



International
Labour
Organization



British Embassy
Chisinau

▶ A synergy of growth and employment opportunities

A market systems analysis of the berry sector in the Republic of Moldova



Copyright © International Labour Organization 2021

First published (2021)

Publications of the International Labour Office enjoy copyright under Protocol 2 of the Universal Copyright Convention. Nevertheless, short excerpts from them may be reproduced without authorization, on condition that the source is indicated. For rights of reproduction or translation, application should be made to ILO Publications (Rights and Licensing), International Labour Office, CH-1211 Geneva 22, Switzerland, or by email: rights@ilo.org. The International Labour Office welcomes such applications.

Libraries, institutions and other users registered with a reproduction rights organization may make copies in accordance with the licenses issued to them for this purpose. Visit www.ifrro.org to find the reproduction rights organization in your country.

ISBN: 9789220344989 (Web PDF)

Also available in Romanian: *O sinergie a creșterii economice și oportunităților de angajare: O analiză a sistemelor de piață a sectorului pomușoarelor în Republica Moldova*, ISBN: 9789220344996 (Web PDF)

The designations employed in ILO publications, which are in conformity with United Nations practice, and the presentation of material therein do not imply the expression of any opinion whatsoever on the part of the International Labour Office concerning the legal status of any country, area or territory or of its authorities, or concerning the delimitation of its frontiers.

The responsibility for opinions expressed in signed articles, studies and other contributions rests solely with their authors, and publication does not constitute an endorsement by the International Labour Office of the opinions expressed in them.

Reference to names of firms and commercial products and processes does not imply their endorsement by the International Labour Office, and any failure to mention a particular firm, commercial product or process is not a sign of disapproval.

Information on ILO publications and digital products can be found at: www.ilo.org/publns.

All photos used in the report: © Ion Buga/ ILO

Map of Moldova: © iStock

This publication was developed within the framework of the project Market Systems Analysis for the honey and berry value chains in Moldova, funded with UK aid from the UK Government and delivered by the International Labour Organization (ILO) in collaboration with the UK's Good Governance Fund.



British Embassy
Chisinau



International
Labour
Organization

▶ **A synergy of growth and employment opportunities**

A market systems analysis of the berry sector in the Republic of Moldova

Notes

On confidentiality. *All data collected through primary research have been made anonymous so that individuals cannot be identified. Instead, we refer in generic terms to ‘interviewee(s)’, ‘informants’ or ‘respondents’.*

On study limitations. *The study is largely developed based on the perceptions and opinions of key sector stakeholders. Although information was triangulated by different sources where possible, it is recognised that not all opinions and perceptions could be cross-checked and validated.*

On the views and opinions. *The views and opinions in this assessment are those of the authors and not of the International Labour Organization or its regional office in Budapest.*

Acknowledgments

This report was prepared by Mariana Radov and Octavian Olaru. The work was coordinated, reviewed and finalized by Judith Dongus, Technical Officer (JPO), Enterprise development and job creation, at the ILO Office for Central and Eastern Europe, with support and technical backstopping from the LAB project in the Geneva offices.

The research team thanks the ILO Moldova office for all support provided.

Though it would be a challenge to list all of the people and organisations involved individually, the team would like to acknowledge the generous amount of time and insights provided by each and every person that agreed to be interviewed and/or participated in the validation workshop.

Contents

Acknowledgments	ii
Abbreviations and acronyms	iv
Executive summary	v
Introduction	1
Project introduction	1
Study purpose and scope	2
Study methods	2
Report structure	3
Sector structure	5
Market overview	5
History and trends	6
Role of the target group	9
The market system	13
Core market	14
Market for berries	16
Supporting functions	17
Rules and regulations	20
Constraints summary	22
Opportunities	25
Key market actors	25
Potential areas for intervention	28
Conclusion	35
Annex A: Bibliography	36
Annex B: Research interview list	38



Abbreviations and acronyms

ACSA	Agency for Rural Development, Agricultural Information
AIPA	Agency for State Subsidies and Payments in Agriculture
ANSA	National Agency for Food Safety
DRR	Disaster risk reduction
EU	European Union
FAO	Food and Agriculture Organization
FCDO	United Kingdom's Foreign, Commonwealth and Development Office
GGF	Good Governance Fund
HACCP	Hazard analysis and critical control points
HVAA	High Value Agriculture Activity
IFAD	International Fund for Agriculture Development
ILO	International Labour Organization
LFP	Labour force participation
LFS	Labour Force Survey
M4P	Making Markets Work for the Poor
MACP	Moldova Agriculture Competitiveness Project
MADRM	Ministry of Agriculture, Regional Development and Environment
MDL	Moldovan leu
MSMEs	Micro, Small and Medium Enterprises
MT	Metric tonne
ODIMM	National SME Development Agency
SDC	Swiss Agency for Development and Cooperation
UNDP	United Nations Development Programme
VET	Vocational and educational training
WEF	World Economic Forum

▶ Executive summary

With funding from the British Embassy Chisinau via the UK's Good Governance Fund, the International Labour Organization (ILO) was tasked to conduct a market systems analysis of the berry sector in the Republic of Moldova. The aim of this study was to better understand the market constraints that limit job creation, higher incomes and greater productivity within the sector – particularly in relation to women and persons with disabilities – and to identify a practical set of evidence-informed actions that address and remove those constraints.

Berry production has been increasing steadily throughout the Republic of Moldova over the last five years. Among the main drivers of this trend is a higher profit margin for berries than any other legal crop. Furthermore, the Agency for State Subsidies and Payments in Agriculture offers a state-funded, post-investment subsidy for investments within the berry sector.

The Republic of Moldova is a predominantly rural country. Just over 100,000 farmers countrywide grow berries. The majority of farmers are subsistence and semi-subsistence farmers who account for 80 per cent of the total harvested area of berries in the country. They mostly grow strawberries but also raspberries, gooseberries, black and red currants, goji berries and blackberries.

The objective of this research is to understand the systemic constraints to, and opportunities for, generating greater value and decent employment along the berry value chain in Moldova, focusing on women as the target group and reflecting on the topic of disability where possible. Women account for 39 per cent of the workforce in the agricultural sector in the country. However, estimates from key informants suggest that this figure is much higher for the berry sector, ranging from 70 to 75 per cent.

This analysis has identified three main market constraints as limits on the sustainable development of the berry sector and its potential for the creation of greater added value. The constraints also include low harvest volumes and a weak export position. Moldovan farmers sell low quantities of berries and thereby supply low volumes, both on the domestic and international markets. This is due to low-quality inputs such as seedlings,¹ poor negotiation skills and little cooperation among different actors. Second, there are few possibilities for continuing education on berry cultivation in the country, which leads to a lack of technical skills and expertise. Last, the berry sector is missing a specific national strategy that would allow better cooperation among all actors.

A potential intervention strategy has been developed to address the underlying causes of the market constraints flagged in the analysis and is based on three areas:

1. **enhance farm-level productivity through better access to inputs and knowledge:** facilitate farmers' access to quality inputs, including local seedlings, and strengthen the marketing and sales strategies of nurseries, input suppliers and agro-stores;
2. **cooperation for "go to market" and matchmaking:** change current behaviour and encourage farmers to cooperate through linkages between farmers and major input suppliers, buyers, processors and exporters, and enhance their knowledge and access to information; and
3. **synergise the supporting functions and governance:** create a proactive and inclusive network for the berry sector which understands that building markets for farmers requires partnerships with businesses, state actors, international development agencies and existing donor projects.

¹ Hereafter in this report, seedlings refer to bare-root stock i.e. runners, canes and bushes for strawberries, raspberries, currants and so forth.



▶ Introduction

Project introduction

The Good Governance Fund (GGF) is an initiative of the United Kingdom's Foreign, Commonwealth and Development Office (FCDO) which aims to support focus countries in the Eastern Partnership region and the Western Balkans develop greater resilience against internal and external shocks. It seeks to build long-term stability through reforms which strengthen economies, make governments more accountable and responsive, promote higher rates of investment and job creation, tackle corruption, modernise key sectors, and promote free and independent media and civil society.

As part of its commitment in the Republic of Moldova, one of the GGF's priority areas is Sustainable Economic Growth and Enabling Business Environment. Within this context, the International Labour Organization (ILO) has been tasked with conducting studies on the honey and berry value chains in Moldova to better understand the market constraints that limit job creation, better incomes and business performance, and to identify a practical set of evidence-informed actions that address and remove those constraints.

These studies take the form of market systems analyses, which take a holistic approach to understand and address the underlying root causes that constrain market performance and limiting opportunities for decent work. The market systems approach builds on the capacities and incentives of market actors – both private and public – to increase the likelihood that positive results are sustained and even scaled-up after intervention.

Box 1: What is a market system?

A market system is an interconnected network of actors and factors that interact to shape the outcomes of an economic exchange. These exchanges are governed by a range of:

- ▶ *supporting functions*. The context- and sector-specific functions that inform, support and shape the quality of exchange such as information, skills, infrastructure, finance and access to markets;
- ▶ *rules and norms*. The legislative and regulatory environment, including policies, voluntary standards and social norms that guide day-to-day attitudes and conduct.

Supporting functions and rules are carried out by a wide range of market actors, from businesses to financial institutions, trade associations, regulators and government agencies. When certain rules or functions do not operate well, a market system constraint is created that reduces the effectiveness of the system and reduces the value captured by the people and market actors involved in the transaction.

Market systems development programmes aim to create positive systemic changes. A systemic change takes place when there is a lasting improvement in one or more market system constraints which leads to improved outcomes for target groups, be they workers suffering from poor safety and health conditions, or young people excluded from the labour force. Programmes discover why market actors have not addressed such constraints themselves, and then work on improving their incentive and capacity to perform new or improved roles.

From the ILO LAB brief "A Systemic Approach to Creating More and Better Jobs", 2019.

The aim of these analyses of honey and berry market systems is to provide: a more detailed understanding of the underlying issues that hinder productivity and decent working conditions in both value chains; an analysis of the key actors most likely to bring about positive change; and a set of recommendations to inform relevant, future programming that may take place through the GGF as well as other mechanisms. Taking such an approach and working within the existing structures of the market where possible should improve the prospects that market growth and the creation of employment opportunities are sustainable, rather than relying upon donor funding *ad infinitum*.

Inclusiveness and gender mainstreaming are two cross-cutting themes of the Good Governance Fund's Moldova strategy. Therefore, to the extent possible, due consideration is given to unique, additional constraints that may exist specifically for women and persons with disabilities.

Study purpose and scope

This report is focused on understanding the berry market system. The core research question is: *What are the systemic constraints to and opportunities for generating greater value and decent employment in the berry value chain in Moldova?*

The scope of the research includes all those currently working in the berry sector as well as those with the potential to enter into employment in the sector. Additional considerations are given to women and persons with disabilities where possible. The geographical scope covers the entire Republic of Moldova.

Study methods

The research was carried out in two phases:

1. **Desk research:** Available literature was gathered to provide a framework for the primary data collection process. This included a review of national laws and development plans, sector data and market trends as well as studies conducted by other development agencies. A list of the sources consulted can be found in Annex A.



- 2. Field research:** Primary research was conducted remotely with Moldovan stakeholders during December 2020 and January 2021. During this stage, a total of 20 interviews were carried out. The interviews were semi-structured and conducted with government officials, local authorities, producer associations, formal and informal business owners, non-governmental organisations and other key industry informants. The interviews provided an in-depth picture of the sector from a diverse set of actors and opinions. An anonymised list of all the interviewees is included in Annex B.

