Community-Based Adaptation
Morocco

Full Proposal

PROPOSAL SUMMARY

Project Title	Strengthening the resilience of the Sidi Majbeur mountain ecosystem and reinforcing the community's adaptive capacities to increasingly erratic rainstorms and diminishing overall rainfall, through erosion control, conservation farming and income diversification, based on pilot vetiver application.
Project Site	Sidi Majbeur, Rural Commune Bab Boudir Tazekka National Park, Taza Province, Morocco
Proponent	Association for Environment and Development in Sidi Majbeur Sidi Majbar Bab Marzouka 35000 Taza Maroc
Authorized Representatives	President of the Association: Ahmed Grmat, Tel. +212-6-10-95-42-24
Cooperating Organizations	**US Peace Corps Morocco** Laurel SELLERS Peace Corps Volunteer in Sidi Majbeur Tel. + 212-6-59-35-28-55 Email. laurel.sellers@gmail.com Mohssine TADLAOUI Environment Coordinator Email. MTadlaoui@MA.peacecorps.gov **WATER AND FOREST DEPARTMENT TAZA / TAZEKKA NATIONAL PARK** Aziz Rahmouni, Water and Forestry Environmental Education Coordinator, Tazekka National Park Tel. + 212-6-61-61-39-29, Email. aziz_andy2000@yahoo.fr **GTZ** Mohamed Boussaid Tel. + 212-6-61-29-63-72 Email. Mohamed.Boussaid@gtz.de
Project Dates	October 2010 to May 2012

Total Project Cost	566 496 MAD / 67 925 USD
Amount Requested from CBA	278 100 MAD / 33 345 USD
Co-financing	Community Contribution (in-kind): 114 130 MAD / 13 684.65 USD GTZ: in kind : 6 800 MAD / 815.35 USD and in cash : 88 166 MAD / 10 571.46 USD Water and Forestry (in kind) : 40 750 MAD / 4 886.09 USD Peace Corps (in kind) : 25 350 MAD / 3 039.57 USD American International Women's Club (in cash): 10 500 MAD/1 258.99 USD Direction Provinciale Agriculture (in kind): 1 500 MAD / 179.86 USD Crop Development Vetiver Nursery (in kind): 1 200 MAD / 143.88 USD
Project Objective	The project objective is to reinforce the resilience of the local ecosystem and strengthen the adaptation capacities of the Sidi Majbeur community in the face of increasingly severe rainstorms and decreasing overall rainfall. This situation has led to increased erosion and land degradation in the ecosystem. The project is based on the pilot application of vetiver, in combination with fruit trees, and on the establishment of better practices to retain top soil, rehabilitate farmable lands, and diversify and increase income.
Brief Project Description	Sidi Majbeur is a small village of 350 people, located in the foothills of the Middle Atlas Mountains, at an altitude of 1200 m. The village is adjacent to Tazekka National Park and easily accessed by a paved road. The area is composed of green oak (endemic) and pine (planted as a reforestation effort), mixed with juniper and various shrubs. The main livelihood in the Sidi Majbeur community is subsistence farming, within the confines of this mountain valley and nearby Chiker valley. Local agriculture is organized on traditional terraces, maintained by irrigation canals. Most farmers use natural fertilizers and traditional farming methods. The main productions are: cereals (wheat), fruits (especially olive, prunes, quince, and apricots), nuts, and some vegetables (peas, tomatoes, and peppers). The most important and visible environment issue in the area is land degradation and erosion. All around the village, there are gullies and ravines, that current gabions cannot prevent (gabions are by-passed by the heavy rains, or destroyed by the rain). Erosion in the area is caused from multiple sources: climatic (stronger and stronger rains) and anthropogenic (deforestation, maladapted farming practices). The local climate is Mediterranean, with hot and dry summers and cold and humid winters. But this baseline climate has been changing and is expected to change even more in the future, according to the Initial National Communication to the UNFCCC. Intensity of rain has been noticeably increasing for the last 10 years. It has been raining a great deal for the past 2 years causing the river to flood. In the past, it used to rain from September to May, in small but regular amounts. Rain is becoming more and more irregular and unpredictable, and more intense. Parallel to that, droughts are becoming more intense and more frequent. The main livelihoods (farming and grazing) are impacted by climate risks, which puts even more pressure on the local forest environment, and generates exodus, as families struggle to face decreasing incomes. Roads

	and critical infrastructures are also impacted, which puts pressure on the local community (education, trade, economy, social ties). The community's livelihood relies mostly on the ecosystem, but at the sam time, the community ensures the functioning of the ecosystem, by managing the resources. There is therefore a strong interaction between the community and the ecosystem. The project will increase the resilience of the local ecosystem in the face of these changes, by combating erosion and regenerate degraded soils, through the pilot implementation of vetiver, in combination with fruit trees, and complemented by locally tested resilient farming techniques. Vetiver will be applied, as a natural innovation to combat erosion, to fixate and regenerate degraded soils. It will be planted in one pilot mountain site, in combination with fruit trees and beekeeping. Besides, a farming site will be developed and rehabilitated with implementation of conservation farming techniques, including drip-irrigation, contour farming, soil stabilization, using fruit trees. A comprehensive capacity-building programme will be carried on, to foster ownership of the techniques, and to strengthen the local adaptive capacities. It will include income generating activities, based on vetiver cultivation, beekeeping and fruit production. Monitoring and promotion of lessons learned will be on-going, with the mobilization of a youth reporting group, the production of communication tools, including a technical vetiver cultivation manual. This will facilitate further dissemination of the adaptation solutions in the region. Two regional workshops will be organized to ensure mainstreaming of CBA and vetiver, at the Communal and National Park level. At the community level, a community risk map will be developed to prepare future vetiver plantations, and a vetiver nursery will help disseminate and sustain the project. The inclusive mobilisation of the community is another key factor of sustainability, with a specific focus on women and youth, whose contribution to adaptation are critical. The project is supported by the Administration of Water and Forestry (WF), the US Peace Corps (PC), the German Technical Cooperation (GTZ), and the UNDP/GEF/SGP/UNV Community-Based Adaptation program (CBA).

1.0 RATIONALE

1.1 Community/Ecosystem Context

Sidi Majbeur is located 17 km south of Taza in the foothills of the Middle Atlas Mountains. The village is adjacent to Tazekka National Park and easily accessed by a paved road. The average altitude is 1200 m. The forest ecosystem is composed of green oak (endemic) and pine (planted as a reforestation effort), mixed with juniper and various shrubs. The soil is sandy without a significant humus horizon. The surrounding hillsides are extremely rocky, with the predominant mineral being shale. Large mammals are quite rare due to lack of significant prey, but there is a population of wild boar. The area is also home to numerous birds, migrant and non-migrant.

There are approximately 350 people living in Sidi Majbeur in 45 houses with a fairly even distribution of male and female. Depending on the season many men either work in the fields or subsidize their income with labor in surrounding cities. The elderly and grammar school aged children each make up about 14% of the community, while the majority of citizens are men and women between 20-40 years old. The community is Arabic speaking and of the Ghrieta tribe.

The main livelihood in the Sidi Majbeur community is subsistence farming, within the confines of this mountain valley and nearby Chiker valley. Local agriculture is organized on traditional terraces, maintained by irrigation canals. Most farmers use natural fertilizers and traditional farming methods. The main productions are: cereals (wheat), fruits (especially olive, prunes, quince, and apricots), nuts, and some vegetables (peas, tomatoes, and peppers).

Women actively participate in the farming. They are in charge of the vegetables, while men take care of the cereal crops. Only men go to the near-by market town to sell the surplus. The majority of the population is involved in animal husbandry (cows, sheep, goats, and chickens). Many households supplement their income by sending their men to the cities for work during the off- season of farming and during harvesting season.

Women attend to all the various tasks that make the household run. In addition to caring for the children and the house, women also fill water, weed the vegetable plots, and attend to the animals. The task of bringing wood might belong to the man, woman, or children depending on the needs. Usually women know best when collection of firewood is needed and who has the free time to go collect. Young girls are sent to the lower elevations where they can help harvest olives. Women process the flour and other produce to store for winter food stuffs.

From previous successful water management projects, the community has access to several wells. The wells benefit from year round potable water thanks to two streams and high charged ground water. A reservoir catches run off from a stream and overflow from a higher well. Land owners adjacent to this reservoir dug an irrigation system and share water rights.

The most important and visible environment issue in the area is land degradation and erosion. All around the village, there are gullies and ravines, that gabions don't suffice to prevent (gabions are by-passed by the heavy rains, or destroyed by the rain). Erosion has multiple causes : climatic (stronger and stronger rains) and anthropogenic (deforestation, maladapted farming practices). Its consequences are very negative, since the eroded lands are not good for farming anymore. The farmland decreases, and people are left with very little fertile land (which increases inequality, poverty and could generate maladaptive practices: struggle for land, use of chemicals to increase productivity…).

The whole community is vulnerable to climate change. Men and young boys have the opportunity to leave to find work, but those who must stay behind (women, the elderly, those unable to find work, children) are the most vulnerable. Women depending on income from grazing and farming to buy essentials constantly have to make tough decisions and to look to the forest resources for answers. Should the women decide that a home cannot be maintained under these conditions you will start to see rural exodus. The youth are very vulnerable because they are inheriting the land and the problems of their families without new ideas of how to deal with these issues. Without progressive farming and grazing techniques the youth do not have much hope to carry on this livelihood.

The project will take into account all these factors as well as the roles of each social group, so that all categories of the community are part of the project.

Men and women, youth and adults will work on specific tasks that form this project. For example, women will attend a craft/income generating workshop that uses vetiver as weaving material. Later on both men and women will be trained in bee keeping and making value added products from the hive. Youth will be in charge of raising their own vetiver nursery and reporting on the growth and interviewing the community on natural history related topics as part of a Park wide effort through the schools. An almond tree planting will take place in which men will volunteer their labor to prepare the pilot site and work further with the bees. In the spring the pilot site will be furnished with vetiver and maintained by women. In the long term, the project will foster sustainable income generation (through improved farming techniques, benefits from fruit trees and vetiver).

1.2 Current (Baseline) Climate and Risks

Local baseline climate

The Tazekka National Park, where the community is located, has a Mediterranean climate, with hot and dry summers and cold and humid winters. Protected by the surrounding mountains, Sidi Majbeur has a temperate climate, with mild temperatures. The weather fluctuates tremendously by season.

