



Funded by  
the European Union



FARM *to* FORK  
ACADEMY

# Participatory CSOs and stakeholder consultation and dialogue toward strengthening the position of farmers in the value chain

## NATIONAL REPORT NORTH MACEDONIA



RURAL DEVELOPMENT NETWORK  
OF NORTH MACEDONIA

Project: *"Farm to Fork Academy for a Green Western Balkans - Our Common European Future"*, funded by the EU

Author: PhD Aleksandra Martinovska Stojcheska



## Table of contents

<b>I. Executive summary.....</b>	<b>2</b>
<b>II. Introduction.....</b>	<b>4</b>
Background of agriculture in the country .....	4
The EU context and "Farmers' position in the value chain" CAP objective.....	5
The "Farm to Fork Academy" project .....	6
Objective and scope of the assignment.....	7
Structure of the report .....	7
<b>III. Methodology .....</b>	<b>8</b>
Value chain focus.....	8
Data sources .....	8
Background data and rationale for selecting the value chains .....	9
Workshops methodology .....	11
Workshops' structure .....	12
Data processing.....	14
<b>IV. Results &amp; Discussion.....</b>	<b>15</b>
Core issues on value chains .....	15
SWOT analysis .....	22
Solutions and Recommendations.....	24
<b>V. Conclusions from the workshops and Recommendations based on the SWOT .....</b>	<b>28</b>
<b>VI. Annexes .....</b>	<b>31</b>
A. What is an agri-food value chain .....	31
B. Characteristics for attendees' selection in focus groups/workshops.....	33
C. Main topics for discussion with the farmers - guiding questions.....	34
References.....	37

## I. Executive summary

In the frame of the regional project “Farm to Fork Academy for Green Western Balkans – Our shared European future” funded by the European Union, an inclusive, a bottom-up, participatory local development approach is implemented that seeks to raise the voice of rural people and other vulnerable groups such as small farmers, young farmers, women' agricultural producer groups, foresters etc., and bring it to the policy making processes. The project which is implemented from 2023-2027 by the family of rural development networks in the Western Balkan among which the Rural Development Network of North Macedonia, focuses on the implementation of the EU integration and approximation process in the WB countries in the agricultural and rural development sector by advancing the green and just transition in the region through the contribution of civil society actors.

Particular emphasis is put on the positioning of agricultural producers in order to improve their economic sustainability and promote fairer trade practices in the agricultural sector. The conceptual basis is the strategic objective "Position of agricultural producers in value chains" within the framework of the EU Common Agricultural Policy (CAP), which advocates for the balance of power between farmers and other actors in agri-food chains. The findings will serve to inform policymakers and influence solutions to strengthen the position of producers in value chains in North Macedonia.

The methodological approach includes the implementation of a qualitative consultative process and dialogue with stakeholders. In this regard, five workshops were held with a total of 94 participants in the period from September to November 2024. The workshops were guided by a broad list of pre-conceptually prepared main and additional questions for discussion and preparation of a SWOT analysis. Participants discussed strategies for improving their practices, adding value to products, negotiating better conditions and more effective access to markets. Particular emphasis was given to grape/wine and honey value chains.

Based on the discussions and the SWOT analysis, with a special focus on the grape/wine and honey sectors, strengths include access to fertile land, diverse climatic and soil conditions and tradition in agricultural production. However, weaknesses remain in small farm sizes, outdated infrastructure, increased production costs and limited market access hinder the growth of the sector. Opportunities lie in increasing consumer demand for local products, development of value-added products, branding and diversification. Threats include climate change, import competition, migration, labour shortages and an ageing agricultural population.

To address these challenges and seize the opportunities, a series of interventions are needed, such as: modernizing infrastructure, exploring strategies to reduce production costs, improving market access through domestic and international channels, and implementing climate change adaptation measures. To capitalize on strengths and opportunities, possible directions include promoting local production, developing value-added products and diversifying income sources,



Funded by  
the European Union



**FARM to FORK**  
ACADEMY

improving quality standards, strengthening producer association processes, and applying digitalization and innovation for improved efficiency and sustainability.

## Introduction

### Background of agriculture in the country

North Macedonia's **agriculture plays a key role in the country's economy** and remains a significant contributor to the national economy. In the last decade, between 2014 and 2023, it generated approximately €0.9 billion annually in Gross Value Added (GVA). While the sector's GVA has steadily grown, its relative share within the overall economy has slightly decreased from 11.7% in 2014 to 8.1% in 2023 (SSO, 2024a). This decline is primarily attributed to the expansion of other economic sectors. Nonetheless, North Macedonia's agriculture sector continues to be significantly higher than the EU-27 average contribution of 1.9%, highlighting its ongoing importance to the country's economy.

**Agriculture occupies about half of North Macedonia's land area**, totaling 1.264 million hectares. Pastures and meadows cover the majority of agricultural land at 64%, followed by arable land at 33%. Vineyards and orchards make up the remaining 3%. Forests account for approximately 44% of the country's total land area (SSO, 2024a). North Macedonia's climate and soil conditions support a diverse agricultural sector. Crop production is the dominant, contributing 80% of the total output value.

Agriculture is a **major source of employment**, particularly in rural areas, providing livelihoods for a significant portion of the population. However, despite its economic importance, the agricultural sector in North Macedonia has experienced a significant decline in employment. The number of workers in agriculture has decreased from 127,000 in 2014 to 60,000 in 2023, with its share of total employment falling from 18% to 9% (SSO, 2024a). This decline is primarily due to factors like migration to higher-paying sectors, urbanization, and rural depopulation, rather than increased agricultural productivity (Martinovska Stojcheska et al, 2024).

North Macedonia's agricultural sector is facing a significant demographic challenge: **an aging workforce**. Only 4% of agricultural holders are under 35, while 62% are over 55 years old (SSO, 2017). Data from the farm registry show that the share of young farm holders of registered agricultural holdings up to 40 years of age take about 14% (MAFWE, 2021). This indicates a lack of young farmers entering the sector. The limited quality of life and lower wages in agriculture compared to other sectors deter young people from pursuing careers in farming. This makes agriculture less appealing than other livelihood options (Martinovska Stojcheska et al., 2024).

**Small, fragmented family farms** are the major structure in Macedonian agriculture. Most farms are less than 2 hectares and have multiple land parcels. While a few large agricultural company farms exist, they represent a small portion of the total number of farms (being over 178 thousand according to the latest Farm Structure Survey, SSO, 2017). The average size of the Macedonian farms is 1.8 hectares (SSO, 2017). Over fifty percent of farms generate annual revenues below €2,000, highlighting the challenges faced by small-scale farmers in the country. The fragmented

agricultural land structure and outdated infrastructure in North Macedonia hinder productivity, competitiveness, and modernization.

North Macedonia is a **net importer of agri-food products**. While the total value of agri-food trade has increased, the country consistently imports more than it exports. In 2023, agri-food exports reached €769.4 million, while imports climbed to €1,199.7 million (SSO, 2024a). This trade deficit highlights the country's reliance on imports to meet domestic demand for agricultural products. What is even more important, is that they country exports low-value products, while increasingly importing processed and high-value products, indicating a substantial gap in domestic value addition (OECD, 2024). Outdated technology, high production costs, and limited access to international markets hinder North Macedonia's competitiveness in the global agri-food trade.

### **The EU context and "Farmers' position in the value chain" CAP objective**

The EU's **Common Agricultural Policy (CAP)** is a common policy for all EU countries, managed and funded at European level from the EU's budget. The EU CAP is central to the European Green Deal and its Farm to Fork and Biodiversity strategies. Today the CAP supports a modern, market-oriented farming sector providing safe, affordable, high-quality food, produced sustainably and respecting consumer standards (environmental, animal welfare, food safety, etc.), as well as supporting investment in the broader rural economy. The CAP is a common policy for all EU countries, managed and funded at European level from the EU's budget.

The objective **"Farmers' position in the value chain"** within the EU Common Agricultural Policy (CAP) aims to address the imbalance of power between farmers and other actors in the agri-food supply chain. It focuses on ensuring that farmers receive a fair share of the final price of their products and have more bargaining power in negotiations with processors, retailers, and other stakeholders. This objective aims to improve the economic sustainability of farmers and promote fairer trading practices within the agricultural sector. Overall, the position of farmers in the value chain in the EU CAP has been influenced by changing policy objectives and market dynamics, leading to a complex and evolving relationship between farmers and other actors in the agricultural sector.

The European Union has implemented a range of measures to improve the position of farmers across various stages of agriculture. Farmers receive subsidies for purchasing inputs like seeds, fertilizers, and equipment, helping to reduce costs. Financial support, including direct payments and income support, is provided to enhance production techniques and improve yields. Additionally, farmers are assisted with grants and loans for processing and marketing, allowing them to modernize facilities, develop marketing strategies, and access new markets.

Infrastructure development funding improves transportation, storage, and distribution, helping farmers reach customers more efficiently and reduce post-harvest losses. Research and

innovation programs encourage the adoption of new technologies, ensuring farmers remain competitive. The EU also supports sustainability through grants for conservation practices, organic farming, and biodiversity protection. Finally, training and education programs help farmers improve technical skills, business management, and adapt to changing market conditions and regulations. These measures collectively strengthen farmers' position and promote a more sustainable and competitive agricultural sector.

### **The "Farm to Fork Academy" project**

Rural areas in the six Western Balkans countries are important both economically and demographically. Agriculture is playing an essential role in the social and economic development of rural areas in the region. The six WB countries, however, face similar challenges in transforming their agriculture and rural development sectors. The structural and resource limitations hinder sustainable agriculture and rural development. Moreover, losses in biodiversity, climate change, and weather extremes affect smallholders across the region.

The six WB countries are in the process of approximation with the EU CAP and efforts in aligning with the EU Green Deal and the corresponding Green Agenda for the Western Balkans. Even though this process is led by Governments of the WB countries, National Rural Development Networks (NRDNs) as civil society actors remain important for a sustainable European integration process, and they should be involved at all levels in the preparation, implementation, and monitoring of the EU acquis' implementation. Apart from their expertise and knowledge, NRDNs monitor and hold the respective governments accountable by pushing for accelerated reforms and the implementation of EU CAP policies and build trust in the reforms and generate the so needed public support in the EU integration process.