The research is based on the methods of ILO's *Value Chain Development for Decent Work* guide (ILO 2021) and the Springfield Centre's *Operational Guide on the M4P Approach* (Springfield Centre 2014). Results were validated through triangulation of data and methodologies, with the findings validated by relevant stakeholders during a virtual validation workshop in February 2021.

Report structure

The structure of this report is as follows:

Section 1 gives the background to this report, its purpose and methodological approach.

Section 2 provides an overview of the berry value chain in the Republic of Moldova, with a particular focus on the northern and central regions where most berry farmers are situated. It touches on how this sector has developed over time and the direction in which it appears to be heading. Special consideration is given to how the berry value chain impacts the target group of the research, along with attention to the topic of the inclusion of persons with disabilities.

Section 3 analyses the berry market system, taking into account possible constraints coming from the core berry value chain as well as from the supporting functions, rules and regulations which surround it. The key constraints are summarised at the end of the chapter and are prioritised according to: (i) the feasibility of addressing them and (ii) their relevance to the Good Governance Fund.

Section 4 builds on the key constraints identified in the previous chapter to suggest potential areas for project intervention. This entails outlining a vision for what a future project could hope to achieve during its implementation phase, an assessment of the key actors involved in the market system with their relative incentives and capacities for change, and suggested intervention activities.





► Sector structure

Market overview

The Republic of Moldova is a small landlocked country situated in Eastern Europe and bordered by Romania and Ukraine. Its estimated population is 2.64 million (NBS 2020, p. 37), of whom 55 per cent live in rural areas, with an equivalent gross domestic product (GDP) per capita of US\$4,590 in 2019. Moldova's labour force participation (LFP) rate stands at 42 per cent, with sizeable geographical and gender gaps: the LFP rate for those in rural areas is 12 percentage points lower than those in urban areas, while the female LFP rate is 9 percentage points lower than the corresponding figure for males (Ibid.).

21 per cent of the total working population in the Republic of Moldova is employed in Agriculture, Forestry & Fishing, down from almost 40 per cent in 2018. Agriculture is currently the second largest employer in the country after Public Administration, Education, Health & Social Work (NBS, 2020, p. 65). In terms of value, agriculture-based economic activities contributed 10.7 per cent towards gross economic output in 2019 (NBS, 2020, p. 240). The average monthly earnings for those working in the agricultural sector in 2019 was 4,769 Moldovan Lei (MDL), equivalent to roughly US\$275 – the lowest across all sectors of the economy (NBS, 2020, p. 92).

Figure 1: Map of the Republic of Moldova



Horticulture, the overarching category to which berries belong, has a long tradition in Moldova and is a main pillar within the agricultural sector. The country produces nearly one million metric tonnes (MT) of fruits and vegetables annually, making it the largest producer in the region. And there is potential to grow more, with estimates suggesting that these numbers might double in the future (NBS 2019a).

Berry production and processing is still nascent in the country, accounting for only three per cent of total agricultural production (Ibid.). Despite accounting for such a small share of agriculture, the berry sector shows potential and has been growing rapidly in the past decade. Production has increased by more than 350 per cent from 2,100 MTs in 2006 to 9,500 MTs in 2016 (FAO 2020c, pp 34–35). In 2020, this number nearly had doubled, with reports that production reached around 16,000 MTs of berries – demonstrating close to 70 per cent production growth over the last four years (Pompuș 2020). Berries constitute an increasingly important driving force for agricultural economic growth in the Republic of Moldova because of their high added value. While berries can be sold as final product, berries

can be processed in many different ways. For instance: freshly squeezed blackberry and chokeberry juices, blackberry wine, berry-based candies, frozen berries and fruit leather, all of which have a lot of potential to succeed on both the domestic and export markets. There are estimated to be 100,000 berry farmers² in Moldova, of whom the informal numbers are not known. The vast majority of farmers are small producers with plots averaging 0.2 hectare, and only 0.5 per cent of farmers are reported to have larger plots averaging 1.17 hectares. More than half of berry farmers cultivate strawberries. While strawberries, raspberries and blackcurrants have a long tradition in the country, recent trends in demand have led to the increased cultivation of blackberries, blueberries, chokeberries and goji berries (FAO 2020c, p. 35).

Berry production is concentrated mostly in the northern and central parts of Moldova. This is due to (1) better climatic conditions (higher humidity, sufficient water for irrigation); (2) a tradition of berry growing; and (3) better soil (more acidic pH in the north than in other regions) (AMIB Berry Project/ HEKS-EPER Foundation Moldova 2018, p. 7).

In Moldova, the berry season lasts for seven months, starting in April with the harvest of strawberries grown in greenhouses. While most berries are available on the domestic market only for a few summer months, strawberries can be purchased throughout the season. By the end of September, most berries are beyond their peak and the volume dwindles.

The productivity of berries per hectare in Moldova is lower than in neighbouring countries, with the majority of farmers being smallholders with little access to equipment, irrigation systems and fertilisers. Furthermore, most farmers do not plant homologated (certified and approved) berry varieties which are in higher demand. Accordingly, Moldova farmers harvest six MTs of strawberries per hectare, while neighbouring Ukraine and Romania harvest eight MTs per hectare (FAO 2020b).

Despite the relatively small volumes of production compared to traditional crops (apples – 595,000 MTs, table grapes – 120,000 MTs), and the fact that berry production only accounts for three per cent of total agricultural production, the berry sector is the most dynamic horticultural sub-sector because of its high profit margins (MADRM 2019).

History and trends

Berries traditionally were grown on small plots on private property for own consumption, and only a small remainder was sold for income. Due to an increasing demand for berries on the domestic market, starting in 2012, Moldova berry production areas quadrupled, reaching 4,000 hectares in 2019, compared to 1,000 hectares in 2010 (Moldovan Berry Association 2020).

Global production of berries

Berry production has been increasing worldwide, with China being the largest producer of fresh berries, reporting 4.2 million MTs in 2018. Like in Moldova, strawberries are the most popular berry crop to cultivate globally (Mordor Intelligence 2021). After China follows the U.S., and in third place is the Russian Federation, mostly producing currants, strawberries and raspberries. Within the European Union, Poland is the frontrunner and accordingly a competitor with Moldova when exporting to the EU (FAO 2020b).

Table 1 gives an overview of the three main berries produced in Moldova in 2019 relative to regional berry producers. Keeping in mind that Moldova is, by far, both smaller in area and population than its immediate competitors, table 1 shows the nascent state of the berry sector in Moldova.

Table 1. Moldova's production in comparison

Country	Strawberry production (in thousand MT)	Currant production (in thousand MT)	Raspberry production (in thousand MT)
Russian Federation	208.8	417.6	147
Poland	185.4	126.2	75.7
Ukraine	62.6	26.6	35.5
Romania	22.6	0.03	0.1
Republic of Moldova	10.7	0.263	4.6

Source: Author's own calculation with data from FAO 2020b.

² This number is an estimate based on one of the authors' previous work in a project which set out to count the number of berry farmers in specific parts of the country. The estimate includes berry farmers that are not officially registered.

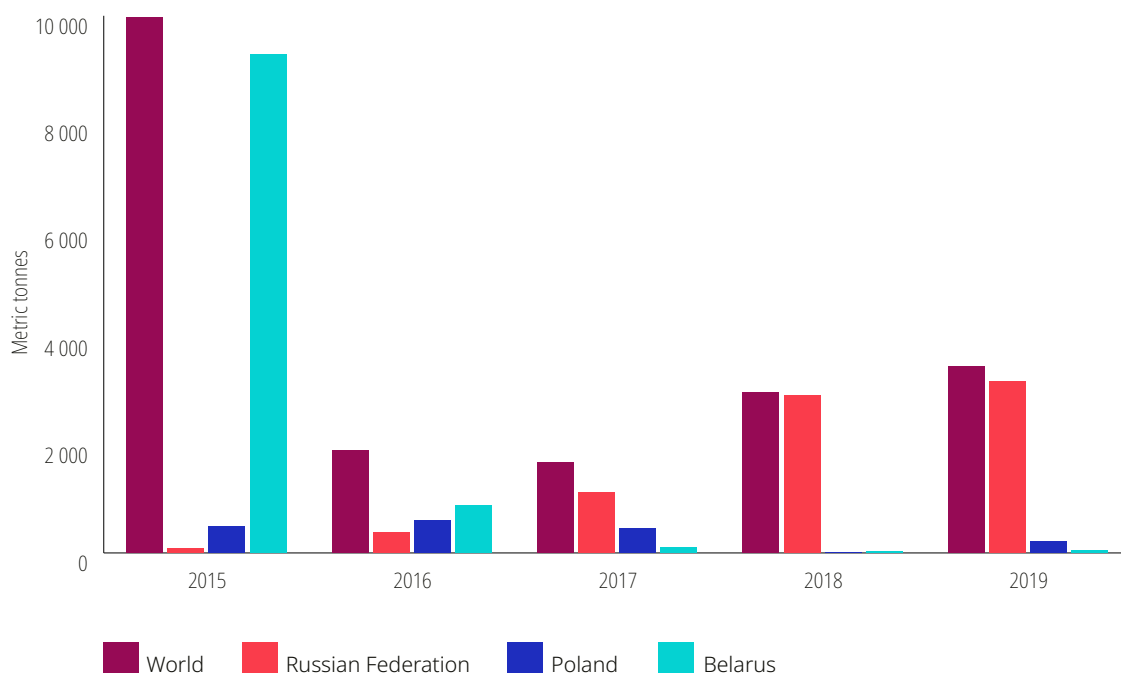
Export opportunities

In close vicinity to countries that are large importers of fresh and processed berries such as the EU, the Russian Federation and Belarus, the Moldovan berry sector has opportunities to increase berry exports. Despite not being one of Moldova's main export fruits, the sector shows potential for growth for both the domestic and export market. Out of the 16,000 MTs berries produced in Moldova in 2020, most fresh berries were sold domestically (65 per cent). Processed berries showed the opposite trend, with 55 per cent of them being exported (Pompuş 2020).

The top three importers of Moldovan berries over the past years were Russia, Belarus and Poland (see table 2 below). The Russian Federation is the main export market for strawberries and has shown a positive trend over the years, importing over 3,000 tonnes of fresh berries in 2019. This is due to higher demand and is helped because there are no language barriers among commercial partners. Also the reputation of Moldovan berries in Russia is very good, with exporters reporting that Moldovan berries are considered excellent and superior in taste. Furthermore, fluctuations in the supply from Poland make Moldova an increasingly attractive country from which to import berries. An interesting observation in table 2 is an extreme spike of exports of fresh berries to Belarus in 2015, for which an explanation could be a trade embargo imposed by Russia in 2014 on food imports from Western countries (FAO 2014). Accordingly, over 9,000 MTs of berries were re-exported via Moldova from countries such as Greece and Turkey. This goes hand in hand with the statistics in table 3 on the imports of berries to Moldova, with a similar high spike in 2015.

