess the communities' vulnerability with regard to climate change and served as a forum for them to ask questions, discuss their vision of the progress and their needs.
- During several other work sessions, the project's content was discussed and validated, particularly the types of activities and the community's will to engage in these activities. At the end of these meetings, the final project proposal was prepared by the FZE.
- The project development received a planning grant from the CBA Programme.

2.2 Project Implementation

- **The communities will be mobilized constantly throughout the project.**
- The participative approach adopted throughout the project's development will be continued through **regular meetings with community members** with regard to three types of activities:
 - ▶ Capacity building during technical training whose beneficiaries will be the members of the "*Groupement Villageois de Gestion Durable de la Forêt*" (trainings of trainers). These trainings will take place in the douars.
 - ▶ Four community workshops (organized according to gender approach) will allow to share and disseminate technical training from the Village groups for sustainable forest management, and monitoring of the project (assessment of activities conducted and preparation of activities to come). Community workshops will be held regularly, approximately every two months.
 - ▶ Educational outings will be organized in forest areas for the different community groups (children, women and men) in order to demonstrate good practices and raise awareness.
- The different workshops will be organized to take into consideration the population's needs and limitations, particularly those of women who are often busy performing various duties throughout the day attending to the crops or their homes. Meetings will be held in schools from both douars at adequate times to ensure participation.
- **Each community group and all douar community members will participate actively in experimental activities to improve forest ecosystems' resiliency.**
- Women and men will participate in practical training workshops on conservation farming, planting and maintenance of vegetative hedges around the test parcels.
- Men will also provide the construction work in the fodder storage and drying space. They will be responsible for implementing and using organic compost.
- Women are responsible for certain cultivation work (particularly harvest and drying the fodder). They will also support the work by preparing collective meals.
- Women will be more particularly encouraged to participate to the last two community workshops whose goal will be to develop a socioeconomic feasibility diagnostic for Income-Generating Activities. Furthermore, IGA training will focus on the means to develop small suitable economic structures based on the sustainable development of *Juniperus Thurifera* products, primarily aimed at women, who are responsible for traditional crafts in the douars. This training will include a literacy programme to promote the women's organization and proper running of their project.
- Promotion of the *Juniperus Thurifera* through the use of its aromatic and medicinal characteristics (extraction of its oils) is a solution that will help maintain the communities' living conditions and guarantee the ecosystem's regeneration as an asset for IGA activities.

2.3 Project Finalization and Sustainability

- **The project will rely on the “*Groupement Villageois de Gestion Durable de la Forêt*” which will be the direct beneficiary of technical capacity building led by experts, and will ensure dissemination and implementation at the community level.**

This group of community leaders and village stakeholders involved in the project will be in the form of a local association that respects the gender approach (women’s representation with a goal of a minimum 20%, which corresponds to a minimum of two women per village group), thereby allowing for the creation of a structure capable of managing future projects, thus strengthening the sustainability of the experimental activities and their dissemination.

The group will function according to the traditional example of the *forest Agdal* (village management of a forest area used as grazing land) and will therefore make it possible to develop and perpetuate this collective management and solidarity practice.

Its missions will be as follows:

- Meet on average every two months (6 times within the project’s timeframe) to conduct community training workshops and maintain dialogue with the population.
- Be the referent-persons and spokespersons towards the population for the technical training the members will have received (“training of trainers”): 2 community sessions per douar are provided in the project in order to ensure this transfer (2 sessions for 2 training themes). The local project coordination team will support and monitor the organization of these sessions, prepare and lead them together with the ***Groupements Villageois de Gestion Durable de la Forêt***, and evaluate them (particularly with regard to the project’s indicators).
- Support project monitoring and evaluation, particularly by ensuring capitalization of the results and conclusions stemming from the community workshops.
- Present workshop conclusions to the populations and channel the needs expressed, the project’s limitations and results, and communicate them to the local and regional stakeholders (Forestry services, Agriculture services and other socioeconomic stakeholders).

The technical trainings committee members will be participating in (at the beginning of the project) will focus on the following:

- Community mobilization and inclusive participation techniques (transversal in both trainings)
- Sustainable forest management (agroforestry and sustainable practices to change abusive pruning practices and promote adapted forest management approaches, with regard to future climate change)
- Improving local breeding system productivity by preparing for the establishment of collective nurseries for alternative fodder.

Ties between the user group and project leader will be established through the local project manager, with support from the US Peace Corps Volunteer. The latter will also ensure inclusive community mobilization (and particularly enforcement of women’s inclusion in all of the project’s components throughout the project, including governance), preparation, organization, monitoring and evaluation of planned activities.

- **New equipment and cultural techniques will support the douars to organize themselves and better tackle local issues.**

New cultural techniques will be implemented on test parcels so that they can be assessed and their relevance be demonstrated before they are extended to other community parcels. Their extension will not

require additional funds because the alternative fodder plants or vegetative species for hedges will be duplicated from the test parcels through the propagation by cuttings technique. This activity therefore promotes the project's sustainability and does not require subsequent investment on the part of the population.

The compost production location will be established permanently on collective land and managed by the *Groupement Villageois de Gestion Durable de la Forêt* in each douar.

- **The project's sustainability will moreover be ensured by the partners gathered for this pilot project.**

Regional Water and Forestry Directorate, Provincial Agricultural Direction, and the US Peace Corps will be involved in evaluating and promoting the project to other sites. The US Peace Corps volunteer will have an assignment that goes beyond the CBA project's timeframe, fostering continued monitoring after project finalization.

Moreover, the Tadla Azilal Social Development Agency will integrate the CBA project in an IGA development programme relating to the forest, ensuring that the activities implemented are continued.

Contribution des volontaires au projet CBA												
Activités du projet (auxquelles les personnes prévoient de contribuer de manière volontaire)	Description de la contribution volontaire (capacités, connaissances, savoir-faire, travail manuel, matériaux, outils, etc.)	Nombre total de volontaires mobilisés	Femmes	Hommes	Personnes âgées (plus de 60 ans)	Jeunes (moins de 25 ans)	Personnes en situation de handicap	Local	National	International	Nombre de jours de volontariat prévus	Valeur monétaire de la contribution volontaire, incluant le travail et les matériaux (à considérer comme cofinancement dans le budget) – précisez le mode de calcul et l'unité monétaire
1.1 Expérimentation de la plantation de Genévriers Thurifères (3 ha, 12 agriculteurs pilotes)	Utilisation de parcelles tests (location)							✓			1 an	15 000 Dh (5000 dh/ha/an)
	Préparation des parcelles : travaux du sol	12		12				✓			15 (5j/ha)	4 200 dh (70 dh / pers)
	Installation du grillage	12		12				✓			5 j	4200 dh (70 dh / pers)
	Plantations	12		12				✓			30 (10j/ha)	8 400 dh (70 dh / pers)
	Entretien : arrosage	12	6	6				✓			10 j	8400 dh (70 dh / pers)
1.2 Plantation d'espèces arborées résilientes et adaptées (haies végétaives) 5 ha, 20 agriculteurs pilotes	Utilisation de parcelles tests (location)							✓			1 an	25 000 Dh (5000 dh/ha/an)
	Préparation des parcelles : travaux du sol	20		20				✓			25 (5j/ha)	7 000 dh (70 dh / pers)
	Plantations	20		20				✓			25 (5j/ha)	7 000 dh (70 dh / pers)
	Entretien : arrosage	20	10	10				✓			10 j	14 000 dh (70 dh / pers)
	Utilisation salle communautaire										2j	600 dh (300 dh/j)

2.1 Parcelles fourrages hivernal alternatif (6 ha, 32 agriculteurs pilotes)	Utilisation de parcelles tests (location)							✓			1 an	30 000 Dh (5000 dh/ha/an)
	Préparation des parcelles : travaux du sol	32		32				✓			30 (5j/ha)	11 200 dh (70 dh / personnes)
	Plantations / semis	32		32				✓			6 (1j/ha)	2 240 dh (70 dh / personnes)
	Récolte (5j/ha)	32	32					✓			30 (5j/ha)	11 200 dh (70 dh / personnes)
	Utilisation salle communautaire										2j	600 dh (300 dh/j)
	Utilisation salle communautaire										2j	600 dh (300 dh/j)
3.2 Constitution et formation d'un Groupement Villageois de Gestion Durable de la Forêt dans chaque douar	Utilisation salle communautaire										8j	2 400 dh (300 dh/j)
	Préparation nourriture formations Groupements Villageois	2	2					✓			6 j	840 dh (70 dh / personnes)
3.3 Sensibilisation communautaire et ateliers de concertation avec la population	Utilisation salle communautaire										12j	3 600 dh (300 dh/j)
4.1 Accompagnement des communautés vers le développement d'AGR	Utilisation salle communautaire										8j	2 400 dh (300 dh/j)
TOTAL												158 880 dh

Pour référence : Quels sont les mécanismes de volontariat qui existent déjà au sein de la communauté avant le projet CBA ? (par exemple, mécanismes traditionnels d'assistance mutuelle, associations, etc.)

Il existe des organisations communautaires traditionnelles actives dans les douars avec l'existence de jmaa (assemblée traditionnelle constituée de représentants et chargée de régler les affaires de la localité) qui sont les moteurs de la solidarité communautaire lors de travaux collectifs nécessaires comme le réseau d'irrigation ou les travaux de construction – reconstruction sur les bâtiments communautaires comme la mosquée ou l'école.

Lors de la cérémonie traditionnelle *Agaâssif* (déroulement d'un sacrifice pour le partage de l'eau entre les tribus), les habitants nettoient les canaux d'irrigation collectivement avant la distribution des jours d'irrigation calculés pour les lignages selon la superficie des terres dont ils disposent (PPD Sremt).

De plus les deux douars ont une association locale constituée et qui entretient de bonnes relations avec les élus.

La communauté de Sremt a été partie prenante d'un projet de développement participatif, porté par l'ONG italienne Progetomundo MLAL en partenariat avec la Fondation Zakoura Education entre 2008 et 2011. Les populations sont donc habituées à participer à des ateliers participatifs et à discuter de leurs besoins.

Pour référence : Nombre de volontaires dans la communauté déjà engagés dans des activités d'adaptation au changement climatique avant le projet CBA.

Aucun, le présent projet est innovant pour les communautés.

Pour référence : Quelles sont les opportunités ou obstacles pouvant faciliter ou empêcher les personnes de s'engager dans des activités volontaires ?

Les opportunités pouvant faciliter la mobilisation communautaire dans les activités volontaires sont les avantages économiques de leur engagement avec l'amélioration des parcelles pilotes privées.

Les obstacles portent sur l'appropriation et la compréhension des enjeux du changement climatique à long terme, alors que les communautés ont aujourd'hui des demandes d'amélioration concernant le court terme parfois non adaptées aux enjeux (comme par exemple la construction d'une route pour améliorer les déplacements et s'approvisionner en gaz afin de réduire les prélèvements de bois de chauffage. Il s'agira dans ce cas de montrer comment les perturbations sur les équilibres environnementaux mondiaux entraîneront une hausse des dépenses en gaz). Pour surmonter ces obstacles, les formations intégreront les clés de sensibilisation au changement climatique adaptées en fonction de la cible.

3.0 DESCRIPTION OF PROJECT PROPONENT

3.1 Organization, previous projects, capacities

Missions of the Fondation Zakoura Education

The Fondation Zakoura Education, whose mission is recognized one of public benefit, aims at contributing to human development, through education of younger children, literacy programmes towards adults, and professional training of youth.

This mission has been designed to tackle the obstacles to education, development and to the improvement of rural livelihoods. A number of factors have been identified, which prevent or limit access to education :

- ✓ Socio-economic vulnerability of households
- ✓ Uninsufficient educational offer, especially in terms of infrastructures, which do not cover the needs
- ✓ Isolation and remoteness of rural villages, no transportation, which makes it materially impossible to access institutions and public services

History of the Fondation Zakoura Education

The Fondation Zakoura Education started its activity in 1997, by launching its first non-formal education schools in rural areas, for un-scolarized children or teenagers, aged 8 to 16. Specific attention is given to girls' scolarization (girls are more severely hit by ileteracy).

These schools aim at giving children and teenagers the opportunity to acquire in 3 years the competences normally taught in 6 years in public primary schools.

Progressively, the Fondation extended its activities to respond to additional needs in terms of education and literacy. From 2001, it started literacy training modules for adults and awareness-raising programmes on health and hygiene.

In 2002, the FZE started its DID programme (Integrated Douar Development), comprising non-formal education, adult literacy, professional training for youth, women's health awareness programme and micro-credit.

