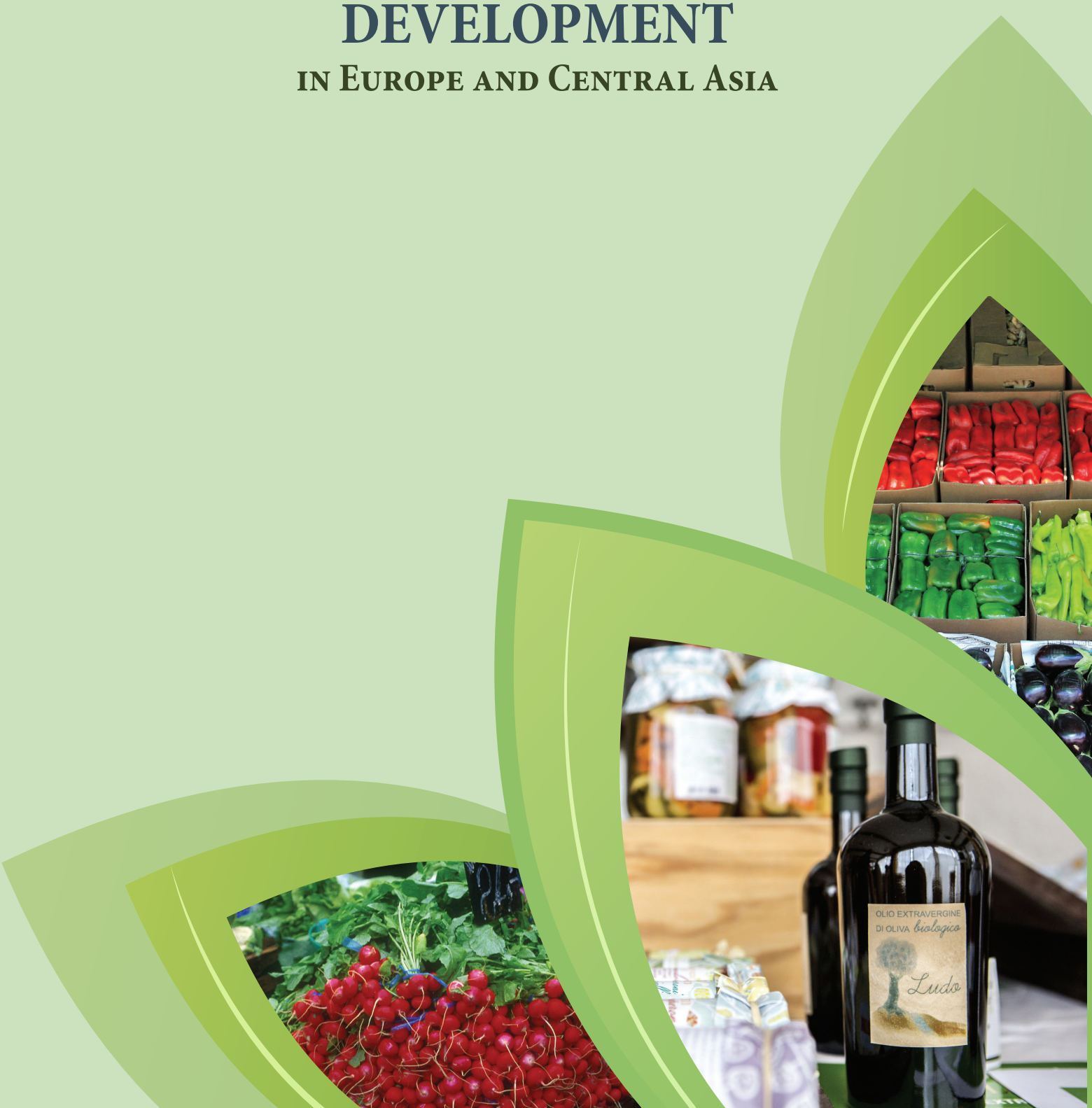
Food and Agriculture Organization of the United Nations

OVERVIEW OF ORGANIC AGRICULTURE DEVELOPMENT

IN EUROPE AND CENTRAL ASIA



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Foreword

Organic agriculture continues to develop dynamically in Europe and Central Asia (ECA) region. In most countries, the area used for organic is increasing, and the market continues to grow. In most countries in the ECA region that are not Member States of the European Union, organic agriculture is in a pioneer phase, with the potential to enhance food security, rural development, sustainable livelihoods and environmental integrity. The increased demand for organic products provides an opportunity to develop the organic agriculture sector in the region and fulfil countries' desires to protect the environment, biodiversity and family farming.