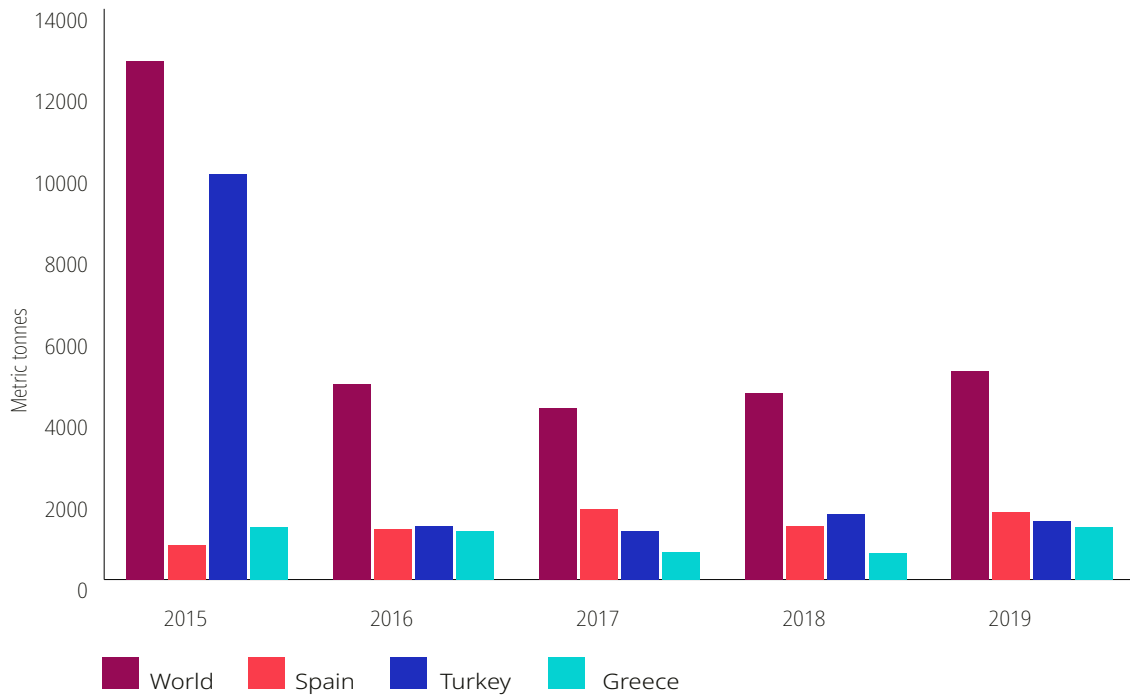
While exports to the EU are low, interviews showed that the Romanian market is increasingly showing interest in purchasing Moldovan berries. One overall advantage of Moldovan berries is that the harvest begins a few weeks earlier than in competitor countries such as Poland. Furthermore, Moldovan raspberries are sweeter in taste and have a higher sugar concentration (FAO 2020c).

Table 2. Largest export markets for Moldova in tonnes, 2015–2019



Source: International Trade Centre, International trade statistics 2001–2020, <https://www.intracen.org/itc/market-info-tools/trade-statistics/>

Table 3. Largest berry supplier markets to Moldova in tonnes, 2015–2019



Source: International Trade Centre, International Trade Statistics 2001–2020, <https://www.intracen.org/itc/market-info-tools/trade-statistics/>

Table 3 shows that Moldova mainly imports fresh berries from Spain, Turkey and Greece. The demand for imported berries mainly comes from local processors, who tend to import berries from countries where production is uniform and prices are often cheaper than in Moldova.

Prices

Prices for berries, as for other fresh fruits and vegetables, are regulated by supply and demand. As a result, prices for most berries decrease during harvest – however, also with considerable fluctuations – and go up afterwards. Once prices increase, imports of berries increase.

The most common prices of different types of berries in 2020 are represented in table 4.

Table 4. Berry prices in 2020

Harvest period	Strawberry	Raspberry	Blackberry	Currant
	MDL per kg			
Beginning of season	100	60	50	25
Mid-season	22	25	30	45
End of season	50	40	20	40

Source: Pompuş 2020.

The year 2020 was an unexpected challenge, with a global pandemic that forced governments to shut down countries for weeks or even months. While UN Moldova reports the negative impact of COVID-19 on the agricultural sector as a whole, including the berry sub-sector (UN Moldova 2020), interviewed market actors stated differently. According to interviewees, the pandemic had no significant impact on their berry businesses.

International development projects

There are a number of donor-funded programs that are currently underway or have recently been concluded in the country:

Between 2015 and 2019, the **HEKS/EPER Foundation** funded a programme to improve the economic and social living conditions of the rural population. The initiative included promoting rural SMEs within the agricultural sector and better integrating farmers into the market. This was also done in the berry value chain where a project was implemented in the central and northern Moldova.

The **High Value Agriculture Activity (HVAA)** is a USAID-funded initiative that will run until 2022. HVAA supports the berry sector by providing (1) training/education, (2) capacity building of the Moldovan Berry Association (*Pomușoarele Moldovei*), and (3) removing barriers and encouraging newcomers to the sector (focusing on young people and women) (USAID 2018).

Since 2001, the **International Fund for Agriculture Development (IFAD)** has been implementing various agriculture development programs in Moldova. The berry sector receives funding in form of grants as well as investments. For example, a grant program for women from rural areas offers grants up to US\$5,000 for businesses that account for climate resilience – including berry production (IFAD 2020).

EU-funded projects in Moldova: The EU funds a variety of projects in Moldova, which include thematic areas such as entrepreneurship and agricultural production. Among the currently active programs are the following: (1) Support to SMEs in Rural Areas, a project led by the National SME Development Agency (ODIMM) that focuses on women (Women in Business) and migrant workers (PARE 1+1); and (2) EU Focal Regions: Cahul and Ungheni, a UNDP-led inclusive economic empowerment project aimed at enhancing socio-economic growth and living standards in the regions (EU4Moldova 2020).

UNDP Moldova is working on two projects that are related: (a) Migration and Local Development, funded by the Swiss Agency for Development and Cooperation (SDC), which focuses on promoting local economic development in rural communities, and (b) Sustainable and Resilient Communities through Women Empowerment – a project funded by Sweden that aims to encourage women to engage in alternative livelihoods in the face of increased environmental degradation and severe weather patterns (UNDP MIDL 2020a, b).

The Moldova Agriculture Competitiveness Project (MACP), a World Bank project which runs from 2012 to 2021, aims to improve the country's agri-food sector competitiveness by promoting the modernisation of food safety management, encouraging farmers' market access, and mainstreaming agro-environmental and sustainable land management practices. The project provides grants of up to US\$350,000 for post-harvest facilities for groups of farmers, including the berry sector (CAPMU 2020).

Role of the target group

The objective of this research is to identify the systemic constraints to and opportunities for generating greater added value and decent employment in the berry value chain in Moldova, with a focus where possible on the target groups of women and persons with disabilities as a cross-cutting issue.

In comparison to other countries in the region but also globally, gender equality in Moldova ranks high. In 2020, the country ranked 23rd of 153 countries in the World Economic Forum's (WEF) Global Gender Gap Index. The only country in the region that was rated more gender equal was Latvia (WEF 2019, p. 9).

Concerning legislation, the Government of Moldova has passed laws and regulations that have led to substantial progress toward gender equality. For instance, to counteract negative employment trends that keep women from reaching their full potential, the Government passed a number of reforms from 2016 to 2018. One such reform is to create policies that better account for career and family responsibilities. It also included subsidies to employers who adjusted jobs to persons with disabilities and businesses that create jobs in rural areas (Ministry of Health, Labour and Social Protection 2020).

However, there are still deficits when it comes to women's participation in the Moldovan labour force. For instance, the most recent Labour Force Survey (LFS) from 2019 indicates that women aged 25–49 with children are less likely to take up employment than women without children (NBS 2019b, 2021). One reason for that could be that Moldovan women spend more hours per day doing household chores than men. A 2012 survey shows that Moldovan women spend on average 1.2 hours longer per

day doing unpaid household work than men (NBS 2021). According to a study done by FAO, this trend is more prevalent in rural areas where traditional gender roles are more common (FAO 2020c).

When asked about why women are more involved in this sector, one strawberry grower said: *“Women have more patience and smaller hands for such soft fruits.”*

According to the National Bureau of Statistics in Moldova, women account for 39 per cent of total employed persons in the agricultural sector (NBS 2021). However, estimates from key informants during the field research suggest that this figure is much higher for the berry sector, where women represent around 70–75 per cent of the workforce along the value chain. Also with regard to the division of labour within the berry value chain, women are represented evenly throughout, from berry growers to managers of processing companies.

According to official data from the National Council for Determining Disability and Work Capacity, there are estimated to be around 14,000 persons in Moldova aged 18 and over with a recognised disability – of which around 60 per cent are male and almost two thirds are from rural parts of the country (Ibid.). Data on employment and labour force participation amongst disabled persons are not readily available from the National Bureau of Statistics.

During interviews, when asked about any experience in working with persons with disabilities, one businesswoman stated: *“We hire blind people for sorting fruits. I have to say that the way they can feel and sort the different qualities of nuts is quite impressive.”³ Definitely will continue working with them.”*

One interviewed berry grower mentioned that approximately five per cent of their seasonal workers have a disability. Other interviewees mentioned that they would not hesitate to hire persons with disabilities for certain tasks.

An important step towards the integration of persons with disabilities into the labour market was made through a recent change in legislation under Law No. 137/2020. Effective from 7 February 2021, the Law states that an employer who employs an unemployed person with disabilities for a duration of at least 18 months receives a monthly subsidy equal to 30 per cent of their average monthly salary for a period of six months. In addition, the National Agency for Employment compensates 50 per cent – in the case of hiring persons with “medium” disabilities – and 75 per cent – in the case of hiring persons with “severe” disabilities – of the costs required to create or adapt the job to suit the needs of those with disabilities.⁴

³ Nuts are used by small processors to produce various jams mixed with berries.