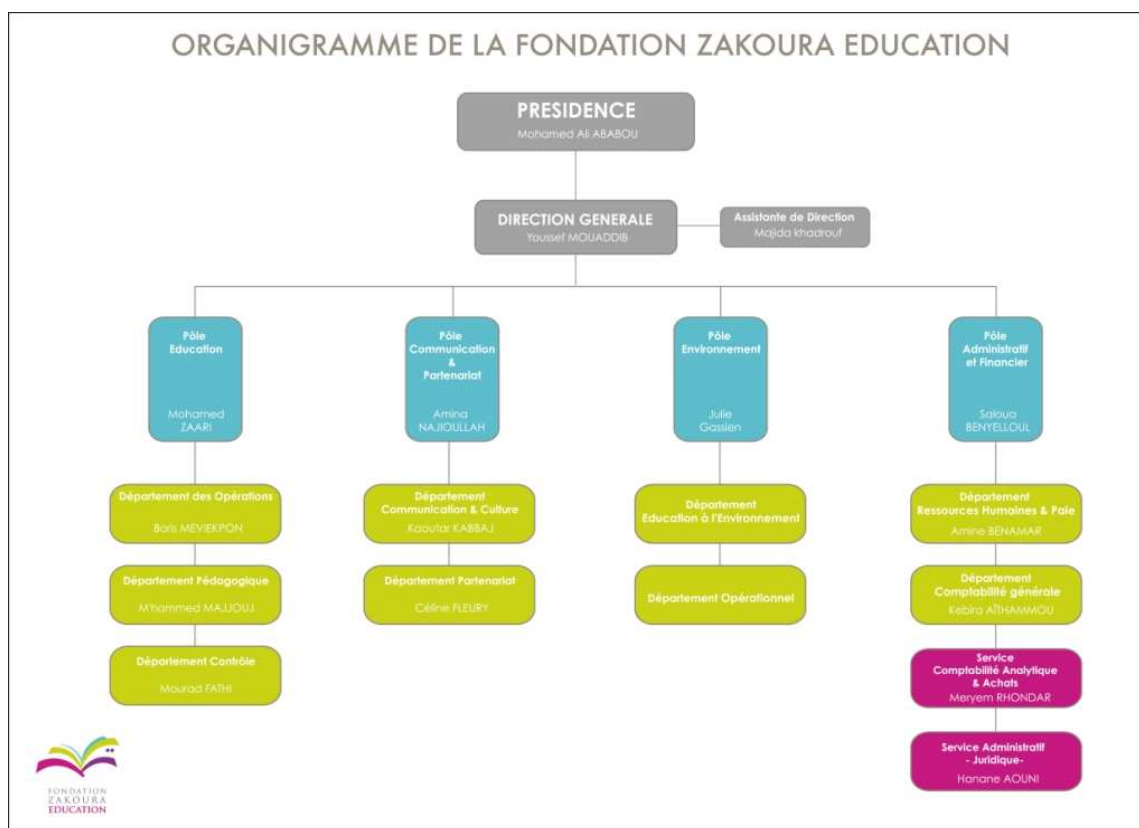
In 2006 and 2007, the FZE initiated two new programmes aiming at combating school drop-out : pre-school programme and school support for primary school pupils with difficulties. In 2008, a scholarship programme was designed to complement the previous initiatives.

In 2010, the Environment department of the FZE was created, in order to coordinate awareness-raising activities as well as operational projects.

Organisational structure and management

The FZE has 129 staff, among which 24 at headquarters and 105 in the field. Field staff comprises facilitators and supervisors. They are under the supervision of the direction of operations and the pedagogical direction (headquarters).

Headquarter staff is structured as presented in the chart below.



Current programmes implemented by the Fondation Zakoura Education

The FZE implements the following socio-educational programmes (structural) :

- Non-formal education and tutoring
- Preschool
- Literacy & Post-literacy
- Functional literacy (professional)
- Professional introduction
- Scholarships for non-formal school pupils
- Environmental education
- Operational environmental micro-projects

In addition, the FZE develops specific programmes: cultural activities (theater festival, publication of collections of tales or sayings...), themating awareness-raising activities (human rights, women's rights, migrations...).

The following programmes are currently implemented :

- **11 DID programmes** (Literacy & Health and Hygiene awareness-raising, non-formal education, professional introduction) in the regions of Tadla-Azilal, Souss Massa Draâ, Gharb-chrarda-Ben Hssen, Doukkala-Abda, l'Oriental
- **6 Tarbiya Lil Jamii programmes** (Non formal education, preschool, Literacy & Health and hygiene awareness-raising) in the region of Souss Massa Draâ
- **8 Shams El Ousra programmes** (Non formal education, preschool, Literacy & Health and hygiene awareness-raising) in the regions of Taza-Taounate, Tanger-Tétouan, Gharb-chrarda-Ben Hssen et Marrakech-Tensift-Al Haouz
- **9 non-formal education schools** in the region of Doukkala-Abda
- **1 Tarek al Moustaqbal** programme (Non formal education, preschool, Literacy & Health and hygiene awareness-raising, professional introduction) with an Income-Generating Activity component, in the Greater Casablanca region
- **25 functional literacy programmes** for craftsmen, in 8 regions (Rabat, Tadla-Azilal, Souss Massa Draâ, Gharb-chrarda-Ben Hssen, Doukkala-Abda, Marrakech-Tensift-Al Haouz, Taza-Al Hoceima-Taounate, Meknès-Tafilalet)
- **3 specific integrated programmes** : Tangiers (non formal education, extra-school activities, tutoring, literacy, post-literacy, Health and Hygiene awareness-raising, professional introduction, publication of local tales) and in Casablanca (literacy, post-literacy, non formal education, tutorint, preschool, theater workshops)
- **1 scholarship programme** benefiting 188 youth and children
- **1 awareness-raising and sanitary management programme**

The Environment Direction of the FZE

It was created in 2010, in order to expand the missions of the FZE towards environmental education and operational environmental project implementation. The projects developed aim at improving the livelihoods of marginalized populations, which is the key value of the FZE.

Its main objectives are the following :

- Preservation and promotion of natural resources
- Community mobilization
- Improvement of local livelihoods

Since its creation, the Environment Direction has led a number of awareness-raising activities :

- Earth Day celebration at the non formal education schools (1700 children participated)
- Technical workshop and informational sessions for “10.10.10” (mobilization and information about climate change and GHG emission reduction)
- Publication of 2 practical guidebooks : Composting; Paper
- Participation in global mobilization event (Earth Hour, World Environment Day), as a local intermediary for awareness-raising messages
- Programme “Clean Beach” with the « Maison écolo de la plage des Sablettes » in Mohammedia
- Waste cleaning with children (Non Formal Education schools)

Other projects in 2011 :

- Implementation of Environmental Education programme for the children of the Non-Formal education schools and conception of a programme for adults participatif in literacy programmes
- Conception and production of quarterly guides about environmental good practices
- Operational micro-projects for environmental protection: sustainable water management, cactus development, resource-based Income Generating Activities

Experience with the targetted communities

The FZE has a long experience working with the communities of the Azilal Province.

From 2008 to 2011, it partnered with the Italian NGO Progetto Mondo MLAL, for its project “School and Development”, funded by the European Union.

This project aimed at improving the living conditions of 20 marginalized communities, including SREMT, by facilitating access to education, and by implementing participatory development planning, in order to develop micro-projects.

Non formal education and literacy for women have been implemented in SREMT for 3 years. This experience allowed to build a strong partnership between the FZE and the community.

This experience, along with other previous experiences in the Azilal Province (non formal education schools, literacy classes, awareness raising) has allowed the FZE to develop an acute understanding of this region, of the communities living conditions and of the local obstacles, as well as adequate approaches for local community participation.

Experience in community mobilization

The FZE gives much importance to community involvement in all its programmes, through a three-fold approach :

- A village-based approach: the programmes are implemented and services provided within the communities, in premises located in the center of the villages. Field staff is hired locally, in order to establish trust between the communities and the team
- Integrated approach : All activities are designed to complement each other, in order to generate a dynamic in the village, thus strengthening local ownership of the projects
- Participatory approach: the beneficiaries are involved in all steps of project implementation. They are associated from the start of the project, to define the concrete modalities of the programmes : choice of premises, schedule, ... When the programmes regard children, parents’ committees are created and represent the FZE’s interlocutor, facilitating communication between the team and the parents. Furthermore, monthly meetings gather all parents and allow to evaluate the programmes, discuss challenges and look for solutions. When a local association is active in the site, it becomes the first interlocutor for the FZE.

All FZE field staff is trained to practice participatory approaches.

Experience and capacities in the field of Adaptation to Climate Change

Climate change is one of the main environmental themes included in the Environment Direction’s action plan.

The Direction organized a one-day collective debate with a number of stakeholders of Moroccan civil society. This debate generated the emergence of a working group aiming at discussing Climate Change and GHG emissions. This debate was documented, and recommendations were formulated.

Besides, the FZE has acquired concrete field experience during the CBA project planning phase, through preparation, formulation and participative analysis of the community workshops led during this development phase.

The FZE’s team gathers a number of competences and skills, including ACC. The Direction of Environment includes staff with scientific background, especially environmental sciences. Its multidisciplinary team combines social sciences approaches and environmental sciences backgrounds, both necessary for CBA work.

4.0 PROJECT DESCRIPTION

4.1 Objective, Outcomes and Outputs

Project Objective:

Increase the resiliency of ubalpine forest ecosystems and build the capacities of local communities whose livelihood is based essentially on breeding. Reduce vulnerability toward the impacts of climate change that have been causing the degradation of strategic resources for their living conditions, through the rehabilitation of the *Juniperus Thurifera*, experimentation with alternative fodder and implementation of sustainable & collective structures and forest management tools.

<p>Outcome 1.0:</p> <p>Forest ecosystems resiliency is strengthened through combined techniques and through the establishment of pilot experiments in the Thurifera grove.</p>	Indicators	Monitoring methods & sources of information
	<p><i>No of ha subject to rational management</i></p> <p><i>No of innovations or technologies applied to combat the degradation of forest spaces</i></p> <p><i>Increased income in the households concerned by the activities</i></p> <p><i>No of individuals benefiting from the project</i></p> <p><i>No of NGOs and community groups having participated, been involved or trained in the project</i></p> <p><i>No of women having participated or been involved in the project</i></p> <p><i>Portion of the population with access to alternative livelihood options (QBS)</i></p> <p><i>No of measures implemented in sustainable management of natural resources</i></p>	<p>Measures on intervention sites:</p> <ul style="list-style-type: none"> • Experimentation areas for Juniperus Thurifera regeneration • Surfaces of planted vegetative hedges • Density of propagation of cuttings / ha of experimentation surfaces <p>Lists of attendance to farmer workshops</p> <p>CRF + DPA data sheets and workshop reports</p> <p>Regular progress reports</p> <p>Internal evaluation</p> <p>Interviews & photo stories</p> <p>Final external evaluation</p> <p>Workshop reports</p>
<p>Output 1.1: Experimental planting of Juniperus Thurifera through the propagation by cutting technique</p>		
Activities	Necessary means	
Planting of 400 Juniperus Thurifera cuttings over 3 ha of private land (Swit Ait Ounir douar)	<p>Biological material: plants</p> <p>Test parcels</p> <p>CRF researcher site visits</p> <p>Equipment for planting and maintenance of the planted zone</p> <p>Labor to prepare the soil</p> <p>Labor for planting</p>	
Fencing of the planted zone	<p>Transportation and installation of the material</p> <p>Labor</p>	
Monitoring and maintenance of the plants	<p>Monitoring visits (CRF / Water & Forest Marrakech team)</p> <p>Labor for maintenance (parcel owners)</p>	

Output 1.2: Planting of resilient wood species adapted to the supplementary production of wood and leaves	
Activities	Necessary means
Planting of endemic species in the form of groves or hedges on private land: <ul style="list-style-type: none"> - Ash - Brooms (retama dasycarpa or genista florida) 	Plants for the revegetation of parcel edges Test parcels Equipment and tools for planting and maintenance Labor to prepare the soils and plants Technical support from DREFLCD
Practical workshops on planting, maintenance and use of vegetative hedges (training, demonstration and technical support from experimental farmers): <ul style="list-style-type: none"> ⇒ SWIT 7 male / 7 female pilot farmers and SREMT 13 male / 13 female pilot farmers + Open to the rest of the douar population willing to participate ⇒ 2 × 1 day for the men and 2 × 1 day for the women (in site workshops) 	Conservation farming, pastoralism and agroforestry consultant Local coordinators & facilitators / monitoring committee Water and Forestry Technician Transportation and catering for facilitators Community room
Output 1.3: Discussion and negotiation meetings with local and regional stakeholders (including public departments and research institutions) about the future of forest spaces	
Activities	Necessary means
Transfer of Sustainable Forest Development Committee representatives from both douars (Azilal)	Accommodation / travel /catering Small restoration Meeting room

