

Helping women to adapt to climate change in Moroccan villages

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There is no avoiding the Amezqane River as we set out towards the villages of Boumaad and Tiza. Water rivulets and murky puddles wallow, while on the left bank a strip of water forges its way to the great river, like a snake slithering towards a well known destination, laden with water from a clear source in the upper reaches of the mountain.

A herd of brown goats graze, spattered with a few famished sheep greedily searching for grass. A man, sifting pebbles and sand in the middle of the river raises his head at the passage of the two 4X4s hurrying to reach Boumaad village through the Amezqane valley.

A turn takes us away from the river and up the mountain. Clouds of dust rise, forcing us to inch along the narrow dirt road towards the village from where we can admire the imposing Amezqane River.

Tiza village

The inhabitants of Tiza depend on annual crops of grains, legumes, olives, fruits and animal breeding. Climate change has adversely impacted on these traditional cultures, rendering them less profitable and more damaging to the local environment.

The fertile clay soil is today threatened by soil erosion, floods and droughts. These phenomena shrink the surface area of arable land and undermine the plant cover, destroying the ecosystem. This in turn exacerbates poverty and rural migration, particularly among the young men.

The populations of Boumaad and Tiza face up to destructive floods and severe droughts.

Adaptation to climate change

A field study documented the impact of sea level rise and extreme weather events on the natural and socio-economic systems, including sea water intrusion, beach and soil erosion. Such changes will negatively affect living conditions in the region.

The scientific study was conducted by Adaptation to Climate Change in Morocco (ACCMA) <http://www.pik-potsdam.de/~kropp/accma/>, a project funded in the framework of Adaptation to Climate Change in Africa (ACCA) program, by the International Development Research Center (Canada) and the Department for International Development (DFID) of the United Kingdom. Consultation meetings focused on the necessity of adapting to climate change and improving the living

conditions of the population in the villages of Boumaad and Tiza in the eastern part of the Rif, close to the Mediterranean Sea. Efforts include the collection of rainwater and the development of new farming and soil preservation techniques, to sustain the local ecological system, break the isolation of the region and support local adaptive capacities.

Doctor Abdellatif Khattabi, ACCMA coordinator and Professor at the National School for Forest Engineers, confirms that forecasts predict an increase in temperatures, a drop in rainfall levels, a worsening of droughts coupled with a sharp discrepancy between water demand and supply. The study seeks to build the local populations' capacity to adapt to climate change and improve their living conditions through improvement of agricultural and water management practices.

Outcome and achievements

Detailed soil and water management strategies have been devised in cooperation with the inhabitants to select tree varieties such as olive, carob, almond and fig, that adapt easily to water scarcity, soil salinity and erosion, and alternative farming techniques that promote high value-added crops, building a storage reservoir and favouring the drip irrigation system, as well as testing and applying new techniques aimed at sustaining soil quality.

The ACCMA project has organised training workshops to build the capacity of the community to acquire new skills and know-how in climate change adaptation through, inter alia, water management, maintenance of rainwater catchment reservoirs and sustainable local crops. The purpose is to improve living conditions, alleviate poverty and vulnerability, and halt or at least reduce rural exodus, by preserving the eco-system and local agriculture.

Obstacles and impediments

There are several obstacles to community activities within Tiza, not least a reluctance to involve women despite the important role they play in managing natural resources and the way they are affected by climate change. The Tafedna Association for Development and Solidarity, with the help of ACCMA project and the Community Based Adaptation Program (CBA) is now promoting and organising activities that target women.

Impact on women

The ACCMA study is aimed at building women's capacity to acclimatise their agricultural environment to climate change, particularly to the challenges of dwindling water resources, impoverished plant cover, soil erosion, the loss of crops and cattle and the destruction of environment and basic structures.

Women account for 75% of the village's population since most men have either temporarily or permanently migrated in search of greener pastures. Subsistence in the village relies on traditional annual crops supplemented by sheep farming and beekeeping, fishing and commerce. Women play a major role in the agricultural process.

Boumaad lacks piped potable water and some houses are more than 1.5 kilometres from the nearest drinking water source. A woman may spend one and a half hours per day carrying water for drinking, household chores, farming and irrigation.

Unlike a man, a woman cannot leave the village to find other sources of income. She depends on local resources and has almost no educational opportunities. The ACCMA project provides an opportunity to acquire new skills and participate in more activities. The project will include a literacy program for women and girls from the village, and will lay pipes to convey drinking and irrigation water, building a small reservoir and adopting a pilot project of drip irrigation. It seeks to improve women's knowledge about climate change, the application of adaptive farming and water management techniques through sharing information and expertise during field visits to other projects.

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Water transport in the eastern part of the Rif area