⁴ Law No. 137, 2020, Article 38, https://www.legis.md/cautare/getResults?doc_id=122538&lang=ro





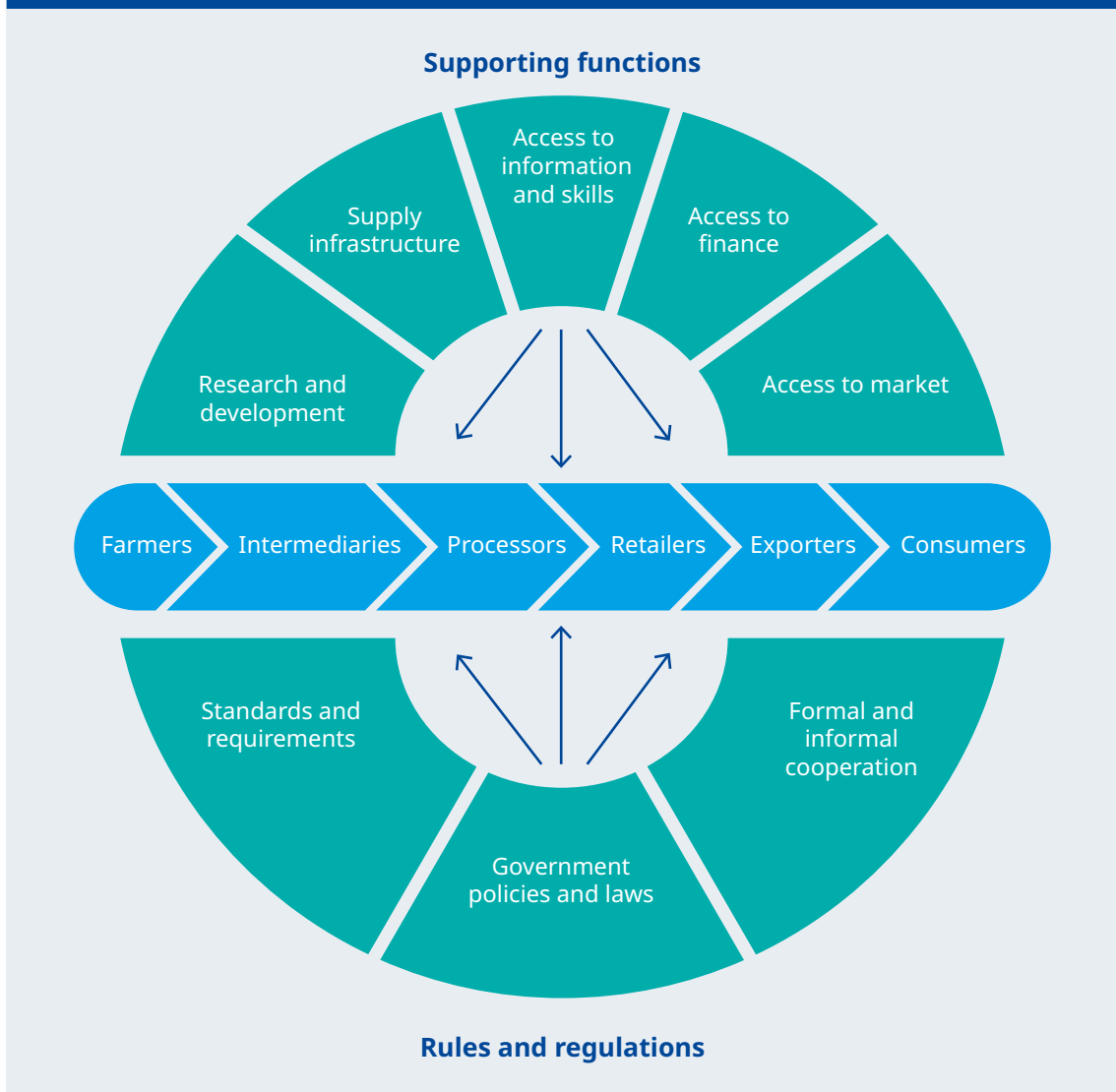
▶ The market system

The market system is the overall picture of how a sector operates, and it includes the supply and demand transactions in the core value chain – from farmers (who represent “supply”) to processors, retailers, and finally to end-consumers (“demand”). Furthermore, it includes “supporting functions” and “rules and regulations” that shape the way in which businesses and employees work in this core chain.

The scope of the market system, therefore, is to illustrate the relations among different value chain actors, and the constraints and opportunities for the synergy creation and for the success of the target group (core actors).

Figure 2 shows an illustrative market system for the berry sector in Moldova, which includes a simplified value chain (core actors) surrounded by the supporting functions and rules and regulations which strongly influence market development. Going forward, the analysis (section 3) and opportunities (section 4) sharpen the focus on farmers, workers and micro, small and medium enterprises (MSMEs), including women entrepreneurs and workers, as well as workers with disabilities – the target beneficiaries – with a view to encouraging synergy creation for greater income generation and employment opportunities.

Figure 2: Illustrative market system of the berry sector in the Republic of Moldova



Core market

The core market in the berry value chain is represented by:

- ▶ **supply actors:** (1) farmers (who grow berries on their own private or leased lands), (2) processors (canneries and factories which produce derivative products from berries – such as juices, jams, preserves, and so on), and (3) intermediaries (who link supply and demand); and
- ▶ **demand actors:** different kinds of retailers and wholesalers who operate on the local market, as well as exporters.

Each category is described next in terms of their main challenges (and their impact on the whole value chain) as well as trends that currently influence the berry sector.

Value creation: A need for cooperation

▶ Farmers

Farmers are the focal point of the berry value chain, where the primary value is created. Farmers can generally be classified into three segments (FAO 2020c, p. 35):

1. **subsistence and semi-subsistence farmers** with land up to one hectare. Throughout the country, 80 per cent of the total harvested area of berries is owned by this segment. These are farmers who cultivate berries on land that is in close proximity to their homes or small agricultural plots. The majority of them grow berries for their own consumption. If they sell berries, it is either on local markets or to an intermediary. According to the research interviews, most women working along the berry value chain are present in this category (usually women are involved in the family berry business).
2. **medium-sized farmers** with lands between one and four hectares. These farmers grow berries for sale. The vast majority of them sell berries at regional farmers' markets and in wholesale markets in Chisinau. Some of them sell berries to exporters. For this segment, growing berries is mostly considered a supplementary/secondary source of income. While the majority of workers are family members, seasonal workers are hired on demand during harvest. The number of seasonal workers depends on the volumes and types of berries ready in the harvest period. Within this segment, most women are heavily involved during the harvest period.
3. **large-scale farmers** with production lands of more than four hectares. Growing berries is their main source of income. These farmers learn the trade via agricultural extension services offered by supporting actors, such as the ACSA (Agency for Rural Development, Agricultural Information) centres, local agricultural departments and so on. The benefits of further growing their businesses are clear, and many plan to extend their services to foreign markets such as Russia or the EU. Here, workers are hired on a full-time basis. Women in this category are mostly present in the managerial and business activities such as accounting, marketing and sales.

The main challenges encountered by farmers are the following:

- ▶ **changes in climatic conditions:** an estimated 20 to 40 per cent of the harvest volume was lost in 2020 for raspberries, currants, blackberries and other types of berries. Less affected were strawberries, for which farmers recorded a harvest volume similar to prior years.
- ▶ **poor irrigation systems:** both small and medium-sized farmers cannot afford the high costs of installing irrigation systems (€2,100–5,100 per hectare), and thus have to irrigate their crops manually, which leads to lower harvest yields (Crivoi 2020). Also, irrigation is a challenge considering the poor underground water quality in many parts of the country and insufficient freshwater sources.
- ▶ **quality of planting material and low levels of land protection:** farmers face problems related to the quality of native seedlings and soil for two main reasons. For one, only a few local berry varieties are registered officially, leading many farmers to import varieties from abroad. This results in production that mixes different berry varieties and is often of lower quality. Second, farmers sometimes make use of illegal, untested pesticides and other phytosanitary products as they are cheaper but degrade the soil and therefore affect berry quality. Another issue is that the capacity of local producers and research institutes is limited for several reasons (e.g. small land plots, little staffing and so on).

- ▶ **labour force:** the agricultural labour force shrinks in the Republic of Moldova year on year. Only a handful of varieties of blackcurrants can be harvested mechanically, while all other berry varieties have to be harvested by hand. The larger the plantation, the larger the demand for seasonal workers. Some larger plantations record labour shortages during harvest. The salaries of seasonal employees involved in berry cultivation and harvesting vary from MDL 300 to 350 (about €17) per day. According to some farmers, about 70 per cent of seasonal workers are women, because they are more accurate, attentive and patient when doing berry field work.
- ▶ **sales and access to market:** berry sales are often disorganised, sporadic and mainly take place during the high season. Subsistence farmers lack access to information (where to sell, how and whom to sell to) and planning skills and usually sell berries in very small quantities. A large share of berries reaches the open market through informal transactions with wholesalers/intermediaries who are very well informed about current market prices and are experienced negotiators. Usually, intermediaries have their own transport means, often without any form of cooling equipment, negatively affecting the quality of fresh berries.
- ▶ **supermarket chains:** generally, berry farmers prefer to sell in open markets (wholesale and retail) rather than to supermarket chains as supermarket chains do not pay immediately (usually a chain procurement contract provides payment ten days later).

“Supermarkets often do not ensure appropriate storage conditions for selling berries and maintaining their good quality.”

▶ Farmer

Despite these challenges, farmers are demonstrating some positive advances toward more sustainable growth and income opportunities in berry production. More and more farmers are focused on producing organic products (which can be sold at a higher price) and try to use modern and innovative technologies to reduce costs.

Another positive trend is that large-scale farmers now organise employees in a way that they can be offered longer-term engagements, keeping on the workforce for an entire season rather than only for the high season.

▶ Intermediaries

The largest number of buyers for berries are intermediaries who work all year round to sell berries on wholesale markets (June – strawberries, July – strawberries or raspberries, August – currants). Intermediaries work independently and often have their own means to transport the produce they purchase. Intermediaries find berries either through their own established databases, via phone, recommendations or Moldovan agricultural internet platforms. Usually, the profit margin for intermediaries varies between 20 and 40 per cent depending largely on the demand for berries on the day of sales.

The main challenges that intermediaries face are similar to the challenges of small processors. Intermediaries have **insufficient incentives to work with subsistence farmers** due to the risk of buying heterogeneous quality. They also face **high transportation costs and insufficient produce volumes** due to collecting berries from different geographical areas. Also, most farmers lack pre-cooling storage and need to collect berries directly in punnets (as berries are perishable products), creating difficulties in **logistics and packaging**.

Moreover, the link between intermediaries and farmers is blocked by poor **access to information:**

- ▶ **intermediaries:** need to be more informed about lists of farmers, their territorial distribution and types of berries that could be collected in commercial quantities; and
- ▶ **farmers:** need to be more visible to intermediaries, understand their buyers' demands and so on.

► Processors

Processors are businesses that process berries to produce value added products such as jams, juices and nectars. Processors can be broken down into two main categories:

1. **small-scale processors:** companies that process fruits and vegetables and sell mainly on local markets (in supermarkets). The companies buy berries from farmers, local markets or local traders. Their products include jams, juices and frozen berries.
2. **large-scale processors:** companies whose activity is mainly focused on processing. In Moldova, typical businesses include Alfa Nistru JSC, Orhei Vit LLC, Kardel LLC and Calarasi JSC cannery factory. Traditionally, these companies process more vegetables and less fruits. However, because of an increase in demand in export markets they have started to process berries for juice, jams and purées. They have their own freezing facilities, which allows them to process berries in a larger variety of ways than small-scale processors. Large-scale processors mostly purchase berries (as a raw material) from local farmers or have their own plantations. Even so, some import frozen berries because of quantity, quality, price and consistent availability.

While there are no official numbers on women represented in this segment of the berry value chain in Moldova, one interviewee reported that 40 per cent of their employees were women, of whom many are in management positions. Accordingly, it is understood that, as with the different farmer segments, women are also well represented within the processing industry.

The main challenges for processors are centred around obtaining the necessary volumes and quality. This is why many large-scale processors are not interested in buying produce directly from farmers, as they need a regular flow of raw materials, high volumes and organised, contracted sales, which are nearly impossible for most berry farmers. Recent price increases have reduced the profitability of berry processing, which may push large-scale processors to shift their processing activity to more profitable products in their portfolio.

“The main challenge is that prices are very volatile in the berry sector and, of course, influenced by climate conditions.”

► Large processing company

Small-scale processors are mostly affected by their low buying capacity for large quantities of raw materials and limited cooling and storage infrastructure, which requires considerable investment.

More transversal processing challenges relate to: *high perishability and low transportability* of berries, as well as *outdated processing* equipment and technologies, which is mostly manual. Moreover, processors need to meet many requirements in order to update their operational processes and to compete with imported products on the market with more attractive prices.