The regional project 'Farm to Fork Academy for Green Western Balkans – Our shared European future' is financially supported by European Union and is jointly implemented by the family of NRDNs in the six Western Balkan countries (Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, Serbia) and Croatia and their regional cooperation platform Balkan Network for Rural Development (BRDN). The project focuses on the implementation of the EU integration and approximation process in the WB countries in the agricultural and rural development sector by advancing the green and just transition in the region through the contribution of civil society actors. The project supports the stimulation of a better environment for CSOs and CSOs networks and other rural stakeholders to proactively contribute in addressing societal challenges related to climate changes and biodiversity losses through building competencies able to assist farming and rural communities toward green and just transition across the region. In that respect, it is imperative to sustain participatory and bottom-up consultation and constructive policy dialogue to accelerate the reforming process in approximating with EU's CAP, in particular concerning the alignment with the EU Green Deal and F2F Strategy.



## Objective and scope of the assignment

In the frame of the Farm to Fork Academy project, **the main objective of this assignment** aims to identify challenges that relevant stakeholders face in green transition and key success factors that accelerate this transition. This process helps identify the needs and priorities of farmers and relevant rural stakeholders. The findings aim to provide a valuable resource to inform policy making process and influence solutions toward strengthening the position of farmers in the value chains in North Macedonia.

The **methodological approach** includes conducting a qualitative stakeholder's consultation and dialogue process that sought to gather input from small farmers and their associations and other rural stakeholders. This process is conducted in parallel in each of the six Western Balkan countries within the Farm to Fork Academy project, hence the outcomes are to be an important reference both on national and in the regional level.

There are certain **limitations** of this study. The fieldwork took an indicative sample and not a representative sample of respondents, so a margin of error must therefore be recognized on data and opinions presented in this report. Therefore, the report also includes, where applicable, references to other sources and studies, in order to ensure increased validation and objectivity and draw relevant conclusions and recommendations.

## Structure of the report

The report is structured to provide an overview of the challenges and opportunities facing farmers in North Macedonia's agricultural value chains. It begins with an executive summary that highlights the key findings and recommendations. The introduction provides background information on the agricultural sector in the country, followed by the objectives, methodology, and limitations of the assignment. The methodology section outlines the data collection and analysis process. The results and discussion section present the findings from stakeholder consultations and interviews. The conclusions summarize the key points and recommendations. Finally, the report includes references and annexes with supporting materials.

The findings, conclusions and recommendations presented in this report can serve to RDN as “hard evidence” for local and national authorities for enhancing the farmers' position in present and future EU accession negotiations. By highlighting the specific needs and priorities of farmers, using an evidence-based approach, RDN can advocate for policies and measures with the policy makers that will strengthen farmers' standing in the value chain and facilitate the country's integration into the EU market.



## II. Methodology

This section provides a description of the methodology used for data collection and data processing.

### Value chain focus

To enhance farmers' positions in value chains, it is crucial to improve market access. Farmers should have easy and efficient ways to sell their products at fair prices (Annex A). This often involves providing support and resources to help farmers improve quality and productivity, as well as access to financial services for business investments. Promoting fair, equitable and transparent relationships between farmers and other stakeholders is essential for ensuring mutual benefits and sustainability.

In line with the specific national circumstances, the Rural Development Network of North Macedonia (RDN) compiled several preferential criteria of selection of participation of farmers and other interested stakeholders and the value chains in focus. As a first step, RDN has communicated its membership to raise awareness of this assignment, its aims and planned process. In parallel, RDN has investigated the current situation of the agricultural sector, the dominant types of production and existing value chains. Workshops were then organized to conduct the consultative process by gathering typical small holder farmers and other key stakeholders in the chains (representatives of farmers' associations, civil society organizations (CSOs), Local Action Groups (LAGs), local government etc.). The value chains considered in the analysis finally were drawn out of the background research of the country agricultural sector context, the interests of the RDN constituents, and the selected/nominated workshops participants by RDN in coordination with its members. As a result of this process, the emphasis of the analysis is on two different value chains: **grape/wine value chain** and **honey value chain**. These two groups of stakeholders were most represented in the workshops/focus groups, but also other value chain representatives were present (tobacco, sheep, vegetables) that helped complement the common sectoral level challenges that apply to different value chains.

### Data sources

The study relies on both secondary and primary data sources. This combination of data sources provided a comprehensive understanding of the challenges and opportunities facing farmers in North Macedonia's agricultural value chains. **Secondary data** was gathered through desk research. This involved gathering existing information from various sources, such as government reports, academic papers, industry publications, and online databases. Main sources of statistical data come from the State Statistical Office (SSO) and also the Ministry of Agriculture, Forestry and Water Economy (MAFWE). MAFWE documents were used to account for the strategic framework of the agricultural sector and rural development. Information about government payments was gathered from the Agency for Financial Support to Agriculture and Rural Development (AFSARD). Relevant scientific papers and technical studies were also consulted

where applicable. The main findings supported the selection of the specific value chains and also served as reference points for the discussion.

The **primary data** was collected through consultation workshops with farmers and other relevant stakeholders in the period September-November 2024. These workshops brought together farmers and other stakeholders to discuss challenges, opportunities, and potential solutions. The workshops methodological approach and structure are presented in more details further below.

### Background data and rationale for selecting the value chains

**Grapes and on-farm wine production** together take up 10% of the crop output in the country with producing a gross value of €116 million in 2022 (SSO, 2024b). North Macedonia has a prosperous adjacent wine industry, contributing with 17-20% to the gross agricultural product. With around 23 000 hectares of vineyards, the country produces around a million hectolitres of wine annually. More than 85% is sold on the foreign market, making wine is a strategic export for the country particularly within the European Union (SSO, 2024a). Wine ranks first in terms of exports of alcoholic beverages and third in terms of export value of agricultural products. Wine exports reach around €57 million annually, and in addition €11-13 million of fresh grapes are also exported every year (SSO, 2024a).

In North Macedonia, a productivity advantage is seen in grapes and wine production, with a highest revealed comparative advantage in this value chain across the WB countries (Aramyan et al., 2024). For North Macedonia, grapes are the most important fruit, generating the highest output in Western Balkan countries of 318 000 tonnes in 2020 (Aramyan et al., 2024). Grape production contributes to the livelihood of around 21 400 family farms (individual grape growers), 52 companies (grape growing companies and wineries with own grape area), 12 000 seasonal workers and more than 2 500 full-time employees in 99 registered wineries (MAFWE, 2020). According to data from the Ministry of Agriculture, Forestry and Water Economy (MAFWE), there are about 80 active buyers of wine grapes registered in the country. In the national register, in 2023 there were 243 wine producers (a surge from 131 in 2022, Gjosevski et al., 2024). This huge increase is mainly due to the new opportunities provided in the legislation and the facilitated registration of "small family" wineries.

The literature search confirmed the grape/wine value chains as one of the most important strategic sectors in the country (MAFWE, 2020; MAFWE, 2023; Aramyan et al., 2024; Gjosevski et al., 2024). In summary, the background research reveals North Macedonia's positive growth of the wine trade. The export of bottled wine is increasing compared to bulk wine, indicating a shift towards higher-value products. Established trade protocols with the European Union have contributed to this development. The country's favorable climate for grape production and lack of heavy industry offer opportunities for organic wine production. However, many shortcomings are noted in the value chain, in particular at producer level, which is a key reason to investigate further this value chain within this assignment. The literature points out

some key weaknesses (Aramyan et al., 2024): lack of a systematic approach and a defined Geographical Indication (GI) system in North Macedonia's wine industry has led to a focus on quantity over quality; direct support programs partly influence this. Therefore, further understanding on the farmers' position in the chain and the challenges they face is needed.

**Beekeeping** is of great importance for the sustainability of the crops production, and the value of the yields from agricultural crops due to bee pollination exceeds multiply the total value of all bee products. Beekeeping represents one of the potentials of the rural economy, especially in hilly and mountainous areas where other alternatives for agricultural and other economic activities are limited. The conditions in North Macedonia enable the development of this branch of agricultural production and its intensification in the next period, as noted in the National Strategy for Agriculture and Rural Development 2021-2027 (MAFWE, 2021).

The number of bee families in the period from 2012-2021 ranges from 52,897 to 92,968 (SSO, 2024). Other sources though (Food and Veterinary Agency, in SSO, 2024) report quite larger figures, i.e. 290879 beehives in 2022 and 306415 beehives in 2023. Almost all farms involved in beekeeping are individually owned (4,913 out of a total of 4,916, SSO, 2017). Only 2% of beekeepers in the country who keep bees are professional with more than 150 bee families, while the largest percentage (49%) are hobby beekeepers with 20-50 bee families. A small part, 16.5%, move their bee colonies, while the rest practice stationary beekeeping.

In the last ten years, honey production in the Republic of North Macedonia varies from 500 to 1,000 tons (Spatial plan, 2023). The variable production and yield is due to the changed climatic conditions which show a strong influence on the honey-bearing characteristics of the plants on the one hand and the formation of new bee families in the season in order to compensate for the winter losses (MAFWE, 2021). Climate changes in the last few years, not only in our country but also on a global level, cause unusually large losses of bee families. The National Strategy for Agriculture and Rural Development 2021-2027 (MAFWE, 2021) stresses the need to take measures to restore and compensate for losses by encouraging cultivation of honey bees in as many locations as possible and using genetic material from indigenous subspecies as the most adaptable to climate change (e.g. *Apis mellifera macedonica*, which most easily copes with environmental challenges and stress factors).

Organic production has significant potential for development of the beekeeping sector. There were 10.800 organic beehives in 2023 (45% of which in conversion). These beehives account for around 9% of the total beehives in the country. The production of organic honey was 29,705 kilograms in 2020 and 59,152 in 2021 (out of which 27,042 in conversion) (AAEM, 2022).

In terms of trade, 105.7 thousand kg of natural honey were exported in 2023 with a value of €480 thousand; however, at the same time, 267 thousand kg of honey were imported in the same year with a value of €838 thousand, which causes a negative trade balance for honey. This points out to the gap in the market that could be filled in with domestic production.