The dry season usually lasts for 3-4 months (June-September), that are quite warm and extremely dry.

Whereas the winter months from December to April can be bitterly cold with frequent rain, even snow at times (there can be 30 days of snow between October and April). Spring and fall are pleasant with warm, breezy days and cool nights.

Current climate risks

- Currently, the dry season extends from June to September. After harvest there is insufficient water retention due to the nature of the soil and lack of irrigation. The exposed soil is subjected to wind erosion until the rainy season when hydrolic erosion takes over often with a deluge of precipitation in December. Severe wind and rain is experienced from January to March.

- These events are cyclical. The intensity is steadily increasing and has been noticeably for the last 10 years. It has been raining a great deal for the past 2 years causing the river to flood. In the past, it used to rain from September to May, in small but regular amounts. Rain is becoming more and more irregular and more intense. Last year, the heavy rains have prevented the germination of the seeds, which disrupted the local agriculture. In 2010, there was particularly strong rainfalls, with severe storms that destroyed infrastructure, houses, crops, etc. Besides, it has rained during harvest (in June), which is “like a drought”, as local people say. Farmers can’t work to harvest and they lose their crops.

- Parallel to that, droughts are becoming more intense and more frequent. There was a major drought in 1984, then in 1990. At present, droughts occur almost every year. In general, the temperature overall tends to be increasing though not to an alarming degree according to the general public. These comments are not measured, rather insights from people closely tied to working with the land.

Impacts of the climate risks :

The main livelihoods (farming and grazing) are impacted by climate risks, which puts even more pressure on the local forest environment, and generates exodus, as families struggle to face decreasing incomes. Roads and critical infrastructures are also impacted, which puts pressure on the local community (education, trade, economy, social ties).

- A decrease in soil moisture and erosion of top soil reduces crop yields and available land. People become more reliant on smaller parcels of land and grazing. People take more from the forest to

feed livestock and for fire. Both genders and age groups have to search farther for available resources requiring more time and effort. This affects women and men differently in the nature of their daily routines.

- The local forestry resources are directly and indirectly impacted by climate change : climate change increases erosion, disturbs the natural regeneration processes, and contributes to diminishing biodiversity. The maladaptive practices (people using the forest as a compensation resource, as farming is less and less productive, in the face of climate change) will contribute to affect the local forest environment, and generate conflicts (between the local farmers / grazers and the National Park administration).
- Farmers and grazers are directly impacted. Farmers have decreased surplus to sell at market. Grazers have to travel farther to feed their animals, but are confronted with protected areas, which generates conflicts over grazing resources.
- Erosion washes out the roads, especially the one to the market and the one to the only school in the area. When teachers are afraid to test the roads the children lose out on an education.
- When there is intense erosion caused by winter rains, oftentimes people cannot travel within the community easily because the foot trails become washed out and muddy.

How do people cope with these events ? Current adaptation strategies

- Men are beginning to leave the village to look for employment in bigger towns, leaving their families alone. This creates more stress on the mothers to fill those roles. Sometimes whole families leave the village and desert their former homes.
- Pastoralists have to travel farther from their homes to graze their goats and sheep, putting even more pressure on the surrounding forest.
- Local solidarity is one of the responses to face climate change. The men in the community oftentimes come together to make large home repairs in the case of a roof caving in. These reflect social and family networks. Families call on relatives from out of town to work in the fields when increased labour is needed, usually youth. Since family ties are linked tightly within the community there is a strong sense of “Touiza” (= solidarity).
- Traditional knowledge and know-how are preserved. The long term plan of the villagers to deal with increased climate related risks is to implement old practices. One such practice is to dig large holes within an individual’s field to trap rain water. Their understanding of climate change in limited so until now new technologies were not sought after. The project will introduce innovations, while building on the precious local knowledge.

1.3 Future Climate Risks

- According to the Morocco’s Initial National Communication to the United Nations Framework Convention on Climate Change, the projected climate change in Morocco is (horizon 2020):
  - Increase in temperatures between 0.6 to 1.1°C
  - Decrease in overall rainfall by 4%
  - Change in rainfall patterns (in particular, winter rainfall period is projected to shorten)
  - Increase of the frequency and intensity of extreme events : droughts, storms, heat-waves...
- Cereal production is projected to decrease by 50% in dry years and 10% in normal years, and there will be a 7-12% increase for need of irrigated crops.

Local observations

- In the project region, the people have reported an increase in the frequency and intensity of storms during the winter rainy season, over the past years, that corresponds with the projections.
- However, the local community has observed that the period of rainfall is longer, not shorter, contrary to the global projections.
- According to the UNFCCC, rainfall is predicted to decrease overall by 4% by 2010. Residents of Sidi Majbeur have observed that according to their water user rights they are not able to irrigate their plots entirely, which indicates that the overall rainfall has decreased.
- In addition, the UNFCCC cites an increase in intensity and frequency in thunderstorms. Residents of the area confirm this, as they find themselves scrambling to respond to more of these occurrences using traditional means and limited resources.
- During the initial Vulnerability Reduction Assessment workshop, community members confirm that the seasons have changed ("the summer isn't the summer anymore, and the winter isn't the winter"), and that rain has become more and more irregular and unpredictable. Women have noticed that the temperatures have increased.

1.4 Impacts Context

- The changing rainfall patterns have been disastrous : in 2010, it rained during harvest, which is "like a drought", local people say: they couldn't work in the fields.
- The impacts of these changes are witnessed in the local ecosystem : increasingly frequent and severe drought and more and more violent rainfalls contribute to aggravating land degradation and erosion, which is already severe in the region.
- Land fertility is decreasing, and water resources are starting to diminish.
- These are directly impacting the local livelihood, which depends on natural resources : diminishing yield and surplus, less and less fodder for cattle, income reduction.
- Besides, extreme events (droughts, floods) destroy infrastructures (road, houses, water canals), and livelihood (cattle, crops, forest).
- Therefore, fewer families would be able to sustain their current livelihood in this region. Families would likely be forced to move (rural exodus), thus abandoning an already fragile ecosystem (which will in turn augment erosion, by lack of ecosystem management).
- Families would suffer from increased poverty forcing them to rely on the forest even more. These decisions only cause more stress on the surrounding forests and biodiversity.
- Inequalities will increase, as fertile land and water become more and more rare, generating conflicts within the community.

How would the community members deal with these events ?

- They would respond to increased storms by digging water diversion ditches. There are other old methodologies they would employ to combat such a deluge. They protect buildings by building retaining walls with available materials. If drought or less overall rainfall continues they would wait until it rains. In the meantime, they would have to irrigate only critical crops, borrow water user rights from friends and neighbours, or abandon the land. The land will likely become increasingly dry with gully formation resulting in loss of arable land.
- They wish to try new techniques, but without information they are yet to develop new strategies.
- Desperation for money increases the need for selling the forest products. For example, people illegally sell fire wood to a small degree. As people try to find ways to bolster their income this practice could increase.

- Families could be separated for longer periods of time causing stress to all the daily duties of women. Women especially will be stressed if men have to work in other areas, leaving them alone to cover more chores.
- Families would probably have to ask for money from relatives or move into their homes creating more pressure in urban sprawl.
- Water rights are determined according to a system of time and landownership. This is regulated by those sharing the water source. It is their job to maintain the irrigation system according to their allotted time for use. The system is hand-dug, so lots of water is lost due to soil permeation, with better water management and conservation techniques, the farmers should be able to work together, save the precious water and prepare for future climate change.
- On larger non-irrigated tracts of land the people could build up slight terraces, but without adapted conservation techniques this land would progressively lose its value and fertility.
- The strategies people use now to deal with their climatic risks would likely be the cause of other problems down the road if conditions worsen. For example, people dig trenches around their fields or houses to divert water during rain storms. These diversion ditches erode into deep gullies which become unusable tracts of land.

1.5 Project Approach

Baseline threats to Global Environmental Benefits (biodiversity / land degradation)

Anthropogenic pressure

- The entire valley and some of the nearby slopes have been converted to farm plots, and some farmers cultivate their land parallel to the slope, which increases erosion and decreases the water potential.
- The rest of the area is grazed thus severely cutting down the biodiversity and putting pressure on the land.
- Wood collection further stresses the forest reserves (for fuel). There is an agreement with the Water and Forestry that communities have a right to use forest resources. However, with erosion causing land degradation, income decreases, and items such as fuel, animal feed, and fencing are cut from the forest. This leads to deforestation and more erosion.
- Rubbish is separated and reused whenever possible. Any paper products are used as fire kindling. The rest of it, usually plastic containers, are burned or thrown out. The garbage eventually ends up in the river where it is sent down stream.

Baseline climate and environment pressure

- The steepness of the slopes and the ratio of sand in the soil create a natural propensity for hydrolic erosion. The climate matched with human practices exacerbates this problem. There is an ephemeral river that runs through the middle of the valley which carries natural fertilizers and soil down the mountain reducing the water quality for those living down stream from Sidi Majbeur.

Predicted climate change threats

- With increased intensity of storms and drought the current methods of combating erosion will be rendered useless, and the natural resources available to the community will diminish. Crop yields will continue to decrease, leaving people more and more vulnerable and unable to make good ecological decisions. They will rely even more on the forests for

wood, or be forced to move because of the perception of an insurmountable challenge. An impoverished community will not be able to recover from loss and damages.

Project response

- With the support of partners (GTZ / Water and Forest), the project will ***respond to baseline pressures***, by supporting and fostering sustainable sylvo-pastoral management practices. More sustainable forest maintenance and grazing management practices will be implemented with the community, thus reducing human-led erosion:

  - ***A grazing management plan will be designed and implemented by the community:***

  The members of the community will participate in the implementation of the global sylvo-pastoral scheme that has been designed at the Tazekka National Park level to sustainably manage the forest resources.

  Participants will implement the scheme at the local level of Sidi Majbeur, by regulating grazing activity according to the design.

  Forest maintenance will foster re-growth, including re-growth of fodder for grazing, which will improve the local livelihood. Since cutting will not be forbidden, but merely reorganized in a more sustainable way, the local community will be able to secure wood for their daily usage.

  - ***A livestock-farming group will be organized and trained :***

  The local pastoralists will be organized, trained and supported to foster sustainable grazing practices and livestock management. This will help avoid over grazing of the vulnerable zones and increase goat and sheep productivity. A specialized national NGO in this field is taking over the implementation of the training and organization of herders. This consultancy is financed by GTZ in the framework of the natural resource management project.

