Potable Water and Institution Building in the Morocco's High Atlas Mountains: A Project for the Rural Commune of Toubkal in the Province of Taroudant

Main Implementing Agency: High Atlas Foundation

Contact information:

In the United States:
332 Bleecker Street, #K110
New York, NY 10014 USA
Tel (646) 688-2946 | Fax (646) 786-4780

In Morocco:
La Fondation du Haut Atlas
Centre pour le Consensus Communautaire et le Développement Durable
Université Hassan II-Mohammedia
la Faculté des Sciences Juridiques, Economiques et Sociales
Mohammedia, MOROCCO
Tel & Fax +212 (0)523 32 62 87
haf@highatlasfoundation.org

Organization Website: www.highatlasfoundation.org

Main Contact: Dr. Yossef Ben-Meir, President
yossef@highatlasfoundation.org

Mission

The High Atlas Foundation (HAF) works to establish development projects in different parts of Morocco that local communities design and manage, and that are in partnership with government and non-government agencies. HAF uses a participatory development approach that includes beneficiaries as active partners in every step of the development process - from prioritizing development goals to project implementation and management to monitoring and evaluation. Key to this approach is the facilitation of community planning meetings where beneficiaries together determine the types of projects they want to undertake and create action plans. The over-arching purpose of the High Atlas Foundation is grass roots development in poor and disadvantaged communities, which are predominantly rural.

Project Overview

This proposal seeks $37,500 to provide potable water for 5 villages (approximately 1,250 people) in the Toubkal Region in Morocco's High Atlas Mountains. Approximately 70% of rural Morocco lacks piped potable water, one of the greatest problems affecting villages in the High Atlas Mountains. Unhealthy drinking water causes frighteningly high infant mortality rates (many families lose half their children to water-borne diseases), shorter overall life spans and reduced energy for livelihoods and community development. Further, time spent daily to procure non-potable water not only adds to the already substantial burden of women and girls, but it also prevents their participation in education, and other proactive activities.

Although local villagers rank water supply as a priority, they lack the institutional and organizational capacities to effectively manage projects and cooperate with government agencies and NGOs. Abilities to bring about desired development are hampered by either low organizational capacities or the inability of local institutions to effectively access resources from or work with outside agencies. Partnerships between HAF and village-level institutions, Moroccan NGOs, and government ministries will lead to the construction essential infrastructures for safe and accessible drinking water. Concurrent sessions will raise awareness and improve responses to larger, underlying health issues, as well as focusing on the enhancement of local development and organizational capacities through the establishment and/or training of village associations. Both infrastructure construction and trainings will complement each other to ensure the proper operation and continual maintenance of water systems, as well as the knowledge, means and incentives to initiate other community-led development actions and effectively collaborate with outside government agencies and development organizations. The relationships and experience resulting from collaboration between local, regional, and international partners this will allow the project to serve as a model that can be replicated in other areas lacking potable water in the High Atlas, and throughout Morocco.

General Problem Description:

One of the most essential human needs is clean and accessible drinking water, of which 45% of Morocco is without, reaching as high as 70% of most rural areas. Lack of potable water has far reaching effects on rural populations that impede overall quality of life and development potential, ranging from health and girl's education to women's hardships and abilities to fully participate in development activities. Despite the establishment of PAGER within the Ministry of Public Works, there has been a general absence of programs that adequately respond to the extent of this problem, or encourage the active participation, raising of communities' capacities, and ownership over projects while remaining cost-effective in order to cover wider areas of the

country. There have been relatively few attempts to bring potable water to remote mountain regions.

The province of Taroudant, bordering on the southern slopes of the Western High Atlas Mountains, ranks among the poorest in all Morocco. Comprised mostly of rural farming communities, little infrastructure exists outside larger towns in terms of electricity, water, and roads. Villages in the valleys and foothills of the High Atlas still practice a subsistence economy of agriculture and pastoralism in steep, difficult terrain resulting in their earning some of the lowest incomes nationally. Often government institutions have little presence or their programs and services are non-existent, and the fact most villages are ethnically Amazigh (or Berber), an indigenous group that preceded the Arabs in North Africa possessing its own distinct language and customs, further contributes to a sense of marginalization. Illiteracy rates are as high as 90% in some areas due to the fact schools are either new or have not yet been built. Health dispensaries are still too distant for many families to reach in times of emergency, and at present medical consultations and health education campaigns do not take place in villages. The greatest factor obstructing development and preventing a better quality of life in villages is the lack of potable water, which creates problems in two main areas, that of health and access-related issues.

The lack of proximate sources of potable water means villagers are forced to drink from sources including irrigation ditches and streams that contain high rates of harmful micro-organisms not only due to their open nature, but because they have often already passed through and been used by upstream communities and animals. The terrain and geology of the area are such that there is no water table to access by digging wells. Although springs exist, they are usually in areas extremely far or inaccessible from villages such as rocky escarpments near the top of mountains. In nearly all cases when villagers do procure spring water, it is either already polluted due to the fact it has been exposed to air and impurities after exiting the spring, or because the spring itself contains water that has been exposed at higher elevations and re-entered the earth, only to exit again. Despite the fact that a few villages possess cisterns to store water near mosques, no systems exist by which they could treat this tainted water. The Health Ministry provides rural dispensaries with treatments for various types of water purification methods, but neither they nor the knowledge reaches these villages. Even with such knowledge, individual households would find purchasing the treatments on their own to be expensive, and treating unclean water is already a second-best solution to finding purer sources.

