

THE ROLE OF EXTENSION SERVICES FOR FARMERS IN MOLDOVA

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Abstract. *Agricultural extension services play a vital role in improving the productivity, sustainability, and resilience of Moldova's farming sector. As a key contributor to the national economy, agriculture supports a significant portion of the population. However, farmers face numerous challenges, including climate change, increasing production costs, limited market access, and financial constraints. Addressing these challenges requires strategic interventions from extension service institutions to equip farmers with innovative solutions and technical expertise. The crucial role into the existing ecosystem has the farmers associations that are losing the terrain in terms of their involvement and implication. Moreover, the need for a single vision and force that would bring all farmer's needs in a single bucket is imperious. This article explores the importance of agricultural extension services in Moldova, focusing on their impact on modernising farming techniques, enhancing financial literacy, and increasing market access. Based on data from 110 micro and medium-sized farming enterprises, findings suggest that extension programs help farmers adopt climate-resilient practices, develop sound business strategies, and integrate into competitive value chains. These services not only improve productivity but also contribute to economic stability and food security in rural areas. To further enhance extension services, future efforts should prioritise the expansion of digital advisory platforms, the strengthening of regional extension network, and increased collaboration with international organizations. Moreover, fostering the participation of youth and women in agriculture will be essential for long-term sustainability. Strengthening extension services is crucial for ensuring that Moldova's agricultural sector remains competitive, resilient, and capable of addressing evolving environmental and economic challenges. By investing in robust extension services, Moldova can build a more innovative, sustainable, and inclusive agricultural system that benefits both farmers and the broader economy.*

Keywords: *Extension, agriculture, farmers.*

JEL Classification: *Q10, Q13, Q16.*

1. Introduction

Significance of agriculture sector in Moldova

Agriculture occupies a central place in Moldova's economy. As of 2023, agricultural activities accounted for approximately 7,61% of the nation's Gross Domestic Product (GDP) and employed about 21% of the workforce (the Global Economy, 2024). Moldova's strategic geographical location offers proximity to significant markets, notably the European Union, enhancing the potential for agricultural exports.

In the context of multiple internal and external crises, the economy of the Republic of Moldova is undergoing an important phase of recovery and stabilization. In 2023, Moldova's Gross Domestic Product (GDP) reached 300,421.3 million MDL at current market prices, registering a real growth of 0.7% compared to 2022 (World Bank, 2023).

From a resource perspective, the key sectors contributing to GDP growth in 2023 were:

- ✓ Agriculture, forestry, and fishing – 2.6%;
- ✓ Health and social assistance – 0.7%;
- ✓ Information and communication – 0.5%.

Despite this moderate GDP growth, industrial production continued to decline for the second consecutive year, decreasing by 3.6% compared to 2022. Conversely, total agricultural production across all types of households saw a remarkable increase of 23.6% (in comparable prices) in 2023. This growth was primarily driven by an impressive 35.1% increase in crop

production, while livestock production declined slightly by 1.9%, marking its seventh consecutive year of decline.

Challenges Facing Moldova's Agricultural Sector

Despite its inherent strengths, Moldova's agricultural sector confronts a multitude of challenges that impede its progress and sustainability:

- Climate risks

Moldova is highly vulnerable to the adverse effects of climate change. These climatic fluctuations have led to decreased agricultural yields and elevated risks for farmers. For instance, natural hazards in 2007 resulted in losses amounting to 3.5-7% of Moldova's GDP, predominantly affecting the agricultural sector.

- Economic and Market Access Challenges

The agricultural sector's contribution to Moldova's GDP has declined significantly, due to various political and economic challenges that country faced during the years. This reduction underscores the need for diversification and modernization within the sector. Farmers often encounter obstacles such as limited access to credit, high production costs, and bureaucratic procedure in obtaining subsidies. Additionally, market access barriers, including price volatility and a lack of organized value chains, hinder the sector's growth and competitiveness (Econstor, 2022).

- Institutional and Organizational Limitations

The fragmentation of farmer representation has led to diminished advocacy efforts and weaker support systems for small-scale producers. The decline in the influence of farmer associations has weakened collective bargaining power, making it challenging to address systemic issues within the sector. Strengthening these associations and creating a unified network for farmer representation are crucial steps toward enhancing policy engagement and service delivery.

