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EVOLVING MARKETS AND MOLDOVA'S TRANSITION TO HIGH- VALUE AGRICULTURE

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ABSTRACT

Moldova has been rapidly losing market share in its traditional Russian fresh fruit export market since independence in 1992. European countries with more sophisticated production and post-harvest capabilities are out-competing Moldova in the low- to medium-value markets for apples and table grapes. Increasingly, Russia's consumers are demanding premium quality produce where Moldova has a negligible market share. In order to gain Russian market share and diversify into other European markets, Moldova must quickly improve its production and handling practices to match European competitors and meet the rising quality demands of Russian consumers. The United States Agency for International Development (USAID) and the Millennium Challenge Corporation (MCC) have taken on this ambitious task through the Agricultural Competitiveness and Enterprise Development (ACED) project. The five-year project works with fruit and vegetable producers to improve the quality of their produce and focuses on other weaknesses in the high-value agriculture value chains, including phytosanitary certification, post-harvest infrastructure and market linkages with potential buyers of Moldovan produce. ACED's strategy to strengthen these value chains is based on more than one year of extensive value chain analysis and end-market study research that examined market entry opportunities for Moldovan produce in targeted export markets. The studies identified the investments necessary for producers and exporters to compete in those markets. The program is in its second year of implementation; thus, it is too early to present findings of ACED's success in positioning Moldova as a competitive, prominent produce exporter to Russia and in new European markets. However, the experience thus far suggests that making "space" – valuable time and resources – early in project implementation to conduct deep, end-market studies is an effective step to focus and prioritize value chain projects where success hinges on market capture. In Moldova, these end-market studies were used to test and adjust ex ante operating assumptions and guide the tailoring of growth strategies for Moldovan fruit and vegetable exporters. This article reviews the complexities of identifying market opportunities and facilitating entry by Moldovan exporters as well as key lessons-learned thus far in ACED implementation.

The Orchard of the Former Soviet Union Struggles to Compete

Moldova's economy has been on a roller coaster ride over the past 20 years: GDP plunged in the 1990s to bottom out at 40 percent of its pre-independence level and then rebounded with steady growth averaging 5 percent per year over the last decade (World Bank 2012a). This struggle to transition from a centrally-planned to a market economy has been particularly painful for the agriculture sector, which is economically-dependent on a well-functioning, market-driven value chain.

Two decades ago, the agriculture sector made up 35 percent of Moldova's GDP, and the country was a major supplier of agricultural products to the Russian and Eastern European markets (World Bank 2012a). While the sector remains important today, accounting for over 50 percent of the country's exports, its share of GDP has slipped to 15 percent in recent years (World Bank 2012a). The agriculture sector employs approximately 30 percent of Moldovan citizens, yet poverty has been a persistent problem among agricultural stakeholders with high poverty rates for farmers at 36 percent and agricultural workers at 45 percent (World Bank 2012b).

Moldova's fruit and vegetable sector is struggling to maintain a position in markets they once dominated. This decline stems from several deficiencies along the value chain including:

- deteriorating road and irrigation infrastructure;
- low-level technologies in production, post-harvest handling and processing;
- incomplete economic and institutional reforms; and
- inadequate financial services to invest at key points of the value chain.

Today, Moldovan fruit and vegetable exporters rely almost exclusively on Russia's low-value, open-truck market. Moldova's current market share, already in decline, will continue to shrink without a strict market-oriented, across-the-board modernization strategy to guide Moldovan agribusiness expansion in competitive international markets.

The Strategy for Strengthening Links in Moldova's Value Chains

In 2010, as part of MCC's \$102 million Transition to High-Value Agriculture (THVA) Project in Moldova, MCC teamed up with USAID to create an expansive five-year technical assistance and training project, the Agricultural Competitiveness and Enterprise Development Project (ACED), that seeks to modernize Moldova's high-value agriculture (HVA) sub-sector through four main activities: 1) market linkage development, 2) training and technical assistance to upgrade product quality and meet buyer requirements, 3) upgrades to the capacity of HVA agribusinesses and associations, and 4) improved inspection and testing capacities at border stations and within phytosanitary laboratory facilities.¹ A successful project will result in agribusinesses profitably exporting high quality produce from the black soils of Moldova's fields to Russia, the former Soviet republics of the Commonwealth of Independent States (CIS) and ultimately to the European Union (EU), in addition to serving Moldova's own higher-end markets.