Use of impure water has serious impacts upon the health of villagers, constantly jeopardizing the lives of infants and young children, and affecting the overall vitality and well being of communities. **Probably the starkest indicator of the increased susceptibility of villagers to water-borne illnesses is the abnormally high infant mortality rate of the Toubkal Commune in which the Tifnoute Valley is found, reaching as high as 186 deaths per 1,000 births, more than four times the official national average.** Diarrhea among village infants and children resulting from consuming nonpotable water is prevalent in villages, and many mothers report to have lost more than half of their children from the cause. Those surviving to adulthood,

however, face a continual host of water-related, gastro-intestinal ailments that drain men and women of substantial energy, deprive families of needed resources, and shorten life spans. Utilizing unclean water for drinking and other purposes such as bathing, washing hands before meals or prayer, or even doing laundry can also compromise health.

The other significant problem caused by lack of potable water is related to the accessibility to and availability of water, which by negatively impacting the lives of women and girls impedes the development capabilities of entire communities. Village women and girls, who are responsible for fetching water on a daily basis, try to procure it as close as they can to mountain springs. Despite the fact that this water is still not potable, they must spend considerable time, often several hours a day to cover considerable distances to water sources instead of having to make several trips to areas which are steep and dangerous, thus restricting them to carrying only small amounts of water at a time. The obvious implication is that time for water collection adds to the already busy and exhausting daily work schedule of women and girls, which begins before dawn and includes finding forage for livestock, collecting firewood, caring for children, tending to livestock, washing clothes, gardening, cooking and various household duties, and assisting with seasonal agriculture. Time and energy spent fetching water are resources that could thus be better employed by women and girls not only for other tasks and relaxation, but more importantly used to participate in development activities or attend school.

The availability of water, in addition to access, also presents difficulties, especially for villages with either no proximate access to springs, or during summer months when many closer springs run dry. In these situations, villages usually rely upon water from irrigation ditches originating from either different springs or nearby rivers, even though they may have higher levels of contagion. Especially during the summer or drought periods, water is not available at all hours, but flows only at certain times according to irrigation schedules, which complicates women's daily work as they must lay aside other tasks to quickly fetch as much water as possible during these brief and fluctuating windows of time. This task often involves every female member of a family, but as mothers cannot often leave other responsibilities such as small children, water collection becomes a chief task for girls. Because such water is usually available during the morning and afternoon, many girls must sacrifice their education.

Both health and access-related problems resulting from lack of potable water not only inhibit the current quality of life of villagers, but sap communities of valuable human capital, time, and resources that prevent their long-term development and potential. It is for this reason that villages have consistently ranked potable water as a number one priority during needs assessments, and rightly considered it an essential prerequisite to other health, literacy, or income-generation activities. For example, health and sanitation trainings or projects will have little positive effect if communities will still have no choice but to use non-potable water afterwards. Although villagers realize the importance and may desire literacy or income generation activities, it is logical that they are at times given low priority if children still die from water-borne diseases, or women continue to be too busy and overburdened to participate. In

light of local motivations to overcome the problem of water, different factors have conspired to obstruct solutions, both on the part of communities and state agencies.

It may appear on the surface that the only obstacles to villages being able to provide themselves with potable water are the lack of financial and technical means to do so, since Berber communities in the Western High Atlas in particular are well known for their high levels of social organization and cohesion. Despite evident abilities to mobilize local resources for collective efforts through indigenous institutions, development in the region often remains handicapped due to neglect by outside actors, as well as the very inabilities of locals to elicit outside resources and cooperation. The capabilities of *jema'as*, or village assemblies, in which every household of a village is represented to mobilize collective labor and maintain local infrastructures, negotiate the management of shared resources, and resolve disputes, has been well-documented. The *raison d'être* for the indigenous Berber institution was so that communities could cooperate in an effective manner to build and maintain irrigation infrastructures, as well as manage natural resources upon which survival depended. Although *jema'as* still remain strong and central to many aspects of village life in the High Atlas, they are not officially recognized as legal bodies, and therefore are not allowed to accept or manage outside funds. Thus, they are limited in their abilities to interact with outside government agencies or development organizations.

The recent appearance of village-level associations in the High Atlas region may be a solution to this problem, as during the last 2-3 years many Tifnoute villages have legally established associations in order to facilitate cooperation with NGOs and government counterparts in development projects currently planned for the region. Although some village associations have been successful in attracting NGOs or initiating projects, nearly all remain limited in terms of their management and organizational capacities, and many villages that desire associations lack the knowledge on how to create them. These villages and associations have requested training on how to form associations, their various roles and functions of associations, and project management. Strategies must be examined, however, by which new associations can coexist and even reinforcement the indigenous *jema'as* instead of undermining them. This is especially important in light of the fact that many donors now often expect an association to exist in villages if they are to fund any projects there. Associations can play an important part in the implementation and maintenance of projects such as potable water infrastructures, but also provide the organizational means for subsequent or on-going development actions.