This regional publication provides an overview of the development of organic agriculture in eighteen (18) countries in the following ECA sub-regions: Central Asia (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan); Eastern Europe (Belarus, Republic of Moldova, the Russian Federation and Ukraine); South Caucasus (Armenia, Azerbaijan and Georgia); and South Eastern Europe (Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia and Turkey).

The report includes an in-depth analysis of how these countries have achieved the current state of organic agriculture regarding legislative and policy frameworks, governance systems, production, key actors, marketing, opportunities and challenges, and future strategies. The presence of transparent and reliable information enables credibility, informed decision-making and policy-making, and investment in the development of the organic agriculture sector.

This publication is expected to provide a reliable and updated source of information and knowledge for all interested parties, including policy makers, government officials, the private sector donor agencies and development partners in the region. Finally, we hope this report will help in some way in facilitating increased co-operations in development of organic agriculture among the ECA member countries to achieve sustainable and economic development in the region.

Vladimir Rhakmanin
Assistant Director-General and
Regional Representative for Europe and Central Asia,
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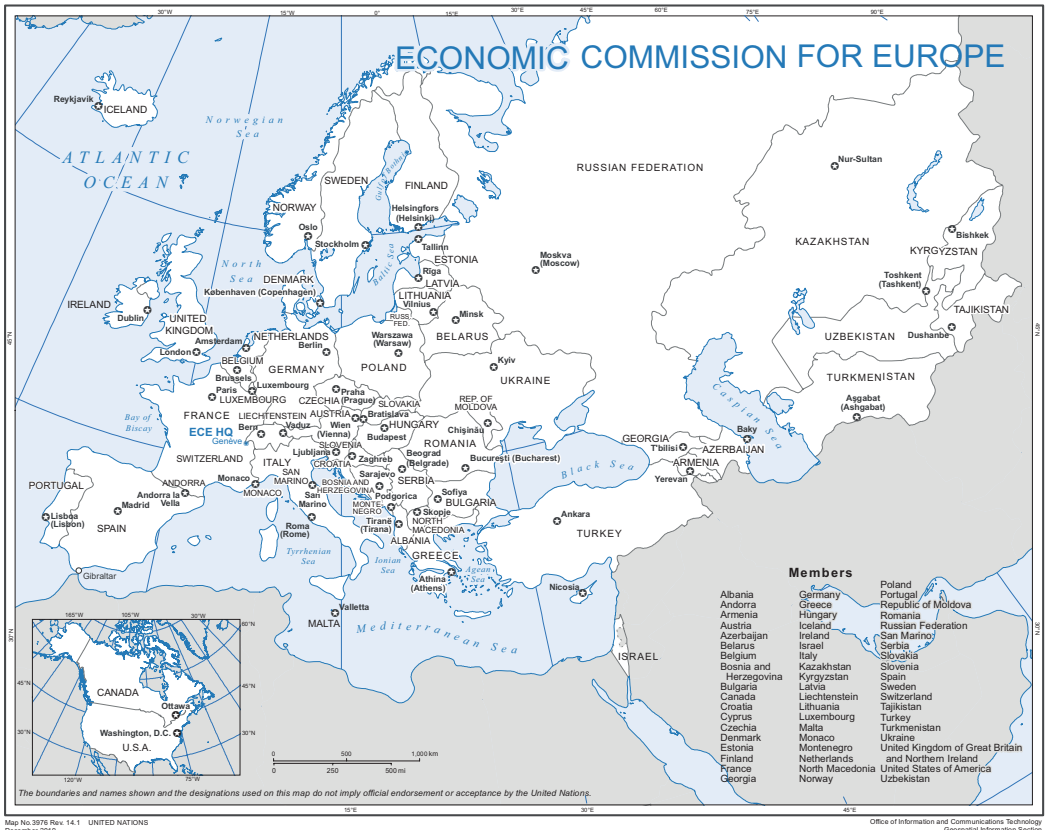
Maps of Europe and Central Asia



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Map No. 3763 Rev. 8 UNITED NATIONS
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Abbreviations and acronyms