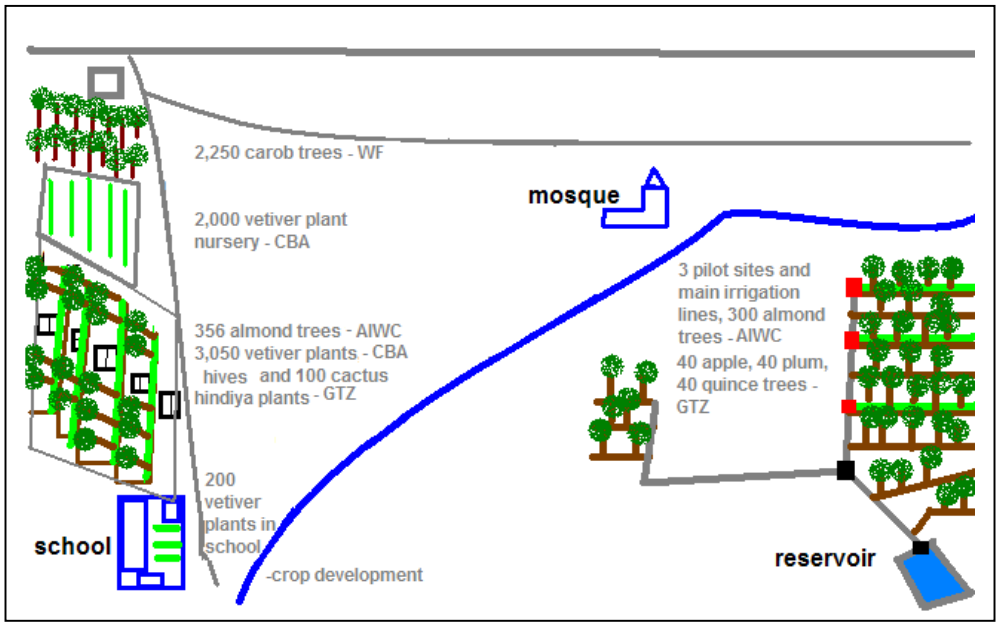
- With support from CBA, the project will ***increase the resilience of the local ecosystem***, by combating erosion and regenerate degraded soils, through the pilot implementation of vetiver, in combination with fruit trees, and complemented by pilot resilient farming techniques.

VETIVER : A LIVING TECHNOLOGY FOR ADAPTATION

Vetiver is a tropical grass, that grows a thick and deep root system. It conserves soils and moisture, and has proved a great living tool to combat erosion. It adapts to even the poorest conditions and is non-invasive. Vetiver can act as a pioneer species to return vigour to the soil by retaining top soil and moisture, and by making it available to other plants such as almond trees, which will contribute to increasing the resilience of the local ecosystem. Besides, it can be used to develop income-generating activities (craft, oils, perfume…).

Vetiver is a new living technology for erosion control because it is tolerant and resilient to flood, drought, and poor soil quality. When backfilled the plant can grow into the new cline. Drought causes this plant's roots to dig deeper into the ground which also helps slope stabilization, which in turn will allow a better and more sustainable use of land for farming. Also, vetiver will strongly protect local land, natural resources, crops and infrastructures from increasingly devastating rains and floods (it is already used as river bank riparian buffer strips in Southeast Asia in areas prone to flooding).

The project will focus on 2 main sites, where several adaptation solutions will be combined :



1- <u>REGENERATION OF A DEGRADED MOUNTAIN SITE (left-hand side of the map)</u>

A pilot mountain site that has lost its fertility and its usage, has been chosen by the community to plant vetiver. The site is organized along 4 traditional terraces (lines of approximately 70 meters each). A total of 3,050 vetiver will be planted by the community, with 8 plants per meter.

The vetiver will first of all fixate and stabilize the soil (erosion control), and will also regenerate it, thus increasing its resilience in the face of climate change. Indeed, the deep roots of the vetiver will act as a natural barrier (protection); they will adapt to the climate of the area (high adaptability); but most importantly, they will create a resilient environment for further plantings by retaining soil humidity and preparing a nourished ground.

<u>Note</u> : The vetiver plantation will be strictly and thoroughly supervised and managed. Even though vetiver is known to be non-invasive and will not colonize the local ecosystem and the indigenous plants, this project, as a pilot, will monitor and limit the vetiver to the pilot sites.

Vetiver will be planted in combination with fruit trees, especially almond trees that will consolidate the farming terraces, and contribute to soil fixation, while providing habitat for pollinators and birds.

The Almond tree (endemic traditional tree) is very well adapted to the most contrasted climatic conditions, and to mountain zones. It is resilient to drought and to cold weather, and its root system makes it a very strong asset to combat erosion, and to nurture marginalized lands.

The vetiver will create an environment that is favorable to the almond tree, and ***the pilot combination of the two species, protected by a barrier of cactus*** is expected to augment the soil and the ecosystem's regenerative capacities, thus making it more resilient to future climate change:

- They will prevent the soil from being washed away by strong rainfalls;
- They will slow down the rhythm of the water flowing from the mountain, and thus protect the lower farmlands (cereal crops);
- They will foster water infiltration and regenerate the underground water reserves.

Beehives will be installed on this site, creating a sustainable interaction between soil fertility, fruit production and biodiversity. It has been shown that beekeeping during the almond tree flowering helps increase the productivity of the trees.

On the same mountain, but in the higher altitudes, 2 250 caroub trees will be planted. The caroub tree is endemic to the region, and is one of the most resilient fruit trees. Its roots system will fixate the soil in the higher and steeply parts of the mountains, thus protecting the lands below from heavy rains. In the future, it will be a great sustainable base for income-generation.

2- IMPROVING LOCAL FARMING TECHNIQUES / PILOT FARMING SITE (right-hand side of the map)

Farming techniques will be made more resilient in the face of climate change, through a combination of pilot activities that will conserve soil and water, thus making natural resources and livelihood more resilient in the future.

A small pilot site (0.5 ha) made of small farming parcels will be used to test and experiment a combination of techniques:

- ***Drip irrigation*** will help improve water management and conservation, in anticipation of future climate change. The system will be very simple, and will build on the existing canals and water rights, so as to not disturb the traditional community organization. Drip irrigation will allow rotation of high-value crops (vegetable), and will help the farmers rationalize the water resources while generating incomes. They will conserve the water reserves and prepare for declining rainfall and increases in droughts predicted in the future.
- In combination with drip irrigation, the farmers will be supported in developing ***conservation farming techniques***, building on traditional practices that are slowly disappearing, such as traditional terraces and natural fertilization. Seed selection and crop rotation will also be tested with a view to increase the resilience of local livelihood.
- Fruit trees will be planted on these parcels, to reinforce soil fixation, and provide the farmers with sources of further income.

- ***The adaptive capacities of the community will be strengthened, through training and income diversification.***

  Ongoing capacity building with the community will give them tools to understand climate change and to adapt to its impacts. A comprehensive training programme will be implemented, using “hands-on” techniques, and directly related to the other project activities.

  The following themes will be discussed:

  - understanding climate change,
  - conservation farming practices :
    - Green manure/cover cropping
    - Seed selection
    - Water management (drip irrigation)
    - Applying fertilizer in conjunction with the drip irrigation
    - Contour farming, terracing, stream side land tracts

        - Crop rotation
    - vetiver planting and maintenance,
    - arboriculture practices will be enhanced.

The training will be implemented by resource-people, and will be organized in a way that they promote hands-on activities (instead of "in the classroom" methodology). Training will be practical and concrete and will be directly connected to the project activities, thus allowing a sustainable capacity-building. Training will take place on the pilot project sites.

Association members will also participate in site visits and CBA training organized at the national level.

New income-generating activities will be promoted through the project, to diversify income and reduce economic vulnerability.

In particular, women's adaptive capacities will be improved through specialized training and support for new and sustainable income-generating activities, based on the plantations that they will have participated in.

Vetiver and fruit trees will provide a basis for several activities that will directly benefit the community (beekeeping, almond harvesting, craft from vetiver, essential oil...). Profits from these activities will in the future help fund further vetiver plantations to combat erosion.

- Strong emphasis will be put on ***capturing the lessons learned*** from this pilot project. Indeed vetiver cultivation is an innovative strategy in Morocco, and project monitoring and follow-up will be critical for up-scaling and dissemination.
- ***Youth*** from the community will be involved in the project, and will especially have the task to ***monitor the project activities (reporters-group).*** This aims at involving young people and fostering their ownership (children / teenagers / young adults) in the project, at making them feel responsible for their village, and at promoting intergenerational communication. The group will be coordinated and supported at the beginning, but the goal is that they can be autonomous after the project and continue their activities. It will provide them with a learning experience and an opportunity to participate in a community project (with the ultimate objective of involving them further for their community).
- Besides, the group will be in charge of communicating to other youth in the region (through the school network and the National Park's Environment Club's network).
- A pedagogical vetiver site will also be created in the school and maintained by the local children and youth, in coordination with the teachers.
- ***Communication tools*** will be drawn from their work (brochure and wayside exhibit), and workshops organized, which will help promote the achievements of the project as well as the community.
- ***A technical manual will be produced on vetiver application for adaptation to climate change.***
- ***Upscaling*** of the project within the community will be prepared through the creation of a ***community risk map*** that will identify all the zones at risk in the village. The risk map will incorporate all the community group's visions, in order to make sure women's and youth's perception of the risks are taken into account, and in order to further inclusive participation for the future. The timing of further vetiver plantations will be prepared.
- Besides, a ***vetiver nursery*** will be created and managed by the association, which will allow dissemination of the plants at the regional level, as well as a ***sustainable income source*** for the association (***which will be put back towards further adaptation initiatives***).

- The association will be ***supported and trained*** on-goingly for project management, and especially for nursery management, in order to ensure sustainability of the project. It will allow the association to continue developing adaptation initiative in the future (by selling vetiver to other associations, propose technical support to other associations; and reinvest in new adaptation projects). Plus, it will be a strong basis for dissemination to other sites and other stakeholders (replication and upscaling).
- At the Commune level, the ***lessons learned will be mainstreamed into the Local Development Plan***, and the Vetiver Nursery managed by the association will provide nearby communities with plants for future projects (2000 vetiver plants / 650 m²).
- A final ***participatory evaluation*** of the project will take place towards the end of the project. It will involve the community as well as the local partners. It will build upon the constant monitoring that will have been done by the youth group and the association.