On the part of state and outside development actors, the reason most often stated why numerous areas of Morocco still need potable water is a lack of various resources, mostly financial. Closer inspection reveals an absence of programs that are both cost-effective and participatory as well as involve the effective coordination of government ministries, NGOs, and local institutions. In many rural areas, national programs led to the construction of water systems more appropriate to the urban areas in which the engineers that designed them resided.

In general, technical and other personnel of state agencies implementing the projects have lacked training on participatory development and appropriate technology approaches to implementing projects. The result of building more expensive urban or peri-urban water systems in areas has, in fact, been that the state has lacked the resources to provide more rural areas with water. Not surprisingly, villages did not possess the resources or knowledge to maintain these systems over time. If more participatory and consultative approaches had been used in project design, the results would likely have been more appropriate systems that built upon and utilized local knowledge and resources to ensure not only technical sustainability, but local ownership as well. The forming of PAGER teams at regional levels has led to progress in the implementation of more appropriate projects as of late, but participation must also exist not only in the sense of development actors consulting with local communities, but actually involving them in decisions and delegating them responsibilities. Finally, greater coordination is needed between various government agencies concerned with potable water and health, as well as NGOs and local institutions.

Problems to be Addressed:

1. Lack of potable water in villages of the Toubkal region resulting in the following:

- Serious health problems brought about by water-borne diseases causing high infant mortality rates, adversely affecting the overall health and lifespans of all villagers, and reducing the human capital and vitality of entire communities

- An increase in the daily work and hardships of women and girls arising from lack of availability or difficult access to water sources, requiring significant time spent each day to procure water, and preventing time for other meaningful tasks, relaxation, or formal education, which, affects the development potential for entire communities

2. Absence of appropriate programs to provide potable water and enhance the development capacities of rural populations, manifest in the following:

- The need for greater local organizational skills and capacities to manage and maintain projects, as well as cooperate with government agencies or development organizations, including the ability to create and effectively operate village associations

- The lack of coordination and collaboration among state agencies, NGOs, and local institutions to plan and implement cost-effective and participatory projects appropriate to regional specificities and in which significant responsibilities are delegated to communities

Project Objectives

General Objective:

Through the provision of potable water in 5 villages(1,250 people) in the Toubkal region of the High Atlas Mountains, improve the overall health, well-being, and development capabilities of communities, as well as establish a model approach for raising local organizational and institutional capacities and create greater coordination and collaboration between various state agencies, non-governmental organizations, and local institutions.

Specific Objectives*:*

The general objective will be achieved through attainment of the following specific objectives:

- The participatory design, planning, and completion of appropriate potable water systems for 5 villages in the Toubkal region.

- A reduction in the incidence of water-borne diseases, and in particular, a lower infant mortality rate in villages.

- Greater awareness of wider community health issues, including disease prevention, changes in hygiene practices, and sanitation in villages.

- Greater availability of time for women and girls to engage in other tasks, relaxation, and development activities such as literacy and income generation, as well as increase school attendance among females.

- Heighten organizational and planning capacities to maintain water systems and initiate as well as manage other desired development activities.

- Provide a legal institutional framework by which villages can have greater control in managing development projects, access needed resources, and more effectively collaborate with state agencies and other outside organizations through the creation, training, and delegation of responsibilities to village associations.

- Through hands-on experience, provide practical experience for government workers on participatory approaches and appropriate technology solutions to development problems.

- Establishment a model of inter-agency coordination and collaboration for future programs and efforts to bring potable water to rural areas of Morocco.

Project Components and Rationale

The afore-mentioned specific objectives will be attained through activities grouped into four main component areas, carried out in villages and between partners, which are the following:

- Planning, Construction, and Operation of Potable Water Systems.
- Health and Sanitation Awareness Sessions and Training.
- Institutional Support and Capacity-Raising Sessions and Training.
- Self-Evaluation and Coordination Sessions.

Components:

Water System Infrastructure –

The first component involves the establishment of essential physical infrastructures providing potable water to villages. Responding to the environmental and topographical conditions of the region, infrastructures will consist of gravity-flow water systems that will pipe pure water from distant mountain springs directly to reservoirs built above villages, from which water will run through distribution systems to public taps located in key spots near groups of houses. Through such a system, potable water from far away sources is made available at all times close to homes or in important public spaces such as schools, clinics, and mosques.

