

## COMMUNITY-BASED ADAPTATION TO CLIMATE CHANGE: EQUATOR PRIZE AWARD-WINNING PROJECT IN MOROCCO

### *Local development solutions for people, nature and resilient communities*

The Community-Based Adaptation (CBA) project in Morocco “Land and Water protection, conservation farming and climate risk management to increase the resilience of the El Mouddaa High Altitude mountain ecosystem and reinforcement of the adaptive capacities of the local community, in the face of increasingly erratic and violent rainstorms and more and more frequent droughts” was chosen as one of the recipients of the 2012 United Nations Development Programme Equator Prize. The project was selected from among 800 candidates for its remarkable demonstration of local development solutions for people, nature, and resilient communities.

This project is one of the UNDP’s local level adaptation work spearheaded through the UNDP CBA global project. The El Mouddaa initiative was prepared and implemented through a comprehensive participatory and inclusive approach, with the objective of strengthening the resiliency of the El Mouddaa community to address the impacts of climate change. The project fosters sustainable land and water management, resilient farming practices, and community early warning techniques, which help the local community to better deal with current and future climate challenges.

### Background

El Mouddaa is a traditional Berber community of 350 people, located on the southern slopes of the High Atlas Mountains in Toubkal National Park. The village is very isolated, and situated at an altitude of 2000 metres, in a highly remote area. Its baseline climate is very specific to the Toubkal,

which is the highest mountain in North Africa. The project area is characterized by a combination of Mediterranean and Steppe climates and experiences large seasonal weather fluctuations seasons. It has hot and dry summers and cold and humid winters. The community relies mostly on natural resources and ecosystems as their source of livelihoods. Small-scale farming, forestry and cattle-breeding are the main income-generating activities.

Over the past 20 years, the community has observed and experienced climate changes that have adversely impacted their livelihoods. The increasing temperatures, more and more frequent droughts, changing snow and rainfall patterns, and unpredictable and violent storms have degraded the ecosystems the community relies on for its livelihoods. As a result, the community’s men are increasingly obliged to emigrate seasonally to find work,

### BOX 1: PROJECT SUMMARY

**Title:** Land and Water protection, conservation farming and climate risk management in El Mouddaa, Morocco

**Grantee:** Amsing

**Type of organization:** CBO

**Number of participants:** 350 local community members, Indigenous Mountain Berber village

**Location:** El Mouddaa village, Commune of Toubkal, in the High Atlas Mountains of Morocco

**CBA contribution:** \$34,209

**Project Partners:** US Peace Corps, German International Cooperation (GIZ), Rural Commune Toubkal, Water & Forest extension services, Toubkal National Park, Agriculture extension services, Souss Massa Draa Watershed Agency, National Direction of Meteorology, US Forestry Services

**Co-financing:** \$38 073 (in kind, community contribution), \$213 280 (other partners)

**Project Dates:** June 2011 – December 2012

leaving women alone with more responsibilities. Local farmers have turned to cash crops, abandoning traditional subsistence crops, which has increased the community's dependency on the market for daily food. Additionally, the community suffers from devastating floods which cut all means of transportation, leaving the local people isolated for several weeks. Floods also impact critical village infrastructures such as the traditional water canals,



*The high altitude El Moudda Village faces increasing temperatures and more and more erratic rainfalls.*

contribute to increasing land degradation and erosion, and exhaust the community that is often mobilized for weeks to repair critical infrastructure.

### **Socio-Economic Impact**

This CBA project aims at sustainably increasing the well-being of the local community through the protection of critical village infrastructure and strengthening of local food security. Due to climate change, the community has and is facing increasingly violent and unpredictable rainstorms generating destructive flash floods, which regularly and increasingly damage essential local infrastructures: community houses, roads and irrigation lines. In order to protect these infrastructures, the CBA project has strategically built rock dams in a large ravine crossing the village, thus reducing the flood water flow and damages to village infrastructure. In addition, the main traditional irrigation line, often washed out, was buried underground to reduce the vulnerability of local farming by ensuring permanent irrigation water flow. This community implemented project will reduce future and ad hoc rehabilitation work, which historically has put pressure on the community, including women, to set aside more productive work to undertake repairs. The CBA project is also reintroducing traditional subsistence crops (cereals, vegetables) in greenhouses in order to strengthen food security and local health. As a result, the community is less dependent on the market for essential food and can save

money that it would otherwise spend on food and transportation.

### **Environmental Impact**

Through local consultation and awareness-raising, the community has set aside large sections of land around the village for conservation, reforestation and re-vegetation. The community has outlawed grazing of herds in and around the village in an effort to protect and sustain native shrubs and grasses. This passive re-vegetation has resulted in the regeneration of parcels of land, reduction of erosion around the community and reduction of flash flooding risks. The community is continuing the land-rehabilitation process by reforesting eight hectares of degraded land around the village in order to further mitigate the risks from erosion and flooding (4500 forest trees have already been planted by the community).

