



MILLENNIUM  
CHALLENGE CORPORATION  
UNITED STATES OF AMERICA

EVALUATION BRIEF | SEPTEMBER 2019

## REMOVING BARRIERS TO HIGH-VALUE AGRICULTURE IN MOLDOVA

### Early use of irrigation systems has been more modest than expected

#### Program Overview

MCC's \$259 million [Moldova Compact](#) (2010–2015) included a \$129.4 million Transition to High-Value Agriculture (THVA) Project. The project was [designed](#) to catalyze investments in high-value agriculture products, moving away from low-value grains. The program established water user associations (WUAs) and rehabilitated physical infrastructure in 10 centralized irrigation systems along two rivers, the Nistru and the Prut. Other project activities were designed to upgrade production techniques and increase access to markets and finance.

---

MCC commissioned Mathematica Policy Research to conduct an independent interim performance evaluation. Full interim report results and learning: <https://data.mcc.gov/evaluations/index.php/catalog/166>.

#### Key Findings

##### Irrigation and High-Value Agriculture

- ◀ Two years after the centralized irrigation systems were rehabilitated, irrigation through the WUAs had increased but was still quite limited overall.
- ◀ Abundant rains and limited high-value agriculture (HVA) production curbed the demand for irrigation.

##### Barriers to Irrigation and HVA Cultivation

- ◀ Even if the demand for irrigation increased, farmers faced technical and financial barriers to accessing and using the rehabilitated systems.
- ◀ Limited access to sales markets, lack of rural labor, and a limited desire or ability to invest in HVA also slowed the transition to HVA.
- ◀ Larger farms were best positioned to overcome barriers to irrigation and HVA cultivation.

##### Sustainability

- ◀ WUAs on the Nistru River had a broader user base and were in a more stable financial position than those along the Prut River.

## Evaluation Questions

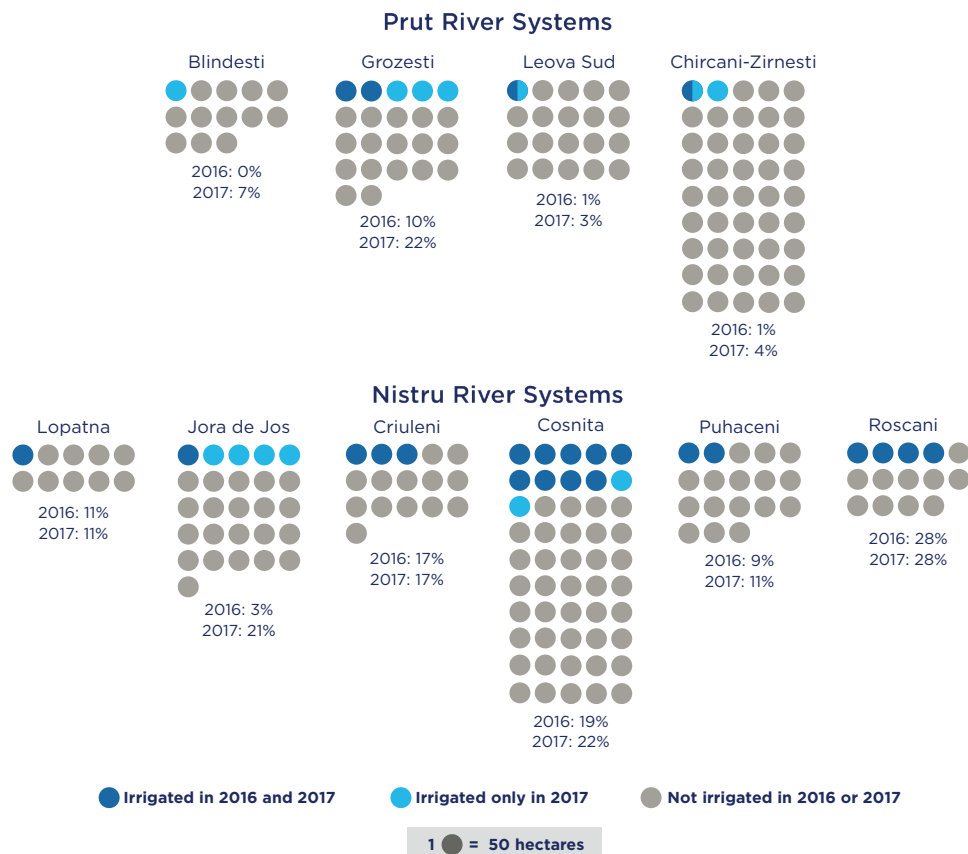
The interim study was designed to contribute to the final performance evaluation that will answer the following research questions:

1. Were the expected results—such as increases in irrigated area and HVA cultivation—in the THVA project logic realized? If not, why not? How did different program activities contribute to the results that were realized?
2. How did the project affect land ownership, leasing, and land values?
3. How are the results from the project distributed across groups, such as farmers with different characteristics?
4. Are there indications that some of the long-term outcomes will be realized?
5. What lessons can be drawn from the design, implementation, and results of the project?
6. What is the post-project economic rate of return?

## Detailed Findings

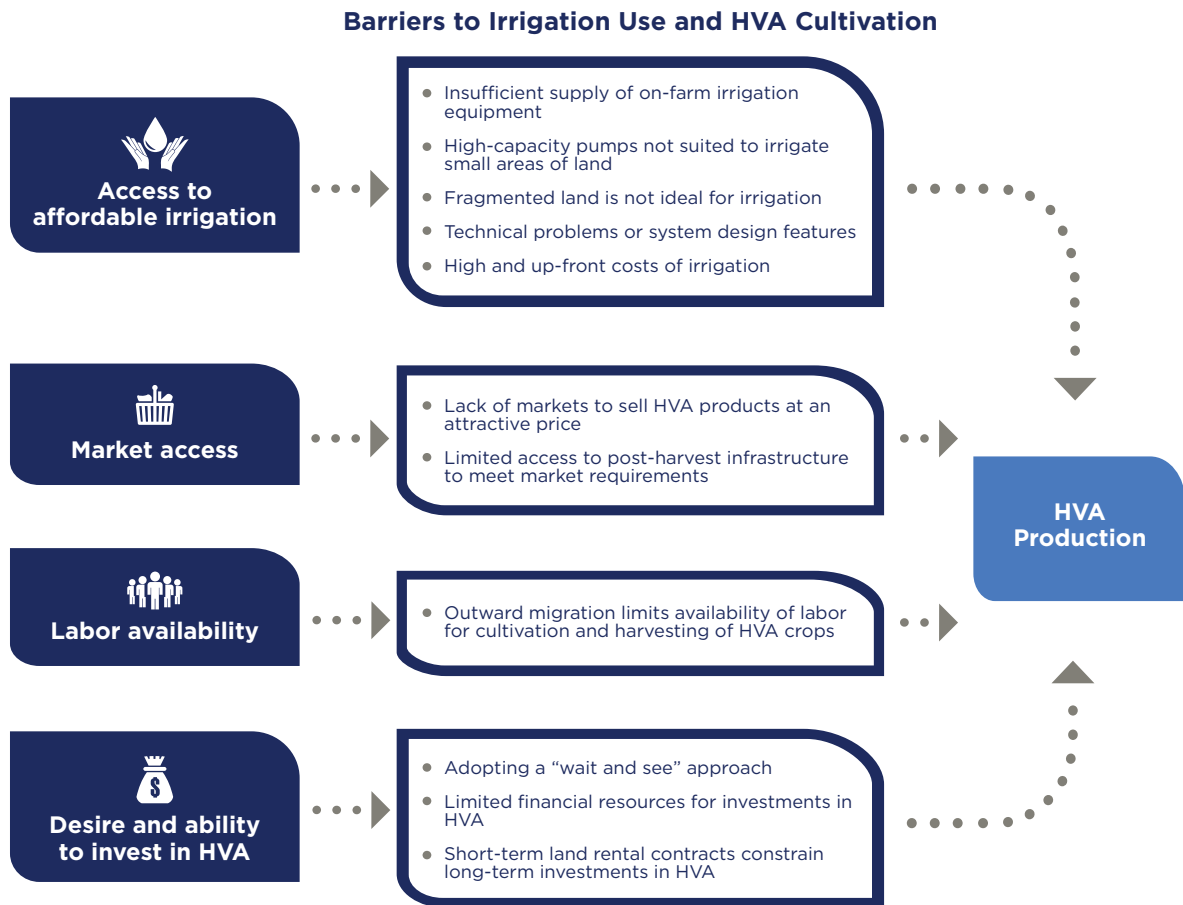
### Irrigation and High-Value Agriculture