Construction of the gravity-flow systems, comprised of different structures and components between springs and villages, will make use of local building techniques, knowledge and resources, similar to gravity-flow systems successfully implemented in nine Tifnoute villages from 2008-2010. Work will typically begin at springs already determined suitable in terms of water quality, adequate flow, and tenure status during projects assessments. Springs will be slightly excavated, and a small basin, known as a springbox, will be constructed to allow water to directly and freely enter from one of the sides, to exist through a lower outflow pipe on the opposite side and be piped to the village The springboxes, built of stone masonry, are fully covered to prevent any air exposure or contamination of water. Tops of the boxes can be removed for servicing, however, and all springboxes come complete with drain and overflow pipes, as well as a valve and filter to regulate outflow. Gravity will pull water from the springboxes through a special type of high-density PVC piping buried in trenches to villages below. The piping, which comes in flexible segments of 100 meters, has a lifespan of 40 years if properly insulated in trenches (optimally 30-50 cm deep). Where piping cannot be buried due to steep or rocky terrain, it will be "buried" or insulated above ground with rocks and earth, or else galvanized (GI) iron piping will be used.

Reservoirs above villages create not only sufficient water pressure for flow to taps, but allow for the replenishment of an adequate daily supply of water as water continually arriving from springs fill them each night. The reservoirs will likely be either rectangular or circular in shape, and vary in capacity from 20-30 tons of water, and like the springboxes be built into excavated earth,

out of stone masonry coated with cement. They will also include drainage, overflow, and outflow pipes, with valves outside to regulate the latter and a door located in the roof to which they can be entered for servicing. Roofs will be built using a local technique called *koubba*, which requires very little if any rebar, but is just as strong and significantly cuts costs. The distribution system from the reservoir will use the same high-density PVC piping, but in various sizes and diameters to equalize water pressure between branches leading to different taps. Tapstands will use durable faucets, and their concrete construction will include basins to facilitate water collection and washing, if water supply is sufficient for the latter. Drains will lead water away from tapstand areas for sanitation purposes to areas where it can be used to irrigate fields or gardens.

The utilization of local building techniques, knowledge, and resources, should make respective projects cost-effective to implement and sustainable in terms of maintenance, as was the case with the Tifnoute villages, where systems remain fully operational. Locals will not only be expected to operate and maintain systems afterwards, but will be heavily involved during their planning and construction. *Mualims*, or local skilled laborers with some experience in building water systems will be chosen by participating villages to direct the construction efforts in which they will work. The *mualims* will be compensated for their work by either village associations or *jema'as*, which will ensure the quality of and timeliness of work, and be responsible for mobilizing laborers and local resources such as rocks, sand and gravel on a daily basis. Local contributions, then, will comprise of all labor, the supervision and payment of skilled labor, the supply of all local materials (sand, rocks, and gravel), and provide for the transportation of outside materials from local points to villages by truck or mule. Outside material contributions will include all construction materials (cement, rebar, piping, and plumbing parts) as well as their transportation from Marrakech to the villages in the Toubkal region.

After completion of projects, a committee of a few individuals will be chosen either within village associations or by *jema'as* to oversee water systems, of which one or two individuals will be designated as responsible to ensure their proper operation and maintenance. Those designated will have been actively involved in their system's construction, and received extensive training on component functions and how to make necessary repairs. Spare plumbing parts, piping, and cement for each village are included in the overall budget, and any extra materials beyond those originally allotted will belong to village associations,or *jema'as* to use as they see fit for maintenance purposes or other desired projects. Subsequent repairs and changes in systems will be decided upon collectively by the *jema'as*, which will incur the costs of extra materials or skilled labor beyond the original spare parts. Before construction, the households in each village will sign an agreement drafted by their association or the project team that deem extra materials or spare parts not be used for the personnel purposes of any households, but collectively decide their use. Projects will not allow for the installment of taps inside of houses, but individual households may choose to do so at their own expense after collective approval.

Planning and training will occur both before and during construction, between local skilled laborers and villagers, project technical team members and locals, and amongst technical team members. The first type of training, between local skilled laborers and villagers will occur during construction, in which villagers will work closely with skilled laborers, becoming familiar with nearly all aspects of the building and functioning of water systems. The one or two individuals chosen to oversee systems after construction will work at the side of the *mualims*.

The second type of training will consist of members of the technical project team providing technical advice to skilled laborers and villagers, as well as general project oversight both during and after construction. The project technical team will consist of one qualified expert from HAF, and one engineer from the TNP administration. Assistance will include training on testing the water quality and flow of springs, determining the appropriate dimensions for pipe and reservoirs to be constructed, and the technical transfer of skills regarding plumbing supplies and techniques not previously used. Technical team members will learn about local building techniques, conditions, and which types of materials or systems are appropriate and sustainable.

The last type of training will involve training among technical team members on participatory methods and the application of appropriate technology principles. All team members will attend a pre-project workshop in Marrakech including sessions on participatory development methods and tools, organized by HAF and the TNP administration. Technical team members will be required to use these methods during initial needs assessments and feasibility studies in villages, as well as throughout the ensuing construction phase in their dealings with village *jema'as* and associations. The HAF and TNP technical team members will evaluate and provide feedback to other team members throughout the process. The members of HAF will conduct sessions at the Marrakech workshop on appropriate technology principles for the following the participatory methods for the rest of the team. Those principles will subsequently be employed in assisting skilled laborers and villages make technical plans for projects that maximize local materials, knowledge, and involvement.