<p>Outcome 2.0:</p> <p>Alternative practices to cutting from forest species are developed and appropriated by the communities through the increased resiliency of local fodder and farming systems</p>	Indicators	Monitoring methods & sources of information
	<p><i>No of ha subject to rational management</i></p> <p><i>No of innovations or technologies applied to combat forest area degradation</i></p> <p><i>Increased income of households concerned by the activities</i></p> <p><i>No of individual benefiting from the project</i></p> <p><i>No of NGOs and community groups having participated, been involved or trained in the project</i></p> <p><i>No of women having participated or been involved in the project</i></p> <p><i>Portion of the population having access to alternative means of livelihood (QBS)</i></p> <p><i>No of measures deployed in activities of sustainable natural resources management</i></p>	<p>Measures on intervention sites:</p> <ul style="list-style-type: none"> • Surfaces planted with new fodder crops • Surfaces enriched by locally-produced compost • Alternative fodder yields <p>Attendance lists to farmer workshops</p> <p>DPA data sheets and workshop reports</p> <p>Regular progress reports</p> <p>Internal evaluation</p> <p>Interviews & photostories</p> <p>Final external evaluation</p> <p>Workshop reports</p>
<p>Output 2.1: Development of alternative winter fodder test parcels in each douar</p>		
	Activities	Necessary means
	<p>Establishment of 6 ha for alternative fodder test parcels (Atriplex and grass)</p>	<p>Research & technical studies (DPA)</p> <p>Technical support (DPA)</p> <p>Test parcels</p> <p>Equipment / Material</p> <p>Labor to prepare soils and plantings/seeds</p>
	<p>Practical workshops on the implementation, maintenance and use of alternative fodder (training, demonstration and technical support of experimental farmers);</p> <p>⇒ 20 men / 20 women SWIT experimental farmers and 12 men / 12 women SREMT experimental farmers</p> <p>+ Open to the rest of the douar population willing to participate</p> <p>⇒ 2 × 1 day for the men and 2 × 1 day for the women, onsite in the douars</p>	<p>Conservation framing, pastoralism and agroforestry consultant</p> <p>Local coordinators and leaders / monitoring committee</p> <p>DPA Technician</p> <p>Travel and catering for facilitation team</p> <p>Community room</p>

Output 2.2: Local production of organic compost to improve crops with the help of community grinders	
Activities	Necessary means
Installation of compost location in each douar	Equipment / Material
Practical workshops on collective composting system and use of products generated: <ul style="list-style-type: none"> ⇒ Open to the douar population willing to participate ⇒ 1 day for men and 1 day for women, onsite in the douars 	Conservation farming, pastoralism and agroforestry consultant Local coordinators and leaders / monitoring committee DPA Technician Transportation and catering for facilitation team Community room

Outcome 3.0: Capacities to adapt to climate change are increased and the communities are mobilized for adaptation, in a sustainable and inclusive manner	Indicators	Monitoring methods & sources of information
	<i>No of community groups, NGOs trained within the framework of the project</i> <i>Project zone population covered by CC awareness raising programmes</i> <i>No of players involved in the project and trained to manage the risks of climate change and planning in this area</i> <i>Percentage of the population involved in sustainable management community activities</i> <i>No of measures deployed in activities of sustainable natural resources management</i>	Lists of attendance at trainings and community meetings Regular progress reports Internal evaluation Interviews & photostories Final external evaluation Reports of awareness raising sessions discussion workshops
Output 3.1: Training of the project team on participative techniques for CBA – (continuation from planning phase)		
Activities	Necessary means	
Project launch meeting: gathering all project stakeholders (elected officials, partners, donors, and project proponents) and local associations to be trained on the project's thematics	Meeting room (1 day in Azilal) Climate Change expert (1/2 j) Transportation, accommodation and catering for the CBA project team Catering for participants	

<p>Training of the CBA project facilitation team</p> <ul style="list-style-type: none"> ⇒ Climate Change ⇒ Educational and Awareness Raising Techniques on the Environmental themes ⇒ Participative approach <p>Participants: local coordinators (field managers + PC volunteers) and AADEC female facilitators</p> <p>In two phases:</p> <ul style="list-style-type: none"> - Azilal (1 day): review of the project's activities, planning and expected results - Rabat (5 days): participation in the seminar organized by the CBA 	<p>Project monitoring committee: AADEC / Peace Corps / <i>Groupements Villageois de Gestion Durable de la Forêt</i> (village groups for sustainable forest management)</p> <p>Transportation, accommodations and catering for the leadership team (Rabat)</p> <p>Training room</p>
<p>Output 3.2: Establishment and training of a <i>Groupement Villageois de Gestion Durable de la Forêt</i> in each douar</p>	
<p>Activities</p>	<p>Necessary means</p>
<p>Work meeting:</p> <ul style="list-style-type: none"> ⇒ 2 preparatory meetings for workshops intended to disseminate technical training to the communities ⇒ 2 preparatory meetings for vulnerability assessment workshops intended and internal project evaluation ⇒ 2 preparatory meetings prior to restitution workshops (results, proposals, approbation of KM product) 	<p>Monitoring committee</p> <p>Travel in the douars</p> <p>Cameras (one for each of the <i>Groupements Villageois de Gestion Durable de la Forêt</i>)</p>
<p>Training of <i>Groupement Villageois de Gestion Durable de la Forêt</i> members:</p> <p>Techniques on sustainable forest area management</p> <p>Training in the douars: 4 days (2 sessions of 2 days)</p> <p>Participants: <i>Groupements Villageois de Gestion Durable de la Forêt</i></p>	<p>Conservation farming, pastoralism and agroforestry consultant</p> <p>Local coordinators & leaders / monitoring committee</p> <p>Technical and training support: DREFLCD and DDF agents</p> <p>Transportation / Accommodation / catering for the facilitation team</p> <p>Community room</p> <p>Educational material</p>
<p>Training of <i>Groupements Villageois de Gestion Durable de la Forêt</i> members: Resilient farming and conservational farming techniques</p> <p>Training in the douars: 4 days (2 sessions of 2 days)</p> <p>Participants: <i>Groupements Villageois de Gestion Durable de la Forêt</i></p>	<p>Conservation farming, pastoralism and agroforestry consultant</p> <p>Local coordinators & leaders / monitoring committee</p> <p>Technical and training support: DREFLCD and DDF agents</p> <p>Transportation / Accommodation / catering for the facilitation team</p> <p>Community room</p> <p>Educational material</p>

Output 3.3: Community awareness raising and discussion workshops with the douar populations on good practices for adaptation to climate change	
Activities	Necessary means
<p>4 Community workshops for dissemination of technical training</p> <ul style="list-style-type: none"> - Awareness raising on climate change (1 day: morning for men and afternoon for women) - Awareness raising on conservation and resilient farming (1 day: morning for men and afternoon for women) - Awareness raising on the different forest resources (notion of heritage) and demonstration of low-impact cutting techniques: <u>educational outing</u> (1 day: morning for men and afternoon for women) - Discussion and participative assessment for the development of IGA that promote forest products (1 afternoon: women) 	<p>Leadership from <i>Groupement Villageois de Gestion Durable de la Forêt</i> members</p> <p>Local coordinators and leaders / monitoring committee</p> <p>Community room</p>

<p>Outcome 4.0:</p> <p>The sustainability of adaptation practices is developed and promoted through the development of Income-Generating Activities, and the lessons learned from the project are capitalized and disseminated.</p>	Indicators	Monitoring methods & sources of information
	<p><i>Income increases in households concerned by the activities</i></p> <p><i>No of NGOs and community groups having participated, been involved or trained in the project</i></p> <p><i>No of women having participated or been involved in the project</i></p> <p><i>No of measures deployed in activities of sustainable natural resources management</i></p>	<p>Lists of attendance at trainings and community meetings</p> <p>No of evaluation meetings</p> <p>Regular progress reports</p> <p>Internal evaluation</p> <p>Interviews & photostories</p> <p>Final external evaluation</p> <p>No of KM products</p>
Output 4.1: Support for the communities in developing Income-Generating Activities		
Activity	Necessary means	
Conduct of a socioeconomic feasibility study on the development of Income-Generating Activities from plant resources	External consultant	
Training of target community members (women) on IGA project management (assembly, search for subsidies, financial and administrative management) in the douars: 4 days per douar	<p>Male / female trainer / (external consultant)</p> <p>Accommodation / transportation / catering</p> <p>Meeting room</p> <p>Training supplies</p>	
<p>Gender Workshops / IGA:</p> <p>Training in the douars: 2 days (2 sessions of ½ days)</p> <p>Participants: women of the communities</p>	<p>External consultant</p> <p>Local coordinators & leaders / monitoring committee</p> <p>Transportation / Accommodation / catering for the facilitation team</p> <p>Community room</p> <p>Educational material</p>	

	Support for administrative procedures to create the economic structure adapted according to the feasibility study	Local coordinators & leaders / monitoring committee
Output 4.2: Project Monitoring and Evaluation		
	Activities	Necessary means
	<p>Creation of a <i>Groupement Villageois de Gestion Durable de la Forêt</i> in each douar, comprised of representatives:</p> <ul style="list-style-type: none"> - Men and women pilot fodder farmers - Men and women pilot hedge farmers - Owners of experimental parcels for <i>Juniperus Thurifera</i> regeneration 	Population surveys conducted by local coordinators and identification of resource persons (during community workshops or informal discussions).
	<p>Regular meetings of the monitoring committee (AADEC/Peace Corps / <i>Groupements Villageois de Gestion Durable de la Forêt</i>): continuous monitoring & evaluation of project activities</p> <p>Capitalization on technical trainings, monitoring of the communities' comprehension and integration, review of adaptation solutions recommended within the framework of informal meetings with the communities</p>	<p>Community room</p> <p>Local coordinators & leaders / monitoring committee</p>
	Meetings of the project Steering Committee (meetings 1 & 2 in Azilal, meeting 3 in Casablanca)	Meeting room (AADEC)
	<p>Project evaluation:</p> <ul style="list-style-type: none"> - Internal evaluation by the local cproject oordination team (regular reports + semi-annual internal evaluations) - Conduct of the external evaluation: <ul style="list-style-type: none"> ⇒ 2 participative community workshops in each douar, led by the external consultant, with support from the local coordination team for the gender approach. 	<p>External consultant</p> <p>Local coordinators and leaders of women's workshops (gender approach)</p> <p>Community room or mosque</p> <p>Light catering</p> <p>Final evaluation report including an assessment of participative evaluations and analysis of the internal evaluation</p>
	<p>Organization of a workshop on regional capitalization & sharing of lessons learned with elected officials from the communes and the Social Development Agency (local capacity building and sharing of experiences on sustainable management and development of forest areas, integration of adaptation to climate change in the CDP)</p> <p>Official local visit to present the project and project proponents with an overview of awareness raising work achieved, and presentation by the communities</p>	<p><i>Groupements Villageois de Gestion Durable de la Forêt</i>: transportation</p> <p>Aït Mohammed and Tabant meeting room</p> <p>Light catering</p>
Output 4.3: Communication on the project and dissemination of the results and lessons drawn from the project		
	Activities	Necessary means

	<p>Creation and reproduction of 2 brochures capitalizing of the lessons learned from the project for greater dissemination:</p> <ul style="list-style-type: none"> - Forest Ecosystem Thematic - Alternative Fodder Thematic 	<p>Design Printing / Publication</p>
	<p>Creation of a capitalization poster on lessons learned from the project – symposium + official visit</p>	<p>Design Printing / Publication</p>

4.2 Calendar

		2011				2012								2013													
		O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	
Résultat 1.0 : Renforcement de la résilience des écosystèmes forestiers																											
Produit 1.1	Expérimentation de la plantation de Genévriers Thurifères par la technique de bouturage																										
	Récolte des boutures sur site	◆	◆																								
	Production des plants (400)																										
	Préparation sols et zone (grillage)												◆														
	Plantations boutures												◆														
	entretien de la zone plantée (arrosage)																										
	Suivi de la zone plantée par CRF																◆				◆					◆	
Produit 1.2	Plantations d'espèces arborées pour la production de bois et de feuilles																										
	Récolte des semences																										
	Production des plants (3000)																										
	Préparation sols																										
	Plantations																										
	entretien de la zone plantée (arrosages, binage)																										
	Suivi de la zone plantée par DREFLCD/DDF																										
	Atelier pratique Haies végétaives												◆	◆							◆				◆		
Produit 1.3	Réunions de concertation et de négociation avec les acteurs locaux et régionaux																										
	Préparation de la réunion : évaluation des résultats																										
	Réunions à Beni Mellal par CDDF des douars																										●

		2011				2012								2013													
		O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	
Résultat 2.0 : Développement de pratiques alternatives pour l'amélioration de l'agriculture locale																											
Produit 2.1	Aménagement de parcelles tests de fourrage alternatif dans chaque douar																										
	Analyse topographique parcelles tests																										
	Préparation sols																										
	Plantations / semis																										
	Récolte et séchage sur place / pâturage graminées ovins caprins																										
	Pâturage sur pied atriplex																										
	Suivi de la zone plantée par DPA	◆	◆	◆	◆	◆	◆			◆	◆	◆		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
	Atelier pratique Fourrages alternatifs					◆																					
Produit 2.2	Production de compost organique local pour améliorer les cultures																										
	Installation des broyeurs																										
	Ateliers pratiques compost																										
	Production du compost																										
	Utilisation compost : épendange																										