ACED structures its technical assistance and training based on requests from interested agribusinesses and producers to increase the likelihood that the beneficiaries are committed to improving their operations. ACED provides clear examples of what business growth

Opposite:
Farmers harvest apples in the Stefan Vodă district. The farm participates in MCC's post-harvest investment facility.

opportunities are available to Moldovan agribusiness drawing from its detailed end-market studies. ACED conducted this research to assess Moldova’s historical markets (Russia, Romania and the Baltics) and “reach” markets (Germany) as well as comprehensive value chain analyses of high-value crops with the most market potential: apples, table grapes, stone fruits, greenhouse tomatoes, and dried fruits and nuts (ACED 2013).

Produced by ACED implementer Development Alternatives Incorporated (DAI), these studies present research on current end-market dynamics as well as the structure and inner-workings of priority fruit and vegetable value chains. The studies are based on direct consultations with current and prospective buyers of Moldovan produce, including importers, wholesalers and retailers as well as farmers, agribusiness operators, government officials, and other participants throughout the value chains. This qualitative assessment was coupled with secondary research of both private and public market data such as UN Comtrade database, Global Trade Atlas, Eurostat, and Euromonitor and used to analyze trends in buyers’ price, quality and packaging requirements. The studies examined strengths and weaknesses in Moldovan production, harvest, storage, processing, transportation, finance, and the supporting export infrastructure and regulatory environment.

While market analysis as part of a value chain project and approach to agriculture investment is not new, the time and resources allocated to “digging deep”—rigorous and extensive end-market studies—as a critical step to guide project design and implementation are raising the bar on best practices for market-driven approaches to improving access to markets and increasing beneficiary incomes. ACED concurrently conducted initial producer trainings and other project start-up activities to build program awareness and relationships during market and value chain analyses.

Russia: A Testing Ground for Transitioning to High-Value Agriculture

Given its proximity, historical and linguistic ties and growing economic prosperity over the last decade, Russia remains Moldova’s top export market. The majority of fruit in Russia is imported, and consumer demand for fruit has been increasing at 15 percent per year in recent years (USAID 2011). ACED’s apple and table grape value chain studies report that 90 percent

MCC AND USAID

The ACED project in Moldova is the first time that USAID and MCC jointly designed, funded and are implementing a project together. Compact goals and targets related to farmer training, adoption, improved market access, increased productivity, sales, and farmer incomes are shared jointly with USAID under ACED. USAID and MCC have similar goals and work in many of the same countries, but different time horizons and funding cycles make joint implementation of projects difficult. Moldova has been the first opportunity for USAID and MCC to comprehensively partner and share learning in both implementation and evaluation. Measuring the results of agriculture value chain projects is challenging, but MCC and USAID are committed to strong program-wide monitoring and evaluation of the producer training component of ACED. The rigorous impact evaluation planned for the farmer training component of the ACED project will contribute to improved future programming at both agencies, will increase MCC’s capacity to evaluate value chain projects and will help USAID to further implement their new evaluation policy that calls for these types of randomized evaluations. After two years of implementation, MCC and USAID are using information gleaned from project monitoring to assess the original evaluation plan. This mid-term assessment of the evaluation was spurred by the lessons learned from MCC’s first five agriculture evaluations released in the Fall of 2012. Adjustments are currently being made to ensure that they are cost-effective and useful. MCC and MCA’s investment in the USAID ACED project is funded by the \$4 million Growing High-Value Agriculture Sales (GHS) Activity of the THVA Project in the MCC compact with Moldova.

of Moldova's apple exports and approximately 75 percent of its fresh grape exports were sold in Russia in 2010 (USAID 2011). Most Moldovan produce is field-sorted and packed, then transported in open trucks to Russian wholesale and open-air markets. Moldovan apples are primarily competing in the low- to medium-value market segment against other southern and eastern European countries and China. European and Latin American exporters dominate the high-value market (USAID 2011). Moldovan agribusinesses can continue servicing the low- to medium-value segment but this market is shrinking as Russian consumers increasingly prefer to buy their fresh products along with other groceries in modern supermarkets. In 2012, Poland eclipsed Moldova as the largest apple exporter to Russia servicing low-, medium- and high-end markets, particularly Russia's emerging new high-value agriculture market format—modern supermarkets (Economie Moldova 2013).

DEFINITION OF HIGH-VALUE AGRICULTURE

High-value agriculture includes all fruit, vegetable and nut crops that command higher market prices and generate higher levels of income for farmers than traditional cereal crops.

