

### MOLDOVA COUNTRY PROGRAMME EVALUATION

## The potential of conservation farming for adaptation to climate change

**T**he series of climate-related events, droughts in 2003 and 2007, and floods in 2008 led to a new sense in Moldova of the importance of climate change adaptation. A newly added feature of the fifth project supported by IFAD in Moldova, approved in December 2010, was the introduction of a component to develop demonstration plots for conservation agriculture. This proved prescient when Moldova suffered another severe drought in 2012. The experience of extreme climate conditions and serious droughts in recent years has instilled a sense of urgency. From interaction with farm enterprises during the evaluation, the devastating damage experienced in 2012 was evident. In response, adapting to and managing climate change risks has been taken up as a priority in Government policy and strategy. The Government is in the process of preparing a National Climate Change Adaptation Strategy.

Moldova is a small landlocked country, with about 80 per cent of the landscape comprised of undulating topography, cut by a deep network of river valleys, ravines and gullies. Four-fifths of Moldovan land is covered by fertile chernozem soil: no other country in the world has such a high proportion. This explains how agriculture has become one of the key economic sectors of the Moldovan economy, accounting for 12 per cent of the country's GDP and with agro-food exports accounting for 45-50 per cent of total exports. The agricultural sector is also very important for rural livelihoods, with more than 40 per cent of the population employed in the sector. This situation points to the inherent high vulnerability of the national economy and rural livelihoods to climate change related events.

Conservation agriculture is increasingly regarded as one of the important climate change adaptation measures. According to the Food and Agriculture Organization of the United Nations (FAO), conservation agriculture encompasses three principles, namely, minimal soil disturbance, permanent soil cover and crop rotations. Key benefits include improved soil fertility and moisture retention capacity, and soil structure, thus making agriculture more resilient to climate change. Improved soil fertility and building up of organic matter in the soil should reduce the requirement of fertilizer.

Support for conservation farming is a relatively small portion of IFAD's programme in Moldova thus far. There is still some way to go in building the linkages between this component and other parts of the project, which tend to focus on horticulture, dairy and other livestock enterprises; conservation farming demonstration, at least thus far, has focused on field crops. Nonetheless, adding an element of climate change adaptation has been relevant and timely, given increasing likelihoods of extreme weather events. Some farmers had already been practicing conservation agriculture, but it is still done on a very limited scale. Only about 80,000 ha are now under conservation farming practice, out of 2.5 million ha of total arable land in Moldova.

It is still too early to assess the effectiveness of IFAD support in this area, as the implementation experience is limited, but the list of activities undertaken so far (all in 2012) shows good progress. It includes the following:

- A situation analysis for Moldova undertaken by international and national consultants;
- Sponsoring international exposure for key resource persons and practitioners in the country, such as participation in an international conference and a training course in Ukraine (attended by farm managers of the demonstration plots);

- Selection of four farm operators in different agro-ecological zones through a competitive process to serve as demonstration plots;
- Provision of hands-on technical assistance to the demo plots;
- Selection of four local experts (soil science, agro-technology, economics, mechanization) to form a group to support the sub-component implementation;
- Organization of a training seminar for students and teaching staff of the university (125 participants);
- Organization of seminars at each demonstration plot (attended by a total of 75 producers).
- Procurement of equipment and machinery for the demonstration plots (mainly seeding machines and tractors), which were subsidised 50 per cent by the project up to US\$50,000 for each plot.
- Practical technical support for the demonstration plots, provided under the USAID-supported “Farmer-to-Farmer Programme”.

One of these four operators competitively selected in 2012 to host demonstration plots was “Gospodarul Rediu SRL”, operating in Falesti district in the north of the country. The company operates some 260 ha of land. In addition to field crops, the company is a leading producer of walnuts in Moldova. The plot of 52 ha supported by the project will demonstrate no-till technology and is planted with winter wheat at the moment. According to the company head, Mr Kiktenko, the no-till technology is less practiced than mini-till technology. The project subsidised the purchase of a seeding machine and a tractor. Even before IFAD support, Mr Kiktenko has been an enthusiastic advocate of conservation farming and has set up a website on which he has posted a number of videos on the topic, talking about his experience in this area (<http://www.gospodarulrediu.com> - only in Russian and Romanian).

The switch from conventional farming to conservation farming requires not only access to hardware but also access to support services, knowledge and information. Some pioneer farmers have learned about the potential benefits of conservation farming, and some have acquired the necessary equipment on their own. Many farmers remain skeptical and others have never even heard of the concept. Some (farmers, researchers, extension service providers, etc.) tend to equate conservation farming mainly with “no-till” or “mini-till”, with insufficient attention to other equally important principles of conservation farming (i.e. crop rotation and soil cover). It is also expected to take time to see visible

impact on productivity. Initially there may be more challenges with weed and pest controls. It is the actual experience demonstrated and shared by practitioners, complemented by action-learning type research and data, as well as support for in-country training capacity that could be effective in promoting the technology. The approach used in the demonstration plots has been so far capital intensive: it may be worthwhile giving strategic consideration if there could be differentiated approaches to different types of farmers with varied capacities.

IFAD’s sixth project in Moldova, approved in December 2013, envisages a major scaling up of the efforts in conservation agriculture, with support of a US\$4 million grant from the Special Climate Change Fund of the Global Environmental Facility. The project includes a dedicated component for climate resilience which supports capacity building in climate change adaptation, and provides matching grants to support the shift to conservation agriculture.



**Under the fifth IFAD-funded project in Moldova, equipment and machinery for conservation agriculture (e.g. seeding machines, tractors) were subsidised for four demonstration plots that were competitively selected. Some other farmers also purchased said equipment using commercial bank loans supported by IFAD.**

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#### Further information:

Republic of Moldova, Country Programme Evaluation, Report No. 3052-MD, May 2014, ISBN 978-92-9072-476-6, Independent Office of Evaluation of IFAD, Via Paolo di Dono, 44, 00142, Rome, Italy. The full report, Profile and Insights are available online at: [www.ifad.org/evaluation](http://www.ifad.org/evaluation); email: [evaluation@ifad.org](mailto:evaluation@ifad.org).