Health Awareness Sessions and Trainings –

Through a program of sessions and meetings in villages, this component will promote awareness of health problems and steps necessary to resolve them, in addition to reinforcing the capacities of government and non-government agencies and institutions to combine resources and knowledge for the improvement of health in rural areas. Sessions will emphasize issues related to water and sanitation, including the importance of clean water supplies, proper sanitation infrastructures and practices, and personal hygiene. There will be focus on both village and household level problems, and actions that must be taken to address and mitigate them, such as the treatment and purification of water, installation of household latrines, and improved hygiene practices. From the sessions, villagers will have a better understanding of the causes of not only water-borne diseases, but a number of other health problems, and how they can be both treated or prevented.

Sessions will be conducted among both men and women (except women's health issues), and will consist of the following themes:

Session 1: Importance of Clean Water and Sanitation and Detection of Water-Borne Diseases

Session 2: Water Purification Methods and Treatment of Diarrhea and Intestinal Diseases

Session 3: Village and Household Sanitation Issues and Promotion of Latrines

Session 4: Personal Hygiene and Disease Prevention

Session 5: First Aid, Women's Health, and the Role of Local Dispensaries and Health Ministry

Carrying out the program of health sessions will also reinforce the capacities of government agencies and institutions to work with local communities, NGOs, as well as each other. One goal of the sessions will be the forming of village health committees, which will thereafter serve as links between villages and local dispensaries.

Institutional Support Sessions and Training -

An integral part of the overall project, institutional support and capacity-raising sessions will focus on enhancing village capabilities to operate and maintain water systems, as well as initiate and manage other desired development activities. The means by which this will be achieved, and emphasis of the sessions, is the creation of official village associations, or training and support of existing ones. By establishing legally recognized development associations, villages heighten their level of organization, provide a framework for cooperation and collective work, the mobilization of resources, and facilitate contact and collaboration with outside organizations or state agencies. The successful, transparent operation and functioning of development associations encourages participation and joint-sharing of responsibilities, essential conditions for positive, long-term development and social change beginning at the local level.

Training village associations is especially relevant in the Tifnoute Valley, where associations have appeared during only the last three years and most of their members still lack a firm understanding of their roles and functions, as well as legal procedures by which they operate. As a result many associations exist only on paper, while other villages desiring associations lack the appropriate knowledge regarding how to create them. Although some associations have met early successes in procuring outside aid or resources, all could use training on ways to initiate ties and strengthen relations with state agencies or NGOs in order to access needed financial or technical resources and assistance. Emphasis is needed on ways that associations can cooperate and even reinforce traditional village-level institutions such as the village assemblies, or *jema'as*.

To assist in the creation and functioning of development associations in villages, a series of modules will take place:

Module 1: Introduction – Characteristics of Associations

Module 2: Organizational Structure of Associations

Module 3: Legal Procedures for the Constitution of Associations

Module 4: Financial Documents and Accounting Procedures

Module 5: Planning and Carrying Out Projects

HAF staff and workers with experience supporting village association in the nearby Ouarzazate and Errachidia provinces developed the sessions. Elements of sessions may be repeated or emphasized according to the requests and needs of various village associations

Trainings will not be only informational in nature, but their contents will be applied to the actual creation and functioning of associations, especially how they can facilitate completion, operation and maintenance of potable water systems. New associations will typically be formed after the first three training modules, according to the motivation and readiness of villages. Institutional support teams will interact with villages for the duration of the project, often well after the construction of infrastructures. More advanced associations will receive training on proposal writing, but with all associations attention will be given to reinforcing working relations and ties with local government institutions, provincial ministries, and both Moroccan and international NGOs. The various partners participating in the institutional support team should facilitate this process, and learning should occur among team members as HAF representatives with experience working with village associations will lead teams.

Coordination and Self-Evaluation Sessions -

The purpose of this component, involving members of all partner organizations, is threefold:

1. To assure coordination between both partners and the various component teams,

2. Monitor progress towards objectives during the project, and

3. Produce a written report at the end describing the project's approach, outputs, and results based on evaluations.

A representative of each partner organization, usually more senior members, will form the coordination and self-evaluation committee which will meet at least quarterly throughout the duration of the project in order to report on actions and evaluate progress. During these meetings, the committee will set new quarterly goals and action plans to achieve them, the latter of which will involve the agreement on how to coordinate the actions, resources, and personnel of partners and component teams. Designated committee members will be responsible for drafting progress reports every six months. The final product or report on project approach and results is important in order to determine whether the pilot project should serve as a model for programs to provide potable water to other rural areas in Morocco.