		2011				2012								2013													
		O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	
Résultat 3.0 : Mobilisation communautaire et renforcement des capacités locales																											
Produit 3.1	Rassemblement des acteurs du projet autour des objectifs du projet CBA et formations																										
	Réunion démarrage acteurs du projet		◆																								
	Formation équipe d'animation techniques projet CBA (parties et 2)																										
	Préparation supports pédagogiques animations projet CBA																										
Produit 3.2	Constitution et renforcement des capacités des Comités de Développement Durable de la Forêt																										
	Enquête et discussions pour constitution CDDF																										
	Formation technique CDDF gestion durable forêt																										
	Formation technique CDDF agriculture conservatoire																										
Produit 3.3	Sensibilisation communautaire et ateliers de concertation avec la population																										
	Atelier sensibilisation aux CC			●																							
	Atelier concertation et diagnostic participatif AGR					◆																					
	Atelier gestion durable des espaces forestiers									●																	
	Atelier agriculture conservatoire												●														
	Ateliers sensibilisation Enfants																										

		2011				2012								2013													
		O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	
Résultat 4.0 : Valorisation des résultats et capitalisation																											
Produit 4.1	Accompagnement des communautés vers le développement d'AGR																										
	Etude de faisabilité socio-économique AGR																										
	Formation gestion de projet et AGR																										
	Ateliers AGR renforcement approche genre AGR																										
Produit 4.4	Evaluation du projet																										
	Ateliers communautaires : évaluation projet																										
	Evaluation projet																										
	Evaluation finale CBA																										
	Evaluation globale projet																										
Produit 4.5	Communication autour du projet et valorisation des activités/résultats																										
	Conception d'une brochure et de posters																										
	Impressions et diffusion																										
	Atelier régional de capitalisation et de partage																										

- Réunion du Comité de Pilotage
- Evaluation interne par le Comité de suivi
- Evaluation externe par consultant
- Animations par le Comité de Suivi (AADEC - CDDF - Peace Corps)
- ◆ Visites terrain CRF Marrakech
- ◆ Visites accompagnement technique et suivi agent DREFLCD
- ◆ Visites accompagnement technique et suivi agent DPA
- ◆ Animations consultant agriculture conservatoire
- ◆ Animation expert projets Changements Climatiques
- ◆ Animations expert AGR
- Ateliers pratiques avec communautés / classes d'école paysanne

4.3 Risks and obstacles

Obstacles

- The local communities have little technical knowledge and depend upon external expertise and technicians for the implementation of improved and adapted farming techniques. Therefore, the project incorporated the involvement of external consultants for climate change awareness-raising. The approach emphasizes knowledge ownership by community members, through a “training of trainers” process.
- Besides, the project could face challenges due to the difficult local conditions, and to the fact that forestry represents the only fodder source in the winter. It will therefore be challenging to convince the communities to protect the ecosystem. Awareness-raising and community mobilization will strongly build on the objective of improving living conditions in the face of climate change, through secondary sources of income.

In precarious living conditions, very much challenged by accessibility challenges, the first needs of the communities are short-term, and involve alternative income-generation.

This is why the project strongly focuses on developing new income-generating activities, based on productive forest species. These IGAs will be identified in a participatory way, with the communities. These IGAs will allow to ensure sustainable promotion of local resources, while generating income that will consolidate the communities’ capacities. This aspect of the project will contribute to the sustainability of the initiative, and to strengthening the adaptive capacities of the community, by increasing their financial autonomy.

The capacity building process will include the launching of a negotiation with Water & Forest, aiming at implementing collective management of forest areas, while responding to the communities’ needs. This negotiation will involve solid consultation of local communities, who will be prepared, through the project, to advocate and negotiate (Groupements Villageois de Gestion Durable de la Forêt), which will contribute to reinforcing concertation processes with extension services, towards resilient and sustainable management.

- Due to the local traditional culture, women are not authorized to leave the village, and their workload implies that they are rarely available for additional activities. This situation makes it difficult to mobilize women for community activities and for participation in the Groupements Villageois de Gestion Durable de la Forêt.

Regular meetings with women (in a location that is acceptable for all), and the incorporation of an Amazigh female facilitator within the project team, will allow to understand the challenges met by women, and to take into account their specific needs, thus facilitating their effective inclusion in all aspects of the project (concrete activities, trainings, participation in management and decision-making). A specific focus will be put on this process, and the facilitation team will be sensitized and trained to mainstream gender.

Women’s role will be continuously promoted, through their participation in community work, and through training in project management and IGAs, that will specifically target them.

Women’s participation in the literacy programme of the FZE in douar Sremt, is an asset that the project will build on, to sustain women’s mobilization. In Swit, since there hasn’t been such a programme, women’s mobilization will be more challenging. This will be taken into account during trainings and community workshops (incorporated in the trainers’ Terms of Reference).

Risks

- Low productivity of alternative fodder (external risk) : to minimize this risk, the project will focus on thorough training of pilot farmers. Development of alternative fodder / crops will be systematically supported by “farmers’ classes”, including technical site demonstrations. Partners (DPA, CRF, DREFLCD) will be regularly in the field, from land preparation to harvest, in order to ensure monitoring of the plants. Their site visits are included in the project budget as in-kind contribution.
- Maintaining the protection of pilot parcels of Juniper regeneration (internal risk) : the protected areas will be targeted by the pilot IGAs based on Juniper promotion. This will allow to give an economic value to these protected plots (not used for grazing during specific times).
- Decreasing communities mobilization (internal risk): workshops will be planned ahead with the communities, in order to take the participants’ schedule into account, especially the women. Trainings will include meals. Besides, time will be managed efficiently during all workshops, to be optimized and to serve multiple purposes and to have the lowest impact on the communities’ schedule.

4.4 Monitoring and Evaluation Plan

4.4.1 Vulnerability Reduction Assessment (VRA)

During project development, two vulnerability assessment workshops have been organized in each of the two villages in June 2011: one workshop for the men and one for the women. They were led by a team of facilitators comprised of development agents from the Social Development Agency and leaders from the AADEC (regional association), with support from mission leaders of the Fondation Zakoura Education and UNDP-CBA Programme.

SWIT DOUAR

Men's Workshop

Organized at the village school. Nearly 50 participants, including many young men

Seasonal Calendar

The men indicate that there are four seasons.

Rain falls generally between October and March.

The dry season lasts between April and September, with strong heat (especially in July-August).

Participants have noted higher temperatures since the 1990s, even in the winter ("It is hot all year long"). Hot years are more frequent than before. Rainfall has been dropping in overall quantity, but has become shorter, more intense and more unpredictable. Since the 1990s, these strong thundershowers have become increasingly unpredictable and occur often in the summer. They cause damage at times.

The principal risk of climate change for the participants is increased drought, combined with strong and violent rains.

Women's Workshop

Organized in the courtyard of a douar home. 6 participants.

Seasonal Calendar

Rain falls between October and March. In April and May of this year, the douar experienced violent rains and flooding that caused damage to the infrastructures. There was no snow this year.

Snow is a problem because it blocks the roads and causes isolation. It also causes a delays for seeding when it lasts too late. The snow period used to last from October to February, but there has been nearly no more snow in the last few years (a few days this year).

Drought periods have also appeared recently. Strong changes have been observed since 2003. Women have been having more trouble finding wood and leaves in the green oak forest.

They say that the most difficult change has been drought.

The douar includes 2 water tanks fed by the source. Today the tap provides water even in periods of drought.

Indicator of the Vulnerability Reduction Assessment (to be measured at mid-course and at the end of the project)

	Men	Women
Q1	1	2

Q2	1	1
Q3	1	1
Q4	1	1
Total	4	5
Average out of 5	1	1.25
Average out of 10	2	2.5
Overall average	2.25	

Strong vulnerability - the community feels powerless with regard to climate change and that it has no resources to adapt. The situation of isolation and enclosure increases vulnerability and reduces the people's faith in their capacity to adapt.

VRA Form // MEN					
Indicator	Question	Score	Reasons for a negative answer	Reasons for a positive answer	How can this score be improved (solutions)
1. Vulnerability of livelihood with regard to the existing climate change and/or variability	What happens when there is drought or heavy rain? How does this affect your daily life / living conditions?	1/5	Droughts: -Water resources are reduced -The oued level drops -Reduced vegetation, retreat of the oaks, forest degradation, which is already being overexploited -Disappearance of animal species (rabbit boars) because of forest degradation -Lack of fodder for the herds -Reduced farm production and yields -Increased soil erosion and isolation -Exodus / emigration Strong and unpredictable rains: -Damage crops, pull out trees -Destroy homes and infrastructures -Erosion -We have no means of gathering and preserving the water	-Rain increases water reserves -They are good for late crops	-Finding work elsewhere -Developing irrigation, wells -Changing types of crops and trees
2. Vulnerability of livelihoods to the growing / future risks of climate change	What will happen if there are twice as many droughts and heavy rains? How will this affect your daily life / living conditions?	1/5	-We won't know what to do -We will have to purchase fodder for our animals -There will no longer be any farming here	-If rains increase, it will be good for the forests and late crops	-Digging wells and develop the sources -Farming more adapted to droughts and increasing rainfall -Training because we do not have the knowledge -Developing fodder -Using the few resources we have better
3. Magnitude of the barriers (institutional, political, technological, financial, etc.) to adaptation	What prevents you from implementing the solutions you are suggesting? What are the obstacles and assets?	1/5	-Lack of financial means -Lack of technical knowledge to improve agriculture or water collection -Traditional solidarity has been decreasing because people are busy. Many are alone in the village because the others have left (exodus), they no longer have time -Lack of partners, funds -We lack many things: no road, no school, no hospital, etc.		-Develop partnerships -Obtain subsidies
Benefits/assets enjoyed by the community for its adaptation (volunteers, skills, commitment, local knowledge, community leadership, etc)			-Solidarity for work in the village: we built the mosque, school, trail and segues -AGDAL: collective and community management of grazing lands. AGDAL is open May to March. It is managed by representatives from each tribe.		
4. Capacity and will of the community to continue managing the risks of climate change	Do you think the project will help you face these problems? Are you ready to contribute to the project? What will be your contribution?	1/5	-We require essential infrastructures: road, school, health care center -If there is no water, we cannot improve the situation.	-Willing to participate -There is unity among the families, to cooperate and participate	
VRA Score		1/5 2/10			

VRA Form // WOMEN					
<i>Indicator</i>	<i>Question</i>	<i>Score</i>	<i>Reasons for a negative answer</i>	<i>Reasons for a positive answer</i>	<i>How can this score be improved (solutions)</i>
1. Vulnerability of livelihood with regard to the existing climate change and/or variability	What happens when there is drought or heavy rain? How does this affect your daily life / living conditions?	2/5	<ul style="list-style-type: none"> - Water tanks are not being filled and crop irrigation is reduced - Fodder production has dropped, which leads to cutting branches - Children take longer to collect water - Strong rains lead to losses of trees (landslides/erosion) and infiltration in the homes 	//	<ul style="list-style-type: none"> - Purchase food supplements at the souk - Search for sources of water or create them - Improve roads - Build large reservoirs to preserve torrential rainwater
2. Vulnerability of livelihoods to the growing / future risks of climate change	What will happen if there are twice as many droughts and heavy rains? How will this affect your daily life / living conditions?	1/5	<ul style="list-style-type: none"> - The douar will be completely dependent on the souk to compensate for production losses - Emigration will be very high - All the cattle will have to be sold in order to buy what we need 	//	- We need more ideas, support and training
3. Magnitude of the barriers (institutional, political, technological, financial, etc.) to adaptation	What prevents you from implementing the solutions you are suggesting? What are the obstacles and assets?	1/5	<ul style="list-style-type: none"> - No cooperation or solidarity, each family works on its own land - No ideas to find solutions - No knowledge 	//	-Training to improve our knowledge
Benefits/assets enjoyed by the community for its adaptation (volunteers, skills, commitment, local knowledge, community leadership, etc)			//	//	
4. Capacity and will of the community to continue managing the risks of climate change	Do you think the project will help you face these problems? Are you ready to contribute to the project? What will be your contribution?	1/5	<ul style="list-style-type: none"> - If the project is in regard to the forest, we are afraid to be prevented from having our herds graze 	<ul style="list-style-type: none"> - We want to participate in trainings 	//
VRA Score		1.25/5 2.5/10			

SREMT DOUAR

Men's Workshop:

Organized under a big walnut tree, in the center of the village. Approximately 40 participants, mixed generations.

Seasonal Calendar

Participants indicate that snow and snowfall have decreased during the snowy season. This year (winter 2010-2011) has been particular, since there has been practically no snow.

Rain fell twice this year: in September and October and then in April and May, which used to not happen before because rain used to be concentrated in the winter (December to February), causing the region to be landlocked for approximately three months, but during one period in the year.

Spring rains have had a double impact: positive on late crops, but negative for road conditions and draining fodder on the ground.

The hot period has extended, particularly in the last year, with high temperatures almost throughout the year.

Participants do not know the reasons for these changes, but have noted the problems caused by drought: reduced water reserves, particularly in the oued and source, and fewer possibilities of crop irrigation in the bour. Forest degradation is also mentioned, as it remains the only source of fodder in case of fodder shortages.

Changes have been observed since the end of the 19080s, with sudden changes mentioned after 2002 and 2003.

Regarding torrential rains and flooding, participants do not mention any major problems. Only one significant flood that took place in 1979 is mentioned.

Women's Workshop:

Organized in a douar home. Approximately 50 participants, mixed generations.

Seasonal Calendar

This year has been particular because of the rainfalls in May. When rain falls in February and March, this causes problems for farming. Participants mention storms (often in May), but without any damage to infrastructures or dwellings.