- Based on the lessons learned, ***two workshops*** will be held, that will present the project and its results to the critical stakeholders in the region (Rural Commune, local associations, National Park…). This will foster dissemination of the lessons learned and generate future adaptation projects.

Benefits for the community

- The project will support the community to combat erosion as well as a separate income source so that they are not so vulnerable to the effects of climate change. By conserving water resources and adequately managing their crops, they will be able to maintain their livelihoods. Families will have spare resourcs to buy buta gas, fencing, and feed for their livestock which can alleviate some of the pressure from grazing and deforestation. This in turn will increase biodiversity and environmental vitality.
- Through the project, the community will better understand the causes of what they are experiencing in their daily life. They will learn about climate change, and will be prepared to develop a collective adaptation strategy, instead of ad-hoc individual reactions. They will learn about their ecosystem and develop their understanding of why it is prone to erosion, and what they can do to combat it. By planting vetiver they will understand why this is a great method to combat erosion and how to develop and maintain it. They will understand why diversification is important for adapting to climate change.
- After implementation of this project the community will have the knowledge to increase the number of vetiver sites to cover all the areas within the erosion risk map of the project area. The community and the Water and Forestry department will promote this project to other nearby communities within the Tazekka National Park.
- Through the community based approach nature of this project, new skills will be developed in the community: income generation, project implementation and monitoring. Currently people are confused about their link to global change, and have little confidence that they can contribute to combating it. The Water and Forestry and GTZ continue to work with grazers to develop a plan to lessen their impact on carrying capacity. The same approach will be used with farmers in this community so they know why and how to use vetiver as well as better farming practices.
- A specific focus will be made on women and youth, who belong to the most vulnerable groups. Women will be active participants in the project activities, including training, which will give them more tools to adapt to climate change. Their contribution will be critical, and they will benefit from the project (capacity-building, income generation, promotion of women's mobilization). Younger generations will be mobilized for the project, in order to capitalize on their energy and creativity, while giving them an opportunity to participate in a collective project, to be recognized, and to learn.

A detailed breakdown of the project's objective, outcomes, and activities is presented in step 4.1.

2.0 COMMUNITY OWNERSHIP

2.1 Project Formulation

- The initial project concept was devised by the Association, under the leadership of its President after formulating a plan for a vetiver project. It was the association's idea to combine the erosion control properties with income generation in the form of almond tree planting. The association also suggested the location of the project, close to the site's gullies, and close to an important gravel road. The pilot vetiver site has been given to the association by its President.
- The project proposal was developed by the Association, supported by the Peace Corps Volunteer installed in the community, and by officials from the Tazekka National Park.
- The community participated in designing the project, through a number of ***meetings, workshops and informal discussions*** (including one-to-one discussions with women). The process started by an overall meeting on assets and issues, during which all community groups expressed their needs and ideas which were then consolidated into projects. Women, business owners, religious leaders, the president, elders, and association members were present during meetings. These people also represent grazers and farmers.
- A ***demonstration workshop and nursery planting*** was conducted in the community, to concretely show vetiver, and how it works.
- During the ***Vulnerability Assessment workshops*** women, men, young, old, and the disabled were invited to voice their climate change observations, their concerns for their livelihood, and what they need to facilitate the change they want.

2.2 Project Implementation

- Every step of this project includes meetings with community members so that capacity building is part of the planning, implementation, and monitoring. The objective is that they will have the skills to implement projects on there own in the future.
- The men will be in charge of transporting most of the materials, purchasing, accounting for funds, attending relevant workshops, planting and maintaining vetiver/almond site, and labour needed to install irrigation.
- Young boys will bring water during planting. A number of vetiver plants will be planted in the school. The students will be trained to care for them and write journal about it as part of an education curriculum for environmental clubs throughout the National Park (youth reporting group).
- As leaders within the household, women will host and attend workshops to discuss budget management since this project includes diversification of income. Women also want to take part in artisan crafts so it is possible to teach them how to make woven products from the vetiver leaves.
- Women will also participate in the conservation farming training, as well as in the water management activities since they are the custodians of many tasks related to farming and natural resource management. The association will accommodate women's specific needs, and to facilitate their participation (schedule, location, training tools...).
- Separate workshops will be held that relate to the roles and functions of women and men will play in the implementation of climate change adaptation activities in the project. For example, there will be an income generation and small business workshop for women based on cutting and preparing vetiver leaves for weaving materials. In the past the women have organized to form a cooperative and start literacy classes. With further support in this effort the women's cooperative could be sustainable and work well with the vetiver weaving activities. By doing so

they are also helping maintain the vetiver site and instigate root growth, which will in turn increase the resilience of the soil.

- The men's workshop will focus more on structural aspects of local agricultural practices (crop terracing through vetiver, drip irrigation implementation) as well as fruit-tree maintenance and trimming.
- Both genders will benefit from the project through learning better management practices and increased incomes.

2.3 **Sustainability**

- The innovative nature of the project, and the active participation of all members, building on the traditional solidarity practices are strong assets for project sustainability.
- **Capacity-building and community tools for further adaptation**

  The community will have reinforced capacities to manage their ecosystem and resources, protect their land, increase its fertility.

  New activities will be started, and a marketing support launched, in order to generate new income, which will improve local livelihood and facilitate further project developments.
- **A risk map will be developed by the community** so that the next sights for future vetiver plantations are planned (of course, taking into account the conclusions of the vetiver monitoring). This will help them identify those sites in dire need of protection now and in the future based on priority and strategy for the development of their community.
- **Strong ownership of the natural technology**. The plants used require little maintenance after implementation, but **vetiver can be separated to start new locations in the future without outside funds**. The already existing pilot nurseries of vetiver and harvesting of existing almond trees suggest that both are capable of surviving in this location. This project design is built by the association from the ground up so institutionally this new technology is accepted.
- **Monitoring of the vetiver will be on-going, to make sure this plant does not bring negative impacts to this specific ecosystem (research have shown that vetiver is not invasive, but it is important to install a close surveillance of the sites).**
- **With the vetiver nursery, the community will have a large number of plants for further development (in the village or to share with others for replication and upscaling). Plus, they will have the skills to promote and train others, as well as KM documents to share.**
- With organizational and nursery management training, the association will be equipped to continue developing adaptation initiative in the future. Indeed, by selling vetiver to other associations and propose technical support to other associations, the association can earn money to reinvest in new adaptation projects.
- Indeed, after skills are passed to the community, they will be able to **share their experiences and collaborate with other associations**. So far the presidents of nearby associations and the president of the Rural Commune are aware of the project by attending meetings. They have already expressed their interest and their support.
- The strong emphasis on **monitoring and capitalization** will allow strong project promotion and mainstreaming of lessons learned into the **Communal Development Plan.**
- A **specific focus is made on women and youth, two groups that are critical for project sustainability.** Women will be active participants in the project activities, including training, which will give them more tools to adapt to climate change. Their contribution will be critical, and they will benefit from the project (capacity-building, income generation, promotion of women's mobilization). Younger generations will be mobilized for the project, in order to

capitalize on their energy and creativity, while giving them an opportunity to participate in the project, to be recognized, and to learn.

- **Support from the partners and community volunteer contributions are key to the sustainability of the project**. This project will bond the Water and Forestry Department, the GTZ, Peace Corps, the CBA, and other associations together in the implementation and ensure running of the pilot project. Community volunteers will provide maintenance in the sites and be involved in promotion of the project.

Project Contribution to National policies :

1- **Environment and biodiversity protection in the Tazekka National Park.** Morocco has developed a national policy towards protection and conservation of critical ecosystems and species. The project takes place within a national Park (protected area), and will contribute to its sustainable protection, by reinforcing forestry and grazing management, combating erosion, and increasing tree-cover. Besides, the lessons learned from the project will be further disseminated within the National Park, and eventually to other National Parks.

The project will thus help the realization of an existing policy. Lessons from the project will be promoted and used in the future as part of this policy.

2- **Effort at incorporating Climate Change Adaptation in the Communal Development Plan.** All the Rural Communes in Morocco are in the process of designing their 6-year development strategy and plan. The GTZ is supporting incorporation of Climate change and adaptation in this planning processes, at the national level.

GTZ will support the association in promoting the adaptation solutions from the project for mainstreaming in local development planning. Concrete tools could be derived from this project and its results, for further dissemination in other Communes.

Contribution of the community volunteers to the CBA Project												
Project Activities (to which persons plan to contribute on a voluntary basis)	Description of the voluntary contribution (capacities, knowledge, know-how, manual labor, materials, tools, etc.)	Total number of volunteers to be mobilized	*Women*	*Men*	*Elderly persons (older than 60)*	*Youth (younger than 25)*	*People with disabilities*	*Local*	*National*	*International*	Number of volunteer days anticipated	Monetary value of the voluntary contribution including labor and materials (enter as co-financing in the budget) (MAD)
Planting Fruit Trees	Knowledge of Fruit Trees / Forestry Methods Labor (digging, bringing water, measuring, planting, separating trees, driving car, cooking food) Tools/Supplies : pick axes, shovels, buckets, fertilizer, food Transport : truck, donkey	55	20	25		10		55			12	35 980
Planting Vetiver	Labor (digging, measuring, planting, separating plants, cooking food for the laborers, nursery management, attending workhops) Youth reporting group Tools/Supplies : pick axes, shovels, buckets, fertilizer, food Transport : truck, donkey	54	20	24		10		54			29	24 900
Installing Irrigation System	Labor : measuring, assembling pipes, digging trenches Mobilizing, organizing, budgeting and supervising Tools / Supplies: pipes, valves, filters, shovels, cement, small parts and tools Transport : truck, donkey	54	20	24		10		54			19	32 000
Training, workshops	Meeting hall and small supplies											19 750
Total:		**163**									**60**	**112 630 dirhams**

For reference: What are the opportunities or obstacles that could facilitate or impede people from engaging in voluntary activities?

As long as community members are aware of a direct economic benefit from their actions, they are more than happy to volunteer their time and tools.

The local solidarity (touiza) is very strong in the community, and is a major asset for volunteer mobilization. Touiza is practiced in farming, construction

work etc.

The Jemaâ, the tribal authority, supports the project and will convince the community members to actively participate.