Market for berries

This sub-chapter describes the main demand actors operating in the core section of the berry value chain.

► Local market

Berries in their fresh form are sold locally, mainly in municipal markets (one in Chisinau and one in Balti) and less frequently in supermarket chains as processed berries. Berries are also sold in numerous retail grocers in the capital and other towns and larger villages of Moldova, as well as outdoor markets. Low- and middle-income consumers buy fresh berries from outdoor markets while higher-income consumers buy berries from supermarkets and shops.

Nine grocery, supermarket and hypermarket chains operate in Moldova. Those chains work with berry processors, intermediaries and sometimes directly with berry farmers of all sizes and are focused on regular deliveries and large volumes.

Some of the main challenges with regard to the local market and berry consumption are:

Supermarkets have difficulty planning produce purchases, and as a result cannot plan sales to end-consumers. This is due to inconsistent deliveries, small and heterogeneous volumes, and communication and contractual issues with farmers. A lack of pre-cooling conditions and appropriate packaging is another challenge. Farmers sometimes find it difficult to meet retail packaging standards because they do not want to spend time or money on better packaging because of their resistance to behavioural change and additional labour costs, even if that would increase the price of the product. Additionally, supermarkets have insufficient knowledge on how to increase the shelf-life of berries and to maintain their visual appeal.

Open markets suffer from unorganised and often illegal selling practices (some farmers sell at market entrances, near market places or on the roadside). Restaurants and cafés source berries from open markets, as they can find more diversified types of berries and higher volumes of homogeneous berries than with producers.

Finally, and perhaps most importantly, the price point for berries is often too high for **end-consumers**, who find traditional fruits such as apples and oranges more affordable.⁵

That said, trends in consumer preferences are changing, particularly for less price sensitive medium- and high-income earners. These consumers show a growing demand for healthy products, influenced by the emergence of specialised shops with organic products, dedicated exhibitions and festivals, with tasting booths as well as workshops, and the availability of innovative and derivative organic products.

▶ Export

As the berry sector is still new for many Moldovan farmers, it is difficult for exporters to compete with commercial farmers in Europe, and they face many challenges:

- ▶ **quality and volumes:** it is difficult to collect and export a homogeneous quality in the volumes necessary for export (i.e. in trucks of minimum 20 MTs). In this regard, there is a lack of cooperation between small and medium-sized farmers to aggregate to a homogeneous supply.
- ▶ **image and packaging:** Moldovan berries frequently are packaged in poor-quality packaging which affects the quality perception of those berries. Even if local berries are of good quality, they are frequently mixed with berries from an importer country and then re-exported under a Moldovan brand, lowering the perceived image of Moldovan berries.
- ▶ **export costs and partnership skills:** Moldovan berry exports are expensive due to harvest costs, transport and logistics, cooling, packaging and so forth. This is caused by a lack of negotiation skills, market research, export partners' choosing, market diversification by local exporters and/or intermediaries. Additionally, opportunities to add value through organic certification have largely been underutilised.

Positive trends here are related to increasing cooperation between different actors along the value chain to (1) larger export volumes and (2) improve packaging. Other international export trends include the growth of higher value berries (i.e. goji or chokeberries), processed derivative products with less/ no sugar and organic berries for higher prices.

Supporting functions

Supporting functions in the berry value chain are represented by research and development actors (which increase added value through innovation), suppliers (of different inputs and needed infrastructure and added services for value creation), and actors that open and enhance the access of the core value chain actors (to market, information, skills and finance). Each constraint in terms of main challenges is described next, along with its impact on the whole value chain.⁶

⁵ Berry prices drop rapidly in season – i.e. strawberries from MDL 100 (~€5) to MDL 22 (~€1) per kilogram, blackberries and raspberries from MDL 60 to 50 (~€3) to MDL 30 to 20 (~€1) per kilogram, and still they are more expensive than e.g. apples, which cost MDL 10 to 8 (~€0.5) per kilogram.

⁶ A detailed list of supporting actors in the berry sector can be provided upon request.

Box 2: Cooperation is key to export

Many Moldovan berry farmers would like to expand their business to new foreign markets. However, most farmers produce too little to accommodate international orders.

In 2012, Elena Vetrici decided to grow a berry variety that was still foreign to Moldova at that time – the goji berry. She had read many stories about the healing powers of the fruit originating from Asia and wanted to introduce it in Moldova. She got a goji variety certified, and through the establishment of a nursery, Elena could sell saplings to other farmers. More and more of them started growing goji berries so that they could collaborate and respond to international demand. Today, Elena estimates there to be 18 hectares of goji berries throughout the country and this trend is growing.

The group of producers Elena is now leading can provide up to 25 MTs of fresh goji berries and 6 MTs of dried berries a year. While the fresh berries are sent to a partner in Poland, the dried goji berries go to Romania.

► Research and Development (R&D)

R&D for the agricultural sector in Moldova is comprised of a research system, an education system and extension services. Research is done by 12 research institutions in the field of horticulture and food technology, plant protection and ecological agriculture, genetics and plant physiology, microbiology and biotechnology, soil science and agro-chemistry.

The main research actor in the berry sector is the Practical Scientific Institute of Horticulture and Food Technology from Chisinau. In the last decade, the Institute provided basic berry varieties: raspberries, blackcurrants, blackberries and some others. With the exception of some minor studies, the institute has not undertaken any major ongoing research in the berry sector because of limited financial support from the Government. New berry varieties such as sea-buckthorn, goji berry, blueberry, black rowan and others are tested and homologated by private farmers.

There is only one VET institution in Moldova that offers an educational programme on berry cultivation, the Nisporeni Professional School. The VET institution offers a course for cultivators and processors of bacciferous plants, which started in September 2020 and will include instruction on production, plantations, greenhouses and equipment, among others.⁷

R&D activity is limited because the Government directs its resources to berry production rather than research. Furthermore, there is a lack of research specialists due to the general unpopularity of agricultural studies in the country and outward migration of young specialists.

“Farmers need to plan the establishment of plantations at least six months before placing the order for the acquisition of seedlings.”

► Nursery, input supplier

⁷ Nisporeni Professional School, <http://spnisporeni.educ.md/cultivator-procesator-a-culturilor-bacifere/>

► Supply infrastructure

Supply infrastructure is represented by:

1. Nurseries – suppliers of seedlings – the main input for berry production
2. Suppliers of other inputs – agricultural machinery, fertilisers and plant protection products, irrigation systems, DRR (disaster risk reduction) equipment
3. Post-harvest facilities/cold storage
4. Transport service providers
5. Construction and infrastructure networks
6. Suppliers of packaging and other labelling, and logistic materials.

The principal challenge is that **seedlings** are mostly imported, of unsuitable quality for Moldovan soils and are not controlled by the government. Farmers often directly import new varieties to reach higher productivity but sometimes imported varieties are not well suited to Moldovan soil conditions and produce sub-optimal yields due to low quality and their lack of disease resistance.

“Seedlings: the gap here is the lack of scientific basis. We can grow certain varieties like in the Netherlands, but we do not know how they will behave in Moldova.”

► Association of Berry Producers

Another **challenge is the use of fertilisers and pesticides**. Moldova has more than 200 input providers that sell seeds, fertilisers and pesticides (AMIB Berry Project/HEKS-EPER Foundation Moldova 2016). However, very few sell berry inputs, given the minor production levels. Beyond that, farmers do not apply plant protection – i.e. salespeople/agronomists advise them on how to use the products (AMIB Berry Project/HEKS-EPER Foundation Moldova 2018, p. 4)– due to little knowledge and limited financial resources to commit to such inputs.

The high costs of modern equipment relative to production size hinders most farmers from investing in technology, and thus most farmers operate without mechanisation. That being said, access to quality machinery is available as international companies have stock in most territorial districts.

A lack of information about how to import and which inputs to import is a cross-cutting constraint to the supply infrastructure. This extends to equipment or for specific technology among others, of which most farmers, and in particular new farmers, are unaware.

Post-harvest facilities/cold storages are identified as another challenge. Cold storage allows for elongated shelf-life and longer preservation in taste which in turn leads to increased revenue. Pre-cooling is currently used only by a small share of cold storage owners. Pre-cooling refers to the rapid removal of field heat shortly after harvesting a crop. By doing so, berries have a longer shelf-life and the quality can be preserved longer, which makes pre-cooling a value-adding activity in the berry value chain. Data from a 2016 study shows that out of 52 per cent of berry farmers with cold storage facilities only two per cent use pre-cooling chambers, despite its known benefits (AMIB Berry Project/HEKS-EPER Foundation Moldova 2016, p. 28).

► Access facilitation: finance & skills

Access to finance is facilitated through banks, microfinance institutions, savings and credit associations, state-funded programmes and donor-funded programmes. Financial credit generally finances seedling material supply, equipment modernisation and automation, plantation expansion and crop diversification. Despite a number of recent government and donor-funded finance initiatives (EU, USAID, UNDP, Governments of Japan, Sweden, Denmark, the World Bank, EBRD and so on), access to finance for agricultural producers, including smallholders and family farms, has only improved modestly. The major barrier to access to finance relates to insufficient borrower collateral. Another challenge is high interest rates – microfinance organisations lend at 15 to 20 per cent annual interest rates (FAO 2020c, p. xv).

The Agency for State Subsidies and Payments in Agriculture (AIPA) is the main investor in the agriculture sector in Moldova, providing a post-investment subsidy of 50 per cent for investments up to €125,000. This scheme requires that farmers invest in 100 per cent of their costs upfront, when fulfilling certain conditions and presenting all necessary documentation, in order to receive a 50 per cent subsidy. For female farmers, AIPA increases the subsidies by 15 per cent (AIPA 2020). For many farmers it is difficult to apply for this loan as they do not have the necessary start-up capital to cover the full payment or cannot fulfil all the required conditions that are attached to the subsidy. Even if they manage to do so, some have reported that the grant often takes a very long time to be transferred due to inefficient bureaucracy. In addition, many farmers are unaware of this or other funding programmes and consider them too complicated.

Women in particular are supported through the Organization for Small and Medium Enterprises Sector Development (ODIMM), which is a public institution. They have a programme called “Women in Business”, co-financed by the EU, the Danube Transnational Program and “PARE 1+1”,⁸ a programme for attracting remittances to the economy, so that each MDL invested from remittances will be matched by one MDL in the form of a grant.

Access to **skills** covers a range of key areas such as knowledge about legal rules, production and business development.

While there are few technical experts in the berry sector, producers and processors can upskill through several organisations. The Institute of Research and Practical Horticulture and Food Technologies⁹ has experts in berry storage and processing and provides information regarding storage of berries, pre-cooling, freezing and other processing technologies. Berry farmers can also receive information on post-harvest techniques from cooling and freezing equipment providers. Consultants at the state extension service (Agency for Rural Development – ACSA) can advise on packaging, canning and existing commercial standards in Moldova.

The main challenge in skills development is that many farmers do not know about such opportunities or have no trust in local consultants and specialists in the sector. This is due to the outdated research and development infrastructure in this sector, and a lack of technical specialists, especially concerning new varieties and innovation.

Rules and regulations

This section describes the constraints in the rules and regulations that dictate how the entire berry chain operates: development and implementation of the government policies and laws, development and monitoring of the implementation of standards and requirements, and the activity of formal and informal cooperatives and associations.¹⁰

Government policies and laws

At the national level, parliament and government ministries can impact the sector through developing and implementing strategies, sectoral programmes, and policies on imports and export of fresh and processed berries.

