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## Smart Aid Delivered Efficiently in Armenia: Margarita's Story

Margarita Grigoryan is a poor farmer with a small parcel of land in the rural town of Khoronk, in the Armavir region of Armenia. Like many Armenian farmers, Margarita and her family have lived on her agricultural income of approximately \$1,000 per year for the last 15 years. Prior to the Millennium Challenge Corporation's (MCC) investment in Armenia, Margarita grew wheat and other low-value crops on her 3.5 acre farm. Her income was insufficient to adequately provide for her growing family, and her dependence on an expensive, worn-out, and unreliable canal to irrigate crops limited her ability to expand operations and increase her income.



Margarita said, "I now can plan my growing season more effectively because I have confidence that my farm will receive an appropriate amount of water on a predictable schedule."

These are common problems faced by many poor farmers in Armenia. Due to large-scale privatization of land in the early 1990s and eroding public utilities, many farmers lack access to basic agricultural infrastructure necessary for efficient farming. Few people practice cost-effective farming and irrigation due to lack of training, funds, and technical education opportunities. Limited access to financial resources and minimal sales prospects have prevented farmers from accessing capital to invest in their own operations, further compounding farmers' barriers to growth and perpetuating the cycle of rural poverty.

MCC and the Government of Armenia recognized that the challenges faced by Margarita and other poor farmers across Armenia represent serious constraints to economic growth. In order to address these challenges in an effective, efficient, and sustainable manner, MCC and the Government of Armenia designed a five-year compact that took a comprehensive approach to agricultural sector development. MCC and

the Government of Armenia signed a \$177 million compact in 2006; the compact was completed in September 2011.<sup>1</sup>

Over \$150 million—88 percent of the total compact—was allocated to an ambitious Irrigated Agriculture Project. The project included programs to improve irrigation infrastructure, train and provide technical assistance to farmers, provide rural access to credit, and strengthen community Water User Associations (WUA). The MCC compact represents the single largest grant investment in Armenia's irrigation infrastructure in the last three decades, and is anticipated to have an impact on poverty reduction that will last for decades to come.

## Reliable irrigation canals

Most rural farmers in Armenia belong to a WUA that manages water use and distribution in their community. Through her contract with a local WUA, Margarita requests delivery of a specific amount of water based on crop variety and growing season cycles. She relies on a three-kilometer tertiary canal to deliver the requisite amount of water to her farm. (A tertiary canal is a small canal that connects larger industrial irrigation canals to small farmers' rural land.) When Margarita recalls the conditions of her tertiary canal before rehabilitation, she remembers broken pipelines, significant water shortfalls, and excessive amounts of time spent tracking down alternative water sources.

Margarita's community is one of about one hundred communities in which MCA-Armenia, the Armenian governmental organization responsible for implementing the MCC compact, is rehabilitating worn and damaged tertiary canals. Margarita and her neighbors' three-kilometer canal, now rehabilitated, is just a small segment of approximately 220 kilometers of tertiary canal that have been rehabilitated under the MCC compact. Today, Margarita says, she can plan her growing season more effectively; when she submits her water request with her WUA, she has confidence that her farm will receive an appropriate amount of water on a predictable schedule.

In addition to tertiary canals, the MCC-funded project rehabilitated over 560 kilometers of canals in five gravity-fed irrigation systems, six primary canals, and 13 drainage systems in Armenia's Ararat Valley. MCC has also invested \$40 million to upgrade and rehabilitate 17 pumping stations to improve the reliability of the irrigation water supply. Margarita is just one of over **420,000 farmers in 350 communities, comprising 40 percent of Armenia's rural population, who will have access to improved irrigation systems as a result of MCC's compact with Armenia.**

## Infrastructure reliability depends on efficient water management

In 2007, prior to implementation of the MCC compact, water fees from WUA users covered only 37 percent of the average WUA's operating and maintenance costs. WUAs relied on subsidies from the government for the majority of costs. New legal and institutional improvements were required to create an effective and self-sufficient system.

<sup>1</sup> The total compact amount was USD 235.65 million; however, the MCC Board of Directors decided in June 2009 to not resume funding for the compact's Rural Road Rehabilitation Project (RRRP). Excluding the remaining RRRP funds, MCC's investment is USD 177 million.

Under the MCC compact, all 44 WUAs in Armenia received technical assistance to develop and implement Management Improvement Plans. As part of the compact program, MCC funded the distribution of improved water management tools, including 180 computers with sophisticated budgeting, accounting, and GIS software. In addition, 38 WUAs received new backhoe loaders. These machines will facilitate the continued maintenance of irrigation canals. According to an agreement between MCA-Armenia and the WUAs receiving the backhoe loaders, WUAs are required to obtain commercial insurance to ensure the care, maintenance, and sustainability of new machines.