The presence of the Peace Corps Volunteer is a strong asset for this project: as a volunteer, she will be a role-model; she will facilitate youth and women participation, while having secured solid respect from elders and community leaders.

(Note. Her contribution is counted as in-kind co-funding from Peace Corps, in the global budget).

The strong cultural division between men and women could be an obstacle to women's mobilization. It will be essential to design specific tools to encourage women to volunteer.

For reference: What are the mechanisms for volunteerism that already exist in the community before the CBA project (for example, traditional mechanisms for mutual assistance, associations, etc.)?

Local solidarity and mutual help is called TOUIZA (It applies within the community, and also between neighboring communities)

Within and between certain families people will volunteer to help plant and harvest fields. Men often volunteer to help their neighbor make home repairs. Women volunteer with food preparation chores. Women at the well will fill each others buckets and help carry water. ***Any time anybody needs help someone is there to lend a helping hand.***

There is a young woman in the community who is handicapped. When she needs help moving around there are always young men to help. Women share bread and vegetables as a gesture of friendship.

At the end of the harvest farmers and grazers from all over the region come together in Sidi Majbeur to celebrate their ability to work together.

For reference: Number of volunteers in the community already engaged in climate change adaptation activities before the CBA project.

Approximately 300 of the 350 people living in Sidi Majbeur are involved in some form of environmental activities, including adaptation : trench digging, wood collection, or rock wall building.

3.0 PROPONENT DESCRIPTION

3.1 Organization's background and capacity

The Association for Environment and Development of Sidi Majbeur is a community-based organization that implements projects within the community and undertake actions towards the benefits of the community.

In the past they implemented apiary, and erosion control projects with the Water and Forestry Department (WF), the Food and Agriculture Organization (FAO), the German Technical Cooperation (GTZ), US Peace Corps (PC), and other local associations.

The association has 9 regular paying members that work and consult with many more community members, including women, the youth, and the elderly. Payments are in the form of dues of 20 dirham/year.

The board consists of a President, a Vice President, a Treasurer, and a Secretary.

Members are between the ages of 25 to 60 years old. They are shop owners, farmers, laborers in other cities, and hired hands.

The association has an association building in Sidi Majbeur and regularly hold meetings. Currently on their docket are: river stabilization, irrigation in nearby Negret, tree planting, and installing facilities to create a local market. Beside, the first semester of a women's literacy class has just started.

Currently the association is working with the WF to rejuvenate a nearby picnic area into a small market where local produce can be sold and cutting their travel expenses. The association just received a 10,500 MAD grant for the project through the American International Women's Club.

The association has benefitted from support from Environmental Peace Corps Volunteers for 6 years. The current volunteer has facilitated meetings, literacy classes, and established nurseries with this association. As a liaison she has facilitated collaboration on smaller projects with the association, the WF, and the GTZ. The PC volunteer has strongly supported the association in the preparation of the project proposal, and will support the association in the implementation.

Through participatory analysis and input from the PC Volunteer, the community has completed the following: a women's community map, an assets chart, a farmer's seasonal calendar, and a pair-wise ranking chart.

4.0 PROJECT DESCRIPTION

Project detailed LogFrame

Project Objective
Reinforce the resilience of the local ecosystem and strengthen the adaptation capacities of the Sidi Majbeur community in the face of increasingly severe rainstorms and decreasing overall rainfall, which contribute to increase erosion and land degradation, through the pilot application of vetiver, in combination with fruit trees, and through the establishment of better practices to conserve top soil, increase farmable lands, and diversify and increase income.

Outcome 1.0 (BASELINE – funded by partner GTZ)	**Indicators**	**Monitoring mechanisms and sources of information**
Sustainable sylvo-pastoral practices are implemented to reduce baseline pressure on the local forest ecosystem and contribute to erosion control	Decrease of the number of violation acts in the restricted plots for grazing At least 20 farmers from Sidi Majbeur zone adhere to the livestock-farming group (ANOC) by the end of the project	Water and forests statistics ANOC statistics
Output 1.1: **A grazing management plan is implemented by the community**		
Activities under Output 1.1	**Necessary means**	
Design of a grazing management scheme, including participatory workshops	Consultant / Facilitators Meeting room / supplies Transport to visit herding sites	
Output 1.2: **A livestock-farming group is organized and trained**		
Activities under Output 1.2	**Necessary means**	

	Animal health care: vaccination of 1.000 animals	Veterinarian / Shots Transport to the farms
	Training: o Practical training (in the farm) of 20 herders o Theoretical training : 2 sessions * 10 herders	Room / Trainers / Transportation to the farms Transportation for the herders to the meeting room / Supplies
	Professional trips (5 herders)	Transport / Facilitator
	Organizational workshops (to adhere to ANOC): 10 members attending the workshop	Meeting room / facilitator Supplies

Outcome 2.0	**Indicators**	**Monitoring mechanisms and sources of information**
The resilience of the local ecosystem and farming is reinforced in the face of increasingly violent and unpredictable rainfalls and increasing temperatures	Nb of hectares of degraded land restored Nb of innovations implemented and owned by the community : vetiver + conservatory farming techniques including drip-irrigation	Measuring the number of ha restored and put back into production Youth reporting group / Photos Stories from the field and Interviews/ Photostory / activity reports
Output 2.1. Vetiver is planted on a pilot mountain site, to fixate and regenerate the soil		
Activities under Output 2.1	**Necessary means**	
Purchase and transportation of 3050 vetiver plants Site preparation Planting	Vehicle / Driver/ Workforce to load / unload Equipment / Tools / GPS Coordination / Labor Natural Fertilizer / Fence	
Output 2.2. Resilient fruit and forestry trees will be planted on 3 pilot sites to consolidate the terraces and retain the soil		
Activities under Output 2.2	**Necessary means**	

	Purchase of 660 almond trees + Purchase of 10 000 MAD worth of other fruit trees,and cactus hindiya	Identification of the exact species / Identify potential nurseries
	Reception of 2.250 caroub trees, by Water and Forest	Identification of the exact species
	Transportation of the trees	Vehicle / Driver Workforce to load / unload Coordination
	Preparation of the site + planting of the trees	Equipment / Tools / GPS Labor / Coordination / Food / Cooks Natural fertilizer
	Output 2.3. Improvement of farming techniques, including water management	
	Activities under Output 2.3	**Necessary means**
	Preparation of pilot parcels to implement adaptive farming techniques that complement drip-irrigation (natural fertilization, contour cropping)	Labor / Coordination / Technicians Food / Tools
	Implementation of a pilot drip-irrigation system Technical study and mapping / Purchase equipment / Installation by the community participants	Technician / GPS Collective participation of the farmers Coordination / Equipment and tools Labor Food

Outcome 3.0	**Indicators**	**Monitoring mechanisms and sources of information**
The adaptive capacities of the community are sustainably strengthened, through capacity-building and income diversification	Population covered by climate change awareness programmes Number of households benefiting from sustainable resource management activities Success of sustainable resource management interventions in securing livelihoods	Activity reports. How many people participate in meetings, trainings and practical activities (gender disaggregated) Final participatory evaluation / Workshops and individual interviews
Output 3.1. A comprehensive on-site training program is implemented, encompassing conservation and management of soil and water and resilient farming practices		
Activities under Output 3.1	**Necessary means**	
Workshop on understanding climate change (1 day)	Trainer / Meeting room Supplies	
Preparation and implementation of a comprehensive hands-on training on Resilient/Conservation farming and Natural Resource Management (4 sessions – 2 days each = 8 days) o Green manure/cover cropping o Seed selection o Water management (drip irrigation) o Applying fertilizer in conjunction with the drip irrigation o Contour farming, terracing, stream side land tracts o Crop rotation	Trainer / Meeting room Supplies Farmer's parcels Tools	
Preparation and implementation of vetiver technical training (planting, maintenance) - 2 days	Trainer / Meeting room Supplies	
Preparation and implementation of fruit tree technical training (planting, maintenance, trimming) - 4 days	Trainer / Meeting room Supplies	
Participation of association members in CBA training / workshops Including site visit to understand drip irrigation and conservation agriculture	Transportation of members / Accommodation and food	

	Output 3.2. New income-generating activities are developed, to diversify income and reduce economic vulnerability, while contributing to maintaining the ecosystem, focusing on women, and including management of the vetiver nursery		
	Activities under Output 3.2	**Necessary means**	
	Training on making vetiver-based products (4 days)	Trainer / Vetiver raw material / Meeting room Supplies / Equipment	
	Training on fruit-tree based income generation (fruit conservation and transformation) (3 days)	Trainer / Meeting room Supplies / Equipment	
	Equipment and training of women on beekeeping	Trainer / Meeting room Supplies / Equipment	
	Training and support on sustainable marketing	Meeting room / Marketing facilitator	

Outcome 4.0	**Indicators**	**Monitoring mechanisms and sources of information**
The lessons learned from the project are capitalized, promoted and disseminated for mainstreaming and upscaling	Number of youth and women involved in the project Number of stakeholders (NGO, local govt, teachers…) engaged by project and provided with training in climate change risk management and scenario planning Number of KM products developed Number of lessons capitalized and disseminated Number of policies influenced Number of potential new vetiver sites identified	Activity reports Life stories (personal interviews) KM products developed Evaluation reports Workshop participation/workshop report Interviews during workshops Evaluation sheet filled by the participants in the workshops Sites identified on the community risk map Vetiver orders sent by other stakeholders Nursery monitoring documents Communal Development Plan project document
Output 4.1. Local youth is mobilized to monitor and promote the project		
Activities under Output 4.1	**Necessary means**	
Creation of the youth group and initial workshop	Meeting hall, Camera, binoculars, magnifying glass, Food, Facilitator	
Weekly training (15 sessions)	Meeting hall, Camera, binoculars, magnifying glass, Food, Facilitator	
Pedagogical vetiver planting (200 plants / school)	Facilitator, tools, supplies	
Output 4.2. Communication tools are realized and disseminated, aiming at promoting the lessons learned from the project		
Activities under Output 4.2	**Necessary means**	
Realization and dissemination of a technical vetiver manual: Vétiver as a community tool for adaptation to CC (tool-kit, best practices)	Meeting hall, computer, camera Facilitator / Printing and dissemination	

	Realization of a wayside exhibit to promote resilient soil/water management techniques (including vetiver) and highlight its role for adaptation to climate change. It will be part of the Water and Forest signage campaign.	Meeting hall, computer, camera Facilitator / Printing and installation
	Realization of a project-results brochure for dissemination to other associations and to schools.	Meeting hall, computer, camera Facilitator / Printing and dissemination
	Output 4.3 The basis for further dissemination are prepared and sustainability is fostered	
	Activities under Output 4.3	**Necessary means**
	Implementation of a community risk map for further vetiver development (participatory workshops)	Meeting hall, GPS, drawing supplies, food
	Buying and transporting 2000 plants of vetiver, to create a vetiver nursery Préparation du site et plantation	Vehicle and driver / Labor, tools
	Organizational training for the association : project management; vetiver nursery management	Meeting room / Organizational facilitators
	Output 4.4 The results of the projects are evaluated, capitalized and and upscaled	
	Activities under Output 4.4	**Necessary means**
	Conducting participatory evaluation (hiring a consultant / organize workshops)	Consultant / Meeting room / Transport / Mobilization supplies / Food
	Organizing 3 meetings with the Rural Commune and the Communal Development Plan team (sharing lessons; identifying tools for mainstreaming)	Consultant / Meeting room / Food
	Organization of two regional workshops to promote the results of the project	Meeting room / Transport / Food / Supplies / Files / projector / computer

***

The project will support the proponent and foster its organizational and structural skills, for further adaptation in the future. It will focus especially on the association's project management capacities, and inclusive mobilization capacities.