Changes in consumer purchasing locales and demand for HVA are accelerated by urbanization. Russians increasingly purchase fresh produce in modern supermarkets rather than from open-air markets, where Moldovan fruit is traditionally traded. ACED's end-market research relayed that for larger Russian cities, approximately 50 percent of fruit produce is now being sold through supermarkets (by comparison, only 10 to 20 percent of produce in Moldova is sold in supermarkets) (USAID 2011). Russian supermarket chains are now seeking long-term supply contracts with a few reliable suppliers that deliver high-quality, attractive, uniformly-sized fruit. Russian buyers are increasingly demanding a level of quality comparable to the retail market format prevalent in the west.

Changes in international tariffs are also making the Russian market more challenging for Moldovan agribusinesses to enter. Five years after its World Trade Organization accession, Russia is now required to change its tax regime, removing provisions that have favored apple imports from regional, non-European Union (EU) countries like Moldova. The effect of reduced or eliminated tariffs on Polish apples is already being felt among Moldovan exporters.

While these market transformations are not happening overnight, Moldovan agribusinesses will need to catch up to the standards of producing, sorting and packaging of more developed suppliers or risk losing market share completely to countries meeting Russian consumers' demands. Catering to the preferences of Russian retailers will be excellent practice for one day meeting the standards imposed by the EU. At the time of this writing, the EU is in the process of negotiating a deep and comprehensive Free Trade Agreement with Moldova, an agreement that would open the EU to Moldovan produce and bring increased prosperity to Europe's poorest country, achievable if Moldova modernizes its business practices and capacities.

Developing a Competitive Edge in Production and Post-Harvest Operations

ACED's extensive market research informed specific short-, medium- and long-term strategies for re-positioning Moldova's agribusinesses to more successfully compete in existing and new markets and new market formats such as supermarket retail.

A few Moldovan producers have ventured into planting super-intensive orchards, which can produce yields up to 400 percent higher than traditional orchards. These orchard investments are so recent to Moldova that the MCC-financed 2008 Moldovan farm operator survey did not capture these types of farms in the sample (1,243 respondents nationwide). The ability of Moldova to provide cost-competitive apples with good cosmetic appeal demanded by Russian supermarkets and European markets very much depends on the success and spread of highly-intensive orchards



Farmers harvest apples from a super intensive orchard in Briceno District. Super intensive orchards have more than 3,000 trees per hectare, yielding about 30 to 60 tons of apples per hectare. In comparison, traditional apple orchards have 700 to 1,250 trees per hectare, typically yielding 8 to 15 tons of apples per hectare.

program provides business and investment guidance for creating bankable business plans and refers potential investors to available credit lines, including one financed through MCC's Access to Agricultural Finance Activity.¹¹ In the first two years of implementation, ACED has facilitated \$2.3 million in cold storage and packing line investments to begin to close the gap in access to these important post-harvest facilities.

Value Chain Improvement Example: Cold Storage

Competing in the HVA market and servicing the retail market format requires access to cold storage, a persistent challenge to Moldovan producers and exporters. Approximately 15 percent of Moldovan produce passes through cold storage (with much of this cold storage falling far short of current best practices in other parts of the world) (Ministry of Agriculture and Food Industry Moldova 2012). The remaining 85 percent has a significantly shorter shelf-life and cannot command higher "off season" prices or meet the terms in contracts requested by Russian supermarkets. By comparison, in the United States and most Western European countries nearly all produce passes through the cold chain. Access to cold storage is one of the most significant determinants of profit in fruit and vegetable production. To cite one example of forgone profits in the medium-value market segment, Moldovan agribusinesses missed out on the opportunity to export their table grapes at a 50 percent price premium because they were unable to extend their marketing and delivery season through Russia's Christmas holiday seasons in 2009 and 2010 (USAID 2011). Moldova's lack of cold storage also precludes accessing the neighboring European market of Romania where Moldovan produce once thrived. In Romania, the only window for Moldova's HVA to effectively compete is during the off-seasons when EU minimum import pricing policies are removed (USAID 2011). This timing and pricing are impossible to achieve without modern packing and cold storage facilities, two of the current gaps that are being aggressively addressed by Moldovan agribusinesses and exporters with direct assistance from USAID and MCC.