There are different measures of **government payments** that support grape/wine and honey production. The basic measure to support viticulture and winemaking are the direct payments for the maintenance of existing vineyards (40,000 MKD/ha for registered vineyards, or 48000 MKD/ha for farms with an area from 1 to 10 ha).

Beekeepers who have at least 10 bee families are entitled to state financial support (from 600 MKD/hive for beekeepers with 10 to 50 bee families, up to 800 MKD/hive for those with more than 50 bee families). The producers using this measure should be registered or have delivered honey to an approved facility. Beekeepers also have the right for subsidized laboratory analyzes of the physical and chemical properties of honey. Registered bee farms in settlements with an altitude higher than 700 meters are entitled to an increased subsidy of 15 percent.

The evaluation of the selected value chains is described in the table below.

**Table 1. Criteria for prioritizing grape/wine and honey production value chains**

Value Chain	Contribution	Competitive Landscape	Production and Processing Capacity	Cost Structure	Profit Potential	Sustainability	Government Support
<b>Grape/Wine</b>	High	Competitive	Sufficient (traditional large-scale wineries and emerging small wineries)	High	Medium	Medium	High
<b>Honey/Bee products</b>	Emerging	Competitive	Potential for on-farm value added products	Medium	High	High	High

### Workshops methodology

The workshops on stakeholders' consultation and dialogue toward strengthening the positions of farmers in the value chain follow the common methodology provided by the Farm to Fork academy project (GUIDELINE - Participatory CSOs and stakeholder consultation and dialogue toward strengthening the position of farmers in the value chain, 2024; Annex B). The workshops focused on helping farmers identify challenges in value chains. Participants discussed strategies for improving their processes, adding value to products, negotiating better terms, and accessing markets more effectively. They shared knowledge and best practices to identify opportunities for making their work more efficient and sustainable.

In North Macedonia, five workshops were organized, totaling 94 participants. Four workshops were organized onsite and one online. The number of participants per workshop ranged from 12 to maximum 26, to allow for interaction, direct engagement and personalized attention.

**Table 2. Participants by workshops**

Workshop	Date	Place	Number of participants
1	September 3 <sup>rd</sup> 2024	Vinica	18
2	September 4 <sup>th</sup> 2024	Popova Shapka	16
3	September 23 <sup>rd</sup> 2024	Popova Shapka	22
4	October 7 <sup>th</sup> 2024	Veles	26
5	November 19 <sup>th</sup> , 2024	Online	12

Grape producers, wineries and/or beekeepers were present at the workshops to provide insights on the selected value chains specifics (18 grape producers, 3 wineries and 20 beekeepers). The focus was on **farmers from small family holdings**, in order to reflect the typical small-holder structure of Macedonian agriculture. The **average age of the participants was 47 years** and majority of the producers (60%) were under the age of 50, as foreseen in the Guidelines (out of which, one half were under 40, confining with the EU CAP and national definition of a young farmer). **Organic farmers constituted 11% of the participants** in the workshop, mostly beekeepers. Given the interlinkage between grape and wine production, 3 of the participants were **processors - small wineries**. Some of the bee farmers also add value to their products (apart from honey, products such as propolis, pollen, wax, different mixes of honey, cosmetics).

Other key stakeholders in the value chains were also participating (members of farmers' organisations, farmers' unions, LAGs, local municipalities, advisors, educators/trainers). These stakeholders contributed to the discussion with their experience and knowledge on the sector and value chains. In addition, other small-holder farms from different value chains in the country also participated (tobacco, vegetables, fruits, sheep), that added to the discussion in terms of the commonalities and also differences in terms of the challenges and opportunities faced from the producers' side.

### Workshops' structure

The workshops lasted around 4-5 hours and largely followed the steps described below:

#### **Session I: Workshop opening**

##### **Defining the purpose**

The "Farm to Fork Academy for Green Western Balkans – Our shared European Future" project was introduced, with its objectives. The purpose of the workshop was explained, highlighting why the participants are important in order to gather their answers toward better positioning of small farmers in the value chain in the light of EU accession process efforts, as well as the reasoning why particular participants were chosen for the workshop.



### **Getting to know the participants**

All participants introduced themselves by a few sentences, describing their role/production, involvement into value chain and potential/preliminary expectation of this workshop.

### **Session II: Workshop Core session**

The core session of the workshop opened with addressing the following questions to the participants and making rounds in answering them, so each participant can get a chance to actively participate in the discussion:

1. What are the main challenges faced by farmers in their value chain(s)?
2. How can farmers position themselves in the value chain(s) to add value to their product(s)?
3. What are the key factors that determine a farmer's income in the value chain(s)?
4. Is it realistic for farmers to impact value chain(s) decision making regarding product value?
5. Is it possible for farmers to negotiate better terms of price and production conditions with other stakeholders in the value chain(s)?

The answers were recorded and care was taken for balanced discussion and interaction with the participants. The provided example follow-up questions in the Guideline and annexes were also used to raise specific issues related to the value chains, such as:

- Access to inputs such as seeds, animals, fertilizers, and p at affordable pesticides prices.
- Access to seasonal workers at affordable salaries.
- Storage and transportation facilities to preserve and transport their produce.
- Training and education on best practices for sustainable farming methods.
- Technology and tools to improve quality, efficiency and productivity.
- Market limits and barriers (short vs long supply chain issues).
- Financial support or credit to invest in their farming operations.
- Access to markets and information on market prices.
- Export custom, legal or quality level (tolerance on pesticide residues) issues.
- Access to insurance and risk management services to protect against uncertainties.
- Fair and transparent pricing and contracts with buyers.
- Access to extension services and technical support

### **Session III: SWOT Analysis**

As an additional workshop activity, the participants were gathered to identify the main SWOT analysis points, from their own perspective and experience. A joint SWOT analysis was written from each workshop based on the input that the participants have provided. This SWOT served as a bases in the aggregated value chains SWOT analysis provided in this report.

### **Session IV: Solutions and Recommendations, oriented questions**

During the workshops, it was ensured that every participants opinion matters. Also, throughout the workshop, to avoid only one stream communication, the expert timely inserted references to

the EU policy, to value chain concepts, to the dimensions of the sustainability to consider and other related issues that were raised in order to use the moment for raising this important issues and make value to the participants.

The discussion included eliciting thoughts, suggestions and comments, and writing them up, on the following recommendation avenues, guided by the moderator/expert:

1. Strengthening farmer cooperation
2. Enhancing synergies and addressing unfair trading practices
3. Developing market-driven production models
4. Fostering research and innovation

A set of pre-defined questions, tailored to the local context, helped stimulate further thinking (see Annex C).

### **Session V: Workshop Closing**

The workshops concluded with a reflective closing method where participants are asked “what do you know now that you did not know before?”. Upon the feedback from the participants, there was a general impression that they felt satisfied to be heard, they had a chance to realise their position in the value chain more holistically and became more aware in recognizing challenges in the value chains and possible strategies to overcome them.

### **Data processing**

The data collected from the workshops were processed using the following methods:

- **General data on participants:** General data on the participants were collected at the beginning of the workshop using a tailored one-page questionnaire, where they put basic information (age, gender, municipality), if farmers – size of farm and main farm enterprises, position the chain (farmer, processor or other), whether they have conventional or organic production.
- **Discussion text summarization:** Key points and themes were identified from the written transcripts of the discussions. The transcripts were carefully reviewed to identify recurring themes, patterns, and key points. Relevant sections of the transcripts were coded and grouped using specific categories or keywords to facilitate analysis and comparison.
- **Value chain mapping:** By using the qualitative information gathered, draft value chain maps of the grape/wine and honey sector in the country have been developed. This mapping enabled a visualization of the flow of the product from production to end consumer through various actors, or from farm to fork.
- **SWOT Analysis:** A SWOT analysis was conducted for farmers' positions in each value chain to identify strengths, weaknesses, opportunities, and threats. This tool helped to identify areas for improvement and potential strategies for enhancing farmers' positions.



### III. Results & Discussion

#### Core issues on value chains

The core session of the workshop was guided by five main questions, supplemented with additional follow-up questions to summarise the findings. The results are presented per question groups, and specific grape/wine and beekeeping value chains comments and findings are distinguished where applicable. Relevant statements given during the discussion were coded and grouped based on common themes to provide a clear and concise overview of the key findings.

#### 1. What are the main challenges faced by farmers in their value chain(s)?

##### ⇒ ECONOMIC CHALLENGES:

- **Low purchase prices** - This was the most frequently mentioned challenge in all workshops, regardless of the value chain. Farmers are not satisfied with the prices they get, especially when being part of longer value chains (see Illustration 1). This issue was pronounced both by the grape producers and beekeepers, though from different perspective as elaborated below.

In the case of **grapes/wine**, the farmers were not satisfied with the recently published cost of production by MAFWE (18.3 MKD/kg for Smederevka variety, 20.8 MKD/kg for Vranec variety, announced in August 2024). These prices include 25% profit margin on top of the calculated costs and are set as threshold for the buyers. This practice comes into place with the interventions in the new Law on Wine. The farmers felt that they should be more included in the processes of establishing/calculating the cost of production, and that the whole process should be more transparent. With only having the price announced, they felt that they were not heard with their arguments.

In the case of **beekeepers**, the current price in short chains (which is the most common occurrence, with beekeepers often selling directly to end consumers through already established connections) is around 600 MKD/jar. "We have low yields, low prices and big problems". In the past, the farmers said that from one stationed bee family up to 80 kilograms of honey were produced, however in recent years the yield falls to even 8 to 10 kilograms. Climate changes, pollution and unfair competition are the main reasons for the decrease in honey yields in recent years. An additional problem is that the market is flooded with honey of dubious origin and a very low price, which is why they face difficulties in selling even the small amounts of honey they produce.

- **Rising input costs** - Input costs have substantially risen in the past few years. For the farmers it does not make sense that the buyout (producer) prices are for some products even lower than in previous years, and at the same time, the cost of production has significantly increased.

Among the key inputs, **grape producers** mentioned fertilizer costs going up (especially in/after 2022), pesticides, other material inputs, and most importantly labour costs.