It will build on and reinforce the local solidarity, and will value the contribution of all groups.

A specific focus will be made on including and incorporating women and youth in the association work, and reinforcing these two groups' participation.

The lessons learned from the project will be promoted and mainstreamed by all the project partners, at the Communal level, at the National Park level, at the Peace Corps level, at GTZ level, and at the CBA level (national and global).

4.2 **Timetable / Calendar**

		2010			2011									2012					
		oct	nov	dec	jan	feb	mar	apr	may	jun	july	aug	sept	oct	nov	dec	jan	feb	mar
Outcome 1 : Forest and grazing practices managed sustainably																			
Output 1.1	Design Grazing Management Scheme / participatory workshops																		
Output 1.2	Animal Health Care																		
	Training																		
	Professional trips																		
	Organizational workshops																		
Outcome 2 : Resilience of ecosystem and natural resources increased																			
Output 2.1	Vetiver planting																		
Output 2.2	Fruit trees planting																		
	Forestry trees planting																		
Output 2.3	Preparation of pilot parcels																		
	Drip irrigation (study / implementation)																		
Outcome 3 : Adaptation capacities built																			
Output 3.1	Workshop on Climate Change																		
	Training on Resilient farming and natural resource management																		
	Vetiver training																		
	Fruit tree training																		
	Participation in National CBA programme workshops																		
	Site visit irrigation / conservation agriculture																		
Output 3.2	Vetiver-based products																		
	Fruit-tree based products																		
	Beekeeping																		
	Sustainable marketing																		
Outcome 4 : Lessons learned capitalized and promoted																			
Output 4.1	Youth reporting group																		
	Pedagogical vetiver planting																		
Output 4.2	Vetiver manual																		
	Exhibit																		
	Brochure																		
Output 4.3	Community risk map																		
	Vetiver nursery																		
	Organizational training / nursery management																		
Output 4.4	Participatory final evaluation																		
	3 meetings with the Rural Commune / PCD																		
	Regional workshops																		

4.3 Risks and Barriers

Barriers:

- There is a lack of local technical knowledge, and the association depends on external technicians, especially for the drip irrigation system. In order to make sure there will be a proper technical support for this output, we will incorporate budget for a drip-irrigation consultant. Internal

- Due to assigned roles and cultural context, women cannot participate in meetings with men, and do not often leave the village. This will make their participation in the project difficult, and will make it challenging to motivate them. A specific focus will be made on overcoming this barrier, by supporting the association in accommodating women's needs and schedule, while providing women with valued roles in the project. Internal

- Adaptation to climate change deals with long-term issues, that can easily be perceived by the community as out of their reach. Besides, most people don't believe in their power to have an impact on their environment. One of the challenges of the project will be to ensure participation, through concrete activities that show quick results.

- When discussing the future, even when talking about tomorrow's weather it is difficult to speak about specific things that will happen. This could make it difficult for the community to understand. But by reflecting on past events, and using culturally appropriate information methods, the association will show the community that the project is not beyond their grasp. Internal

Risks:

- Difficulty to obtain vetiver to maintain the row or to start new projects. In order to avoid lack of vetiver plant, the number of plants needed was deliberately overestimated. We will use the surplus vetiver to start new nurseries. Internal.

- Suboptimal performance of vetiver due to natural or human related factors. To mitigate this risk, the project will educate people to care for the system, and show the economic incentive of the grass. External/Internal

- Blockage of the drip irrigation system. Educate people how to be able to implement and to maintain the system themselves. The project will choose a technical option that is simple and sustainable with little training. External.

- Poor attendance at workshops. To minimize this risk, announcements willbe made through several channels, and organize the workshops in a way that facilitates participation (accommodate schedule, chose appropriate location and training techniques, provide food...). Internal.

- Weather hazards in November that may delay the pick up of the Almond trees. Maintain communication between transport coordinators and WF. External.

4.4 Monitoring and Evaluation Plan

Local Project Committee

A committee is assembled within the community as project leaders. This committee will meet regularly to make sure the project remains on track. This group will report on the progress of the project and if we are meeting our goals. A Peace Corps Volunteer will be involved in this process as a fresh experienced eye.

Youth monitoring group

The day-to-day monitoring will be implemented by the Youth Reporting Group, under the supervision of the association, the Peace Corps Volunteer and the Water and Forest.

Involvement of partners

All partners (CBA, GTZ, Peace Corps, Water and Forest and Proponent) will meet every three months, before each reporting phase, and support the proponent.

4.4.1 Initial Vulnerability Reduction Assessment (VRA) Analysis

Two workshops were held on June 30, 2010 to assess the community's vulnerability : one workshop gathered around 30 men; the second workshop gathered around 15 women.

Scores from initial VRA (June 2010)

	Men	Women
Q1	1	1
Q2	1	1
Q3	1	1
Q4	2	2
Total	*5*	*5*
Average (noted /5)	*1,25*	*1,25*
Average (noted /10)	**2,5**	**2,5**
Global average	**2,5**	

Vulnerability is very high, and is related to very strong climate change impacts in this community, and a series of obstacles that the project will focus on overcoming (training, capacity-building, inclusion of women, improving farming techniques and diversifying income).

Vulnerability Reduction Assessment Reporting Form // MEN					
Indicator	*Question/Questions Used*	*Score*	*Reasons for Negative Responses*	*Reasons for Positive Responses*	*How could the score be improved?*
1. Vulnerability of livelihood/welfare to existing climate change and/or climate variability.	**What happens when there are heavy rains or droughts ? How do they impact your daily life / livelihood?**	2/10	-Our main livelihood is farming, and it is very linked to the climate. If there is a climate problem, our livelihood is directly impacted. -We don't have other sources of income. But now we can't with only agriculture. When there is drought: -Farming production diminishes -The cattle gets less food, and is less productive -Also, the prices of our produce go down, so we don't make much money. Especially, the prices of the cattle go down at the market When there are heavy rains: -the water circulation system is destroyed -the forest is destroyed -the houses and infrastructures are destroyed -it increases erosion -People leave to find work in other places; there is exodus -In fact, this valley is more and more dangerous and less and less productive -The erosion is more and more severe -Rain falls at the wrong time, that's the problem. It's like having drought.	-When there is rain, there is water in the rivers, and the small rivers and sources are revived -The underground water is recharged.	-Plant fruit trees, because their roots stabilize the land + it will help generate new income -Reforest to stop erosion -Protect the new reforested land -Dig wells with moto-pompe -Collect rain water -Diversify sources of income -Train the young people / create a training center so that they can leave and find jobs -Construct a dam -Construct gabions (micro-dams)
2. Vulnerability of livelihood/welfare to developing climate change risks.	**What will happen if there are twice as many heavy rains or droughts ? How will that impact your daily life / livelihood?**	2/10	-In the future, everything will be destroyed -People will have to be evacuated in the mountain, and will have to leave the valleys -All the houses will be destroyed -All the people who own land will be gone by then, and all the people who don't own land, will have nothing left.		-We have to rebuild our houses using reinforced concrete -Consolidate the river-banks, using concrete -Develop drip irrigation, to save water and to develop vegetable farming (tomatoes, peppers…), which generates more income -Plant fruit trees

					-Build wells to compensate the destructions caused by the rains, and to develop new cultures
3. Magnitude of barriers (institutional, policy, technological, financial, etc) barriers to adaptation.	**What prevents you from adapting to these climate change risks ? what are the obstacles and assets?**	2/10	-Lack of money -Administrative constraints : the administration is too rigid for us to develop solutions, the State doesnt facilitate adaptation -We don't have access to the forest anymore, it is a problem. The rules are too strict. -We have too small land parcels, its difficult to make our farming practices evolve -The water rights system is an obstacle -Many people have already left, the village is empty -We can do nothing against the will of God.	-Local solidarity / Touiza -The Jemaa / the tribal authorities, will convice the community to participate in the project -Local knowledge	
Assets available to community for adaptation (volunteers, skills, commitment, indigenous knowledge, community leadership, etc.)				-Local solidarity / Touiza -The Jemaa / the tribal authorities, will convice the community to participate in the project -Local knowledge	
4. Ability and willingness of the community to continue to manage climate change risks	**Do you think that this project will help you gain capacities in the future ? are you ready to mobilize for the project?**	4/10	-The local population lacks training, people are not educated	-We will all participate -If we receive some help, the project will work. Without help, we cannot do anything.	-Training and coordination
VRA Score		2.5/10	The VRA scores are not based on voting (because people didn't want to vote individually), but on a general grading of people's vulnerability, based on unanimity.		