The heat this year occurred in January, February and March, while it occurs normally between May and September.

The climate problems mentioned are droughts, which have been very severe in the last three years, and snow.

They note a real change in the seasons, which has been causing:

- Poor farming yields
- Reduced water: the oued has been drying up completely in the last three years during the hot season.

Over the last few years, women have been forced to buy additional food at the souk for the animals, while ten years ago, they only needed to use their land to obtain feed.

Indicator of the Vulnerability Reduction Assessment (to be measured mid-course and at the end of the project)

	Men	Women
Q1	2	1
Q2	1	1
Q3	2	2
Q4	2	2
<i>Total</i>	7	6
<i>Average out of 5</i>	1.75	1.5
Average out of 10	3.5	3
Overall average	3.25	

Moderate to strong vulnerability - isolation and enclosure are major vulnerability factors. But the community has traditional structures and a strong will to act.

VRA From // MEN					
<i>Indicator</i>	<i>Question</i>	<i>Score</i>	<i>Reasons for a negative answer</i>	<i>Reasons for a positive answer</i>	<i>How can this score be improved (solutions)</i>
1. Vulnerability of livelihood with regard to the existing climate change and/or variability	What happens when there is drought or heavy rain? How does this affect your daily life / living conditions?	2/5	Droughts: - Water resources dropping - Oued level dropping - Decreasing vegetation in the forest - Drop in farm production and yields, particularly fodder - Decreasing income to live and buy from the souk - Exodus / Emigration	- Usable roads	- Develop the territory through guidance from good advice
2. Vulnerability of livelihoods to the growing / future risks of climate change	What will happen if there are twice as many droughts and heavy rains? How will this affect your daily life / living conditions?	1/5	- Even more food supplements will have to be purchased for the herd at the souk - The forest will degrade further - Transhumance to the Ourazazate region in order to find fodder	- Usable roads	- Support to change farming - Create a system to retain water - Develop the forest - Have a vision of what needs to be done - Supply dwelling with gas (purchased at the souk) to reduce pruning in the forest - Conserve resources for better management in the future
3. Magnitude of the barriers (institutional, political, technological, financial, etc.) to adaptation	What prevents you from implementing the solutions you are suggesting? What are the obstacles and assets?	2/5	- Major limitation to accessibility to water required for all types of activities - Youth exodus - Harsh winter - Highly landlocked		- Regenerate the forest by rotating parcels used - Technical problems implementing solutions, such as a water reservoir
Benefits/assets enjoyed by the community for its adaptation (volunteers, skills, commitment, local knowledge, community leadership, etc)			- Spring rains are beneficial to crops and vegetation - No d'agdals : all lands are private. This part of grazing lands is separated for each douar. There is access only in periods of great need.		
4. Capacity and will of the community to continue managing the risks of climate change	Do you think the project will help you face these problems? Are you ready to contribute to the project? What will be your contribution?	2/5	- We are ready to change our cultivation and breeding methods if we are supported: knowledge of the proper technical options and training / awareness raising - To prevent forest degradation, we have to know how to cut trees and also how to develop projects and find funding	- Village members are used to working together: work in cooperation for the douar	
VRA Score		3.5/10			
VRA Form // WOMEN					
<i>Indicator</i>	<i>Question</i>	<i>Score</i>	<i>Reasons for a negative answer</i>	<i>Reasons for a positive answer</i>	<i>How can this score be improved (solutions)</i>

1. Vulnerability of livelihood with regard to the existing climate change and/or variability	What happens when there is drought or heavy rain? How does this affect your daily life / living conditions?	1/5	<ul style="list-style-type: none"> - More fodder: everything has to be purchased at the souk - No vegetation in the forest. Women say they are cutting branches for fodder - Emigration 	- Usable roads	- Crop irrigation, particularly for potatoes and turnips, which are cultivated in the douar
2. Vulnerability of livelihoods to the growing / future risks of climate change	What will happen if there are twice as many droughts and heavy rains? How will this affect your daily life / living conditions?	1/5			<ul style="list-style-type: none"> - Children's emigration (men) toward the cities in order to support the families in the douar - Everything is bought at the souk - Dig a well to conserve water - Literacy programme is pursued - Development of Income-Generating Activities
3. Magnitude of the barriers (institutional, political, technological, financial, etc.) to adaptation	What prevents you from implementing the solutions you are suggesting? What are the obstacles and assets?	2/5	<ul style="list-style-type: none"> - Difficult living conditions in the douar due to isolation, particularly in cases of health problems or when women need to deliver, because they are taken on foot to Azilal - No money - Lack of material means - Lack of knowledge - Isolation - No support to sell traditional products at the souk 	//	
Benefits/assets enjoyed by the community for its adaptation (volunteers, skills, commitment, local knowledge, community leadership, etc)			<ul style="list-style-type: none"> - Existence of traditional crafts (carpets) - Ability to work together - Literacy programme 		
4. Capacity and will of the community to continue managing the risks of climate change	Do you think the project will help you face these problems? Are you ready to contribute to the project? What will be your contribution?	2/5	<ul style="list-style-type: none"> - We want to get involved in a project that will help improve our living conditions 		The population had thought of building a reservoir to collect and contain water, but they did not know how to proceed.
VRA Score		3/10			

4.4.2 Monitoring & Evaluation Plan

(i) Project Monitoring

- Production of progress reports every 4 months. The FZE will periodically present the progress of project activities, including narrative and financial reports
- Monitoring community contribution : for each project activity, a chart will indicate the name of community volunteers, their contribution and the number of the days contributed to the project
- Site visits : at least 2 site visits will be organized by the CBA for project M&E. These visits should coincide with VRA workshops.

(ii) Evaluation du projet

- Internal evaluation : participatory project evaluations will be implemented regularly by the FZE and its partner AADEC (every 6 months). These evaluations will be led by the AADEC in the field, and will involve communities and stakeholders. They will consist in :
 - Evaluate the implementation status of project activities (using the project calendar)
 - Evaluate the results achieved and the indicators (using project logframe)
 - Identify the challenges and define the measures to overcome them
 - Gather the recommendations of community / stakeholders for project readjustment

Following these evaluations, a short and illustrated report will be produced by FZE and AADEC

- Final external evaluation : this evaluation will be led in a participatory way by a consultant who will be hired by the FZE. It will build on the community evaluations and will aim at evaluating :
 - Project achievements
 - Measuring indicators, ensuring gender-disaggregated data is collected
 - Achievements of project objectives
 - Impact of the project on the community (socioeconomic, environmental), building on the following indicators, and distinguishing impacts on the different vulnerable groups (women, youth...)
 - Project sustainability
 - Critical evaluation of community adaptation solutions and possibilities for replication / dissemination
 - Identify the lessons learned and recommendations

These evaluations will be implemented through community meetings (participatory workshops) and field visits.

Liste des indicateurs qui font l'objet du Suivi & Evaluation

The project activities will be monitored on a participatory and **on-going basis** by the local implementation team and activities committees, according to the logical framework indicators.

M&E will be implemented by the local project team and by the community committees responsible for each activity.

The following groups of indicators will be monitored: the Vulnerability Reduction Assessment, the Impact Assessment System, and Adaptation Indicators.

Measurement of the Vulnerability Reduction Assessment

	Approximate timing of VRA sessions	Who ran/ will run the VRA meeting	Who will be responsible for collecting VRA data
First	June 9 & 10, 2011	FZE / AADEC (support CBA)	Fondation Zakoura Education
Second/midterm	March 2012	FZE / AADEC (support CBA)	Fondation Zakoura Education
Final	November 2012	FZE / AADEC (support CBA)	Fondation Zakoura Education

Measurement of the Impact Assessment System Indicators

(Global Environmental Benefit focal areas + livelihood and empowerment).

IAS Indicator to be measured	How it will be measured	When it will be measured	Target value to be achieved by project end	Who will measure it
No of ha subject to rational management (Erosion control)	Measuring the number of ha replanted, restored, & protected by the project Photo / Photostory Progress reports Final project evaluation	Progress report every 4 months Final Evaluation	At least 10 ha of degraded land are restored sustainably	Grantee, with support of PC and partners + agents services forestiers et DPA
No of innovations or technologies applied to combat the degradation of forest spaces (Biodiversity)	Nb of ha concerned by innovations. Ownership of the innovations by the community Nb of community members trained in these technologies (gender disaggregated) and using them Photos / Interviews Progress reports & training reports	Progress report every 4 months Final Evaluation	5 innovations are implemented and mastered : - Alternative fodder -Collective composting -Solar drying -Conservation farming- -Extraction of essential Juniper oil	Grantee, with support of PC and partners + agents services forestiers et DPA + Consultant
Increased income in the households concerned by the activities (poverty reduction)	Pot project survey (year N+1 after plantations)	Progress report every 4 months Final Evaluation	Reduction of 20% of household expenses for complementary food for cattle	Grantee, with support of PC and partners + agents services forestiers et DPA + Consultant

No of individuals benefiting from the project (gender disaggregated data / poverty reduction)	Progress reports Interviews	Participation list after each activity Progress report every 4 months Final Evaluation	At least 30% of participants are women, 30% are youth	Grantee, with support of PC and partners
No of NGOs and community groups having participated, been involved or trained in the project (capacity building)	Workshop attendance / Progress Reports Individual interviews	Progress report every 4 months Final Evaluation	At least 2 NGOs, 2 local government, 10 local, regional and national partners are engaged	Grantee, with support of PC and partners
No of women having participated or been involved in the project (capacity building & inclusive governance)	Workshop attendance / Progress Reports Individual interviews	Progress report every 4 months Final Evaluation	At least 50 women participated in the project activities At least 20% of the Groupements villageois members are women	Grantee, with support of PC and partners

Measurement of Adaptation Indicators

Adaptation indicators	How it will be measured	When it will be measured	Target value to be achieved by project end	Who will measure
Project zone population covered by CC awareness raising programmes (adaptive capacities)	Progress reports / Participation in project activities (meetings, trainings, concrete activities). Disaggregated by gender	After each activity Progress report every 4 months Final Evaluation	At least 200 people are covered	Grantee, with support of PC and partners
Portion of the population with access to alternative livelihood options (QBS / Adaptive capacities)	Progress report & training reports Final evaluation é Survey (QBS)	Mid-term & final evaluation	At least 50% of household who have participated in the project	Grantee, with support of PC and partners
No of NGOs and community groups having participated, been involved or trained in Climate risk management and planning (adaptive capacities)	Attendance in workshops / Reports Individual interviews	Progress report every 4 months Final Evaluation	At least 2 NGOs, 2 local governments, 10 local, regional and national partners are engaged	Grantee, with support of PC and partners
Percentage of the population involved in sustainable management community activities (sustainable management of natural resources)	Final evaluation / Data disaggregated by gender Interviews / Survey	Final evaluation	At least 50% of household who have participated in the project	Grantee, with support of PC and partners
No of measures implemented in sustainable management of natural resources (sustainable management of natural resources)	Progress reports	Progress report every 4 months Final Evaluation	At least 2 successful experiences, for dissemination in other territories	Grantee, with support of PC and partners + forest extension services

4.5 Project management

4.5.1 Management Structures

Local Project Monitoring Committee

Responsible for local coordination, support for implementation and proper running of the project and its activities, conducting internal monitoring and evaluations, and ensuring the communities' inclusive participation. It will be comprised of the following:

- FZE: operational project manager
- AADEC: environment project manager & female facilitators
- Peace Corps: Local volunteers
- Committees for Sustainable Forest Development for the douars

The team will meet in the douars twice a month on average throughout the project's duration in order to coordinate and organize the activities according to the logical framework and schedule, and to facilitate or support the different training and awareness raising sessions, in partnership with Water and Forests, the DPA or external consultants.

The monitoring committee will have the opportunity to provide a role and responsibilities to the *Groupements Villageois de Gestion Durable de la Forêt* in the project's implementation, with growing involvement as the project is deployed. This mission will promote the *Groupements Villageois* and contribute to building their capacities through a "learning by doing" approach (project management, monitoring and evaluation of the activities, transparent and inclusive management, inclusive community mobilization, gender approach, etc.).

Local Douar Associations

Local association representatives will be the favored interlocutors of the project monitoring committee to organize project-related workshops and activities. They are in direct contact with community leaders, which will ensure the latter's support and participation in the project.

They will contribute to rallying douar residents to the project and provide information to community members on the activities during every phase of the project.

They will coordinate the logistics of the activities (buy food, transport materials for plantings), and use their abilities to facilitate all the activities overall.

Once the *Groupements Villageois de Gestion Durable de la Forêt* are constituted, these responsibilities will be transferred from the local associations. The transfer will be conducted all the more easily that the *Groupements Villageois* will gather local association members as contact persons.

4.5.2 Relationships and Responsibilities of the Project Proponent towards His Partners

The *Association d'Azilal pour le Développement, l'Environnement et la Communication* will mobilize its representatives to set up community sessions to support external consultants, in order to ensure appropriation, particularly during sessions with the women.