The Role of Agricultural Extension Services

Agricultural extension services are instrumental in bridging the gap between research and practical farming applications. They serve as conduits for disseminating knowledge, introducing innovative technologies, and providing training to farmers. In Moldova, the extension services as a structured mechanisms is lagging behind due to various factors, including social capital, human resources, limited level of trust among farmers, etc. In Moldova, these services have been pivotal in:

- Technological Advancement and Innovation

Extension services facilitate the adoption of climate-smart agricultural practices, such as precision farming and conservative agriculture. However, adoption rates remain low due to inadequate funding and insufficient technical support. Enhancing these services is essential for promoting sustainable agricultural practices and improving productivity. Also, the role of sectorial business driver becomes essential in order to advance in this respect.

- Financial Literacy and Business Development

By improving farmers' understanding of business planning, credit management, and risk mitigation, extension programs empower them to make informed decisions. Nevertheless, many farmers still struggle to navigate the complexities of financial instruments, underscoring the need for enhanced training programs. Moreover, with the latest trends into the global

arena, the funding becomes a burdensome not only for farmers but for other sectors and players.

- Market Integration and Value Chain Development

Extension services play a crucial role in facilitating access to market information and establishing linkages with buyers. However, challenges persist, including inconsistent quality standards, limited cold storage facilities, and high transportation costs. Addressing these issues is vital for integrating farmers into competitive value chains and enhancing their profitability.

Objectives of the Study

This study aims to:

- Assess the current state of agricultural extension services in Moldova.
- Assess the farmers' needs and expectations in respect to the existing country associations and extension services.
- Identify the challenges faced by these services in meeting the needs of farmers.
- Provide recommendations to enhance the effectiveness of agricultural extension services in Moldova.

2. Research methods

This study employed a mixed-methods research approach, combining quantitative and qualitative techniques to ensure a comprehensive understanding of the role of agricultural extension services in Moldova. The research focused on gathering insights from farmers, extension service providers, and policymakers to assess the current challenges and opportunities within the sector.

Data Collection Methods

The primary data for this study was collected through structured questionnaires administered to 110 farmers who are members of the existing farmer's association in Moldova. The selection of respondents was based on their active participation in agricultural activities, representation of diverse farm sizes (micro and medium-sized enterprises), and involvement in various agricultural value chains. The questionnaires aimed to capture the perspectives of farmers regarding their experiences with extension services and their expectations for future improvements.

In addition to the survey, focus group discussions and expert interviews were conducted with extension service providers, representatives of the farmer association mentioned above, and policymakers. These discussions provided deeper insights into the institutional framework of extension services and the role of farmer associations in supporting agricultural development.

Structure of the Questionnaire

The questionnaire was structured into five key sections to address different aspects of agricultural extension services and farmer needs:

1. **Farmer Profile and Farm Characteristics**
 - Farm size, production type, and level of market engagement
 - Use of modern agricultural technologies and practices
2. **Challenges in Production, Processing, and Sales**
 - Access to inputs, machinery, and financial resources

- Climate change adaptation and resource constraints
 - Processing capabilities and value addition
 - Market access barriers and price volatility
 - 3. **Integration into Value Chains**
 - Participation in producer cooperatives and farmer groups
 - Engagement with processors, wholesalers, and retailers
 - Awareness of certification and quality standards
 - 4. **Expectations from Extension Services**
 - Training needs in modern agricultural techniques, financial literacy, and market access
 - Preferred methods of receiving advisory services (in-person, digital, group training)
 - Assessment of current extension services and areas for improvement
 - 5. **The Role of Farmer Associations**
 - Perceived benefits of farmer associations in lobbying, advocacy, and service provision
 - Barriers to active participation in farmer organizations
 - Strategies to enhance the effectiveness of farmer associations
- The research findings provide valuable insights into the realities faced by Moldovan farmers and offer evidence-based recommendations for strengthening extension services and farmer associations to enhance the agricultural sector's competitiveness and sustainability.
- This study is based on primary data collected from 110 micro and medium-sized farming enterprises across Moldova

3. Results and discussion

This section presents the key findings from the research, focusing on the role of agricultural extension services in Moldova. The findings are structured around the key challenges identified by the surveyed farmers, their expectations regarding extension services, and the role of farmer associations.