“Data is collected on volume production and processing. But it is difficult to aggregate and the data comes a year later in March or April. [...] The [data] software is very outdated and only allows for a limited number of crops.”

► MADRM

⁸ More information on this program (in Romanian): <https://www.odimm.md/ro/par>

⁹ Institute of Research and Practical Horticulture and Food Technologies, <https://isphta.md/>

¹⁰ More detailed information on those categories of actors can be provided upon request.

The key challenge here is the lack of a unified vision for the sector. The analysis of the berry sector and prioritised government actions are reflected in the National Program of Horticulture, developed in 2020. Still, there is a need for a dedicated strategy, specific to the berry sector, based on evidence, which will be challenging to develop due to the lack of statistical data specific to berries. Thus, it is difficult to evaluate the potential economic impact of the sector and then prioritise the sector. In this context, there is a need for the collaboration of all types in supporting and regulating actors, especially education and research, donors, associations, quality and standardisation actors.

Standards and requirements

The government regulates subsidies and implements and monitors food protection, crop variety testing, homologation of new berry varieties as well as fiscal policy, registration and regulation of new plantations, plus agricultural export quotas through its agencies and organisations.¹¹ The Institute of Standardisation and the Institute of Horticulture and Certification both work to establish national standards, elaborating and harmonising them to ensure the quality of seedlings and certified producers. The regulation and control for food safety, plant protection and phytosanitary quarantine, seed control and quality of primary products is ensured by National Agency for Food Safety (ANSA). Also, each region has a Department of Sanitary Supervision responsible for implementing ANSA interventions.

The main challenges referring to those actors relates to:

- ▶ **insufficient control** of pesticides, fertilisers and of the quality of local seedling material, as well as the quality of imported material (especially from EU countries, which is not tested anymore). ANSA does not have sufficient resources to monitor all farmers who sell their berries on the market or all the seedling stock. It also does not have an online catalogue of certified plantations.
- ▶ **low demand for certification** due to high costs of international certification (i.e. Global Gap, HACCP); and
- ▶ **insufficient collaboration** between operators in this category in order to enhance and motivate for the quality growth and conformity to requirements.

▶ Formal and informal cooperation

In the berry sector, cooperation is often informal among the actors all along the chain. Formal cooperation is represented through two national berry producer associations, which help producers access information, develop skills to access markets and share experiences. Created in 2009, “Bacifera” has 32 members and promotes their interests to public organisations; it provides member services, such as consultancy services in berry production and sales for its members, promotion events, lobbying and so on. “Pomusoarele Moldovei” (Moldovan Berry Association) has a large database with 287 berry producers to whom they provide consultancy services on growing berries and recommendations on phytosanitary products and other inputs.

Larger, agriculture-centric associations are also relevant, including the National Agency for Rural Development (ACSA),¹² the Federation of Agricultural Producers from Moldova (FARM),¹³ and the National Federation of Farmers of Moldova (FNFM) among others. These associations share knowledge, experiences and practical abilities related to a wide range of domains focused on sustainable development of agricultural and rural areas.

¹¹ Including the Agency for State Subsidies and Payment in Agriculture (AIPA); the National Agency for Food Safety (ANSA); the State Commission for Crops Variety Testing; the State Centre for Certification and Approval of Phytosanitary Products; LPAs, and the European Commission.

¹² Agency for Rural Development, <https://acsa.md/>

¹³ Federation of Agricultural Producers from Moldova, <https://www.agrofarm.md/>

The key challenges related to cooperation are:

- ▶ **insufficient trust and experience**, which is a legacy of the Soviet era due to past negative experiences with collectivisation and the creation of cooperatives in other sectors. This led to a lack of trust and low incentives for members to contribute financially and work voluntarily;
- ▶ **conflicts of interest** from the top management of associations who often try to monopolise power to support their own interests;
- ▶ **limited member time** to participate at multiple events (local and study visits), especially when organised during harvest period; and
- ▶ **black market practices and illegal agreements** between some sellers and farmers, which limits the formal (or open) exchanges on legal areas of the sector.

Despite this series of constraints, there appears to be an increasing motivation on the part of berry actors to cooperate in creating collection centres and to ensure the necessary volumes for supermarkets and for export.

Constraints summary

Based on the analysis of the challenges described above, table 5 summarises the main constraints that hinder the development of the high added value in the berry sector in Moldova. Besides the constraints, table 5 also highlights the underlying causes for each constraint and its impact on the market and working conditions.

Table 5. Constraint summary of the berry sector in Moldova

Constraint	Underlying causes	Impact on market/decent work
Core market		
Low harvest volume	<ul style="list-style-type: none"> • Poor climatic conditions, drought • Poor irrigation systems • Low quality of planting material • Low soil protection, illegal & untested pesticides/other phytosanitary products • Shortage of seasonal workers • Insufficient homologated varieties, lack of trust in local seedling material 	<ul style="list-style-type: none"> • Low supply for local market • Low supply for export markets • Irregular income and short-term contracts • Low job opportunities
Weak export position	<ul style="list-style-type: none"> • Small volumes and unreliable quality • Weak negotiation skills and limited knowledge of export markets • Low farmer/exporter cooperation 	<ul style="list-style-type: none"> • Poor image as a country • Low export prices • Low supply for export market
Low local demand	<ul style="list-style-type: none"> • Unorganised, sporadic sales • Strong competition from fruits and other substituting products • Insufficient incentives to work with small farmers • Illegal black market, illegal berry picking from forests • Insufficient awareness of customers on health benefits of products 	<ul style="list-style-type: none"> • Increasing competition of substituent products
Outdated processing	<ul style="list-style-type: none"> • Costly cooling and storage infrastructure • Manual equipment and low levels of technology • Low levels of interest by big processors • Lack of derivative products • Less expensive imported products 	<ul style="list-style-type: none"> • Low local demand • Low opportunities to export • Limited job opportunities • Increase of the competition of imported products

Constraint	Underlying causes	Impact on market/decent work
Supporting functions		
Access to Information	<ul style="list-style-type: none"> Lack of connection/communication between farmers, intermediaries, supermarkets, processors Lack of information on berries' territorial distribution Insufficient motivation of farmers to know about the other actors of the value chain Limited market players offering extension services Lack of trust in local consultants 	<ul style="list-style-type: none"> Low management of small farmers Maintains a poor level of quality Invitation of foreign consultants, which is more costly
Poor research and education	<ul style="list-style-type: none"> No focused budget and support Lack of infrastructure for R&D Lack of skilled staff and teachers Unpopular among young people 	<ul style="list-style-type: none"> Outdated varieties Increase of illegal imports Few students
Access to finance and poor business skills	<ul style="list-style-type: none"> Lack of technical expertise in berries Fear to access funds, lack of knowledge, and skills in managing funds and investments Berry plantations are only eligible for AIPA subsidies if they are larger than 0.5 hectares 	<ul style="list-style-type: none"> Failure of small businesses Less funding to this sector Small farmers are excluded from subsidy schemes
Rules and regulations		
Government policies and regulations	<ul style="list-style-type: none"> Lack of the collaboration with all types of supporting actors, in order to focus and prioritise area of investments in the sector No statistical data, no deep ground research and separate strategy for the sector Insufficient control of pesticides, fertilisers, of the quality of imported material 	<ul style="list-style-type: none"> Sector will decrease in its development as a whole Drop of the interest of supporting actors Increase of illegal practices Low level of employment opportunities
Standards and requirements	<ul style="list-style-type: none"> Insufficient control of pesticides and fertilisers Insufficient control of local seedling material Low demand for certification Insufficient collaboration between operators 	<ul style="list-style-type: none"> Presence of counterfeit pesticides on the market Presence of low quality planting material Lower prices for the harvest
Lack of collaboration and cooperation between farmers	<ul style="list-style-type: none"> Lack of trust due to past Soviet experience Top management conflict of interests, including LPAs No focused strategies for cooperation Low motivation of members to make a financial contribution 	<ul style="list-style-type: none"> Fear to cooperate Less job opportunities Lack of opportunity to penetrate other markets



▶ Opportunities

The purpose of this market systems analysis is to identify concrete pathways to resolve key challenges in the sector. Improving the lives of the poor – stimulating growth and expanding access – means transforming the systems around them. Market systems interventions seek to empower other market players to perform better and more inclusively, and specifically they follow the following core principles:

- ▶ **sustainability:** interventions are designed to put local actors in the lead and in a way that is in line with their capacity and organisational incentives. This means that local actors are equipped and incentivised to carry interventions forward without support;
- ▶ **scale:** interventions are designed in a way to encourage copying and upscaling by other competing and non-competing market players;
- ▶ **portfolio approach:** a broad variety of interventions are designed to address multiple constraints, understanding that some interventions will be more successful than others. A portfolio approach de-risks promoting a one or two interventions approach, which may never have any success.

Key market actors

As market systems interventions put local actors in the lead, it is important to ensure that intervention partners have the right incentives and abilities to take initiatives forward beyond the lifespan of the intervention. Table 6 summarises perceived organisational motivation and human and financial resource capacity to drive change in such initiatives.

Table 6. Key stakeholders in the sector

Organisation	Relevant Information	Motivation/Capacity ¹⁰
Malai Valerian - Nursery	<ul style="list-style-type: none"> • Certified nursery that provides most varieties of berries • Provides field trainings for young producers • Offers consultancy services for farmers • Marketing and sales strategy needs improving on targeting small farmers 	Motivation: Medium Capacity: Medium/Low
Frigodoragro - Nursery	<ul style="list-style-type: none"> • Certified nursery specialised in goji plants • Provides over 50,000 annual goji cuttings • Provides field trainings for young producers • Offers consultancy services for farmers • Marketing and sales strategy needs improving on targeting more farmers 	Motivation: High Capacity: Medium
Dipp-Fruct LLC - Intermediary	<ul style="list-style-type: none"> • Intermediary services: collects different types of berries from producers and sells. • Own transport (with cooling system) to collect and sometimes leases additional trucks in busy periods. • Buys from a small number of farmers • Does not want to take many risks due to perishability of fruits 	Motivation: Medium Capacity: Medium/Low
Orhei-Vit SA - Processor	<ul style="list-style-type: none"> • One of the biggest processors • Own plantation of blackcurrants, strawberries and raspberries • Buys strawberries for jams, juices, and so. forth.; sometimes imports berries from Ukraine due to lower prices. • Recognises that Moldovan berries are better and would like to work with local berries • Needs to improve marketing (communication) and acquisition processes. 	Motivation: Medium Capacity: Medium
Alfa Nistru SA - Processor	<ul style="list-style-type: none"> • One of the biggest processors • Own plantation of blackcurrants, strawberries and raspberries. • Buys strawberries for jams, juices and so forth; sometimes imports berries from other countries due to lower prices • Recognises that Moldovan berries are better and would like to work with local berries • Needs to improve marketing (communication) and acquisition processes 	Motivation: Low Capacity: Medium
Vadalex LLC - Input supplier	<ul style="list-style-type: none"> • Importer and distributor of agricultural inputs • Supplies around 25 brands of agricultural equipment, 30 brands of seeds, phytosanitary products, fertilisers • Big range of products but no berries • Small berry producers are not their main target group 	Motivation: Low Capacity: High
Teogortrans SRL - Exporter	<ul style="list-style-type: none"> • Exporter of fresh berries • Concentration on Russian Federation and also some European countries • Rents cold storage during harvest season • Needs to improve farmer database 	Motivation: High Capacity: Low

¹⁰ Motivation indicates the perceived organisational motivation to drive change in the sector. Capacity is related to human resource capacity to drive change in the sector. Both of these were gauged by the team based on the semi-structured interviews which took place during the field research.