ABM	AgriBioMediterraneo
ACERT	European Organization for Certification SA, Greece
ADA	Austrian Development Agency
ADC	Austrian Development Cooperation
ACDI	Agricultural Cooperative Development International
ANAU	Armenian National Agrarian University
ANOAP	Armenian National Organic Action Plan
AOAF	Armenian Organic Agriculture Foundation
ASC	Agricultural Support Centres
AUA	American University of Armenia
AWHHE	Armenian Women for Health and Healthy Environment
B2B	business to business
BOKU	Center for Agribusiness & Rural Development of Armenia
CEFTA	Central European Free Trade Agreement
CERES	Certification of Environmental Standards GmbH, Germany
CIDA	Canadian International Development Agency
CIHEAM	International Centre for Advanced Mediterranean Agronomic Studies
CIS	Commonwealth of Independent States
COSPE	Cooperation for the Development of Emerging Countries
CPF	Country Programming Framework
EaP	Eastern Partnership
ECA	Europe and Central Asia
ECO	Economic Cooperation Organization
EECA	Eastern Europe and Central Asia
EEU	Eurasian Economic Union
EFTA	European Free Trade Association
EUR	European Union
FBS	Farmer Business School
FFS	Farmer Field School
FiBL	Research Institute of Organic Agriculture in Switzerland
GAIN	Global Agricultural Information Network
GDP	gross domestic product

GIZ	German International Development Agency
HEKS/EPER	Hilfswerk der Evangelischen Kirchen Schweiz/Entraide Protestante Suisse
IAMB	CIHEAM Mediterranean Agronomic Institute of Bari (Italy)
ICARE	International Center for Agribusiness Research and Education in Armenia
ICEA	Istituto Certificazione Etica e Ambientale
IFOAM	International Federation of Organic Agriculture Movement
IPARD	The European Union Instrument for Pre-Accession Assistance – Rural Development
JAS	Japanese Agricultural Standards
KIWA	Kiwa BCS Öko-Garantie GmbH (Germany)
KOICA	Korean International Cooperation Agency
MoFTER	Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina
MOAN	Mediterranean Organic Agriculture Network
NABU	Nature and Biodiversity Conservation Union
NOP	National Organic Program of the United States of America
OA	organic agriculture
OECD	Organisation for Economic Co-operation and Development
OSCE	Organization for Security and Co-operation in Europe
PGS	Participatory Guarantee Systems
SASP	Sustainable Agriculture Support Programme
SECO	State Secretariat for Economic Affairs (Bern, Switzerland)
SDC	Swiss Agency for Development and Cooperation
SDG	Sustainable Development Goal
SIDA	Swedish International Development Cooperation Agency
SIPPO	Swiss Import Promotion Programme
TAIEX	Technical Assistance and Information Exchange Instrument
TIKA	Turkish Cooperation and Coordination Agency
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
VET	Vocational Education Training
WWF	World Wildlife Fund

Part I

Current State of Organic Agriculture in Europe and Central Asia

Introduction

Organic agriculture finds its roots in the beginning of the twentieth century, when pioneers started to understand the importance of soil fertility and natural cycles in agro-ecosystems. However, the main impulse came after the 1970s, when the negative impacts of agrichemicals on health and environment were disclosed through highly recognized research institutions. This led to the European Union banning *Dichlorodiphenyltrichloroethane,* commonly known as DDT. One outcome of that ban and increased awareness was the development of organic markets – especially in Europe – in 1980s, creating an opportunity for third countries with production resources to complement the increasing European organic demand. As the market enlarged and became global, standards-setting conditions for the production, processing and labelling of food and then of feed were developed. As of 2017, 183 countries around the world practise organic agriculture with data collection, and 93 countries have their own legislation (standard) governing organic agrifood and beverage production (Willer and Lernoud, eds., 2019).

Organic agriculture is based on the principles of health, ecology, fairness and care.[1] As defined in the *Codex Alimentarius,*[2] organic agriculture "is a holistic production management system which promotes and enhances agroecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasizes the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems." Countries in Europe and Central Asia started organic agriculture at different time periods – some as early as the 1980s, due to the demand from the European importers. Smallholder farms became the predominant source of agricultural production in most of countries in the region, but some large-scale farms still are actively involved in agricultural production in Kazakhstan, the Russian Federation and Ukraine.