Extension Services and Technological Advancement

The research findings indicate that farmers who engage with extension services are more likely to adopt climate-smart agricultural practices, such as precision farming and drought-resistant crop varieties. However, the adoption rates remain low due to limited financial resources, inadequate training, and the lack of access to updated technology.

A key barrier identified was the insufficient funding allocated to extension services. Survey data revealed that only 35% of farmers received direct advisory support in the last three years. Moreover, 78% of respondents reported that they lack access to essential digital tools that could improve agricultural practices.

Table 1. Farmers' Access to Extension Services

Access to extension services.	Percentage (%)
Regular access	35%
Occasional access	42%
No access	23%

Source: Developed by the author based on the results of the surveys

The results also highlight that farmers utilizing extension services showed a 20% higher adoption rate of climate-resilient practices compared to those who did not.

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Financial Literacy and Business Development

Agricultural extension programs have played a role in improving farmers' understanding of business planning, credit management, and risk mitigation. However, only 29% of farmers indicated that they had received financial literacy training in the past five years. Farmers expressed concerns over high-interest rates, limited collateral for loans, and bureaucratic difficulties in obtaining subsidies. Survey results indicate that 64% of farmers struggle with understanding financial instruments, particularly loan schemes and insurance options. As shown in Figure 1, the lack of financial education continues to hinder investment in modern technologies.

Table 2. Financial literacy

Financial literacy trainings received	Percentage (%)
Yes	29%
No	71%

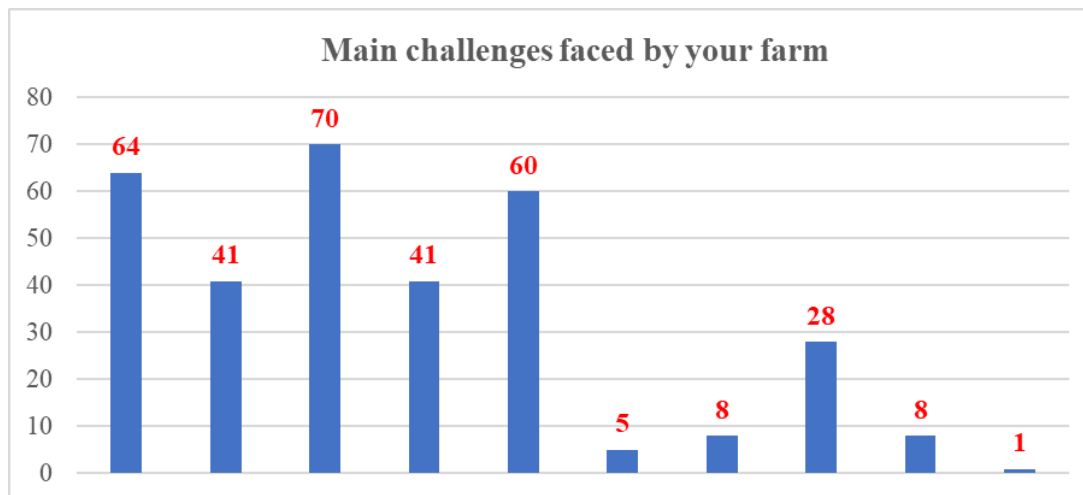
Source: Developed by the author based on the results of the surveys

The data underscores the need for extension programs to incorporate structured financial literacy modules, which could enhance farmers' ability to make informed investment decisions. Agricultural extension programs have played a role in improving farmers' understanding of business planning, credit management, and risk mitigation. Nevertheless, many farmers still struggle to navigate the complexities of financial instruments, underscoring the need for enhanced training programs.

Problems and challenges

In order to analyze the challenges faced by farmers, a set of questions was developed regarding various issues, including accessing subsidies, market availability, and obstacles in product commercialization. The results reflect the significant difficulties encountered by farmers in several key areas.