Organisation	Relevant Information	Motivation/Capacity
Moldovan Berry Association "Pomusoarele Moldovei"	<ul style="list-style-type: none"> • A non-profit, non-governmental organisation created by berry producers • Perceived to have strong membership and large networks, and thus relatively more power than other associations • Organisation of trainings, consultancy services for berry producers • Organisation of promotion and awareness events • Organisation of study visits and field visits • Provider of consultants and some recommended lists – i.e. for phytosanitary products or other inputs • Will involve women in business • Facilitate dialogue between actors (round tables, discussions) • Have not developed any initiatives without donor support, will struggle to operate without donor funding and do not seem to have a financial sustainability focus 	<p>Motivation: High</p> <p>Capacity: Low</p>
VET School Nisporeni	<ul style="list-style-type: none"> • The only VET school in Moldova that offers a two-year course for berry growing • Funded by APM Project (since 2012, curricula development, plantation, greenhouse, equipment and so forth) • They plan to offer short-term courses for adults in berry growing 	<p>Motivation: Medium</p> <p>Capacity: Low</p>

Potential areas for intervention

Potential interventions for the berry value chain have been identified to address the key constraints identified in the analysis. The main focus of all interventions is to stimulate and facilitate the synergy for growth and employment opportunities in this sector.

The full set of findings and recommended interventions was discussed with key stakeholders from the berry sector during a validation workshop, which took place on Friday, 19 February 2021. Based on this consultation, the key findings and full set of recommendations were validated and endorsed by the attendees. At the same time, however, it was put to the attendees to prioritise the interventions they believed would have the greatest likelihood of positive impact on the development of the berry sector. On reflection of those discussions, the analysis was reviewed and a final set of six interventions agreed upon.



The proposed interventions can be summarised in an intervention strategy based on three areas (main outcomes):

1 ▼

Enhanced farm-level productivity through better access to inputs and knowledge

Intervention 1

Better farm productivity due to better access to information and embedded services

Intervention 2

Production upscale due to better access to quality seedlings

2 ▼

Cooperation for “go to market” and match making

Intervention 3

Increased trust and motivation for cooperation to export

Intervention 4

Improved communication for matchmaking with major local buyers

Intervention 5

Better access to education – particularly for women and persons with disabilities

3 ▼

Synergy of supporting functions and governance

Intervention 6

Joint actions for focusing on areas of investments in the sector

► **Outcome 1 Enhanced farm-level productivity through better access to inputs and knowledge**

The first major goal is to enhance production yields to supply a growing international market. This will include enhancing the use of appropriate inputs and the use of plant protection instruments/products.

INTERVENTION 1. Better farm productivity due to better access to information and embedded services

A significant constraint to farmers is the loss of production due to different natural hazards or other reasons. Identifying the reason and offering an affordable way to fight back will have significant impact on both income and risk in berry production. Currently, there is a lack of focus on plant protection, pest control and improving harvest yields.

To ensure increased yields, the idea for this intervention is to build a cooperation among several stakeholders, including: (a) input suppliers (who provide fertilisers and pest control material), (b) agro-stores and (c) leading farmers from farming communities. The cooperation will consist of:

1. input suppliers diversifying and adapting their range of products for subsistence farmers;
2. agro-stores promoting products suggested by input suppliers;
3. input suppliers and agro-stores establishing demonstration plots on leading farmers' plantations;
4. input suppliers organising field visits for small farmers to demonstration plots.

All parties involved would benefit from cooperation: The agro-store will increase their customer base and gain credibility, the input supplier will increase sales and gain credibility and the farmer will gain knowledge and professional advice. Accordingly, the incentives of the players are commercial – each one could increase their income.

To implement this intervention the following actions will be needed – note that the supplier incentive to create accessible offers for small-scale farmers is crucial:

- project selects three input suppliers to establish catalogue of products and evaluate current marketing strategies;
- project selects five agro-stores to evaluate current marketing strategies and working approaches with suppliers;
- project works with intervention partners to improve the marketing strategy (in order to cover new target groups as buyers, clients);
- project assists input suppliers in establishing connections with agro-stores;
- project assists agro-stores with portfolio outreach;
- project assists input suppliers and agro-stores in establishing demonstration plots and scheduling of field demonstration days;
- partners spread information via different channels (mostly direct dialogues with other market players).

Expected outputs:

1. **farmers** increase productivity by using protection methods against pests, have access to improved protection methods and know how to apply them;
2. **input suppliers** create special offers for small farmers; improve their sales channels; improve their communication with buyers and agricultural shops;
3. **agro-stores and retailers** offer new products and will have enhanced relationships and farmer loyalty.

INTERVENTION 2. Production upscale due to better access to quality seedlings

Nurseries indicated that their profit margins are constantly threatened by farmer imports of foreign seedlings and home-made propagation, while small and medium-scale farmers feel forced to import seedlings due to a lack of local, quality seedlings. There is also a lack of farmer knowledge on the benefits of using quality seedlings.

This intervention intends to strengthen the capacity of market players to offer consultancy services that fill this knowledge gap. Nurseries have the knowledge and seedlings needed by farmers, and by improving the collaboration between them, berry production can be scaled up as quality seedlings are no longer combined with other, less suitable varieties.

This intervention intends to facilitate farmers' access to better quality inputs and knowledge. The intervention steps include:

- ▶ conduct needs assessment on marketing capacities of nurseries, including promotional plans, for two to three key nurseries;
- ▶ support and monitor the implementation of adjusted nurseries' marketing strategies in selected *rayons*;
- ▶ identify outreach strategy to sell seedlings and other quality inputs and offer product training as a means of building customer loyalty;
- ▶ promote the results registered by nurseries with competitors, to ensure that others will follow suit.

Expected outputs:

1. **farmers** will increase productivity and competitiveness through buying quality seedlings and getting access to knowledge through nursery product training;
2. **nurseries** will improve their marketing and sales capacities; will invest in developing consultancy services.

▶ Outcome 2 Cooperation for "go to market" and matchmaking

The main goal of outcome 2 is to change behaviour and encourage actors throughout the sector to cooperate and develop key business linkages and enhance knowledge and access to information.

INTERVENTION 3. Increased trust and motivation for cooperation to export

Although berries are not one of Moldova's main export products, the sector has export growth potential. There is an increasing need for the cooperation between farmers (formal and informal) in order to supply homogeneous quality and larger product volumes, to use more attractive packaging and to export more diversified kinds of berries demanded by export markets.

The intervention will work with major buyers, such as processors and exporters, to support them to work more closely with medium-scale farmers. These actions need to be focused primarily on collaboration and motivation to communicate and develop joint actions of groups of farmers, associations, intermediaries and exporters, as well as government and public sector actors who can contribute to the development of the image of the sector on the export market:

- ▶ project collects best practices (local), selects main actors of export value chain in the berry sector and conduct needs assessment for each of them (quantities needed, quality, export destinations, consumer/buyers' expectations and so forth);
- ▶ project and major buyers collect lessons learned from other Moldovan exports and their "go to export" strategies;
- ▶ major buyers, with project support, communicate best practices to berry farmers and other actors within the export value chain;
- ▶ project and major buyer launch at least two to three joint initiatives developed on "go to export" to support better packaging and marketing.

Expected outputs:

1. **farmers** have stronger links, and a higher level of trust, to cooperate with buyers facilitating better access to markets;
2. **intermediaries** will improve their marketing and sales capacities while also diversifying their portfolio and image on the market;
3. **exporters** receive more homogeneous products of higher quality;
4. **associations** attract more members due to increased level of trust.

INTERVENTION 4. Improved communication for matchmaking with major local buyers

Small subsistence farmers are reluctant to meet major buyers as they cannot fulfil their requirements in terms of quantities, transportation, timing or quality. At the same time, major buyers – including processing companies – do not have sufficient personnel working with small subsistence farmers and struggle to find the necessary product volumes.

To enhance this linkage between farmers and major buyers, the following activities are suggested:

- ▶ project works with Pomusoarele Moldovei to build a geo-referenced map of small- and medium producers with contact information and production details;
- ▶ Pomusoarele Moldovei takes control of housing the map and contact database as a means of stimulating association membership – small-scale members and pledge token membership fees to be listed in the map – as well as a list of potential buyers;
- ▶ project works with major local buyers (two to three major processors and two to three major exporters) to evaluate key barriers to farmer sourcing and key interests (quality, volumes, type of berries);
- ▶ Pomusoarele Moldovei work with buyers to support them to use the map and contact database to source berries.

Expected outputs:

1. **farmers** increase their income and improve their access to the market;
2. **associations** will improve membership services; will facilitate matchmaking between buyers, processors and farmers;
3. **buyers** will improve their access to product;
4. **exporters** collect enough volume of berries and increase their negotiating and exporting power.

INTERVENTION 5. Better access to education – particularly for women and persons with disabilities

Berry farmers generally lack knowledge on appropriate production skills, and one of the contributing factors is the lack of official courses related to berry agronomy. Since 2020, the Nisporeni VET Institute is the only educational institution that offers a course on the cultivation and processing of berries. By enlarging the portfolio of education providers and increasing the number of capacity building opportunities, the integration of newcomers into the sector is facilitated. This also potentially leads to a more inclusive sector for under-represented and marginalised groups such as persons with disabilities.

The project could work with educational institutions, such as Agro-College from Ungheni, VET Taul and VET Bratuseni, to develop curricula similar to the Nisporeni VET model and integrate them into their respective education systems. The project could also work with the Moldovan Berry Association, (Pomusoarele Moldovei), to provide targeted group training sessions for berry farmers.

The programmes offered must be tailored to the needs of the target group in order to boost the probability of them using it. For instance, if the training focuses on women and persons with disabilities, the training facilities must be easily accessible and equipped to accommodate persons with disabilities.

The intervention would include:

- ▶ project evaluates the existing educational system in berry sector (Nisporeni VET, other training offers);
- ▶ project collaborates with the professional school from Leova and establishes collaboration with other interested colleges/vocational schools from central and northern Moldova;
- ▶ project evaluates the organisation, ability and incentives of Pomusoarele Moldovei;
- ▶ project works with training institutions and Pomusoarele Moldovei to develop a curriculum for the berry sector and plan to put the curriculum into place;
- ▶ VET institutions and Association Pomusoarele Moldovei roll out berry courses.

Expected outputs:

1. **berry farmers** have access to a more diversified range of education programmes and enhance productivity, particularly, for **women and persons with disabilities**.
2. **Moldovan Berry Association (Pomusoarele Moldovei)** adopts an official annual programme for courses for berry farmers, using it to enhance membership base;
3. **technical colleges** institutionalise berry curricula and increase graduate base with technical skills.

▶ **Outcome 3 Synergy of supporting functions and governance**

The main goal of outcome 3 is to create a proactive and inclusive network for the berry sector, which understands that building markets for farmers requires partnerships with businesses, state actors, international development agencies and existing donors' projects that are crucial for private sector-led development.