Thanks to technical training, new equipment, and improved management, WUAs can now better monitor and manage water supply and demand, improve collection of water fees and membership dues, and enhance awareness of and involvement in WUA management. Government of Armenia efforts, supported by MCC, have helped raise the collection of water fees from 51 percent of WUA users in 2008 to 69 percent in 2010.

As a result of this increase, WUAs are expected to cover 60 percent of costs through user fees in 2011, up from 37 percent. These interventions will ensure the sustainability of MCC investments in irrigation infrastructure and reduce government subsidies. Margarita pays about \$300 in irrigation fees to her WUA, and she says she is happy to pay this cost for an improved water supply and consistent delivery.

## **Farmers need training to increase their yields and diversify their crops**

MCC's holistic approach to agricultural sector development incorporates farmer training alongside infrastructure improvements. Margarita and over 45,600 other farmers in Armenia (32 percent of whom were women) have benefitted from farmer training in advanced agricultural practices. In the first Armenian program of its kind, over 230 demonstration sites were instituted across the country to educate farmers in improved water management and agriculture practices for high-value crops. Through both classroom and on-site instruction, these centers served as valuable learning hubs, allowing farmers to receive hands-on training in best practices in crop cultivation and food production.

Adoption of improved agriculture practices takes time. MCC designed a rigorous impact evaluation mechanism from the outset of the project, using a random assignment of communities to roll out training programs and monitoring both assigned and non-assigned communities throughout project implementation. MCC is committed to measuring results over the long term and all of these activities are being independently evaluated. Results from those evaluations will be made public in early 2012.

## **Farmers need money to invest in their land**

The compact also included an \$8.5 million credit facility designed to encourage financial institutions to enter the rural agricultural lending market. Under the credit facility, MCA-Armenia provided loans to local banks and credit organizations, which in turn provided small loans at reasonable interest rates to 760 farmers across Armenia, all of whom had been trained under the compact program. Farmers, including Margarita, use these loans to make improvements to greenhouses, freezing facilities, orchards, and vineyards.

Margarita applied for a loan through an MCC-funded financial institution to set up her own greenhouse. She received a \$13,500 loan over a five-year period with a 10 percent interest rate, terms she considers some of the best available to farmers. In her new greenhouse, Margarita is now growing cucumbers in the spring and green beans in the fall, doubling her annual crop production.

The repayment rate of MCC-funded loans to date is nearly 98 percent.<sup>2</sup> Repaid loan funds are now being lent out again; so far, an additional \$4 million has been lent to over 260 Armenian farmers. In 20 years, it is expected that over 3,000 farmers will receive loans from this program.

## MCC's investments lead to economic growth

These investments in agriculture have resulted in substantial income increases for small farmers. Today, Margarita is making close to \$8,000 per year from her new irrigated fields and an additional \$2,000 from her new greenhouse. Margarita's income increases have made it possible for her to provide for her family and to continue to reinvest in and grow her business. Margarita's income gains are not expected to be representative of average income gains as a result of MCC's investments. **Across Armenia, the MCC-funded project is expected to generate an average 150 percent increase in farmers' agricultural incomes over 20 years, from a baseline of only \$310 per year.**

MCC is committed to measuring results, so all of these activities are being independently evaluated and results from those evaluations will be available in early 2014. The evaluations will analyze the extent to which improved irrigation results in changes in cropping patterns and agricultural profitability.

## Private sector for sustainability

Private sector agricultural firms have taken an interest in the sector's recent development. Two cold storage facilities owned and operated by private firms are expected to maximize MCC's investment in irrigation infrastructure. These private enterprises depend on farmers to deliver high-quality produce. Thanks to the MCC compact, farmers now have the technical expertise and access to irrigation to allow them to grow products that can be stored and exported in the private sector.

MCC's multi-pronged approach to investment and development of Armenia's agricultural sector is a cornerstone example of instituting smart aid for systematic and lasting change. A more competitive agricultural sector in Armenia will increase food security, catalyze economic growth, and continue to reduce poverty for decades to come. By improving irrigation infrastructure, training farmers, and providing access to credit, the compact addressed the most prominent constraints to growth, and is enabling farmers to pursue brighter futures.

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<sup>2</sup> Source: Government of Armenia's Rural Finance Facility Project Implementation Unit