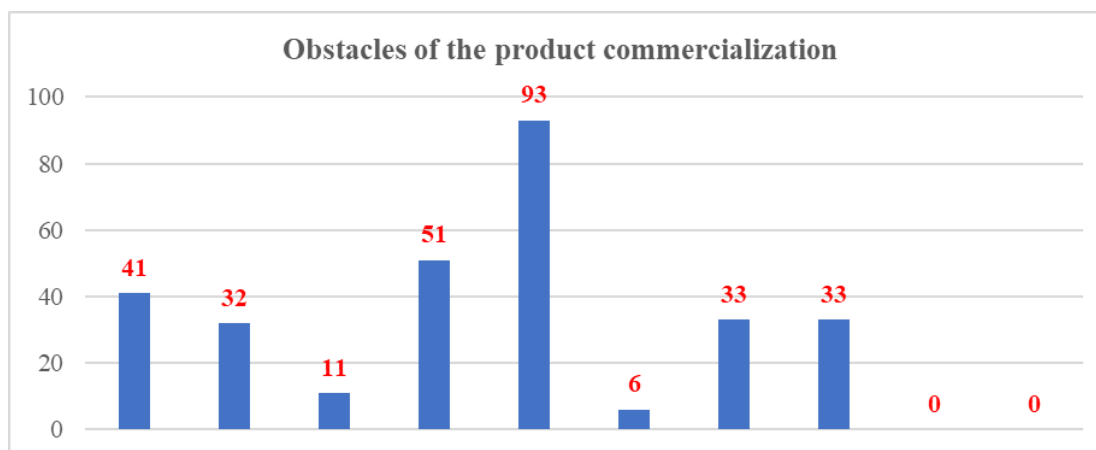
Figure 1. Main challenges



Source: Developed by the author based on the results of the surveys

Main Challenges: When asked about the primary challenges they face, 70 respondents (out of 108) cited high input costs, making it the most frequently mentioned challenge. This was followed by access to markets, reported by 64 respondents, and the impacts of climate change and associated risks, noted by 60 respondents. These findings highlight the financial pressures that farmers face due to rising costs, as well as the vulnerabilities caused by climate change.

Figure 2. Obstacles and barriers



Source: Developed by the author based on the results of the surveys

Obstacles in Product Commercialization: Regarding obstacles in the commercialization of agricultural products, 93 respondents identified low prices offered by intermediaries as a significant issue. This was followed by 51 respondents mentioning the lack of local sales markets, and 41 respondents pointing to the lack of storage infrastructure. These results suggest that farmers struggle with market access and insufficient infrastructure, which hinder their ability to achieve fair prices for their products.

Figure 3. Market availability



Source: Developed by the author based on the results of the surveys

Market Availability: When asked to evaluate the availability of markets for their agricultural products, 65 respondents considered it satisfactory, while 39 rated it as unsatisfactory. The relatively low number of extreme opinions, both positive and negative, indicates that while there is a general sense of market availability, it is not universally satisfying, pointing to the need for improvement in market access.

Subsidy Access: Regarding subsidies, 86 respondents reported having received subsidies in the last two years, while 19 were non-recipients, and 3 respondents declined to answer. The accessibility of subsidies was mostly rated as moderate by 62 respondents, with 21 rating it as easy, 19 as difficult, 6 as very difficult, and no respondents considered it very easy. These results reflect that while most farmers benefit from subsidies, the process remains cumbersome and moderately challenging for many.

These findings underline the pressing issues that farmers face, from financial strain due to input costs to difficulties in market access and infrastructure. The mixed responses regarding subsidy access also highlight the need for more streamlined and accessible support systems. Addressing these challenges will be essential for improving the overall sustainability and profitability of the agricultural sector.

4. Conclusions

The findings of this study reveal that Moldovan farmers face a complex array of challenges that require multi-faceted and coordinated responses. Farmers associations have a unique opportunity to strengthen their role as a central support system for farmers by enhancing communication, promoting cooperative models, expanding training and consultation services, facilitating access to funding, and actively engaging in policy development.

By implementing these recommendations, farmers associations can significantly contribute to the long-term growth and resilience of the agricultural sector, ensuring that farmers receive the necessary support to overcome challenges and capitalize on emerging opportunities. A well-structured and farmer-centric approach will not only benefit individual producers but will also drive sustainable economic development and food security in Moldova (FAO, 2019).

Furthermore, farmers associations should work closely with relevant authorities and stakeholders to ensure that all proposed measures are implemented effectively. Continuous monitoring and evaluation of these initiatives will be essential to measure their impact and

adjust strategies as needed. Through a concerted effort, farmers associations can establish themselves as leading advocates for Moldovan farmers, fostering a thriving agricultural sector that contributes to national economic stability and prosperity.

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