In most systems, relatively few farmers irrigated after the end of the compact. About 14 percent of the total irrigable area in the rehabilitated systems was irrigated by 2017, less than half of what was expected. Abundant rains limited the demand for irrigation in the rehabilitated systems, especially because most farmers continued to cultivate non-HVA crops, which do not need regular irrigation. However, the generally positive trend in irrigation use since the systems were rehabilitated suggests that some impacts might still be achieved.



 **Barriers to Irrigation and HVA Cultivation**

Farmers faced a number of barriers to using the rehabilitated irrigation systems, including an insufficient supply of on-farm irrigation equipment, pumps that could only supply large volumes of water, fragmented land holdings that limited efficiencies in irrigation, and the high and upfront costs of irrigation water. Limited access to sales markets, lack of rural labor, and a limited desire or ability to invest in HVA crops also slowed the transition to HVA cultivation. Larger farms may be better positioned to overcome these barriers, although small farms could still benefit from higher demand and prices for their land plots.



 **Sustainability**

WUAs had inadequate and volatile revenue streams. Farmers who did not irrigate through the system often did not pay their WUA membership fees, and the flow of revenue from irrigation fees was unstable given its dependence on weather and the decisions of a few large water users. Therefore, the long-term sustainability of the WUAs depends on the growth in irrigation use, among other factors. The WUAs in Nistru River systems—which had more recent experience with irrigation and HVA cultivation before their systems were rehabilitated—were more likely to be sustainable than those in Prut River systems, because they had a broader user base and greater financial stability. WUAs received substantial post-compact technical support, but they will probably need more in the next few years if they are to succeed.

## MCC Learning

Instead of rebuilding old Soviet irrigation systems designed to irrigate large areas of land, irrigation systems could have been designed better to serve the existing situation in Moldova, where many farmers have small plots of land and are hesitant to cooperate. Greater farmer consultation in the design phase would have facilitated understanding farmer needs.

Various organizations stepped in after the compact closed to provide support to the new WUAs. The evaluation finds that without this support, some of the WUAs may have failed. MCC could have planned post-compact support for the WUAs from the beginning to better ensure sustainability.

## Evaluation Methods

This interim evaluation was designed to contribute to the performance evaluation of the project by analyzing short-term trends in key outcomes measured through administrative data and supplemented by qualitative information to help understand the reasons behind the trends. The interim data collection was conducted after the 2017 agricultural season—two years after the infrastructure was completed and the compact closed.

### Administrative and Financial Data from WUAs

In early 2018, the evaluator's local consultant collected administrative and financial information for the period 2015–2017 from all 10 targeted WUAs. The primary purpose of collecting this data was to analyze trends in the use of the irrigation systems (e.g. amount of water provided and area of land irrigated).



**Rehabilitated pumping station in Lopatna Centralized Irrigation System**

### Interviews and Focus Groups with Key Stakeholders

In November 2017, the evaluator conducted interviews with six organizations that were working (or had worked) in the rehabilitated systems after the end of the compact. The local data collection partner, the Agricultural Development Institute, conducted interviews and focus groups with key informants from the rehabilitated systems between November 2017 and January 2018. These included interviews with WUA executive directors and operators of larger farms, and focus groups with WUA sector representatives and operators of smaller farms. The primary purpose of these interviews and focus groups was to understand the constraints farmers were facing in using the improved irrigation systems and growing HVA.

## Next Steps

These interim findings will inform the performance evaluation of the THVA project, which will also draw on new qualitative data, administrative data from WUAs, and an engineering assessment. A complementary impact evaluation will draw on a survey of farm operators in rehabilitated and comparison irrigation systems, which is expected to cover the 2020 agricultural season. The final evaluation report will integrate findings from the performance and impact evaluations.