Value Chain Improvement Example: Apple Packaging

Each market opportunity has a customized value chain action plan, which identifies specific investments producers will need to make to meet the standards and demand in those markets.

in Moldova. ACED has developed and delivered training modules reviewing new rootstocks, cultivars, mechanical and chemical thinning, integrated pest management, tree support, and anti-hail systems as well as on-farm weather station investments and improved harvest practices to capitalize on this substantial investment. Intensive HVA producers can also benefit from making investments into post-harvest infrastructure, including cold storage, sorting and packing lines. The size of these investments (and of the loans required to finance them of up to \$24,000/hectare for an intensive orchard and up to \$1 million for a modern cold storage facility) require professionally-produced business plans. The ACED

To cite one example, the apple end-market studies identified the low quality of packaging in Moldova as one serious impediment to exporting Moldovan apples to higher-end markets. To improve Moldovan packaging methods, ACED's action plan includes working with two local cardboard box manufacturers to develop self-locking and machine-glued box designs, implement new cardboard and fresh produce package tests at these local cardboard manufacturers and carry out feasibility studies for box-forming operations in key apple producing regions, sharing the results of these studies with local producers and providing business plan assistance to interested investors. One early success in this area is ACED's work with KKKI, the main local manufacturer of corrugated cardboard. ACED has worked with KKKI since September 2011 to determine the minimum technical specifications needed and to launch production of a type of cardboard that meets the quality requirements of two "Moldova-Frukt" Association members that have procured and installed the first open tray box-forming equipment. During 2012, KKKI made a series of investments in its corrugating line and successfully passed the tests conducted by the operators of this tray-forming equipment. Moldovan apple exporters now have access to modern packaging at a competitive cost.

Value Chain Improvement Example: Phytosanitary Inspection

One well-documented critical gap is the inability of the Government of Moldova to carry out comprehensive sanitary and phytosanitary (SPS) analysis for export products, thus reducing the acceptability and access of Moldovan products in key international markets. While SPS inspection had long been known to be a weakness in Moldova, the end-market studies identified the precise certificates needed for produce to enter each market, the specific information required in the certificate and who needs to issue each one. This identification led to the development of an action plan for equipping an SPS laboratory, implementing a training plan for inspectors and taking the necessary steps to certify the Central Phytosanitary Laboratory to international standards. Once the lab is certified, Moldovan agricultural exports will be able to be tested for compliance with international SPS standards, granting Moldovan produce increased acceptability and access to key international markets, particularly in light of the deep and comprehensive Free Trade Agreement that the Government of Moldova is negotiating with the EU.

MCC and USAID provided new equipment and training for the State Phytosanitary Laboratory to improve pest, virus and disease detection. The investment helps Moldova meet export requirements.

Businesses have been particularly receptive to the program's insights on production and post-harvest handling techniques. As of January 2013, ACED reports that 2,294 business representatives have received guidance and training, of which a third are women. Moldova is a country of approximately 1.5 million farmers and agricultural employees, so the success of ACED's nationwide efforts depends on targeting those farmers and agribusiness operators most eager to be competitive and meet consumer demand across borders (World Bank 2009). If the program logic is correct, they will become the "motivators" for others who may be more reluctant to change until they witness the success of others.



Results to Date

With only two years of implementation behind them, the ACED team has already made impressive progress toward its end-of-project targets. As of the time of this writing, ACED has facilitated nearly \$1.87 million in increased high-value sales for agribusinesses, has trained more than 2,000 farmers in improved production, harvesting and handling techniques (almost half of the end-of-project target) and has assisted 89 businesses with creating high-value agricultural business plans (MCA Moldova 2013). In addition, the program has procured equipment for the SPS laboratory, has published a road map for investors in Moldovan HVA and has created and publicized a national branding slogan for Moldovan produce. The program is on track to meet and likely exceed most of its targets.