The Center for Forestry Research (High Commission on Water and Forests) will be the project's partner with regard to scientific and technical applications, with responsibility toward project aspects relating to the Thurifera resiliency component (onsite replanting operations and community awareness raising).

The *Direction des Eaux et Forêts* of Tadla Azilal will take responsibility for monitoring and financing vegetative hedge plantings, as well as for guiding the "farmers' class" on this technique.

The *Direction Provinciale de l'Agriculture* of Azilal will be responsible for monitoring and financing alternative fodder plantings, as well as for guiding the "farmers' class" on this technique.

The Peace Corps will intervene throughout the project's duration. The volunteer will work together with the FZE field manager to improve the quality of project activities, and to prepare for the project's continuity.

The UNDP-CBA team will provide demand-driven support, according to the project's needs for its implementation, monitoring and sharing of lessons learned. The team will particularly help in preparing the Terms of Reference for the Consultations, building project stakeholders' capacities, and with communication and promotion of the project. At least 2 monitoring field visits will be implemented by the CBA team. Moreover, the monitoring committee will be invited to participate in the national CBA workshop to be held in Rabat (capacity building for CBA project management).

5.0 PROJECT COST AND PROJECT FUNDING

Objet	Unité	Prix unitaire	Nombre unité	TOTAL MAD
Ressources humaines				
Quote part salaire responsable direction environnement FZE (2 jours par mois sur 16 mois)	Mois	32 913,57 MAD	2	50 154,01 MAD
Quote part salaire assistante administrative FZE	Mois	7 464,00 MAD	2	14 928,00 MAD
Indemnités volontaire Peace Corps (assurance, salaire, logement)	Mois	6 016,00 MAD	20	120 320,00 MAD
Sous - total				185 402,01 MAD

1 - Volet renforcement de la résilience de l'écosystème forestier et expérimentations pilotes sur thuriféraie

Plantations Boutures Genevriers Thurifères - 3 ha / 6 pers pour travaux communautaires				246 397,08 MAD
Location équipements / outils	Forfait / j	500,00 MAD	15	7 500,00 MAD
Matériel de plantation : boutures CRF	Forfait	120 000,00 MAD	1	120 000,00 MAD
Location parcelles tests (hyp : 5000dh/ha/an)	Mois	15 000,00 MAD	1	15 000,00 MAD
Récolte des boutures par ouvriers CRF	Jour	500,00 MAD	5	2 500,00 MAD
Préparation des parcelles (travaux du sol : 5j/ha)	Jour	280,00 MAD	15	4 200,00 MAD
Travaux de plantations (10j/ha)	Jour	280,00 MAD	30	8 400,00 MAD
Installation grillage	Jour	840,00 MAD	5	4 200,00 MAD
Grillage	Mètre	25,00 MAD	800	20 000,00 MAD
Piquets bois	Unité	20,00 MAD	400	8 000,00 MAD
Transport du matériel sur site : location camion	Forfait	1 500,00 MAD	1	1 500,00 MAD
Location Citerne d'arrosage etc (4 fois)	Unité	9 000,00 MAD	4	36 000,00 MAD
Arrosage (1 an, 10 fois/an) : 12 agriculteurs pilotes 70dh/j	Jour	840,00 MAD	10	8 400,00 MAD
Petite restauration : thé, café, gâteaux...	Jour	500,00 MAD	1	500,00 MAD
Indemnités frais facilitateur Peace Corps (déplacements & hébergement douars)	Forfait	150,00 MAD	8	1 200,00 MAD
Coordination / Suivi chargé de projet - quote part indemnités	%	89 970,78 MAD	10%	8 997,08 MAD

Contribution Communauté	Contribution DPA	Contribution HCEFLCD	Contribution Peace Corps	Contribution AADEC	Contribution Crédit Agricole	Contribution CBA	Contribution FZE
Ressources humaines							
							50 154,01 MAD
							14 928,00 MAD
			120 320,00 MAD				
0,00 MAD	0,00 MAD	0,00 MAD	120 320,00 MAD	0,00 MAD	0,00 MAD	0,00 MAD	65 082,01 MAD

1 - Volet renforcement de la résilience de l'écosystème forestier et expérimentations pilotes sur thuriféraie

Plantations Boutures Genevriers Thurifères - 3 ha / 6 pers pour travaux communautaires							
					7 500,00 MAD		
		120 000,00 MAD					
15 000,00 MAD							
					2 500,00 MAD		
4 200,00 MAD							
8 400,00 MAD							
4 200,00 MAD							
					20 000,00 MAD		
					8 000,00 MAD		
					1 500,00 MAD		
					36 000,00 MAD		
8 400,00 MAD							
					500,00 MAD		
					1 200,00 MAD		
					8 997,08 MAD		

Honoraires CRF pour Suivi des expérimentation in situ				8 050,00 MAD
Encadrement et suivi CRF : 7 visites	Jour	1 000,00 MAD	7	7 000,00 MAD
Encadrement travaux communautaires (récolte boutures 3 j, préparation sols, grillage, plantations, suivi)	Jour	150,00 MAD	7	1 050,00 MAD
Plantations Arbres et arbustes production bois et feuilles - 11 500 ml total 2 douars / 10 pers				142 697,08 MAD
Matériel de plantation : plants	Forfait	60 000,00 MAD	1	60 000,00 MAD
Production des plants (3300) : achat substrat, sachets, intrants	Forfait	8 000,00 MAD	1	8 000,00 MAD
Location équipements / outils	Forfait / j	500,00 MAD	5	2 500,00 MAD
Location parcelles tests (hyp : 5000dh/ha/an) (5ha equivalent à 11500mL)	Mois	25 000,00 MAD	1	25 000,00 MAD
Préparation des sols (travaux du sol et entretien) 5j/ha	Jour	280,00 MAD	25	7 000,00 MAD
Déplacements technicien DREFLCD site projet (1 personnes,1 jour par douar, 6 visites)	Jour	500,00 MAD	12	6 000,00 MAD
Travaux de plantations (5j/ha)	Jour	280,00 MAD	25	7 000,00 MAD
Transport du matériel sur site : location camion	Forfait	1 500,00 MAD	2	3 000,00 MAD
Arrosage (1 an, 10 fois/an)	Jour	1 400,00 MAD	10	14 000,00 MAD
Indemnités frais facilitateur Peace Corps (déplacements & hébergement douars)	Forfait	150,00 MAD	8	1 200,00 MAD
Coordination / Suivi chargé de projet - quote part indemnités	%	89 970,78 MAD	10%	8 997,08 MAD
Ateliers pratiques hommes + femmes exploitation haies végétaives				10 698,54 MAD
Déplacements technicien DREFLCD site projet (1 personne,1 jour par douar)	Forfait	500,00 MAD	2	1 000,00 MAD
Consultant local animation communautaire AADEC	Jour	1 000,00 MAD	2	2 000,00 MAD
Petite restauration : thé, café, gâteaux...	Jour	1 000,00 MAD	2	2 000,00 MAD
Location salle	Jour	300,00 MAD	2	600,00 MAD
Indemnités frais facilitateur Peace Corps (déplacements & hébergement douars)	Forfait	150,00 MAD	4	600,00 MAD
Coordination / Suivi chargé de projet - quote part indemnités	%	89 970,78 MAD	5%	4 498,54 MAD
Réunions de négociations avec acteurs locaux et régionaux (Azilal)				7 648,54 MAD
Location salle (1 jour)	Jour	300,00 MAD	1	300,00 MAD
Déplacement FZE (voyage, hébergement, restauration) 2j	Personne	850,00 MAD	1	850,00 MAD

Honoraires CRF pour Suivi des expérimentation in situ							
						7 000,00 MAD	
						1 050,00 MAD	
Plantations Arbres et arbustes production bois et feuilles - 11 500 ml total 2 douars / 10 pers							
			60 000,00 MAD				
						8 000,00 MAD	
						2 500,00 MAD	
25 000,00 MAD							
7 000,00 MAD							
			6 000,00 MAD				
7 000,00 MAD							
						3 000,00 MAD	
14 000,00 MAD							
						1 200,00 MAD	
							8 997,08 MAD
Ateliers pratiques hommes + femmes exploitation haies végétaives							
			1 000,00 MAD				
						2 000,00 MAD	
						2 000,00 MAD	
600,00 MAD							
						600,00 MAD	
							4 498,54 MAD
Réunions de négociations avec acteurs locaux et régionaux (Azilal)							
						300,00 MAD	
						850,00 MAD	

Déplacement représentants Groupements villageois 2 douars (AR en 4*4)	Personne	700,00 MAD	2	1 400,00 MAD
Indemnités frais facilitateur Peace Corps (déplacements & hébergement douars)	Forfait	150,00 MAD	4	600,00 MAD
Coordination / Suivi chargé de projet - quote part indemnités	%	89 970,78 MAD	5%	4 498,54 MAD
Sous-Total				415 491,23 MAD

2 - Volet renforcement de la résilience de l'écosystème par fourrages alternatifs

Parcelles fourrages alternatifs - 6 ha total 2 douars / 15 pers pour travaux communautaires **106 337,08 MAD**

Implantation des cultures (6 ha pour les 2 douars)

Déplacements technicien DPA site projet (1 personnes, 1 jour par douar/6 visites)	Forfait	500,00 MAD	32	16 000,00 MAD
Location équipements / outils	Forfait / j	500,00 MAD	11	5 500,00 MAD
Matériel de plantation : plants Atriplex (densité 500 / ha)	Unité	1,50 MAD	3 000	4 500,00 MAD
Production des plants (3300) : achat substrat, sachets, intrants	Forfait	8 000,00 MAD	1	8 000,00 MAD
Matériel de plantation : semis fourrages alternatifs graminées	Ha	1 000,00 MAD	6	6 000,00 MAD
Transport du matériel sur site	Forfait	1 500,00 MAD	1	1 500,00 MAD
Location parcelles tests (hyp : 5000dh/ha/an)	Mois	30 000,00 MAD	1	30 000,00 MAD
Préparation des parcelles (travaux du sol : 5j/ha)	Jour	373,33 MAD	30	11 200,00 MAD
Travaux de plantations /semis (1j/ha)	Jour	373,33 MAD	6	2 240,00 MAD
Récolte (5j/ha)	Jour	373,33 MAD	30	11 200,00 MAD
Indemnités frais facilitateur Peace Corps (déplacements & hébergement douars)	Forfait	150,00 MAD	8	1 200,00 MAD
Coordination / Suivi chargé de projet - quote part indemnités	%	89 970,78 MAD	10%	8 997,08 MAD

Ateliers pratiques hommes + femmes fourrages alternatifs **10 698,54 MAD**

Déplacements technicien DPA site projet (1 personne, 1 jour par douar)	Forfait	500,00 MAD	2	1 000,00 MAD
Consultant local animation communautaire AADEC	Jour	1 000,00 MAD	2	2 000,00 MAD
Petite restauration : thé, café, gâteaux...	Jour	1 000,00 MAD	2	2 000,00 MAD
Location salle	Jour	300,00 MAD	2	600,00 MAD

					1 400,00 MAD		
					600,00 MAD		
					4 498,54 MAD		
93 800,00 MAD	0,00 MAD	187 000,00 MAD	0,00 MAD	0,00 MAD	101 895,62 MAD	19 300,00 MAD	13 495,62 MAD

2 - Volet renforcement de la résilience de l'écosystème par fourrages alternatifs

Parcelles fourrages alternatifs - 6 ha total 2 douars / 15 pers pour travaux communautaires

Implantation des cultures (6 ha pour les 2 douars)

	16 000,00 MAD						
						5 500,00 MAD	
		4 500,00 MAD					
						8 000,00 MAD	
	6 000,00 MAD						
						1 500,00 MAD	
30 000,00 MAD							
11 200,00 MAD							
2 240,00 MAD							
11 200,00 MAD							
						1 200,00 MAD	
							8 997,08 MAD

Ateliers pratiques hommes + femmes fourrages alternatifs

	1 000,00 MAD						
						2 000,00 MAD	
						2 000,00 MAD	
600,00 MAD							

Indemnités frais facilitateur Peace Corps (déplacements & hébergement douars)	Forfait	150,00 MAD	4	600,00 MAD
Coordination / Suivi chargé de projet - quote part indemnités	%	89 970,78 MAD	5%	4 498,54 MAD
Production compost organique local				32 197,08 MAD
Achat broyeur pour production compost	prix	10 000,00 MAD	2	20 000,00 MAD
Transport broyeurs	Forfait	1 000,00 MAD	2	2 000,00 MAD
Indemnités frais facilitateur Peace Corps (déplacements & hébergement douars)	Forfait	150,00 MAD	8	1 200,00 MAD
Coordination / Suivi chargé de projet - quote part indemnités	%	89 970,78 MAD	10%	8 997,08 MAD
Ateliers pratiques hommes + femmes compost				9 698,54 MAD
Déplacements technicien DPA site projet (1 personne, 1 jour par douar)	Forfait	500,00 MAD	2	1 000,00 MAD
Consultant local animation communautaire AADEC	Jour	1 000,00 MAD	2	2 000,00 MAD
Petite restauration : thé, café, gâteaux...	Jour	500,00 MAD	2	1 000,00 MAD
Location salle	Jour	300,00 MAD	2	600,00 MAD
Indemnités frais facilitateur Peace Corps (déplacements & hébergement douars)	Forfait	150,00 MAD	4	600,00 MAD
Coordination / Suivi chargé de projet - quote part indemnités	%	89 970,78 MAD	5%	4 498,54 MAD
Sous-Total				158 931,23 MAD
3 - Volet mobilisation communautaire et renforcement des capacités				
Réunion démarrage acteurs du projet + formation associations locales aux activités du projet				15 858,54 MAD
Intervention expert CC 1/2 journée + frais déplacement/hébergement	Forfait	6 000,00 MAD	1	6 000,00 MAD
Déplacement FZE Azilal (3 nuits)	Forfait/ personne	1 180,00 MAD	2	2 360,00 MAD
Déplacement représentants Assos locales Azilal	Forfait	200,00 MAD	2	400,00 MAD
Restauration participants	Personnes	100,00 MAD	15	1 500,00 MAD
Salle de réunion	Jour	500,00 MAD	1	500,00 MAD
Indemnités frais facilitateur Peace Corps (déplacements & hébergement douars)	Forfait	150,00 MAD	4	600,00 MAD