Packaging and transport costs had influence for **beekeepers**.

Besides the cost of inputs, what was particularly stressed by many farmers was the **quality of inputs**. Many complained that the inputs do not have the features and effectiveness as





“written on the label” and they suspect the quality and authenticity of for example pesticides, fertilizers and seed material.

- **Limited market access** - Farmers face difficulties in accessing markets for their products. They struggle to find suitable markets for their products, leading to lower prices and reduced income.

**Grape producers** have limited options to sell their (perishable) products to the buyers, or directly to wineries, at a given in most cases unnegotiable price. There is a large number of grape producers (with little if none bargaining power) on one side with large buyers/wineries on the other side. Many grape producers have home wine processing, that are also selling to end consumers. Some have small family wineries, registered according to the new regulative, which they sell directly to end consumers, to HORECA or smaller retailers. On the other side, some of the interviewed processors have vertically integrated (started own production of grapes) in order to have control of the bigger part of the chain.

The marketing channels for **beekeepers** are rather limited. The most common are direct sales to end consumers (from established connections), and also through different activities such as Honey fairs, Days of the honey and similar events opened to new consumers and often organized by bee associations, local government etc. The farmers mentioned initiatives for branding honey from geographical locations. “We are nearing the end of the procedure for branding and protection of our Marioski honey, for which the geographical origin will be clearly indicated, and branding has been announced for Strumica and Pelister honey”, was pointed out by one of the participants, from the Union of Beekeeping Associations of Macedonia. According to him, branding is important for consumers to know where the honey comes from.

- **Unfair competition** - unfair or “disloyal” competition was frequently mentioned by the farmers in the workshops, as a significant challenge facing many farmers in North Macedonia's agricultural sector, referring to the unequal position of different players in the chain.

**Grape producers** stated that they fear that larger companies use agreements with each other to fix prices that they offer to farmers. Farmers stated that they experience lower profit margins or even losses due to unfair competition. Also large-scale producers, sometimes exert undue influence on prices and market conditions, making it difficult for smaller farmers to compete.

In the case of **beekeepers**, unfair competition was mentioned as a key problem. Farmers said that the market is flooded with honey of dubious origin (and quality) and a very low price, which is why they face difficulties in selling even the small amounts of honey they produce. The farmers pointed out that the consumers should be protected from low-quality honey sold in stores and therefore they appeal and demand protection (they pointed out that the inspection services should be more active in the field and that imports should be checked for actual contents of the product).

⇒ **STRUCTURAL CHALLENGES:**

- **Small farm size** - The farmers are aware that the prevalence of small, fragmented farms limits their ability to achieve economies of scale and invest in modern technologies. This, especially in the case of **grape producers**, makes it difficult for them to compete with



larger-scale producers and reduces their overall efficiency. Being small, their quantities are not big enough to give them some bargaining power and they are forced to be price-takers, with little (individual) role in the value chain.

**Beekeepers** are often part-time farmers; beekeeping is not a full time occupation for many of the farmers, but is complimentary either of other agricultural-related activities, or totally unrelated activities (in cases it is also taken up by persons not previously engaged in agriculture, or after retirement). This affects the professionalism and commercialization potential of the farmers and is in more cases a supplementary, rather than core income.

- **Outdated infrastructure** - inadequate infrastructure, such as roads, irrigation systems, were mentioned as crucial structural prerequisites that seriously hinder productivity and increase costs for farmers. With the changing climate, water for irrigation becomes a larger issue for **grape producers**. Poor road infrastructure makes it difficult to transport agricultural products to markets, leading to higher transportation costs and delays, both for **beekeeping and grape producers**. The rural areas infrastructure in terms of kindergartens, primary education, medical services, cultural services, was pointed out as seriously lagging behind that in urban centers. An important point was made for lack of internet/phone connectivity in some rural areas which in current lifestyles is a major hindrance, and also barrier to potential digitalization to some processes.
- **Lack of on-farm investments** – Not many of the farmers reported they invest on their farms. Access to finance is a problem for them, because it is difficult to guarantee with a collateral (agricultural assets are usually not accepted by the banks), which often forces them to opt for more expensive financing short-term loans, with unfavorable conditions. Some small **wineries** complained that they keep trying to get national or IPARD funding for investments, but are not successful (their explanation is they think they submitted everything right, but the “state” does not support them). Lack of advisory support contributes to this as well, as they feel they do not have such resources available (or at least, not for free).
- **Regulatory barriers** - Complex regulations, frequent changes in laws, and the implementation of quality standards creates challenges for farmers, especially smaller grape producers and beekeepers. Small farmers have difficulties keeping track of the changing laws and regulations, but also in the lack of their implantation. One example was given as for the lack of respecting the legally prescribed contractual production, that is not or is only formally implemented (some farmers said that they would sign contracts with the buyers, but the place for the price is blank and then it is filled in on the day of the dale). Another challenge is keeping up with the frequent changes in agricultural support, which measures are valid or changed, which makes it difficult to plan further ahead.
- **Property rights issues** - Unresolved property-legal issues in certain cases create uncertainty and hinder investment (for example, unsolved inheritance of agricultural land; lack of detailed planning in rural areas required for investment purposes).

⇒ **HUMAN RESOURCE CHALLENGES:**

- **Labor shortages** - This was pointed out as a one of the biggest obstacles that limits production. This was particularly stressed for **grape production**, where there is a growing shortage of skilled labor, especially for operations such as harvesting, when it is mostly intensively needed. Farmers drive from further ahead or pay taxis to bring workers on the



field. The price of hired/seasonal labor is also rapidly increasing (it's up to 300 MKD/hour, plus transport and food).

- **Aging population** - The aging of the agricultural workforce is a significant constraint, as older farmers may be less able to adapt to new technologies and practices. Even for the workshops, it was extremely difficult to find young farmers. When asked how many of their sons/daughters are going to continue managing the family farms, most farmers said that their children do not want to remain in the holding, in agriculture, in rural areas and even not in the country, seeking better opportunities elsewhere.
- **Migration** - Migration trends are felt in the rural areas, most farmers said that the schools are almost empty and that it affects the availability of labor force for agricultural and other services in rural areas. The emigration of young people from rural areas is contributing to a decline in the agricultural workforce and a loss of knowledge.

⇒ **ENVIRONMENTAL CHALLENGES:**

- **Climate change** - Uncertainty related to climate change, such as unpredictable weather patterns and increased risks of natural disasters, was recognized as a clear threat to agricultural production by all participants. The farmers are well aware of the change in climatic conditions and both in **grape production and beekeeping** feel the impact. Grape harvest was much earlier this year, in the previous year there were serious losses in quantity and the quality of grapes due to drought. Intense heating, more and more frequently present, and forest fires seriously affect beekeeping.

A regular analysis of the data from the meteorological stations is needed in order to timely inform and advise the farmers to take appropriate measures.

- **Environmental degradation** – Farmers pointed out to occurrences of soil degradation, lack of water and deteriorating biodiversity. Also beekeepers especially pointed out pollution as a major challenge. The contact with pesticides, climate change, and the reduction of flower diversity (i.e., reduced protein amounts due to a lack of pollen sources) lead to several consequences, such as mass mortality in bees, colony collapse disorder, and even reduced resistance of worker bees to parasites. The existence of many quarries was also pointed out as a major problem for the environment, also affecting agricultural production.

⇒ **INSTITUTIONAL CHALLENGES:**

- **Distrust of institutions** – One of the most frequent comments conveyed by the farmers was “the state must do this”, “the state needs to protect us”, “the state leaves us on our own, and we need to be supported, we are struggling”. Farmers have low trust in government institutions, which hinders their willingness to participate in programs or adopt new practices. Farmers insisted there have to be “protective” guaranteed prices for their products. The lack of communication and transparency, but also the limited extension and explanation of the policy frameworks and how they work, creates frustration and dissatisfaction among the farmers. In that respect, farmers and other participants pointed out that the need for greater involvement of farmers in the policy-making process, through opportunities for dialogue, working groups and direct meetings with decision-makers.
- **Inadequate support services** - insufficient activity of advisory services was noted, along with a lack of support from the research-scientific institutions, and limited involvement of farmers in policymaking that hinders the sector's development. Farmers stressed the need to



access to expert advice, training programs, and support services to improve their practices and access markets. At the moment, they rely on their own experience, each other's advices, and often advises from the agricultural pharmacies (input suppliers).

## 2. How can farmers position themselves in the value chain(s) to add value to their product(s)?

- ⇒ **Enhance branding:** Branding and recognition of local products was mentioned as the most desirable strategy to differentiate the products and highlight quality, tradition and origin. The farmers and other participants pointed out the need to develop a strong brand identity for their products to differentiate them from competitors and command premium prices.
- ⇒ **Certifications:** Some farmers recognize organic production as a way to position themselves better in the value chain. Quality control measures, such as adopting good agricultural practices, were not particularly stressed. Geographical indications, on the other side, were mentioned as a good strategy to differentiate their products and add value.
- ⇒ **Diversify products:** Some farmers in **beekeeping** have a larger assortment of products (pollen, bee wax, propolis, mixtures of honey/perga/pollen, even cosmetics like creams, balsams and soaps). In **grapes**, some farmers are exploring traditional products such as madjun (grape syrup). Wine produced at home/small wineries is increasingly packed and branded distinctively, adding value and consumer attachment. Still, these activities are very niche and with limited market and scale.
- ⇒ **Create partnerships:** Collaboration with other farmers, through various forms of different farmers' organizations such as associations, cooperatives, or businesses was pointed out as a solution to access new markets, and share resources. However, farmers admitted that these processes are very slow and difficult to build.