Rationale:

The four project components are both complementary, as well as necessary to achieve overall project objectives of improving village health, quality of life, enhancing local development capacities, and creating a model of inter-agency collaboration in programs to provide potable water. The first component will establish infrastructures providing accessible, potable water in an efficient and cost effective manner that will bring about immediate improvements in the health of villagers and quality of life among particularly women and girls. However, without awareness being raised regarding the importance of clean water supplies, sanitation, and proper hygiene, this progress will not suffice and the project will not achieve its full, potential impact

while the health of villagers will continue to suffer despite the presence of potable water. Likewise, health sessions would not be effective if villagers continue to drink unclean water, and sufficient amounts of accessible supplies are necessary proper hygiene practices such as bathing and improved sanitation structures such as latrines.

Institutional support sessions and the creation, training, and support of village associations will not only facilitate a smoother implementation of the project in villages, but also provide organizational capabilities for the effective operation and maintenance of water systems afterwards. Associations will also provide the institutional means and framework by which villages can have greater control in initiating other projects, accessing resources from outside, and legally managing funds and projects locally. The coordination and evaluation component is important in that it will ensure that the project teams from all three components are coordinating efforts in order to attain project objectives, and in the end provide an account and evaluation of the project that can be used to guide, make recommendations, or improve other programs and efforts seeking to provide potable water to rural communities in Morocco.

Implementation and Timetable

***General Timeframe**:*

Project implementation is divided into four main phases extending over a period of fourteen months, all of which overlap to some extent because component activities will not occur at the same time in all villages. For example, infrastructure construction will take place relatively soon in some villages, depending on availability and efficiency of laborers. Although the project will be completed in the duration of fourteen months, unfinished activities will be completed during a one month extension period, during which time final reports and documentation will be drafted. This does not imply that the project will come to a final stop, as maintenance will continue.

	Project Components:			
Phases:	*Infrastructure*	*Health Awareness*	*Institutional Support*	*Coordination and Evaluation*
Assessment Months 1-5	XX	X	X	XX
Implementation Phase 1 Months 5-11	XXX	XX	XXX	X
Implementation Phase 2 Months 12-14	XXX	XX	XX	X

Evaluation and Support Months 15	X	X	XXX	XXX

Levels of Activity:
X – Moderate
XX – Normal
XXX – High

Phases:

The two phases listed below are not contingent upon grant funding and have either already been completed or are currently underway:

i. Pre-Assessment ***2 months (completed)***

Beginning in the summer of 2008, HAF assisted the TNP administration in carrying out needs assessments in villages surrounding Toubkal National Park. Prioritization of community needs and problems revealed that lack of potable water was a top development concern for both women and men. For nearly all villages a potentially viable solution to the problem of potable water appeared to be gravity-flow, spring catchment systems due to the presence of springs above villages. No funding existed for such projects, however, and it was observed agencies or programs focusing on water issues were neither working in the valleys, nor coordinating efforts.

ii. Project Design and Proposal Writing ***9 months (completed)***

In response to Pre-Assessment results, HAF and TNP staff designed a project to provide potable water for villages in Toubkal that combines resources and involves the collaboration of regional Health Ministries, and rural communes. After initially approaching these actors, which were consulted numerous times during project design, HAF took the lead writing the grant proposal. While waiting for grant approval, all partner organizations are presently deciding upon who will represent them in the Coordination Committee, which will be followed by the selection of the members of Technical, Health Awareness, and Logistical Support Teams.

Phases involving grant funds, their activities, implementing actors, and times of implementation are described as follows:

1. Assessment ***Months 1-5***

Consisting of the first five months of the project, Assessment will include a general orientation and training for partner organizations, needs assessments being carried out in all villages, and initial planning and training sessions by component teams. Upon notification of funding, the Coordination Committee will begin planning a 2-day *Commencement Workshop* to take place in Marrakech in the first month and include all partner organizations. Opening sessions facilitated by the Coordination Committee will provide partners a general overview of the project, its

rationale and objectives, proposed activities, the contributions of all partners, and reporting procedures. The second session will consist of training on participatory methods and tools to be carried out by HAF and TNP administration personnel.

One the morning of the second day, participants will meet in their respective component teams and committees. The technical team of the infrastructure component will attend a session on appropriate technology principles conducted by HAF team members. Provincial Health Ministry officials will conduct training for Health Team members on pedagogical techniques for health education in rural areas, while the Institutional Support team will attend a session on the role of associations in Moroccan civil society, facilitated by HAF and likely including a guest facilitator from AMSED, a Moroccan NGO that assists communities in forming associations. The coordination Committee will facilitate the final session, in which action plans for the first year and three-month period will be discussed and agreed upon by partners and component teams.

Following the Commencement Workshop in middle of the first month, Needs Assessments will take place in all 29 proposed villages. In the Needs Assessments, priority lists from any prior needs assessments will be updated, and members will use their different areas of expertise to obtain greater understanding of community needs and problems as they relate to water. Team members will have the opportunity to apply the participatory methods and tools featured in the Commencement Workshop training, which will be used to provide important baseline data and information to which later project results will be compared. Considerable focus during the two to three visits to each village will be given to explaining the project, assessing local institutional capabilities and willingness to make necessary contributions, and determining which villages are ready to proceed with construction and trainings right away as opposed to during the second year. Villages found unsuitable for participation in the project will be replaced by nearby alternates.