							600,00 MAD	
								4 498,54 MAD
Production compost organique local								
						20 000,00 MAD		
						2 000,00 MAD		
						1 200,00 MAD		
						8 997,08 MAD		
Ateliers pratiques hommes + femmes compost								
	1 000,00 MAD							
						2 000,00 MAD		
						1 000,00 MAD		
600,00 MAD								
						600,00 MAD		
						4 498,54 MAD		
55 840,00 MAD	24 000,00 MAD	4 500,00 MAD	0,00 MAD	0,00 MAD	40 295,62 MAD	20 800,00 MAD	13 495,62 MAD	
3 - Volet mobilisation communautaire et renforcement des capacités								
Réunion démarrage acteurs du projet + formation associations locales aux activités du projet								
							6 000,00 MAD	
							2 360,00 MAD	
							400,00 MAD	
							1 500,00 MAD	
					500,00 MAD			
							600,00 MAD	

Coordination / Suivi chargé de projet - quote part salaire	%	89 970,78 MAD	5%	4 498,54 MAD
Formation équipe d'animation aux techniques participatives projet CBA - partie 1 (1j, Azilal)				1 700,00 MAD
Hébergement facilitateur Peace Corps Azilal (2 nuits)	Jour	200,00 MAD	2	400,00 MAD
Restauration équipe d'animation projet CBA + formateurs	Personne	100,00 MAD	8	800,00 MAD
Salle de réunion	Jour	500,00 MAD	1	500,00 MAD
Formation équipe d'animation aux techniques participatives projet CBA - partie 2 (5j,Rabat)				14 720,00 MAD
Déplacements équipe d'animation AR (azilal - rabat)	Personne	360,00 MAD	7	2 520,00 MAD
Hébergement équipe d'animation 5 nuits	Personne	1 000,00 MAD	7	7 000,00 MAD
Restauration équipe d'animation + FZE 5 jours	Personne	600,00 MAD	8	4 800,00 MAD
Déplacement FZE Rabat	Jour	100,00 MAD	4	400,00 MAD
Logistique formations techniques Groupements Villageois de Gestion Durable de la Forêt (8 jours pour chaque douar : 16 jours total)				129 607,05 MAD
Petite fournitures	Personne	50,00 MAD	50	2 500,00 MAD
Location salle	Jour	300,00 MAD	8	2 400,00 MAD
Fourniture appareil photo numérique	Nombre	2 000,00 MAD	2	4 000,00 MAD
Formation Groupements Villageois de Gestion Durable de la Forêt sur gestion durable de la foret (douars, 2 j en deux fois 1 jour)				
Consultant local animation communautaire AADEC	Jour	1 000,00 MAD	4	4 000,00 MAD
Déplacements technicien DREFLCD (1 personne,2 jourspar douar)	Forfait	500,00 MAD	4	2 000,00 MAD
Nourriture Formation	Jour	1 000,00 MAD	4	4 000,00 MAD
Cuisinières	Jour	140,00 MAD	2	280,00 MAD
Indemnités frais facilitateur Peace Corps (déplacements & hébergement douars)	Forfait	150,00 MAD	4	600,00 MAD
Coordination / Suivi chargé de projet - quote part indemnités	%	89 970,78 MAD	5%	4 498,54 MAD
Formation Groupements Villageois de Gestion Durable de la Forêt sur agriculture conservatoire (douars, 4 j en deux fois 2 jours)				
Honoraires consultant agriculture conservatoire (étude et recommandations fourrages alternatifs et savoirs faire traditionnels fourrages, adaptation supports formation au contexte local, animation ateliers pratiques fourrages, compost, animation formation	Forfait	78 571,43 MAD	1	78 571,43 MAD
Consultant local animation communautaire AADEC	Jour	1 000,00 MAD	8	8 000,00 MAD
Nourriture Formation	Jour	1 000,00 MAD	8	8 000,00 MAD
Cuisinières	Jour	140,00 MAD	4	560,00 MAD

									4 498,54 MAD
Formation équipe d'animation aux techniques participatives projet CBA - partie 1 (1j, Azilal)									
								400,00 MAD	
								800,00 MAD	
						500,00 MAD			
Formation équipe d'animation aux techniques participatives projet CBA - partie 2 (5j,Rabat)									
								2 520,00 MAD	
								7 000,00 MAD	
								4 800,00 MAD	
								400,00 MAD	
Logistique formations techniques Groupements Villageois de Gestion Durable de la Forêt (8 jours pour chaque douar : 16 jours total)									
								2 500,00 MAD	
2 400,00 MAD									
								4 000,00 MAD	
Formation Groupements Villageois de Gestion Durable de la Forêt sur gestion durable de la foret (douars, 2 j en deux fois 1 jours)									
								4 000,00 MAD	
						2 000,00 MAD			
								4 000,00 MAD	
280,00 MAD									
								600,00 MAD	
									4 498,54 MAD
Formation Groupements Villageois de Gestion Durable de la Forêt sur agriculture conservatoire (douars, 4 j en deux fois 2 jours)									
								78 571,43 MAD	
								8 000,00 MAD	
								8 000,00 MAD	
560,00 MAD									

Indemnités frais facilitateur Peace Corps (déplacements & hébergement douars)	Forfait	150,00 MAD	8	1 200,00 MAD
Coordination / Suivi chargé de projet - quote part indemnités	%	89 970,78 MAD	10%	8 997,08 MAD
Sensibilisation communautaire et ateliers de concertation avec la population des douars : 4 ateliers (H + F)				54 447,08 MAD
Fournitures Ateliers (4)				
Petite fournitures et café/thé/gâteaux (50 femmes et hommes par douar)	Atelier	500,00 MAD	8	4 000,00 MAD
Logistique				
Location salle dans chaque douar (2 douars)	Jour	300,00 MAD	8	2 400,00 MAD
GPS	Prix	16 650,00 MAD	1	16 650,00 MAD
Consultant local animation communautaire AADEC	Jour	1 000,00 MAD	8	8 000,00 MAD
Indemnités frais facilitateur Peace Corps (déplacements & hébergement douars)	Forfait	150,00 MAD	8	1 200,00 MAD
Coordination / Suivi chargé de projet - quote part indemnités	%	89 970,78 MAD	10%	8 997,08 MAD
conception ateliers Sensibilisation et formations communautaires				
Frais de reproduction Guide de l'animateur + supports animation	Forfait	50,00 MAD	200	10 000,00 MAD
Ateliers Enfants (2)				
Petite fournitures et café/thé/gâteaux (50 enfants)	Atelier	500,00 MAD	4	2 000,00 MAD
Location salle dans chaque douar (2 douars)	Jour	300,00 MAD	4	1 200,00 MAD
Sous-Total				216 332,66 MAD
4 - Volet valorisation activités et capitalisation				
Développement d'AGR valorisation produits forêt				44 285,71 MAD
Honoraires bureau d'étude étude faisabilité AGR + diagnostic participatif dans les 2 douars	Forfait	30 000,00 MAD	1	30 000,00 MAD
Animation atelier renforcement de l'approche genre (2 par douar) : sélection des AGR et montage des AGR	Forfait	3 571,43 MAD	4	14 285,71 MAD

								1 200,00 MAD	
									8 997,08 MAD
Sensibilisation communautaire et ateliers de concertation avec la population des douars : 4 ateliers (H + F)									
Fournitures Ateliers (4)									
								4 000,00 MAD	
Logistique									
2 400,00 MAD									
								16 650,00 MAD	
								8 000,00 MAD	
								1 200,00 MAD	
									8 997,08 MAD
conception ateliers Sensibilisation et formations communautaires									
								10 000,00 MAD	
Ateliers Enfants (2)									
								2 000,00 MAD	
1 200,00 MAD									
6 840,00 MAD	0,00 MAD	2 000,00 MAD	0,00 MAD	1 000,00 MAD	0,00 MAD			179 501,43 MAD	26 991,23 MAD
4 - Volet valorisation activités et capitalisation									
Etude de faisabilité économique									
								30 000,00 MAD	
									14 285,71 MAD

Formation Gestion de projet + Gestion économique (douar) 2*2 jours					48 469,97 MAD
Fournitures Formation					
Petite fournitures et café/thé/gâteaux (20 femmes par douar)	Personne	50,00 MAD	40	2 000,00 MAD	
Animation modules formation					
Honoraires formateur AGR	Forfait	3 571,43 MAD	8	28 571,43 MAD	
Consultant local animation communautaire AADEC	jour	1 000,00 MAD	8	8 000,00 MAD	
Restauration douar équipe animation (formateur + AADEC)	Jour	300,00 MAD	8	2 400,00 MAD	
Logistique					
Location salle	Jour	300,00 MAD	8	2 400,00 MAD	
Indemnités frais facilitateur Peace Corps (déplacements & hébergement douars)	Forfait	150,00 MAD	4	600,00 MAD	
Coordination / Suivi chargé de projet - quote part indemnités	%	89 970,78 MAD	5%	4 498,54 MAD	
Evaluation du projet CBA					95 057,14 MAD
Travaux AADEC d'évaluation continue / rédaction CR + rapports d'activité	Jour	1 000,00 MAD	42	42 000,00 MAD	
Honoraires évaluateur externe	Forfait	42 857,14 MAD	1	42 857,14 MAD	
Consultant local animation communautaire AADEC (2 ateliers participatifs ERV + évaluation du projet dans chaque douar)	jour	1 000,00 MAD	4	4 000,00 MAD	
Petite restauration café/thé/gâteaux	Forfait	500,00 MAD	4	2 000,00 MAD	
Déplacement équipe FZE réunion évaluation interne avec équipe de coordination et d'animation locale et visite de terrain	Forfait	1 050,00 MAD	2	2 100,00 MAD	
Déplacement équipe FZE Comité de Pilotage	Forfait	1 050,00 MAD	2	2 100,00 MAD	
Atelier régional de capitalisation et de partage					9 550,00 MAD
Déplacement équipe FZE	Forfait	1 350,00 MAD	1	1 350,00 MAD	
Consultant local animation communautaire AADEC	jour	1 000,00 MAD	2	2 000,00 MAD	
Location 4*4 déplacement des participants	Jour	700,00 MAD	2	1 400,00 MAD	
Impression posters projet	Forfait	900,00 MAD	2	1 800,00 MAD	
restauration 2 douars	Forfait	1 500,00 MAD	2	3 000,00 MAD	