Confirming Development Lessons Learned

Market research and analysis should be an ongoing, iterative process throughout the life of the project. The ACED project illustrates the benefits of conducting in-depth, specific market studies to ground-truth the assumptions that influence program development. The proposal for the ACED project to spend over 12 months conducting market studies was met with skepticism by some in the Government of Moldova as these were perceived as redundant, given that previous value chain programming by MCC and MCA Moldova during compact development had undertaken several studies and value chain analyses. However, the end-market studies and value chain studies completed in 2012 by ACED brought to light different opportunities and obstacles then presented earlier. For example, a previous market study for apples showed supermarkets and other retail comprising only 10 percent of apple sales in Russia, which is very similar to Moldova today where consumers purchase the vast majority of produce in open air markets (CNFA and USAID 2005). However, Russia's economy and markets are rapidly evolving. ACED's end-market fresh and dried fruits in Russia study (2011) shows that urban consumers are purchasing more than 50 percent of their produce in supermarkets these days (ACED 2012). Supermarkets are a new market format for Moldovan agribusinesses and require a different market capture strategy from one that targets open-air markets and produce kiosks. A value chain study completed in 2009 by Chemonics examined three value chains: prunes, tomatoes and table grapes, and another study by Dalberg (2009) served as the basis for the development of the ACED project concept. The ACED end-market studies expanded on these findings by diving more deeply into the specifics of each market, updating the information on the current political and economic situation and transforming the identified gaps into a clear and measurable set of activities and targets.

Regional producer groups are critical to fostering trust needed among players to grow markets. This lesson has been reinforced throughout the first two years of the ACED project. Fostering cooperation and trust among value chain actors leads to economies of scale that result from frequent interactions. Deeper cooperation among small-scale fruit operators is critical if Moldovan producers are to meet end-market requirements and emerging opportunities as buyers are increasingly seeking larger volumes for longer time horizons. ACED focuses on catalyzing small farmer cooperation in marketing, input supply and joint ownership of post-harvest facilities through associations or cooperatives. As an example of ACED's early success in this area, table grape producers in six different regions organized regional producer groups under the banner of the National Table Grape Association. This initiative was launched as a result of the nine regional ACED-led roundtables, which communicated the critical need for table grape exporters to combine their efforts to store and market their produce effectively.

The five-year timeframe supports an effective implementation of value chain projects. The ACED project has a five-year implementation "clock." Many donors use shorter timeframe projects and

funding cycles which often make allocation of a 12 to 18 month comprehensive market analysis period not feasible. One of the strengths of the ACED program that could serve as a reminder for the development community is the longer time horizon of the project (five years), determined at the onset, allowed for a solid and deliberate project customization and design adjustment phase of more than a full year. While trainings were conducted during this time, the longer timeframe allowed for an iterative process of continually adding information, refining assumptions and developing new activities that are specifically targeted at weaknesses identified in the value chain. This flexibility in light of changing market conditions is only possible within the context of a multi-year project. **KIN**



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References

- L. Creevey, Dunn E., Farmer E. Outreach, (2012) "Outcomes and Sustainability in Value Chain Projects" MicroReport#171 for the United States Agency for International Development.
- K. Farley, S. Lucas, J. Molyneaux, K Penn, (2012) Millennium Challenge Corporation report "Impact Evaluations of Agriculture Project." Ministry of Agriculture and Food Industry Moldova (2008). "A Program to Revitalize the Post-Harvest Handling System for Fresh Fruits, Table Grapes and Vegetables (2008-2015)."
- W. Sutton, P. Whitford, E. M. Stephens, S. P. Galinato, B. Nevel, B. Plonka, E. Karamete, (2007) World Bank report "Integrating environment into agriculture and forestry progress and prospects in Eastern Europe and Central Asia," World Bank (2012). World Development Indicators 2012. © Washington, DC. Available from <http://datbank.worldbank.org>.
- World Bank (2012). World Bank Moldova Partnership Country Program Snapshot October 2012. Available from <http://www.worldbank.org/content/dam/Worldbank/document/Moldova-Snapshot.pdf>.
- United Nations Moldova, World Food Program, and United Nations Development Programme (2012) Rapid Food Security and Vulnerability Assessment Moldova.
- USAID (2012) End Market Study for Fresh and Dried Fruits in Baltic Countries.
- USAID (2011) End Market Study for Fresh and Dried Fruits in Moldova.
- USAID (2011) End Market Study for Fresh and Dried Fruits in Romania.
- USAID (2011) End Market Study for Fresh and Dried Fruits in Russia.
- USAID (2011) Apple Value Chain Study and Action Plan.
- USAID (2011) Table Grape Value Chain Study and Action Plan.

Endnotes

- i In the Moldova Compact, MCC's investment in ACED is called "Growing High-Value Agriculture Sales Activity," which is tasked with identifying and supporting entities across the HVA value chain that can drive upgrades to it. ACED provides investment service provider support to businesses, including potential clients of the Access to Agricultural Finance Activity.
- ii For more information on MCC's Access to Agricultural Finance Activity post-harvest infrastructure investment facility (\$12.5 million), see http://mca.gov.md/en/activities_Tr.html.