Projected Tifnoute villages are the following: Ait Igrane, Amsouzerte, Imhiline, Takatert, and Tissouguen

During needs assessments, but especially through follow up visits to villages selected for infrastructure construction, component teams will cover the contents of Health Session #1 and Institutional Module #1. The technical team will begin feasibility studies with locals examining the suitability of springs in terms of water quality, their legal status (private or common property), and identify local skilled laborers.

2. Implementation Phase 1 (First Year) ***Months 5-11***

The first phase will constitute of the Health Team conducting Health Sessions 2 and 3, and the Institutional Support Team carrying out Modules 2 and 3. For the infrastructure component, feasibility studies will be completed and technical plans prepared in selected villages, the latter involving the participation of Technical Team members, village associations or *jema'as*, and skilled laborers chosen by villagers. These technical plans will specify the dimensions of all infrastructures to be built, specific types and quantities of materials needed, and timetables for work. Upon their completion, contracts will be prepared and signed by team members and village associations, clarifying the roles and responsibilities of each in terms of work responsibilities, the handling of materials, and upkeep of water systems. Prior to beginning construction, villagers will prepare all local materials such as sand, rocks, and gravel.

Association or *jema'a* representatives will accompany the transport of outside-funded materials (provided by the TNP administration) from Marrakech to Tifnoute, from where they will handle local transportation to villages.

Construction of water systems in the 5 selected villages will take place from May and will typically last 1 to 2 months. Springboxes will be established at springs, followed by laying of piping, and building of reservoirs, distribution systems, and tapstands in villages. The Technical Team will constantly follow up to assure technology transfer to skilled laborers as well as from skilled laborers to villagers. The team will also verify the delivery and use of all materials, progress during construction, and that finished systems function properly. The Institutional Support Team will ensure associations can adequately handle both construction and post-construction aspects of managing and operating the systems, including forming special committees or designating responsible individuals. Technical Team will carry out feasibility studies, followed by the preparation of technical plans and the drafting of contracts for construction that is to occur in the next phase.

3. Implementation Phase 2 (Second year) ***Months 12-14***

During Implementation Phase 2, infrastructure construction, and the activities and trainings of Health Awareness and Institutional Support components will continue until completion. After the finalization of technical plans and work contracts, outside-funded materials will be transported to villages, with construction of individual projects following thereafter. Any unfinished construction work from Implementation Phase 1 will be completed.

The Technical Team will increasingly play a follow-up role, verifying that water systems function properly in providing potable water, and taking inventories of remaining materials. Team members will assure that villagers possess the abilities to technically operate and maintain systems, providing additional trainings as necessary to individuals and committees chosen by villages to be responsible over water systems. The Institutional Support Team will finish remaining modules, facilitate the creation of associations if they do not already exist, and follow-up on or repeat sessions according to local needs. Coordination will occur with the Technical Team to assure associations can upkeep water systems. Grant writing training may occur with more advanced associations.

The Health Awareness Team will also finish its sessions (4-5), and coordinate with the Technical Team to in order to ensure villagers know how to properly maintain water systems and treat water at both a village and household level. Collaboration may also occur with Institutional Support Teams to assist in the creation of village health committees, which can function within associations, and provide links to outside health resources, particularly local dispensaries. With the provision of potable water, the construction and use of household latrines will also be encouraged.

Between Implementation Phases 1 and 2, the Coordination Committee will organize a 1-day Mid-Term Evaluation Workshop in Marrakech where preliminary results of the project will be discussed, recommendations made for improvement, and action plans for the second year agreed upon.

4. Evaluation ***Month 15***

The final Support and Evaluation phase will begin at the end of Implementation Phase 2, lasting for one month. Component teams will finish all activities, including any unfinished construction or sessions. The Institutional Support Team in particular will assess the capabilities of local associations to manage water systems, other development projects, and collaborate with state and non-governmental organizations, and links will be provided to outside resources and agencies.

In the final month, mixed teams will collect final assessment data to be compared to original baseline information, and component teams will produce final reports of their activities and observations by the end of the year. The Coordination Committee will use the final reports, as well as results of the final assessment compared to baseline data, to produce a final project document detailing its approaches and evaluating its effectiveness. Alongside the report, another, smaller project evaluation will be carried out by an outside Moroccan firm or group of researchers to be determined. The Coordination Committee will organize a final Workshop in Marrakech to present its report to partners, government agencies, and community representatives.

Monitoring and Evaluation

Monitoring will consist of each of the component teams providing timely reports of activities every 3 months and success in terms of short-term work plans objectives (set for the same 3 month periods). Component Teams will also prepare both Mid-Term and Final Reports. All reports, budget expenses, and other documents will be regularly reviewed by the Coordination Committee, which will also make visits to view progress in villages, especially after Implementation Phase 1.

Mid-Term and Final Evaluations will be carried out by the Coordination Committee, and a final, post-project evaluation completed by an outside agency, likely Agro-Concepts or faculty at the Institut Agronomique et Veterinaire at Hassan II University. All evaluations will be based on comparisons with baseline data collected during the Needs Assessment of the Assessment Phase, as well as the project reports of component teams.