## 3. What are the key factors that determine a farmer's income in the value chain(s)?

- ⇒ **Producer prices:** The prices farmers receive for their products are a major determinant of their income. Farmers pointed deep dissatisfaction with the prices and the mechanisms how they are determined, will no bargaining power on their side. They pointed out to unequitable distribution of the income in the value chain. One example was given by a **grape producer** – if the price that the producer receives for the grapes is 20 MKD/kg, and a bottle of wine prices start at 300 MKD for a 0.75 l bottle in the supermarket, how is distribution of the profits in the value chain fair? It takes around 1.5 kg of grapes to produce one bottle of wine, meaning that the raw material (grapes) at producer price level is 10% of the final price of the cheapest wine, and this share shrinks with the more expensive wines. Farmers also remarked that grape producer prices, to their knowledge, are higher in other countries. Some stakeholders also remarked that to their knowledge the legislation does not allow for export of wine grapes to other countries, which limits the options for market access. One of the primary concerns expressed by **honey producers** was unfair competition from imported honey. Despite the superior quality of domestically produced honey, imports often influence market prices, creating challenges for local producers.



- ⇒ **Production costs:** The rising costs of inputs, labor, and other expenses associated with production directly impact the farmer's profitability, which is being squeezed if the producer prices do not follow the same trend.
- ⇒ **Value-added activities:** Farmers are aware that engaging in value-added activities, such as processing or packaging, can increase a farmer's income by generating additional revenue. However, not many explore these opportunities (due to lack of knowledge, associated investment, risk and uncertainty in marketing “new” products).
- ⇒ **Different, new markets:** It was mentioned by farmers that there are new markets, or market segments, not yet explored. Some were suggesting that many traditional Macedonian products would be recognized on the regional markets. Others found that small packaging of products may bring them more profits and at the same time may be preferred by (urban) consumers with changing lifestyle preferences (smaller package is perceivably cheaper for the consumer, there are many single/small households, smaller package might reflect more premium product, etc.).

#### 4. Is it realistic for farmers to impact value chain(s) decision making regarding product value?

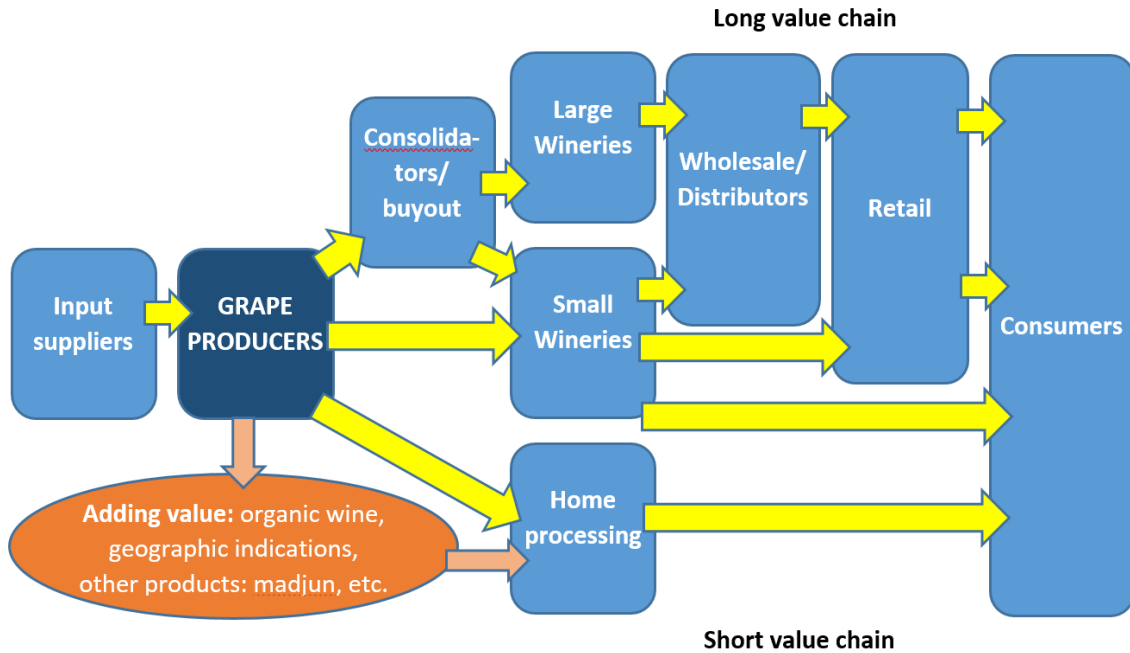
- ⇒ Farmers are aware that it is challenging for individual farmers to significantly influence overall value chain decisions. They know collective action through cooperatives or producer organizations can have a greater impact. They pointed out that they need to work together to negotiate better terms with buyers, promote their products, and advocate for their interests.

#### 5. Is it possible for farmers to negotiate better terms of price and production conditions with other stakeholders in the value chain(s)?

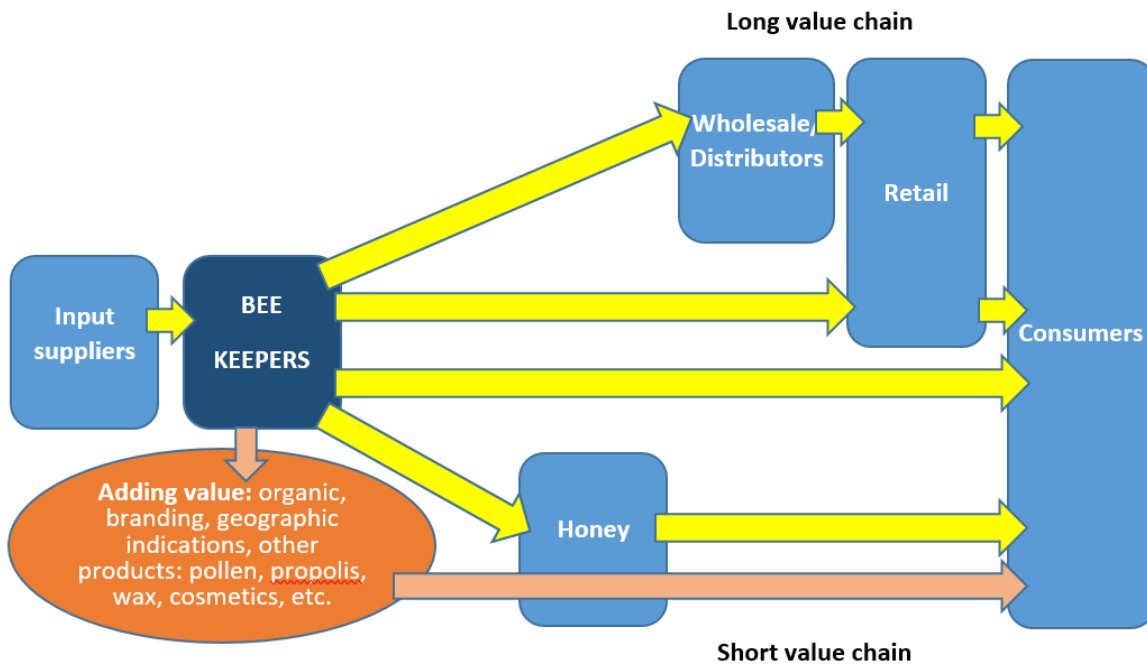
- ⇒ Farmers and other participants brainstormed thinking that negotiating better terms with buyers and other stakeholders requires a strong bargaining position, which may be achieved through factors like:
  - **Product quality:** Offering high-quality traditional products that meet or exceed market standards can give farmers more bargaining power.
  - **Market knowledge:** Having a good understanding of market dynamics, supply and demand, and competitor prices can help farmers negotiate more effectively. So far, farmers mostly rely on word-of-mouth and as they say “internet” search on markets and prices (“internet” search mostly referring to social networks and media).
  - **Collective action:** Establishing or joining cooperatives can provide farmers with a stronger voice and more leverage in negotiations.
  - **Certification:** Obtaining certifications like organic or GlobalGAP can differentiate products and command higher prices. However, farmers also pointed out that the (domestic) market still does not offer the price premium for organic products.
  - **Advisory, education and training:** For all the points discussed, it was stressed by the farmers and other participants that they need guidance (better advisory services), education and training for many aspects: better farm management, dealing with pests and diseases, proper plant nutrition, dealing with climate change, etc.

**Illustration 1. Value chains for grape/wine and bees' products in North Macedonia**

**Grape/wine value chain**



**Honey value chain**



Source: Own elaboration based on workshops' discussions



## SWOT analysis

The SWOT analysis, conducted across the five workshops, revealed several key strengths, weaknesses, opportunities, and threats facing farmers in North Macedonia's agricultural value chains, with particular attention paid to grape/wine and honey value chains. While most of the points given reflect both value chains, those that are specifically addressing certain value chain are market accordingly (GW – grape/wine value chain, HON – honey value chain).

### Strengths

---

- Favorable conditions for agricultural production – soil, sun, water, natural resources (GW, HON)
- Clean environment (HON)
- Tradition for agricultural production (GW, HON)
- Tradition for the production of domestic products and processing (GW, HON)
- A wide range of agricultural and food products (GW, HON)
- Experience and local knowledge (GW, HON)
- Quality of the products (GW, HON)
- Commitment of the agricultural producers (GW, HON)
- Strong will, tenacity, persistence, resilience – characteristics of producers (GW, HON)

### Weaknesses

---

- Low purchase (producer) prices (GW, HON)
- Uncertain sales and marketing of products (GW, HON)
- No guaranteed buyout of the agricultural products (GW)
- Lack of contractual relations between producers and buyers (GW)
- Neglected and dysfunctional irrigation systems (GW)
- Dysfunctional irrigation systems (GW)
- Poor infrastructure in rural areas (roads, water, internet, gardening, health services, etc.) (GW, HON)
- Contaminated soils (soil degradation) (GW, HON)
- Loss of biodiversity, disappearance of indigenous varieties (HON)
- Low-quality repro materials (lack of quality control) (GW)
- Insufficient and expensive labor force (GW)
- Inadequate insurance packages (GW)
- Lack of association and organization among farmers (GW, HON)
- Lack of processing and adding value to products (GW, HON)
- Weak commitment of advisory services (GW, HON)
- Low motivation among producers (GW, HON)
- Insufficient interest among young people to work in agriculture (GW, HON)
- Insufficient awareness and education (GW, HON)
- Unregulated property-legal relations (GW)