Vulnerability Reduction Assessment Reporting Form // WOMEN

Indicator	*Question/Questions Used*	*Score*	*Reasons for Negative Responses*	*Reasons for Positive Responses*	*How could the score be improved?*
1. Vulnerability of livelihood/welfare to existing climate change and/or climate variability.	**What happens when there are heavy rains or droughts ? How do they impact your daily life / livelihood?**	2/10	-It is difficult to plough, and difficult to harvest. All the tasks for farming are made very difficult -The cultures and the trees are destroyed -When it rains, there is nothing to do, we have to stay at home. -The cattle die because we can't bring them in the mountain to graze. -Land is degrading (washed away) and the fertility of the soils is decreasing -The rain creates ravines and erodes the land -There are floods, which destroy the houses and the infrastructures -Young people leave. -Poverty is increasing	-There is much water -The oued / river is full of water -Our sons or relatives send money from the city.	-Build a canal to collect the rain water and to prevent the water to destroy the soils -Develop complementary activities for the women -Ameliorate the terraces. They are too small to cultivate -Build walls to protect the land from the floods -Augment the water canals
2. Vulnerability of livelihood/welfare to developing climate change risks.	**What will happen if there are twice as many heavy rains ? How will that impact your daily life / livelihood?**	2/10	-Erosion will increase and soils will be increasingly degraded -Our houses will be destroyed -The village will be more and more isolated -We are afraid, because there is nothing we can do -We will have to make reserves (food, wood…) -There is no young people anymore to accomplish difficult tasks to protect the village.		-Reinforce the roofs to protect the houses -Protect the fields and the fodder for the cattle
3. Magnitude of barriers (institutional, policy, technological, financial, etc) barriers to adaptation.	**What prevents you from adapting to these climate change risks ? what are the obstacles and assets?**	2/10	-No money -No income from farming to invest in better tools and techniques -Lack of training -As women, we are not allowed to travel outside the village to participate in workshops or other activities -Normally, we are not supposed to gather in this room (it's the Mosque), so it's difficult to organize meetings for the women (Note that, in addition to these obstacles, Laurel, the local Peace Corps Volunteers, explains that women		

			have lost trust in such projects since there was 2 attempts to unite them in a project, and the 2 attempts ended in a disappointment for the women).		
Assets available to community for adaptation (volunteers, skills, commitment, indigenous knowledge, community leadership, etc.)				**-**We want to work together -If someone coordinates us, we will participate	-Money -Develop income generating activities -Find a new place to gather women
4. Ability and willingness of the community to continue to manage climate change risks	**Do you think that this project will help you gain capacities in the future ? are you ready to mobilize for the project?**	4/10	-Men will reap the fruit of our work -We prefer to receive machines for sewing. -We don't want to work on someone else's land	-If there is a training, the women will want to participate -We want to participate, but we want to benefit from the project -If we can see that our income is increasing, we will continue the project in the future.	-Work on a collective land -Ensure that we as women will benefit from the project
VRA Score		2.5/10	The VRA scores are not based on voting (because people didn't want to vote individually), but on a general grading of people's vulnerability, based on unanimity.		

4.4.2 Project M&E Plan

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

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 30, 2010	Peace Corps / GTZ / Water and Forest / CBA	CBA / PC
Second/midterm	June 2011	Association / Peace Corps / Water and Forest	Association (with PC and WF support)
Final	March 2012	Association / Peace Corps / Water and Forest	Association (with PC and WF support)

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**
Restoring / Regaining Arable Land	Measuring the number of ha restored and put back into production Youth reporting group Photo / Photostory Activity reports	Quarterly monitoring + final evaluation	At least 2ha of degraded land is restored sustainably	Association, with support of PC and WF + Consultant (final evaluation)
Nb of innovations implemented and successful to combat land degradation	Measuring the success of vetiver in preventing land degradation+ the success of combination of water and soil management techniques + ownership of the innovation by the community Youth reporting	Quarterly monitoring + final evaluation Training participation Photos from solutions implemented Technical	2 innovations are implemented and mastered : -Vetiver technique -Combination of drip-irrigation with conservatory farming measures	Association, with support of PC and WF + Consultant (final evaluation)

	group / Photos Stories from the field and Interviews/ Photostory/ reports	vetiver manual		
Number of youth and women participating in the project (Capacity-building indicator)	Activity reports Life stories	After each activity + Quarterly + final evaluation	At least 30% of total participants are women, and 30% of total participants are youth	Association, with support of PC and WF + Consultant (final evaluation)
Number of households benefiting from sustainable resource management activities	Final participatory evaluation / Workshop and individual interviews	Final evaluation	At least 20 households	Consultant (final evaluation)

Measurement of the 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
Population within the project area covered by climate change awareness programmes	Activity reports / Project activities participation = meetings, trainings, concrete activities (gender disaggregated data)	After each activity + Quarterly + final evaluation	At least 150 people covered	Association, with support of PC and WF + Consultant (final evaluation)
Success of sustainable natural resource management interventions in securing livelihoods	Final evaluation Satisfaction survey	Final evaluation	70% of households that have participated in the project express improvement of their livelihood At least 10 new households are motivated to participate in further activities, given the success of the project	Consultant (final evaluation)

Nb of stakeholders (NGOs, local government,...) engaged by project and provided with training in CC risk management and scenario planning	Workshop participation / Workshop report Interviews	Quarterly + final evaluation	At least 3 NGOs, 1 local government, 10 regional partners are engaged	Association, with support of PC and WF + Consultant (final evaluation)

4.5 Project Management

4.5.1 Management Structures

- **Overall Coordination** – Local representatives from the Water and Forestry Department and Peace Corps will help the planning efforts adhere to the finalized project proposal. The Association will be in charge of putting those plans into action.
    - Peace Corps will coordinate the skilled labour and the association will coordinate the unskilled local labour.
    - Technical support will come from the Water and Forestry office, the GTZ, and vetiver components overseen Peace Corps.
    - WF technicians will help install the drip irrigation plan.
- **Community Mobilization** – The association will be working with the local religious leader to rally support in Sidi Majbeur. The president will work as a liaison between this project and the rural commune in Bab Boudir. Project implementation days (such as installing drip irrigation, planting, or workshops) will be facilitated and community members will be informed by the entire association.
- **Budget Coordination** – The money will be deposited into the association's bank account. These monies are managed by the treasurers, but approval is needed by the president. Water and Forestry / Peace Corps will assist in accounting for receipts.
- **Transportation** - The association will locate, hire, and rent transportation for materials as needed. Assistance may come from the commune or the Water and Forestry.
    - The association will coordinate transport of materials from Meknes and Taza to Sidi Majbeur. Peace Corps will coordinate transport of vetiver from Rabat to Sidi Majbeur with the help of the GTZ.
- **Capacity-building** - GTZ, Peace Corps, Water and Forest and the CBA team will support the proponent in organizing the training programme. They will facilitate some workshops themselves, and support the hiring of consultants for other workshops.

4.5.2 Relationship and Responsibilities of Proponent and Project Partners

- Today's **Peace Corps Volunteer** in Sidi Majbeur is the third volunteer to live and work with this association in Sidi Majbeur. In the past this organization has partnered with the association to create a women's association, build infrastructure in the town hall, and plant trees. Peace Corps will oversee transportation of vetiver plants, the vetiver planting and any workshops related to vetiver. Peace Corps will provide the overall project management functions.
- The **Tazekka National Park Water and Forestry Department** works with local associations to resolve better livelihood practices. They manage the natural resources of the protected areas within the Park and are the authority on its uses. They will help

oversee materials purchasing as well as the education component of the project, and the installation of the drip irrigation system.

- The **German Technical Cooperation** is the motivating force behind most of the projects within the park with help from the WF. Directly the GTZ has started bee and gabion projects within Sidi Majbeur. They will be aiding in transport of vetiver from Rabat as well as finding speakers for some workshops.

- The **UNDP/GEF CBA Morocco team** will bring an on-going support to the proponent, on project implementation, monitoring and reporting. The team will help draft the relevant TORs and facilitate workshops. They will also remain in permanent contact with all the partners and participate in the Project Monitoring Committee.

5.0 PROJECT COSTS AND OTHER SOURCES OF FUNDING

5.1 Total Project Cost and Amount Requested:

		Budget Items (Description)	# Units	Cost Per Unit (MAD)	Total (MAD)		Amount Requested from CBA	Community Contribution	GTZ contribution		Water and Forest contribution	Peace corps contribution	American international women's club	Other Organization Contribution	
							In Cash (MAD)	In Kind	In cash	In kind	In kind	In kind	In cash	Name	In Kind
Outcome 1	Sustainable sylvo-pastoral and water management practices are implemented to reduce baseline pressure on the local forest ecosystem and contribute to														
Output 1	**Implementation of a grazing management plan by the community**														
	Participatory study to design a grazing management plan, including workshops	Consultants / Study		54 166,00	54 166,00				54 166,00						
		Organization of the workshop / speakers, equipment, coffee break													
		Projector use	1 day	200,00	200,00						200,00				
		Meeting Hall	1 day	300,00	300,00			300,00							
Output 2	**Organization and training of a livestock-farming group**														
	Animal health care	Vaccination	1000 animals	2,00	2 000,00				2 000,00						
	Training / Workshops	Organization of practical training in the farm	20 herders	200,00	4 000,00				4 000,00						
		Theoretical training (10 herders)	2 sessions	1 000,00	2 000,00				2 000,00						
		Organizational workshop	1 session	2 000,00	2 000,00				2 000,00						
		Meeting Room	3 days	300,00	900,00			900,00							
		Projector use	3 days	200,00	600,00						600,00				
	Professional trips	Organization of trips for 5 herders (transportation, accomodation)	5 herders	600,00	3 000,00				3 000,00						
Outcome 2	The resilience of the local ecosystem is reinforced in the face of increasingly violent and unpredictable rain and increasing temperatures														
Output 1	**Pilot vetiver planting on a mountain site, to fixate and regenerate the soil**														
		Purchase of vetiver grass	3 050,00	6,00	18 300,00		**18 300,00**								
		Transportation (vehicle and driver)	3 days	1 300,00	3 900,00					1 300,00	2 600,00				
		Equipment / Tools	5 days	500,00	2 500,00			2 500,00							
		GPS use	2 days	100,00	200,00						200,00				
		Fertilizer	100 loads	30,00	3 000,00			3 000,00							
		Donkey Rental	5 days	100,00	500,00			500,00							
		Labor / Plantation (24 people)	5 days	70,00	8 400,00			8 400,00							
		Coordination / Supervision (7 people)	5 days	150,00	5 250,00					2 250,00	2 250,00	750,00			
		Lunch-break (food and preparation)	1 000,00	5,00	5 000,00		**2 500,00**	2 500,00							
		Fence	500 meters	15,00	7 500,00		**7 500,00**								