Impact of the project on villages in the Toubkal region will be measured in terms of indicators that formed the basis of baseline data collection, and which will be measured during the final assessment in the Evaluation and Support phase. Indicators include: the presence of functional water systems providing accessible potable water in villages, improvements in health (decreases in infant mortality and reduced incidence of gastro-intestinal sicknesses), better quality of life for women and girls (more time available for other tasks, greater participation in development activities, and increased school attendance among girls), and improved development capacities, which will be measured in terms of the creation of village associations, and the role associations play in maintaining water systems and initiating other development activities. Methods for verifying the indicators will include field visits and observations, priority needs ranking, focus groups, household surveys and interviews, dispensary and school records, and the registries of local associations, as well as interviews with local officials.

Project impacts on local communities will be compared with the reports of component teams, overall budget expenditures, and interviews with the members of component teams and partner agencies to judge the overall effective of the project's approach and cost-effectiveness.

Budget

Expense	Amount	Description
Infrastructure Component:		
Construction Materials (Cement, Rebar, Pipe, Joints, Reductions, Faucets, Valves, Teflon, Filters, and Stoppers)	$20,000	$4,000 average per village X 5 villages
Technical Consultant	$1,500	1 Local Engineer
Transportation of Construction Materials	$2,500	$500 per village X 5 villages
Health Component:		
1 Fieldworker	$1,500	$500 per month X 3 months.
Materials	$1,500	$300 per village X 5
Trainer	$1,000	
Coordination Component:		
Project Coordinator	$3,500	HAF committee representative/Country Director
Travel and per diem for Coordinator	$1,000	
Commencement Workshop	$1,000	2 days in Marrakech
Mid-Term Workshop	$500	1 day " "
Final Workshop	$1,000	2 days " "
Outside Evaluation	$1,000	AgroConcepts or Institut Agronomique
Administration Fees (Communications, Operational Overhead, etc.)	1,500	
Contributions from Moroccan Partners:		
Community Contribution:		
Lodging, Stones, Masonry, Gravel, Sand, Mule Transport, and Skilled and Unskilled Labor	$15,000 (approximately)	
Regional Health Ministry:		
Health Awareness Consultant	$1,000	$500 per month for 2 months

Total Project Cost	**$53,500**	
Total Amount Requested	**$37,500**	

About the High Atlas Foundation:

Being founded by former Peace Corps Volunteers in 2000, HAF is dedicated to the participatory approach to development. This means that local communities determine - through a series interactive planning activities and dialogue - and manage their own projects. We assist them by facilitating community meetings and providing technical and financial support to their projects.

Thus, HAF's 1 Million Tree Campaign (of which 320,000 have so far been planted benefiting approximately 30,000 people) was born from countless community meetings in different provinces of Morocco that identified fruit tree agriculture as a top priority; HAF's dedication to clean drinking water (halving infant mortality in a population of 3,000 people) grew from rural mothers and fathers expressing their grief over the loss of their young children from water born diseases; and HAF's participatory training Center in partnership with Hassan II University in Mohammedia (to date, transferring skills with 50 university students and communal council members) came about from Moroccan people's desire for greater self-reliance and the ability to facilitate their own meetings. We have also responded to help create initiatives determined by women and youth to help meet their important needs. We realize that to scale-up the HAF approach, an ever growing number of facilitators of community planning meetings is needed.

In brief, HAF facilitates and trains facilitators in the participatory approach to community development, and helps to establish the priority projects that are designed in that process. Further, since we train people in the public and private sectors using experiential methods ("learn by doing") with actual communities, the training workshops themselves result in development projects that improve people's lives. To coordinate and develop curriculum for the training programs, HAF created the Center for Community Consensus-Building and Sustainable Development in partnership with the Faculty of Law, Economics, and Social Sciences of Hassan II University in Mohammedia, which is also home to HAF's administration in Morocco. HAF is a US 501(c)(3) nonprofit organization and is Moroccan association.

Thankfully, we operate in the Moroccan context that is incredibly conducive and receptive to our approach to development. National Moroccan development frameworks - such as the National Initiative for Human Development, the Communal Charter, and regionalization - are all intended to be driven by the "participatory method." HAF's partnership with the High Commission of Waters and Forests has as its goal to bring participatory development to the communities that neighbor all ten of Morocco's national parks. Indeed, the sky and our collective will are our only limits!

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Peace Corps Morocco Director 1993-1997

Contact:
Dr. Yossef Ben-Meir, President
High Atlas Foundation
332 Bleecker Street, #K110
New York, NY 10025
Tel. (646) 688-2946 | Fax. (646) 786-4780

High Atlas Foundation - Center for Community
Consensus-Building and Sustainable Development
Hassan II University
Faculty of Law, Economics, and Social Sciences
Mohammedia, MOROCCO
Phone: +212(0)523 32 62 87 | +212(0)668 15 71 67
Fax: +212(0)523 32 62 87
yossef@highatlasfoundation.org | www.highatlasfoundation.org