- Insufficient commitment of the state to the agricultural sector (GW, HON)
- Unfair allocation/efficiency of subsidies (GW, HON)
- Distrust of the system and administrative processes (GW, HON)
- Non-compliance and inadequate legislation (GW, HON)
- Frequently changing regulations (GW, HON)
- Poor functioning of the institutions (GW, HON)
- Lack of quality control and institutional intervention against adulterated/mixed honey (to protect consumers and producers) (HON)
- Insufficient protection of professional beekeepers - presence of non-professional honey producers who are outside the system, not registered and without monitoring (HON)
- Many un-forested areas, afforestation is usually with non-honey-bearing plants (HON)
- Low ecological culture (HON)
- Local schools - not enough pupils (GW, HON)
- Insufficient support of women farmers (GW, HON)
- (Dis)solidarity between producers (GW)
- Fear of repercussions (e.g. for organizing a strike by the producers) (GW)
- Insufficient compliance with quality standards (GW, HON)
- Low interest by the research institutions (GW)
- Insufficient cooperation academia-agricultural sector-decision makers (GW, HON)
- Irregular updating of statistical data related to value chains, especially regarding structural aspects (GW, HON)

## Opportunities

---

- Underutilization of natural resources (but also sustainable use) (GW, HON)
- Branding of agricultural products, protection of geographical origin (GW, HON)
- Marketing and promotion campaigns for buying local products, local events (HON)
- Short supply chains (GW, HON)
- Adding value to agricultural products (GW, HON)
- Transition to organic production (HON)
- Afforestation with honey plants - benefits for honey production, but also more durable forests (e.g. acacia), permits for associations to afforest (HON)
- Possibilities for networking and association of farmers in agricultural organizations (cooperatives, etc.) (GW, HON)
- Regional cooperation, experiences from other countries and the EU (GW, HON)
- Distribution of agricultural land to young farmers (along with other resources) (GW, HON)
- Packages to encourage the return of the population to the countryside - allocation of land (GW, HON)
- Land Consolidation (GW)
- Application of appropriate measures for protection/adaptation to climate change (GW, HON)
- Small irrigation systems (GW)





- Education of farmers (especially young people), training, skills, new knowledge, cooperation, networking (GW, HON)
- Diversification of the activities (rural or agro-tourism, rural enterprises etc.) (GW, HON)
- Regulation of trade (GW, HON)
- Regulation of product quality (GW, HON)
- Strengthening of advisory services (GW, HON)
- Dialogue with decision makers (GW, HON)
- Possibilities for regulation of protective prices (GW, HON)
- Improvement of administrative conditions (GW, HON)
- Digitalization (using and implementing digital tools and solutions) (GW, HON)

## Threats

---

- Climate change significantly affecting agricultural production (extreme weather events: droughts, floods, hail, heat waves, etc.) (GW, HON)
- Migrations and emigration of the rural population and young people (GW, HON)
- Aging of the agricultural population (GW, HON)
- Weakening interest of youth to get an education and engage in agriculture (GW, HON)
- Lack of motivation among the young population (GW, HON)
- Labor shortage (expensive and unavailable) (GW, HON)
- Unfair competition (HON)
- Abandonment of agricultural land (GW)
- Favoring certain groups (GW)
- Concentration of power among large producers (GW)
- Conversion of agricultural land (solar panels, into construction land) (GW, HON)
- Lack of protection from game (wild animals) (HON)
- Strict regulations (HASAP, food safety) (GW, HON)
- Application of EU legislation (GW, HON)
- Increased competition, increased imports especially from neighboring countries (GW, HON)
- Quarries (HON)
- A major problem is the "Law on Communal Activities (2012)" - minimum 500 meters distance of the apiary from a building (HON)

## Solutions and Recommendations

During the workshops, an exchange of ideas and two-way communication was encouraged, so the participants can freely make their contributions and feel valued. The lively discussions and array of statements, comments and recommendations made by the participants are presented by the four main groups below.



<p><b>1. STRENGTHENING FARMER COOPERATION</b></p>	<ul style="list-style-type: none"> <li>- Agricultural cooperatives are rare in the country. Most of the participants were members of other forms of farmers' joint engagement, such as farmers' association or CSOs. (GW, HON)</li> <li>- The participants were generally aware of the potential benefits of joining cooperative, but an impression was left that much more work is needed in preparing and encouraging them for joining such structure (through trainings, education, showcases of good examples etc). (GW)</li> <li>- Local community offices or similar social structures in rural areas, intended for gathering producers, exchanging experiences, as a preparation for more advanced forms of association. (HON)</li> <li>- Honey producers saw opportunities for strengthened farmer cooperation through joint branding and local honey campaigns. (HON)</li> <li>- Mentality was mentioned as one of the key barriers in joining or forming a cooperative. Some participants mentioned that certain measures from the government (i.e. supporting the salary of the manager of the cooperatives) did not give the expected results. Lack of trust seems to be another issue.</li> <li>- Information on sectoral programs is mostly gathered through the National Extension Agency, MAFWE units, but also through word-of-mouth and internet/social media. (GW, HON)</li> </ul>
<p><b>2. ENHANCING SYNERGIES AND ADDRESSING UNFAIR TRADING PRACTICES</b></p>	<ul style="list-style-type: none"> <li>- Grape producers have regulatory prescribed payment instalments (part of the payments are received immediately, and the other part in several instalments in few months). (GW)</li> <li>- Honey producers argued that the fair price of honey was decreased by low quality imports. Presence of adulterated honey (the producers are aware that is a problem in other countries as well) – institutions (Food and Veterinary Agency) must help both producers to remove adulterated honey from circulation (protection from unfair competition) and consumers (to get real honey, not adulterated). (HON)</li> <li>- Labeling – origin of the product, to be clearly marked. (HON)</li> <li>- Grape producers feel that the prices they get are not fair</li> </ul>



	<p>and do not reflect fully their cost of production and expected profit. Contracts are rarely fully implemented (most of them are pro-forma). (GW)</p> <ul style="list-style-type: none"> <li>- All participants thought that fair trading practices and greater transparency in the market should be supported by well-established and implemented legal framework, with government and institutional support. (GW, HON)</li> <li>- Farmers rarely use the official market information systems (e.g. AMIS), but rather communicate price and market information among each other. (HON)</li> <li>- Grape producers are dependent on the price set by the large buyers/wineries. (GW)</li> <li>- Water systems, need for structural investments in water infrastructure. (GW, HON)</li> <li>- Few participants expressed some willingness to adopt digital tools. Age is an issue, willingness to learn new practices and a key impediment is the lack of digital literacy. (GW, HON)</li> </ul>
<p><b>3. DEVELOPING MARKET-DRIVEN PRODUCTION MODELS</b></p>	<ul style="list-style-type: none"> <li>- Grape producers usually sell grapes as raw input for the wine industry locally. Home and small wineries sell nationally. (GW)</li> <li>- Honey producers also usually sell their products (honey packed in jars) locally or to known buyers/end consumers in the country. (HON)</li> <li>- Almost all produce some wine/grape brandy for home consumption. Some also register as small wine producers and sell small quantities, usually directly to end consumers or through fairs, festivals. Very few grape producers do some processing on-farm (e.g. madzun – grape syrup). (GW)</li> <li>- Some beekeepers have started diversifying: in organic farming, other products than honey (propolis, pollen, perga, royal jelly) or even honey-based cosmetics.</li> <li>- There is some interest in exploring new market-driven models to add more value to products and improve your profitability, but farmers need training/education advice and more information. (GW, HON)</li> <li>- Consumer preferences are usually discovered via direct contacts with them (not though elaborate research or similar more structured sources). (GW, HON)</li> <li>- Farmers seem to be generally aware of the weight of certification procedure and costs for converting to organic production. Information, knowledge and to</li> </ul>



	<p>some extent limited entrepreneurial undertaking limits wider exploration of new products/market options. (GW, HON)</p> <ul style="list-style-type: none"> <li>- There is awareness of some of the government or IPARD measures, but farmers/processors feel they need to be updated and need help in applying for programs. (GW, HON)</li> <li>- IPARD is not suitable for bee keepers – investments must be minimum 10,000 euros (beekeeping equipment is of a smaller amount, e.g. for a centrifuge, or a trailer). (HON)</li> <li>- The participants pointed out the need for information campaigns about the opportunities for farmers, mostly through radio and TV media, as well as through field visits/events. (GW, HON)</li> </ul>
<p><b>4. FOSTERING RESEARCH &amp; INNOVATION</b></p>	<ul style="list-style-type: none"> <li>- Knowledge on new technologies, innovations, efficient farming or processing practices that reduce environmental impacts, tracking/transparency possibilities etc is limited. (GW, HON)</li> <li>- Science needs to be much more present – regular education and interaction is needed (Education Strategy for Beekeepers – Dealing with Climate Change, examples from neighboring countries) (HON)</li> <li>- Relevant literature should be translated and accessible to producers, free educative programs (HON)</li> <li>- Contacts with networks such as RDN opens many training activities and flow of new information. (GW, HON)</li> </ul>

## IV. Conclusions from the workshops and Recommendations based on the SWOT

The SWOT analysis conducted across the five workshops identified key strengths, weaknesses, opportunities, and threats facing farmers in North Macedonia's agricultural value chains, with a particular focus on the grape/wine and honey sectors. Strengths included access to fertile land, a diverse climate, and traditional agricultural knowledge. Weaknesses identified were small farm size, outdated infrastructure, rising production costs and limited access to markets. Opportunities included growing consumer demand for organic and locally produced products, adding value to existing and developing new products, branding, and using the potential for diversification. Threats included climate change, competition from imports, aging and migration. This analysis provides a valuable framework for identifying areas for improvement and developing strategies to enhance farmers' positions in value chains.

To address the challenges and capitalize on the opportunities identified in the SWOT analysis, North Macedonia should focus on several key areas. These include modernizing infrastructure, improving market access, addressing climate change, reducing input costs, promoting organic and local products, developing value-added activities, enhancing quality of products, fostering diversification with new business activities such as agro-tourism, consolidating farms, establishing/strengthening cooperatives, improving the policy environment, investing in research and development, and enhancing education and training. Implementing these strategies, the value chains and the position of the farmers in them can be strengthened, hence improving the livelihoods of farmers, and ultimately contributing to the sustainable development of rural areas.