Output 2	**Planting of resilient fruit trees to consolidate the terraces and retain the soil**														
		Purchase of almond trees	656 trees	16,00	10 500,00								10 500,00		
		Purchase of other fruit trees	1 global budget	1 000,00	1 000,00				1 000,00						
		Purchase of forestry trees	2 250,00	5,00	11 250,00						11 250,00				
		Transportation (vehicle and driver)	3 days	1 200,00	3 600,00						3 600,00				
		Equipment / Tools	10 days	500,00	5 000,00			5 000,00							
		Fertilizer	100 loads	30,00	3 000,00			3 000,00							
		Donkey Rental	10 days	100,00	1 000,00			1 000,00							
		Labor / Plantation (23 people)	10 days	70,00	16 100,00			16 100,00							
		Coordination / Supervision (4 people)	10 days	150,00	6 000,00						4 500,00	1 500,00			
		Meeting hall	10 days	300,00	3 000,00			3 000,00							
		Lunch-break (food and preparation)	1 000,00	10,00	10 000,00		**5 000,00**	5 000,00							
		Truck Rental	2 days	1 300,00	2 600,00			2 600,00							
		Driver (2 people)	2 days	70,00	280,00			280,00							
Output 3	**Improvement of farming techniques, including water management**														
	Preparation of pilot parcels for implementation of adaptive farming techniques that complement drip irrigation (natural fertilization, contour cropping, seed selection)	Local consultant for preparatory study	2 days	500,00	1 000,00		**1 000,00**								
		Food	2 days	200,00	400,00			400,00							
		Supplies/materials	1 global budget	1 000,00	1 000,00		**1 000,00**								
		Meeting Hall	2 days	300,00	600,00			600,00							
	Implementation of a pilot drip irrigation system	GPS	10 days	100,00	1 000,00						1 000,00				
		Technicians (6 people)	10 days and 1 person 15 days	150,00	9 750,00						6 000,00	2 250,00		Direction Provinciale Agriculture	1 500,00
		Laborers (20 people)	10 days	70,00	14 000,00			14 000,00							
		Drivers (2 people)	5 days	70,00	700,00			700,00							
		Tools	10 days	500,00	5 000,00			5 000,00							
		Materials (pvc, cement, etc)	1 global budget	30 000,00	30 000,00		**30 000,00**								
		Donkey	10 days	100,00	1 000,00			1 000,00							
		Vehicle Rental	5 days	1 300,00	6 500,00			6 500,00							
		Cook's Salary	2 people, 10 days	70,00	1 400,00			1 400,00							
		Food	10 days	200/day	2 000,00		**2 000,00**								
Outcome 3	**The adaptive capacities of the communities are sustainably strengthened, through training and income diversification**														
Output 1	**Implementation of a comprehensive training program encompassing conservatory soil and water conservation and conservatory farming practices**														
	Understanding climate change (1 day)	Trainer / consultant	1 day	3 000,00	3 000,00		**3 000,00**								
		Meeting hall	1 day	300,00	300,00			300,00							
	Resilient crop management / conservatory farming and natural resource management (8 days)	Trainer / consultant	8 days	3 000,00	24 000,00		**24 000,00**								
	(on the pilot parcels)	Meeting hall	8 days	300,00	2 400,00			2 400,00							
	Vetiver maintenance training (2 days)	Trainer / consultant	2 days	3 000,00	6 000,00							6 000,00			
		Meeting hall	2 days	300,00	600,00			600,00							
	Fruit tree maintenance taining (4 days)	Trainer / consultant	4 days	3 000,00	12 000,00		**12 000,00**								
		Meeting hall	4 days	300,00	1 200,00			1 200,00							
	Site visit (Irrigation and Conservatory farming site)	Transportation and accomodation for community representatives 5 people*2 days	2 days	500,00	5 000,00		**5 000,00**								
	Participation of associations in trainings / workshops related to CBA project	Transportation and accomodation for community representatives 5 people*5 days	5 days	400,00	10 000,00		**10 000,00**								
	Small expenses and supplies for all trainings	Small equipment / material	1 global budget	5 000,00	5 000,00		**5 000,00**								
		Coffee breaks	15 training days	200,00	3 000,00		**3 000,00**								

Output 2	**Development of new income-generating activities, to diversify income and reduce economic vulnerability, while contributing to maintaining the ecosystem, focusing on women**														
	Vetiver / Almond workshops for income generation (3 two-day workshops)	Trainer / consultant	6 days	3 000,00	18 000,00		**9 000,00**					9 000,00			
		Supplies / material	1 global budget	2 000,00	2 000,00		**2 000,00**								
		Meeting hall	6 days	300,00	1 800,00			1 800,00							
	Bee-keeping equipment	Purchase of the material and equipment + transportation	1 global budget	10 500,00	10 500,00		**10 500,00**								
	Bee-keping workshop (3 day workshop)	Trainer / consultant	1 global budget	20 000,00	20 000,00				20 000,00						
	Sustainable marketing	Trainer / consultant	1 day	3 000,00	3 000,00		**3 000,00**								
		Meeting hall	1 day	300,00	300,00			300,00							
Outcome 4	**The lessons learned from the project are capitalized, promoted and disseminated for mainstreaming and upscaling**														
Output 1	**Mobilization of local youth to monitor and promote project**														
	Coordination and supervision (15 one-day sessions)	Coordinator's salary (2 people)	15 days	150,00	4 500,00						2 250,00	2 250,00			
		Meeting hall	5 days	300,00	1 500,00			1 500,00							
		Participation of 10 young people	15 days	50,00	11 250,00			11 250,00							
	Tools and equipment	Camera	2,00	2 000,00	4 000,00		**4 000,00**								
		Binoculars	2,00	1 000,00	2 000,00		**2 000,00**								
		Magnifying glass	2,00	200,00	400,00		**400,00**								
		Other small supplies	1 global budget	1 000,00	1 000,00		**1 000,00**								
	Pedagogical vetiver planting	Purchase of vetiver grass	200,00	6,00	1 200,00									Crop Development (Rabat Nursery)	1 200,00
		Transport of plants	1 day	1 300,00	1 300,00		**1 300,00**								
Output 2	**Realization and dissemination of communication tools aiming at disseminating the lessons learned from the project**														
	Vetiver manual	Coordination / supervision (3 people)	5 days	150,00	2 250,00						1 500,00	750,00			
		Graphic designer	1 global budget	2 000,00	2 000,00		**2 000,00**								
		Printing (50 copies)	50 copies	100,00	5 000,00		**5 000,00**								
	Realization of a wayside exhibit	Coordination / supervision (2 people)	3 days	150,00	900,00						450,00	450,00			
		Graphic designer	1 global budget	3 000,00	2 000,00		**2 000,00**								
		Printing	1,00	3 000,00	5 000,00		**5 000,00**								
	Realization and dissemination of a brochure	Coordination / supervision (2 people)	3 days	150,00	900,00						450,00	450,00			
		Graphic designer	1 global budget	1 000,00	1 000,00		**1 000,00**								
		Printing (500 copies)	500 copies	5,00	2 500,00		**2 500,00**								

Output 3	**Preparing the basis of further dissemination**														
Implementation of a community risk map for further vetiver development	Coordination / supervision (2 people)	3 days	150,00	900,00						450,00	450,00				
	Meeting hall	2 days	300,00	600,00			600,00								
	Material and supplies	1 global budget	1 000,00	1 000,00		**1 000,00**									
Creation of a vetiver nursery	Purchase of veti ver grass	2 000,00	6,00	12 000,00		**12 000,00**									
	Transportation (vehicle and driver)	2 days	1 300,00	2 600,00			2 600,00								
	Equipment / Tools	1 global budget	2 500,00	2 500,00		**2 500,00**									
	Labor / Plantation (10 people)	5 days	70,00	3 500,00			3 500,00								
	Coordination / Supervision (7 people)	5 days	150,00	5 250,00					2 250,00	2 250,00	750,00				
	Fence	500 meters	15,00	7 500,00		**7 500,00**									
Organizational training / nursery management	Facilitator	2 days	1 500,00	3 000,00		**3 000,00**									
	Meeting hall	2 days	300,00	600,00			600,00								
Output 4	**Evaluation and upscaling**														
Participatory evaluation / workshops (2 days) + survey	Consultant	5 days	3 000,00	15 000,00		**15 000,00**									
	Meeting hall	1 day	300,00	300,00			300,00								
	Supplies	1 global budget	1 500,00	1 500,00		**1 500,00**									
	Meeting hall	2 days	300,00	600,00			600,00								
	Coffee break	4 breaks	500,00	2 000,00		**2 000,00**									
Organization of 2 regional workshops	Meeting hall	2 days	1 000,00	2 000,00			2 000,00								
	Lunch break (50 people)	50 people	150,00	15 000,00		**15 000,00**									
	Materials / supplies (including invitation)	50 people	150,00	15 000,00		**15 000,00**									
	Projector and computer use	2 days	500,00	1 000,00					1 000,00						
	Coordination / supervision (2 people)	5 days	150,00	1 500,00						750,00	750,00				
3 meetings with Rural Commune and PCD team	Coordination / supervision (1 pers.)	3 days	150,00	450,00						450,00					
	Meeting hall	3 days	300,00	900,00			900,00								
	Lunch break (10 people)	3*10	100,00	3 000,00		3 000,00									
TOTAL ACTIVITIES BUDGET (MAD)				545 896,00		**257 500,00**									
Provision for hazards (1% of CBA project contribution) - MAD						*2 575,00*									
Administrative / management expenses (including translations of reports etc). 7% of CBA project contribution- MAD						*18 025,00*									
TOTAL PROJECT BUDGET AND CONTRIBUTIONS (MAD)				**566 496,00**		**278 100,00**	114 130,00	88 166,00	6 800,00	40 750,00	25 350,00	10 500,00		2 700,00	
TOTAL PROJECT BUDGET AND CONTRIBUTIONS (USD)				**67 925,18**		**33 345,32**	13 684,65	10 571,46	815,35	4 886,09	3 039,57	1 258,99		323,74	
			% of the total budget	*100,00*		*49,09*	*20,15*	*15,56*	*1,20*	*7,19*	*4,47*	*1,85*		*0,48*	

USD exchange rate October 2010 ***8,34***

Annex - Illustrations

Sidi Majbeur environment : an eroded mountain ecosystem



Community participation in project development



Vetiver (chrysopogon)

A natural innovation for community-based adaptation to climate change