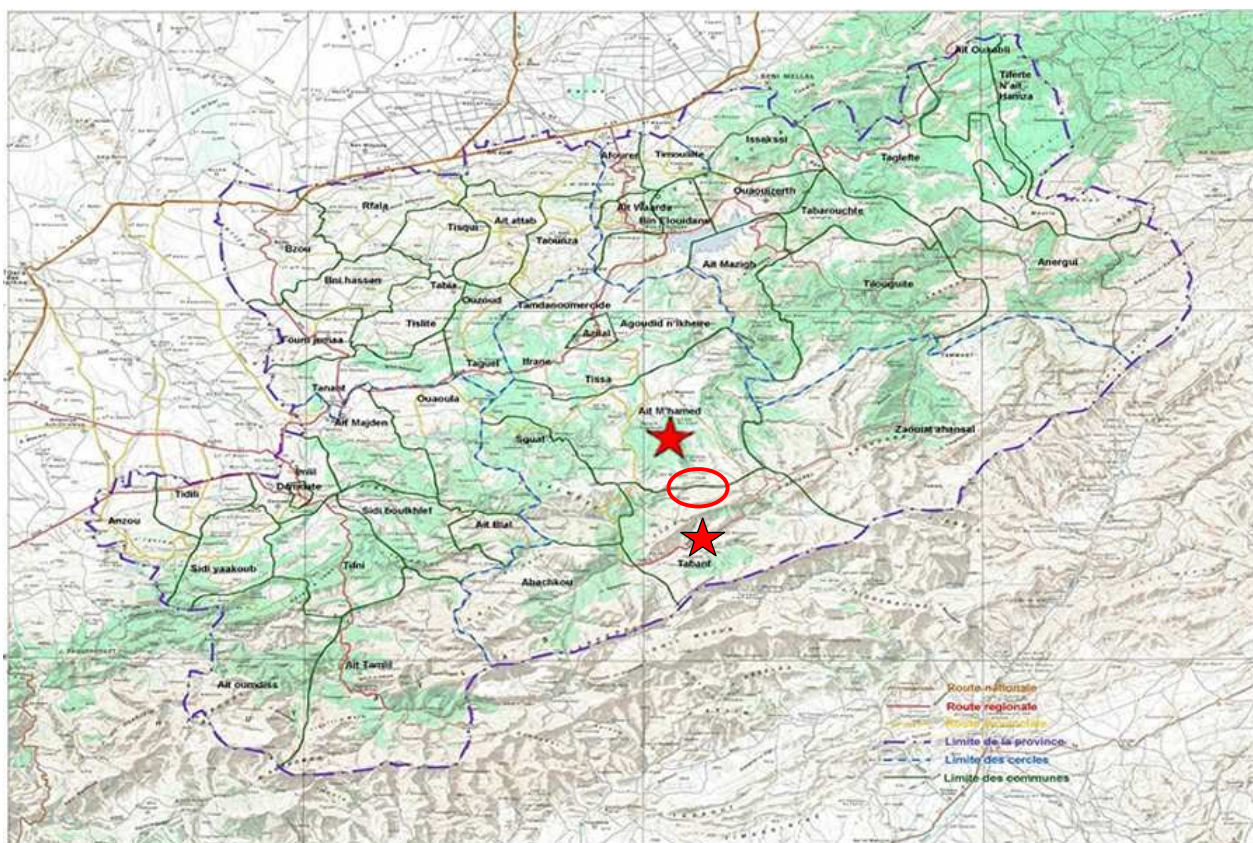
Formation Gestion de projet + Gestion économique (douar) 2*2 jours							
Fournitures Formation							
						2 000,00 MAD	
Animation modules formation							
						28 571,43 MAD	
						8 000,00 MAD	
						2 400,00 MAD	
2 400,00 MAD							
						600,00 MAD	
							4 498,54 MAD
Evaluation du projet							
				42 000,00 MAD			
						42 857,14 MAD	
						4 000,00 MAD	
						2 000,00 MAD	
						2 100,00 MAD	
						2 100,00 MAD	
Atelier régional de capitalisation et de partage							
						1 350,00 MAD	
						2 000,00 MAD	
						1 400,00 MAD	
						1 800,00 MAD	
						3 000,00 MAD	

Support de communication pour résultats					Support de communication pour résultats								
Production support					Production support								
Impression brochure thématique Ecosysteme forestier	Prix	10,00 MAD	500	5 000,00 MAD						5 000,00 MAD			
Impression brochure thématique Fourrages alternatifs	Prix	10,00 MAD	500	5 000,00 MAD						2 500,00 MAD	2 500,00 MAD		
Impression posters	Prix	900,00 MAD	2	1 800,00 MAD						900,00 MAD	900,00 MAD		
Infographiste	Mois	5 321,00 MAD	1	5 321,00 MAD						2 660,50 MAD	2 660,50 MAD		
Conception des contenus éditoriaux AADEC/FZE	Jour	1 000,00 MAD	5	5 000,00 MAD					5 000,00 MAD				
Consultant local animation communautaire AADEC : 2 ateliers de restitution et de validation communautaire des travaux de supports de communication Fourrages et Forêt	Forfait	1 000,00 MAD	4	4 000,00 MAD						4 000,00 MAD			
Petite restauration : thé, café, gâteaux...	Forfait	500,00 MAD	4	2 000,00 MAD						2 000,00 MAD			
Indemnités frais facilitateur Peace Corps (déplacements & hébergement douars)	Forfait	150,00 MAD	4	600,00 MAD						600,00 MAD			
Coordination / Suivi chargé de projet - quote part indemnités	%	89 970,78 MAD	5%	4 498,54 MAD						4 498,54 MAD			
Sous-Total				230 582,36 MAD	2 400,00 MAD	0,00 MAD	0,00 MAD	0,00 MAD	47 000,00 MAD	52 159,04 MAD	124 524,79 MAD	4 498,54 MAD	
SOUS-TOTAL RESULTATS 1, 2, 3 ET 4					158 880,00 MAD	24 000,00 MAD	193 500,00 MAD	120 320,00 MAD	48 000,00 MAD	194 350,27 MAD	344 126,21 MAD	123 563,02 MAD	
Majoration de compensation des variations taux de change \$: 1%											3 441,26 MAD		
Frais de fonctionnement siège : 7%										13 604,52 MAD	24 088,83 MAD		
TOTAL COUTS					158 880,00 MAD	24 000,00 MAD	193 500,00 MAD	120 320,00 MAD	48 000,00 MAD	207 954,79 MAD	371 656,31 MAD	123 563,02 MAD	
Total coûts en USD (taux 1USD = 8.24 MAD - octobre 2011)					19 281.55 USD	2 912.62 USD	23 483.01 USD	14 601.94 USD	5 825.24 USD	25 237.23 USD	45 103.92 USD	14 995.51 USD	

6.0 ANNEXES

6.1 Pièces obligatoires

a.) Carte de localisation du site de projet.



b.) Dernières attestations financières officielles et certifiées conformes : voir pièce jointe

c.) Curriculum Vitae sommaire du coordinateur de projet et de la personne responsable du suivi financier.



CURRICULUM VITAE

Julie Gassien

Directrice Pôle Environnement

Née le : 19/07/1981

Nationalité : Française

Courriel : j.gassien@zakoura-education.org

Tél : +212 (0)5 22 29 73 30 / Mob: +212 (0) 6 14 11 00 37

Fax: +212 (0)5 22 26 47 77

EXPERIENCES PROFESSIONNELLES

Fondation Zakoura Education : Responsable Direction Environnement

Depuis le 15/03/2010

- Création et développement d'un pôle Environnement au sein de la Fondation
- Gestion de projets : conception, diagnostic terrain, prospection, recherche de financements et développement des projets
- sensibilisation et éducation à l'environnement (enfants, grand public, entreprises et associations)
- Projets opérationnels locaux
- Recherche de partenaires : prospection, formulaires et conceptions budgétaires, réponses aux appels d'offre (dont internationaux) pour bailleurs multiples (institutionnels nationaux ou internationaux, privés)
- Conception des supports de communication

Agences d'urbanisme et paysage (France) : Environnementaliste et chargée de projets

19/12/2005
12/03/2010

au

- Gestion de projets : préparation des dossiers de réponse aux appels d'offre, estimations budgétaires, coordination des équipes et évaluation.
- Etudes d'Impact des projets et Evaluation Environnementale des documents de planification.
- Assistance à Maîtrise d'Ouvrage et Maîtrise d'œuvre Urbaine, dont conception d'un éco-quartier
- Etudes de Prospective territoriale : Diagnostics territoriaux et projets de développement durable des territoires

ICARDA (CGIAR) - International Center for Agricultural Research in the Dry Areas (Syrie) : stagiaire

2004
(6 mois)

- Evaluation de la dégradation des sols par télédétection et caractérisation agro-environnementale.
- Intégration au sein du Natural Resources Management Program visant l'amélioration de la productivité des systèmes agraires (irrigation, productions végétales et animales) et la promotion de pratiques agricoles durables.

IRD - Institut de Recherche pour le Développement (sénégal) : stagiaire

2001
(3 mois)

- Evaluation de l'effort de pêche en Gambie par traitement d'enquêtes et visites de terrain.
- Intégration au sein du programme Evaluation des pressions sur les ressources halieutiques en Afrique de l'Ouest.

FORMATIONS ET DIPLOMES

Formations professionnelles	<ul style="list-style-type: none">• Bilan Carbone® Entreprises et Collectivités (ADEME) - 2009• Procédure d'Évaluation Environnementale (ENGREF) – 2006
2002/2005	ECOLE NATIONALE D'INGENIEURS DES TRAVAUX AGRICOLES (Bordeaux) Spécialisation Gestion Durable des Espaces : formation pluridisciplinaire agronomie, environnement et aménagement du territoire.
2004	UNIVERSITE DE WAGENINGEN (Netherlands) Master Environnement et Développement durable
2000/2002	DIPLOME D'ETUDES UNIVERSITAIRES GENERALES - PARIS VI Filière Sciences de la Vie et prépa concours

COMPETENCES

Langues	Français : langue maternelle Anglais : courant
Bureautique	Systèmes d'Information Géographique (Arcview, ArcGIS, MapInfo) Traitement d'images (Adobe Illustrator, Photoshop) Création d'un site internet (Joomla) traitement de texte, tableurs, et Power point

DIVERS

Milieu associatif	Création d'une Association pour le Maintien de l'Agriculture Paysanne : l'AMAP du Haricot Magique, Paris Membre de l'Association Française des Ingénieurs Ecologues
Intervention pour colloques	<ul style="list-style-type: none">• Groupe de travail de l'UICN : "Collectivités et Biodiversité" - 22/02/2008• Journée thématique de l'Observatoire Départemental de la Biodiversité Urbaine 93 : "Biodiversité et Urbanisme/Aménagement" - 19/06/2008
Autres	Brevet d'Aptitude aux Fonctions d'Animateur, BAFA. Obtenu en Novembre 2000.



CURRICULUM VITAE

Saloua BENYELLOUL

Directrice Pôle Financier et Administratif

Née le : 06/03/1979

Nationalité : Marocaine

Courriel : s.benyelloul@zakoura-education.org

Tél : +212 (0)5 22 29 73 30 / Mob: +212 (0)6 60 15 28 99

Fax: +212 (0)5 22 26 47 77

EXPERIENCES PROFESSIONNELLES

Fondation Zakoura Education : Responsable Administrative et Financière

Depuis le 13 /01/2004
(7 années d'expérience)

- Elaboration des budgets et suivi budgétaire des projets de la FZE ;
- Suivi et supervision de la comptabilité ;
- Mise en place d'une comptabilité analytique par projet ;
- Gestion de la trésorerie ;
- Recouvrement ;
- Gestion de la paie ;
- Elaboration des rapports financiers des bailleurs de fonds nationaux et internationaux;
- Elaboration des travaux d'inventaire (analyse des comptes, écritures d'inventaire,...) et des états de synthèse.
- Gestion des immobilisations
- Rédaction des manuels de procédures
- Gestion de la relation avec les fournisseurs
- Elaboration et suivi des règlements
- Relation avec les auditeurs

Du 05/05/2003 au
30/08/2003

Agence AXA assurances en France (Tours) : Stagiaire

Chargée de mission vie : suivi et commercialisation des contrats d'assurance vie.

FORMATIONS ET DIPLOMES

2002- 2003

DESS Banque et Finance de l'université François Rabelais à Tours.

Rapport de stage sous le thème « Assurance Vie : Contrat Figures Libres ».

Diplôme BAC+4 Option : génie financier à l'Institut Supérieur du Génie Appliqué.

1999- 2002

Mémoire de fin d'études sous le thème « la mise à niveau de l'entreprise marocaine dans la perspective de la zone de libre échange avec l'Europe »

1997-1998

Baccalauréat série Sciences expérimentales au Lycée IMAM MALIK.

COMPETENCES

Langues

Français : lu, parlé, écrit.

Arabe : lu, parlé, écrit.

Anglais : notions

Bureautique

Maîtrise du logiciel de la comptabilité « Sage » et du logiciel de la paie « Al fahim »

Maîtrise des logiciels de traitement de texte, tableurs, et de Power point

DIVERS

Loisirs

Lecture, voyages.

- d.) Termes de références détaillés des consultants qui seront recrutés pour ce projet : voir pièce jointe
- e.) Document/Lettre portant preuve de l'approbation des cofinancements : voir pièce jointe
- f.) Photographies prises lors des réunions communautaires préparatoires au projet, et photographies de la zone de projet.



Préparation et formation de l'équipe d'animation à la méthodologie ERV



Atelier ERV Swit Aït Ounir



Atelier ERV Swit Aït Ounir



Atelier ERV Sremt



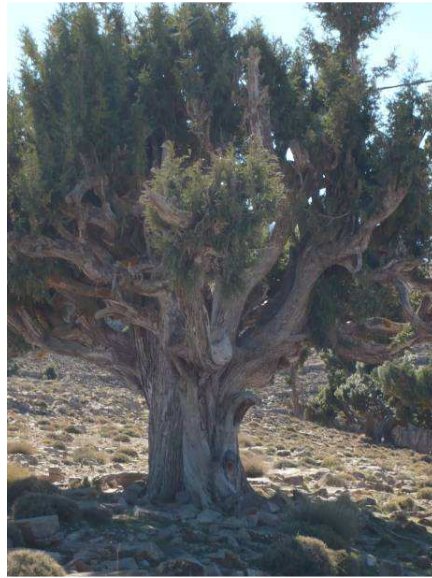
Atelier ERV Sremt



Atelier ERV Sremt



Répartition des usages territorial : parcelles cultivées en fond de vallée, forêt sur versants et crête (Sremt)



Genévrier thurifère (thuriféraie de Swit Aït Ounir)



Signes d'érosion des sols