### Addressing Weaknesses and Threats:

- **Modernize infrastructure:** Invest in upgrading infrastructure, such as roads, services and amenities in rural areas, and agricultural infrastructure, such as irrigation systems, agrometeorological stations and storage facilities. This is of importance for the whole agricultural sector and the quality of life in rural areas.
- **Reduce input costs:** Explore ways to reduce the costs of inputs, such as fertilizers and pesticides, through collective purchasing or the development of local supply chains. This is in particular important for grapes producers.
- **Improve market access:** Develop strategies to increase market access for farmers, including promoting local production and domestic consumption, and expanding new market opportunities.
- **Address climate change:** Implement climate adaptation measures to help farmers cope with the impacts of climate change and extreme weather events. Farmers need support, both in investments, new technologies and knowledge, to better adapt to the effects of climate change.



- **Consolidate farms:** Encourage the consolidation of small farms to achieve economies of scale and improve efficiency. Agricultural cooperatives can play a vital role in strengthening the position of farmers in value chains and improving their access to resources. By working together, farmers can achieve economies of scale, negotiate better terms with buyers, and improve their bargaining power.
- **Up-to-date statistical data:** Providing up-to-date statistical data necessary to support the decision-making process.

### Leveraging Strengths and Opportunities:

- **Promote local and organic products:** Capitalize on the growing consumer demand for organic and locally produced food by implementing certification programs and promoting local food initiatives.
- **Develop value-added products:** Encourage farmers to engage in value-added activities, such as processing, packaging, and branding, to increase product value and diversify income sources.
- **Enhance quality:** Invest in quality control measures and training programs to improve the quality of agricultural products and meet higher market standards.
- **Foster diversification of on-farm and off-farm business activities:** For instance, develop agro-tourism initiatives to attract visitors and generate additional revenue for farmers. Wine routes or Honey routes can be one of the options.
- **Strengthen cooperatives:** Promote the formation and development of agricultural cooperatives to provide farmers with greater bargaining power and access to resources.
- **Digitalization and innovation:** Adopting digital technologies can lead to improved efficiency, traceability, and sustainability in the agricultural sector.

### Addressing value chain specific challenges:

#### **Strengthening farmers' positions in the grape/wine value chain:**

- **Improve quality and standardization:** Encourage wine producers to adopt quality standards and certifications, such as Protected Geographical Indication (PGI) or Denomination of Origin (DO), to differentiate their products and command premium prices.
- **Invest in modern technology:** Support investments in modern machinery and equipment (including using new ITC supported technologies) to improve efficiency, quality, and consistency.
- **Promote wine tourism:** Develop wine tourism initiatives to attract visitors to vineyards and wineries, increasing demand for local wines and generating additional revenue.
- **Support sustainable production practices:** Encourage farmers to adopt sustainable production practices that protect the environment and ensure long-term viability.



- **Promote organic wine production:** Encourage the development of organic wine production (and organic grape production) to meet the increasing demand for sustainable and environmentally friendly products.

#### **Strengthening farmers' positions in the honey value chain:**

- **Promote local honey brands:** Develop strong brands for North Macedonian honey to differentiate it from imported products and increase consumer awareness.
- **Expand on new markets:** Identify and target new market segments (home and abroad) with a demand for high-quality honey, with a focus on natural (and organic) products.
- **Diversify honey products:** Explore opportunities to produce value-added honey products, such as honey-based cosmetics or specialty food items, to increase revenue.
- **Enhance farmer-consumer relationships:** Foster direct relationships between farmers and consumers to promote local consumption and build brand loyalty.
- **Enhance quality and safety:** Implement quality standards and safety regulations for honey production to ensure product consistency and consumer confidence.
- **Support beekeeping associations:** Strengthen beekeeping associations to provide farmers with technical support, training, and access to markets.

#### **Addressing cross-cutting challenges:**

- **Improve policy environment:** Advocate for policies that support sustainable agriculture, promote fair trade practices, and reduce regulatory burdens on farmers.
- **Invest in Research and Development:** Support research and development to develop new technologies and practices that can improve agricultural productivity and sustainability. Improve the cooperation between research and farmers and all other value chain actors.
- **Enhance education, training and knowledge exchange:** Invest in training programs to improve farmers' skills and knowledge, including business management, marketing, and sustainable agricultural practices.

## V. Annexes

### A. What is an agri-food value chain

*A value chain is not an object that you can see. A value chain is simply a useful way of understanding how the world of producing, buying and selling things works<sup>1</sup>.*

There is a plethora of value chains in agriculture, but basic farming value chain is consisting as follows:

- a) Producers = Farmers: Those who produce the raw materials or products at the beginning of the value chain. Their production is depending on input materials such as seed, animals, fertilizers, feed, agri-chemicals and fuel, but also environmental factors, such as land, water, air, solar energy (both light and heat) and companion organisms (both harmful and beneficial). In many cases value chains are intertwined within input and output production (for instance, seed is provided by consolidators, fuel by retailers, etc.)
- b) Consolidators: Individuals or companies who aggregate and organize products from multiple farmers or producers for efficient transportation and distribution.
- c) Wholesalers: Intermediaries who buy products in bulk from consolidators or producers and sell them to retailers or other buyers in smaller quantities.
- d) Processors: Organizations that transform raw materials into finished products ready for sale to consumers.
- e) Retailers: Businesses that sell products directly to consumers through physical stores, online platforms, or other channels
- f) Service providers: Entities that offer support services such as transportation, storage, marketing,

We are all part of value chains in one way or the other as producers, consumers of goods and services, processors, retailers, finance providers, etc. As consumers we all eat and we all wear clothes, and so we are linked to many value chains – chains of grain crops, roots and tubers, fruits and vegetables, legumes, oils, and textiles. These chains stretch from growers to our kitchens, eating tables, clothing, and beyond. At one end of the agricultural value chain are the producers – the farmers who grow crops and raise animals. At the other end are the consumers who eat, drink, wear and use the final products. And in the middle are many thousands of men and women, and small and large businesses. Each person and each business perform one small step in the chain, and each adds value along the way – by growing, buying, selling, processing, transporting, storing, checking, and packaging

---

<sup>1</sup> An introduction to agricultural value chains <https://idl-bnc-idrc.dspacedirect.org/server/api/core/bitstreams/dfcdbc99-9203-4c26-9865-450ff6ea1fd7/content>





quality control and certification within and across the value chain.

- g) Advisory service: the advisory service has been recognized as crucial for providing farmers with the necessary information, knowledge, and support to improve their productivity, sustainability, and competitiveness, and as such helps farmers make informed decisions on technologies, best practices and policies related to their farming activities.

### **What are the benefits of taking a value chain approach?<sup>2</sup>**

The value chain approach considers the role of existing chain actors, supporting actors, and the policy environment. It allows us to look at current challenges in a value chain, as well as the opportunities for improving the efficiency of the value chain and the benefits for everyone involved.

From a farmer's perspective, being part of a well-functioning value chain can bring greater income.

### **How do farmers choose a value chain?**

There are several possible approaches toward value chain selection, and, based on what is usual (average) situation of selection of types of value chains would typically begin by identifying the target market for the agricultural products. Next, the farmer would evaluate the resources available to them, such as:

- land (quality, soil type, water availability, etc.);
- labor (hand or machine intensive), *and*
- capital (availability, interest rates, incentives, supports).

Based on these factors, the farmer might choose a value chain that emphasizes either:

- vertical integration: where they have control over the entire production process (for instance: cheese as a final product of fodder production, milking, cheese making, doorstep selling on the farm), or
- specialization in a particular product or market segment (for instance: winter wheat production and selling wheat grains to wholesale stakeholders).

Additionally, factors such as risk tolerance, sustainability practices, market demand, and access to technology would play a role in determining the most suitable value chain for the small farmer.

---

<sup>2</sup> An introduction to agricultural value chains <https://idl-bnc-idrc.dspacedirect.org/server/api/core/bitstreams/dfcdbc99-9203-4c26-9865-450ff6ea1fd7/content>

## B. Characteristics for attendees' selection in focus groups/workshops

- A. **Farm size:** small farms should be in the focus of our interviews, who usually have the highest benefits of improvement their value chain because they typically operate on thin profit margins and face challenges in accessing markets, resources, and information. By improving their position in the value chain, they can increase their bargaining power, access higher value markets, reduce transaction costs, and improve their overall competitiveness. This can lead to higher incomes, better livelihoods, and greater resilience to market fluctuations and external shocks. Additionally, by working collaboratively with other actors in the value chain, small farmers can share knowledge, resources, and risks, leading to more sustainable and inclusive development outcomes.
- B. **Farm owner's age:** preferably younger farmers should be in the scope, since they can bring fresh perspectives, innovative ideas, and a willingness to adopt new technologies and practices. They are often more open to change and more adaptable to market demands. Additionally, younger farmers are more likely to have access to formal education and training, making them better equipped to improve and modernize value chain processes. They are also more likely to be familiar with digital tools and social media, which can help improve communication and market access. Based on EU CAP policy, young farmers are below 40 years of age, but, for the purpose of this research, even middle-aged farmers are acceptable (up to 50 years old).
- C. **Production type:** Organic farmers can be a better choice for interview, due their practice which prioritizes sustainable and environmentally friendly practices. They are more likely to have a deeper understanding of their supply chain, including how their products are grown, harvested, and distributed. Organic farmers are committed to transparency and traceability, making them a reliable source of information for understanding the value chain from start to finish. Additionally, their values align with the principles of ethical sourcing and fair trade, ensuring a more holistic perspective on the value chain.
- D. **Production orientation:** if possible, farmers are present on the export market, because export markets provide access to higher prices, new technologies, diversification of income, market expansion, and capacity building. By tapping into export markets, farmers can enhance their competitiveness, increase their profitability, and improve the sustainability of their operations.

**Additional processing:** Farmers with additional food processing capabilities are encouraged to be included in the focus groups, rather than someone with specialized production due to advantageous diversification, value-added products, increased market opportunities, farm waste reduction, flexibility and other reasons.