INTERVENTION 6. Joint actions for focusing on areas of investments in the sector

One of the key constraints identified in the analysis is that the sector lacks a vision and strategy. At the same time several donor initiatives already are working to develop the berry sector, and it would be supportive to combine forces to help support a unified vision. The intervention intends to support market system actors to work jointly to develop a vision and identify concrete actions that can tackle key sector constraints, stimulate growth and create lasting benefits through investment.

To implement this intervention, the following actions require strong involvement and motivation of the Government, the Moldovan Berry Association "Pomusoarele Moldovei" and key sector actors:

- ▶ project finds main actors – including government actors, Pomusoarele Moldovei and donor programmes – and highlights all current programmes focused on the berry sector;
- ▶ project brings key actors together to facilitate dialogue among actors and targets groups of farmers (round tables, discussions);
- ▶ key actors develop a joint vision with a strategy for the berry sector (distinct from horticulture), with concrete actions and a focused budget, and identify who could be responsible to funding and auctioning actions (i.e. government, Pomusoarele Moldovei, donor programmes, private sector).

Expected outputs:

1. **core actors of berry sector** will benefit from more efficient and targeted investment and will increase their incomes;
2. **support to actors and government actors** will increase their trust and motivation to cooperate and will have more efficient investment management;
3. **all actors** will benefit from a clear sector vision with targeted actions and budget.



► Conclusion

The report has demonstrated the considerable opportunities to transform the berry sector in the Republic of Moldova in a way that generates greater value and decent employment for berry farmers and other actors along the berry value chain, with an additional focus on women and persons with disabilities. The analysis provides potential future projects with a start point to engage with and drive change in the sector, and through it, six potential recommendations have been identified across three intervention areas. The overall focus of all interventions is to stimulate and facilitate the synergy between growth and employment opportunities in this sector.

The first area of intervention focuses on enhancing farm productivity through better access to inputs and knowledge. The goal is to facilitate cooperation among subsistence farmers, nurseries, agro-stores and input suppliers to (1) establish embedded services through better marketing and improved plant protection measures and (2) increase productivity via use of quality seedlings. The aim is to close the gap between the supply and demand for berries, created at regional levels by improving the image of subsistence farmers to more “attractive buyers”.

The second area seeks to improve cooperation between actors along the value chain, including major buyers of berries, and create business linkages through enhanced knowledge and access to information. This includes a suggestion to facilitate the development of efficient communication channels/tools between buyers and groups of farmers; improve access to local and international markets for farmers working in the berry sector; and integrate women and persons with disabilities into the sector by working with training and education institutions.

The third and last intervention area focuses on creating a synergy between supporting functions actors and government stakeholders to lead to a more cohesive strategy for the berry sector in the country.

Finally, it should be noted that although this analysis is considered comprehensive, the project should strive to revisit, update and build upon its efforts as the project team gathers more insights into the sector, its constraints and the market actors. This will help the project more aptly adapt and deliver in a rapidly changing sector.

Annex A: Bibliography

- Agency of State Subsidies and Payments in Agriculture (AIPA). 2020. Brochure on Support Measures Relating to the Subsidy Regulation 2017–2021. http://aipa.gov.md/sites/default/files/Brosura_subventii%20clasice_ro_final-14.01.20_0.pdf
- AMIB Berry Project/HEKS-EPER Foundation Moldova. 2016. Baseline Report “Improvement of Production and Market Access for Berry Farmers in Northern and Central Moldova”.
- . 2018a. Endline Report “Improvement of Production and Market Access for Berry Farmers in Northern and Central Moldova”.
- . 2018b. Report “Climate Change Impact: Berry Sector in the Republic of Moldova”. Consolidated Agricultural Projects Management Unit (CAPMU). 2020. Moldova Agricultural Competitiveness Project. (MACP) 2012–2021. <http://www.capmu.md/en/>
- Crivoi, Luminita. 2020. “Instalarea sistemului de irigare. Avantaje și costuri” (Installing irrigation systems. Benefits and costs). Agricultural Portal of the Republic of Moldova. <https://agrobiznes.md/instalarea-sistemului-de-irigare-avantaje-si-costuri.html>
- EU4Moldova. 2020. Landing Page. <https://eu4moldova.md/en>
- Food and Agriculture Organization of the United Nations. 2014. Russia’s Restrictions on Imports of Agricultural and Food Products: An Initial Assessment. <http://www.fao.org/3/i4055e/i4055e.pdf>
- . 2020a. Family Farming Knowledge Platform. <http://www.fao.org/family-farming/countries/mda/en/>
- . 2020b. Open database. <http://www.fao.org/faostat/>
- . 2020c. Smallholders and Family Farms in the Republic of Moldova. <https://doi.org/10.4060/ca9836en>
- . 2020d. Strengthening the Capacity of Small Berry Producers in Moldova. Phase II.
- International Fund for Agriculture Development (IFAD). 2020. Grants. <https://www.ucipifad.md/en/granturi/>
- International Labour Organisation. 2015. Value Chain Development for Decent Work: How to Create Employment and Improve Working Conditions in Targeted Sectors. https://www.ilo.org/empent/areas/value-chain-development-vcd/WCMS_434363/lang--en/index.htm
- . 2016. A Market Systems Approach to Decent Work. https://www.ilo.org/empent/Projects/the-lab/WCMS_537328/lang--en/index.htm
- Institute of Standardization of Moldova. 2020. Open Data in the Field of Standardization. <https://www.standard.md>
- International Trade Centre. 2020a. International Trade Map. https://www.trademap.org/Country_SelProductCountry_TS.aspx?nvpm=1%7c498%7c%7c%7c%7c0810%7c%7c%7c4%7c1%7c1%7c1%7c2%7c1%7c2%7c1%7c1%7c1
- . 2020b. International Trade Statistics 2001–2020. <https://www.intracen.org/itc/market-info-tools/trade-statistics/>
- Ministry of Agriculture, Regional Development and Environment (MADRM). 2019. National Program for Horticulture Development, 2020–2026.
- Ministry of Health, Labour and Social Protection. 2020. National Level Review of the Fulfilment of Commitments Taken under the Beijing Declaration and Platform for Action Beijing+25, pp 21–22. https://unece.org/fileadmin/DAM/Gender/Beijing_20/Moldova.pdf
- Moldovan Berry Association. 2020. Open Data. <http://eng.pomusoare.md/despre-noi/>
- Mordor Intelligence. 2020. “Fresh Berries Market – Growth, Trends, Covid-19 Impact, and Forecasts (2021–2026)”. <https://www.mordorintelligence.com/industry-reports/fresh-berries-market>
- National Agency for Food Safety. 2020. Open Data. <https://www.ansa.gov.md>

- National Agency for Rural Development. 2020. Open Data about Implemented Projects. <https://acsa.md/proiecte/>
- National Bureau of Statistics of Republic of Moldova. 2019a. Agricultural Activity of Small Agricultural Producers in the Republic of Moldova. https://statistica.gov.md/public/files/publicatii_electronice/Activitatea_agricola/Activitatea_agricola_editia_2020.pdf
- . 2019b. Labour Force Survey. <https://www.ilo.org/surveyLib/index.php/catalog/3126>
- . 2020. Statistical Yearbook of the Republic of Moldova.
- . 2020–2021. Statistical Databank. <https://statbank.statistica.md/PxWeb/pxweb/en/?rxid=2345d98a-890b-4459-bb1f-9b565f99b3b9>
- . 2021. Time Use Survey 2019. Statistical Databank. <http://statbank.statistica.md>
- National Centre for Inspection and Certification of Plant Products and Soil. 2020. Open Data. <https://www.carantina.md>
- National Conference “Fruits and Berries of Moldova”. Organized by FAO, FARMS, EBRD Moldova. 2018. Presentation Materials.
- National Council for Determining Disability and Work Capacity. Official Data. <https://cnddcm.msmps.gov.md/>
- Nisporeni Professional School. 2020. Open Information on Courses for Berry Growers and Processors. <http://spnisporeni.educ.md/cultivator-procesator-a-culturilor-bacifere/>
- Official Page of the Republic of Moldova. 2020. About [the] Republic of Moldova, <http://www.moldova.md/ro/node/47>
- Pompuș, Irina. 2020. “Unde și la ce preț s-au vândut pomușoarele din Moldova în 2020” (Where and at what prices were Moldovan berries sold in 2020). Agricultural Portal of the Republic of Moldova. <https://agrobiznes.md/unde-i-la-ce-pre-s-au-vandut-pomuoarele-din-moldova-in-2020.html>
- Springfield Centre. 2014. Operational Guide for the Making Markets Work for the Poor (M4P). Second Edition. <https://www.springfieldcentre.com/the-operational-guide-for-making-markets-work-for-the-poor-2nd-edition/>
- State Center for Certification and Approval of Phytosanitary Products. 2020. Open Data. <https://www.pesticide.md>
- United Nations Comtrade Database. 2020. International Trade in Goods and Services. <https://dit-trade-vis.azurewebsites.net/>
- United Nations Development Programme (UNDP), United Nations Entity for Gender Equality, Empowerment of Women UN Women, United Nations Economic Commission for Europe UNECE, National Bureau of Statistics. 2016. Profile of Women from Rural Areas. https://www2.unwomen.org/-/media/field%20office%20moldova/attachments/publications/2017/08/womens%20profiles%20-%20en/01%20women_rural_eng.pdf?la=en&vs=742
- UNDP MIDL. 2020a. Migration and Local Development (Phase 2). https://www.md.undp.org/content/moldova/en/home/projects/MIDL_Project_2.html
- UNDP MIDL. 2020b. Sustainable and Resilient Communities through Women Empowerment. <https://www.md.undp.org/content/moldova/en/home/projects/sustainable-resilient-communities-through-women-empowerment.html>
- United Nations Economic Commission for Europe. 2019. National Level Review on the Fulfilment of Commitments Taken under the Beijing Declaration and Platform for Action, Beijing+25. https://unece.org/fileadmin/DAM/Gender/Beijing_20/Moldova.pdf
- United Nations Moldova. 2020. UN Moldova Covid-19 Thematic Brief Agriculture. <https://moldova.un.org/en/47086-un-moldova-covid-19-thematic-brief-agriculture>
- World Bank. 2020. Open Data. <https://data.worldbank.org/>
- World Economic Forum. 2020. Global Gender Gap Report. http://www3.weforum.org/docs/WEF_GGGR_2020.pdf

Annex B: Research interview list

1.	Ministry of Agriculture, Regional Development and Environment (MADRM)
2.	Agency for State Subsidies and Payments in Agriculture (AIPA)
3.	National Agency for Food Safety (ANSA)
4.	Local agriculture department
5.	High Value Agriculture Activity in Moldova (HVAA)
6.	National Agency for Rural Development (ACSA)
7.	Association Berries of Moldova
8.	Key Informant – Berry grower (1)
9.	Key Informant – Berry grower (2)
10.	Key Informant – Berry grower (3)
11.	Key Informant – Berry grower (4)
12.	Key Informant – Berry grower (5)
13.	Small processing company
14.	Large processing company (1)
15.	Large processing company (1)
16.	Nursery
17.	Intermediary agent
18.	VET Institution
19.	Exporter of berries
20.	Input supplier



ilo.org/budapest

ILO Office for Central and Eastern Europe
14 Mozsár utca
Budapest H-1066
Hungary