



## Feed the Future Country Fact Sheet

Online Version: <https://www.feedthefuture.gov/article/building-resilience-climate-change-through-irrigation-development>

# Building Resilience to Climate Change through Irrigation Development

Agriculture is the cornerstone of rural livelihoods in the developing world, and irrigated agriculture contributes to rural economic growth and food security through more reliable water supplies in the face of low and unevenly distributed rainfall. In partner countries around the world, the [Millennium Challenge Corporation](#) (MCC) is supporting irrigated agriculture, ensuring that farmers have access to the water they need to grow crops and earn income.

But agriculture in arid regions can be difficult even without climate change, and shifts in historical temperatures and rainfall patterns that alter the timing and quantity of annual water flows pose ever-increasing challenges to irrigation.

That's why MCC develops its irrigation investments with climate variability and long-term climatic changes in mind. In the Sahel region and North Africa, MCC projects are reducing vulnerability and improving resilience to the potential effects of climate change.

In Mali, an irrigation project in Alatona helped farmers reduce water loss and make efficient use of scarce dry season water for seasonal food and cash crops. Through [Mali's country compact](#), MCC promoted a variety of approaches to water management, including modifying the way land is allocated for farming and working with local government and farmer groups to establish water distribution rules for both rainy- and dry-season production. For example, farmers received four hectares of land for growing rice that would only be irrigated in the rainy season, and an additional one hectare that would be irrigated in both seasons, enabling farmers to grow and profit from two different crops per year. MCC has also helped communities adopt computerized systems for real-time monitoring of water management operations.

Similarly, in Morocco, MCC investments have responded to serious shortages of dry-season water flows in order to improve productivity among horticulture farmers. Working closely alongside locals to adapt traditional irrigation and water allocation systems in a modern context, MCC's project involved physical improvements to established fruit tree perimeters, accounting for the variability of different water sources such as springs and groundwater in order to increase the sustainability of orchard farming. The project also focused on working with local research and extension services to improve water balance (how water flows in and out of a system) and tree agronomic information while developing strategies for improving fruit tree productivity under water-stress situations.

In order to achieve a good return on its investments, MCC has focused on improving efficiencies and productive use of limited water supplies – a necessary strategy for coping with increased climate variability. Meanwhile, investments may also contribute to rural communities' ability to adapt and prosper in uncertain times. In this way, MCC is ensuring vulnerable communities have the resilience to continue producing adequate food under variable climactic conditions well into the future.

*The Millennium Challenge Corporation supports country-led requests for agriculture and food security-related investments through MCC compacts including irrigation, post-harvest infrastructure, property rights and land policy, agricultural finance and nutrition. [Learn more](#) about how MCC contributes to Feed the Future through food security investments.*