## C. Main topics for discussion with the farmers - guiding questions

Possible guiding questions clustered as per the main issues mentioned above:

### Strengthening Farmer Cooperation

- Are you currently a member of any Producer Organization (PO) or cooperative?
- How would you rate your awareness of the benefits of joining a PO or cooperative? (Scale: Very aware, moderately aware, slightly aware, not aware at all);
- How willing are you to collaborate with other farmers to form POs or cooperatives to enhance your bargaining power in the market? (Scale: Very willing, moderately willing, Slightly willing, Not willing at all)
- What factors (trust, cultural barriers, financial constraints, lack of knowledge, etc.) prevent you from joining or forming a cooperative?
- Are you aware of any sectoral programs (e.g., for fruit, vegetables, olive oil) that support farmer collaboration in your region?

### Enhancing Synergies and Addressing Fair Trading Practices

- Have you experienced any unfair practices in your transactions with buyers, such as late payments, sudden contract changes, or unfair price reductions
- Do you believe that Producer Organizations (POs) or farmer associations could help improve fairness in trading practices?
- Do you feel that the prices and contracts offered to you by buyers are transparent and fairly negotiated?
- What support do you think would be most helpful to ensure fair trading practices and greater transparency in the market? ( legal framework, contractual fairness, government and institutional support, etc)
- Are you aware of any market information systems (e.g., online platforms, market observatories, government reports) that provide pricing data and market trends relevant to your products?
- How willing are you to adopt digital tools (e.g., blockchain, mobile apps) that provide transparency and traceability for your products throughout the supply chain? (Scale: Very willing to not willing at all)

### Developing Market-Driven Production Models

- What types of products do you currently produce on your farm, and are they oriented toward local, national, or international markets?
- Have you considered or already started diversifying your farm operations into new areas such as organic farming, local processing, short supply chains, Geographical Indications (GIs) and Quality Schemes?
- How interested are you in exploring new market-driven models to add more value to your products and improve your profitability?
- How well do you understand the changing consumer preferences for food products, such as demands for sustainably produced, healthy, or locally sourced products?



- What are the primary barriers that prevent you from entering high-value markets (e.g., certification costs, lack of infrastructure, lack of market access)?
- Are you aware of any government or EU-supported programs that provide financial, technical, or organizational support for farmers transitioning to market-driven production models?

### **Fostering Research and Innovation**

- Are you familiar with the concept of eco-innovations such as using more efficient farming practices that reduce environmental impacts (e.g., precision farming, conservation tillage, organic farming, IoT, etc )?
- Have you heard about systems that allow you to track and verify your products as they move from your farm to the buyer (e.g., a system that ensures transparency by showing where and how your product was produced)?
- What are the biggest challenges or barriers you face in adopting new technologies and innovations on your farm (e.g., high costs, lack of access to training, or lack of infrastructure)?
- Would you be interested in training programs or workshops that teach farmers how to use smart devices or systems for tracking and verifying products to improve their efficiency and transparency?
- How willing are you to invest in new technologies or innovations for your farm if you had access to funding or financial assistance?
- Are you aware of any government programs or institutions in your region that provide support (e.g., financial aid, training, or research) for adopting new agricultural technologies?

### **Production and Farming Practices**

- What crops/livestock do you currently produce, and what are your production levels?
- What are your farming practices (e.g., organic, conventional, conservation agriculture)?
- What are the main challenges you face in terms of production (e.g., climate change, pests, diseases)?
- How do you currently manage your soil, water, and other natural resources?
- What kind of equipment and technology do you use in your farming operations?

### **Market Access and Sales**

- Who are your current buyers, and what are the prices you receive for your products?
- How do you currently market and sell your products (e.g., through cooperatives, traders, direct to consumers)?
- What are the main challenges you face in terms of market access (e.g., transportation, storage, quality standards)?
- Are there any specific market opportunities or trends you're aware of that could benefit your farm?
- How do you currently handle payment and pricing negotiations with buyers?



### **Post-Harvest Handling and Processing**

- What are your current post-harvest handling practices (e.g., drying, storage, grading)?
- Do you have any processing facilities or equipment on your farm?
- What are the main challenges you face in terms of post-harvest handling and processing (e.g., quality, quantity, safety)?
- Are there any opportunities for value addition or processing that you're not currently taking advantage of?
- How do you currently manage waste and by-products from your farming operations?

### **Financing and Investment**

- What are your current financing arrangements (e.g., loans, grants, savings)?
- How do you currently invest in your farm (e.g., equipment, inputs, labor)?
- What are the main challenges you face in terms of accessing financing or investment for your farm?
- Are there any specific areas of your farm where you'd like to invest but lack the resources?
- How do you currently manage risk and uncertainty in your farming operations?

### **Support Services and Training**

- What kind of support services do you currently receive (e.g., extension services, training, input supply)?
- How do you currently access information and advice on best practices, new technologies, and market trends?
- What are the main challenges you face in terms of accessing support services and training?
- Are there any specific areas where you'd like to receive more training or support (e.g., marketing, financial management)?
- How do you currently collaborate with other farmers, researchers, or industry experts?

## References

- Aramyan L. H., van Galen M. A., Logatcheva K., Hercegljic N., Stamenkovska I.J., Ali Koç A., Kovacevic V., Markovic M., Martinovska Stojceska A., and Zhllima E. 2024 Comparative analysis of the socio-economic developments and competitiveness of the agri-food sector at a sectoral and macro level in the pre-accession countries. European Commission. <https://research.wur.nl/en/publications/comparative-analysis-of-the-socio-economic-developments-and-compe-3>
- AAEM 2022. Country report organic North Macedonia 2022. Association of Agricultural Economists of the Republic of North Macedonia, EcoConnect. [http://www.ekoconnect.org/tl\\_files/eko/p/Projekte/MOE-Laenderberichte/Country-Report-Organic-NORTH-MECEDONIA-EkoConnect-2022.pdf](http://www.ekoconnect.org/tl_files/eko/p/Projekte/MOE-Laenderberichte/Country-Report-Organic-NORTH-MECEDONIA-EkoConnect-2022.pdf)
- Daniloska N., Petkovska-Mirchevska T., Hadzi Naumova-Mihajlovska K., 2017. Economic sustainability of organic food production: Research on organic food consumer behavior in the Republic of Macedonia. IV. International symposium on accounting and finance, Cohosted by MUFAD, Uludag University, St Cyril and Methodius University Skopje Institute of Economics, Ohrid, 3-5 July 2017, 22-26.
- EC 2019. The European Green Deal. [https://commission.europa.eu/publications/communication-european-green-deal\\_en](https://commission.europa.eu/publications/communication-european-green-deal_en)
- EC 2020. A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system. [https://eur-lex.europa.eu/resource.html?uri=cellar:ea0f9f73-9ab2-11ea-9d2d-01aa75ed71a1.0001.02/DOC\\_1&format=PDF](https://eur-lex.europa.eu/resource.html?uri=cellar:ea0f9f73-9ab2-11ea-9d2d-01aa75ed71a1.0001.02/DOC_1&format=PDF)
- EC 2023. Strategy and Reports, EU Enlargement package 2023 – country progress reports. [https://neighbourhood-enlargement.ec.europa.eu/enlargement-policy/strategy-and-reports\\_en](https://neighbourhood-enlargement.ec.europa.eu/enlargement-policy/strategy-and-reports_en)
- FiBL 2024. FiBL Statistics. <https://statistics.fibl.org/> Date accessed: 20/06/2024
- GAWB Action Plan for the Implementation of the Sofia Declaration on the Green Agenda for the Western Balkans 2021-2030, 2021. Regional Cooperation Council (RCC), Sarajevo.
- Gjosevski, D., Dimitrievski, D., Martinovska Stojcheska, A., Kotevska, A., 2024. Assessment of the impact of the financial support of the vineyard and wine sector. Prepared by the Association of Agricultural Economists of North Macedonia, within the the project: "Geographical indication for wine production in the Republic of North Macedonia" with the support of Tikvesh AD Kavadarci and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
- MAFWE 2013. National Plan for Organic Production 2013 - 2020. Ministry of Agriculture, Forestry and Water Economy. Republic of North Macedonia. Printed version Scopje.
- MAFWE 2021. National Agricultural and Rural Development Strategy 2021-2027. Ministry of Agriculture, Forestry and Water Economy of the Republic of North Macedonia.
- MAFWE 2023. Strategy for viticulture and wine production 2023-2033. Ministry of Agriculture, Forestry and Water Economy of the Republic of North Macedonia.
- Martinovska Stojcheska, A., Kotevska A., Stamenkovska Janeska I., Dimitrievski D., Zhllima E., Vaško Ž., Bajramović S., Kerolli-Mustafa M., Marković M., Kovacević V., Ali Koç A.,



- Ahmet B., 2024. Recent Agricultural Policy Developments in the Context of the EU Approximation Process in the Pre-accession Countries. Martinovska Stojcheska A., Kotevska A., Kasimis C., Pavloska – Gjorgjieska D., editor (s), European Commission. doi:10.2762/638991.
- Martinovska Stojcheska A., Kotevska A., Stamenkovska I. J., 2018. Motivations and obstacles for organic farming in Macedonia. International Conference “European agriculture and food value chain: dynamics and innovations”. October 22-24, 2018, Sofia, Bulgaria.
- OECD (2024), Western Balkans Competitiveness Outlook 2024: Regional Profile, Competitiveness and Private Sector Development, OECD Publishing, Paris, <https://doi.org/10.1787/170b0e53-en>.
- RCC 2021. Green Agenda for the Western Balkans 2020. [https://www.rcc.int/priority\\_areas/12/](https://www.rcc.int/priority_areas/12/)
- SSO 2017. Structure and typology of agricultural holdings, Farm Structure Survey 2016. Skopje: State Statistical Office of the Republic of North Macedonia.
- SSO 2024a. MakStat Statistical Database. Skopje: State Statistical Office of the Republic of North Macedonia.
- SSO 2024b. Economic Accounts in Agriculture for 2022. Skopje: State Statistical Office of the Republic of North Macedonia.
- Spatial plan of the Republic of North Macedonia 2021-2040, 2023. Agriculture and agricultural land. Agency for spatial planning, Faculty of Agricultural Sciences and Food, Skopje.
- SWG 2022. State of art of the organic agriculture in the Western Balkans. Skopje: Standing Working Group for Regional Rural Development.