Further, the community is testing a pilot combination of environmentally friendly low-technology water and sanitation solutions, including: the construction of a community wash station with a filtration pool implementing a phytoremediation natural decontamination technique, preventing hazardous chemicals from contaminating irrigation water and damaging soils and crop production, composting of toilets; collection of rain water for domestic use. These activities are contributing to environmental protection, more sustainable natural resource management and preservation of ecosystem services.

### **Policy Impact**

The project is generating valuable lessons and experiences on adaptation to climate change that are critical at the sub-national, national and global levels. Thus, it has a strong potential for influencing policies and upscaling of good practices. Adaptation to climate change concerns are incorporated into the Communal Development Strategy, implemented in over 40 villages. The pilot activities are mainstreamed into a wider adaptation and climate risk



*Community unites for forest tree*

management plan in the entire Commune, through involvement of around 40 communities in early-warning communication systems. AMSING, the project NGO partner, has taken the lead in local dissemination, sharing its experience with neighboring communities. Additionally, the project's sustainable practices in natural resource management, adaptation and climate risk management are influencing practices at the local and subnational levels, through the involvement of critical and concrete partnerships, including local government as well as national government extension services (agriculture, water and forestry). Through active partnerships at national and global levels (Ministry of Environment, National Meteorology, GIZ, US Peace Corps, UNDP), the project contributes to mainstreaming community-based approaches, and contributes to the global sharing towards recognition of the critical roles of communities in adaptation and sustainable development. The Equator Prize Award is a critical result in that respect.

### Gender Empowerment

Just as different communities are distinctively affected by climate change impacts, different groups within a single community have their own unique vulnerabilities. Women, in particular, can be disproportionately affected by climate change impacts. Limited access to resources, restricted rights, lack of education, limited mobility and limited roles in decision-making increase poor women's vulnerability, which in turn can also reinforce gender inequalities. In such a remote community, women are particularly vulnerable, and have been taking increasing responsibilities, due to rural exodus. This has increased their workload, but has also opened a window of opportunity for them to claim their rights to participate in the village's decisions.

Building on this situation, the project contributes to reduce the gender gap in the community, by involving women not only in project development and project implementation,

but also in capacity building, project governance and decision-making. So far, half of the community volunteers directly involved in the project are women, particularly younger women. They have participated in project activities (especially tree planting), but also in leadership meetings and trainings (including the National CBA Workshop held in Rabat in November 2011), thus contributing not only resource management skills, but also mobilization and project management skills. The contribution of the project to gender empowerment is measured throughout project execution, through specific indicators, measuring women and men's participation. The project gives opportunities for women's participation, and one of its expected outcomes is that women can officially sit as full members in the local Community Organization's Board.

### Social inclusion and Volunteerism for Sustainability

Along with the environmental analysis, CBA projects perform social and institutional analysis in the initial



*Youth and elders jointly contribute to the CBA project*

developmental stages of the project, which provide a snapshot of the vulnerability and assessment of institutional capacities for responding to climate change. This helps the project understand not just the vulnerability itself, but who is vulnerable, for how long and why. In this manner, project activities are customized to the project area, its local community members, and all the other project partners. Capacity-building and awareness raising of communities and local institutions to respond and adapt to climate change challenges are indispensable to the project's initiative. These are complemented by enhanced monitoring of social dimensions and outreach to ensure synergies between all levels (local, national and global).

This CBA initiative has managed to include all members of the community to participate in adaptation to climate change, in a context where inclusion remains one of the key field challenges. The local organization is concretely practicing inclusion and empowerment of the most vulnerable. It is led by young people under 30, who are supported and legitimated by the elders who constitute local wisdom and local authority. Youth have a critical role, bridging all communities groups, and particularly reaching out to women, whom they involved and actively mobilized in



*Women participating in a vulnerability assessment workshop, contributing their experience on climate change*

the project. These inclusive practices are key for adaptation to climate change, allowing each participant to contribute their knowledge and skills to the project, and to volunteer for the project. The El Mouddaa community members consider themselves actors of change, rather than victims, and the local volunteerism, deeply rooted in the village traditions, is a critical factor of sustainability.

### Box 2: Background of CBA Project

The Community-Based Adaptation Project is a five-year initiative supported by the United Nations Development Programme (UNDP) and largely funded by the Global Environmental Facility (GEF) along with other donors. Delivered through the GEF-Small Grants Programme (SGP) and UNDP Country Offices, the goal of the Project is to strengthen the resiliency of communities strengthen the resiliency of communities addressing climate change impacts. UNDP partners with the United Nations Volunteers (UNV) programme to enhance community mobilization, facilitate volunteers' contributions and ensure inclusive participation in the project, as well as to facilitate capacity building of partner non-governmental organizations (NGOs) and community-based organizations (CBOs). Testing the Vulnerability Reduction Assessment (VRA) tool and other community-engagement instruments and methods, the Project is generating invaluable knowledge and lessons for replication and upscaling. The Government of Japan, the Government of Switzerland, and AusAID provide additional funding.

The CBA Project has been piloted in 10 countries since 2008: Bangladesh, Bolivia, Guatemala, Jamaica, Kazakhstan, Namibia, Niger, Morocco, Samoa and Vietnam.

## Acknowledgements:

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