Today, the organic market is growing rapidly, especially in developed countries. The leaders in this area are the United States of America and the European Union, which are triggering organic production and trade at the global level. The global trade enforces the implementation of standards valid in the country of origin and in importing countries.[3] At the national level, legislation on organic agriculture not only protects the local consumer and the market but also enhances marketing opportunities. Europe and Central Asia countries differ in respect to the regulatory framework and legislation governing organic agriculture. FAO has implemented projects in many countries in this region to promote organic agriculture, focusing on developing markets and strengthening regulatory and institutional frameworks, technical capacities and knowledge on organic agriculture production. FAO supported a regional conference in Uzbekistan in 2017 and a training workshop in the Russian Federation in 2018 to advance cooperation within the region. These activities have helped to identify national sources of information and to compile country profiles.

This overview of organic agriculture in this report is based on data available from national data sources as well as from secondary sources of information. It includes data from 18 countries in Europe and Central Asia region in the following geographical sub-regions: Central Asia (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan); Eastern Europe (Belarus, Republic of Moldova, the Russian Federation and Ukraine); South Caucasus (Armenia, Azerbaijan and Georgia); and South Eastern Europe (Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia and Turkey).

1 For more information, see https://www.ifoam.bio/.

2 For maore information, see http://www.fao.org/fao-who-codexalimentarius/en/.

3 In some cases, the same product may be destined to more than one country, which obliges certification according to the valid legislation in all importing countries.

Even though the first attempts go back to 1980s in some countries, it was during the past decade that organic agriculture rapidly increased in the Europe and Central Asia region, as producers responded to rapidly growing demands from European and overseas markets. The trade of organic goods within the region has paralleled the development of the domestic markets and the processing industry's demand for raw materials.

Regulatory frameworks are well established in some countries in the region and are still emerging in others. Updated and reliable information to guide further development is scarce. Most of these 18 countries do not have quality statistical data on organic production. The countries vary widely, from having no data (Belarus and Turkmenistan), to having old and/or unconfirmed data (Azerbaijan, Tajikistan and Uzbekistan), to having data based on private data sources or certification bodies (the Russian Federation and Ukraine), to having data limited to official data collection based on national regulations (Montenegro, North Macedonia, Serbia and Turkey). The data presented in this document were compared and crosschecked from various data sources, whenever possible, before inclusion. In the case of variable data, the source is cited for each data set. In Part I, which evaluates the region as a whole, the data used are based on average figures available.

This regional report provides an in-depth analysis of how these 18 countries in the ECA region have achieved the current state of organic agriculture regarding legislative and policy frameworks, governance systems, production, key actors, marketing, opportunities, challenges and future strategies. In the review of each country, the major sources from which additional information is available are listed. This document is expected to provide a reliable and updated source of information and knowledge – both about the region as a whole and the 18 countries in particular – for all interested parties. It also is expected to contribute to the further sustainable development of organic agriculture.

Organic production in the Europe and Central Asia region

1. Area under organic management

The estimates show that there is a total surface area of 4 503 183 ha under organic management, based on data from 16 countries in the Europe and Central Asia (ECA) region.[4] This accounts for 3 percent of the world organic area, according to 2017 figures. Of the organic certified land in the region, 42.8 percent is under cultivated annual or perennial crops (including in conversion), and 57.2 percent is devoted to wild collection and other areas.

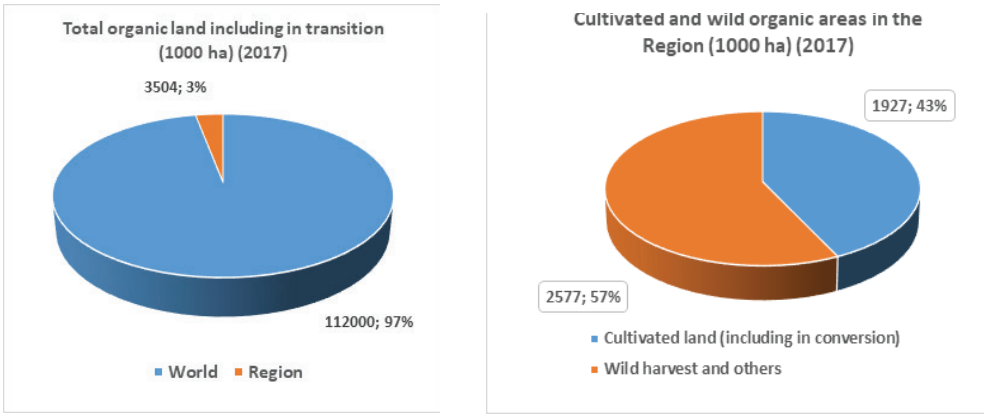

Figure 1. Organic area certified as cultivated or wild harvested in the region and its share in the world, 2017
Source: Willer and Lernoud, eds., 2019.

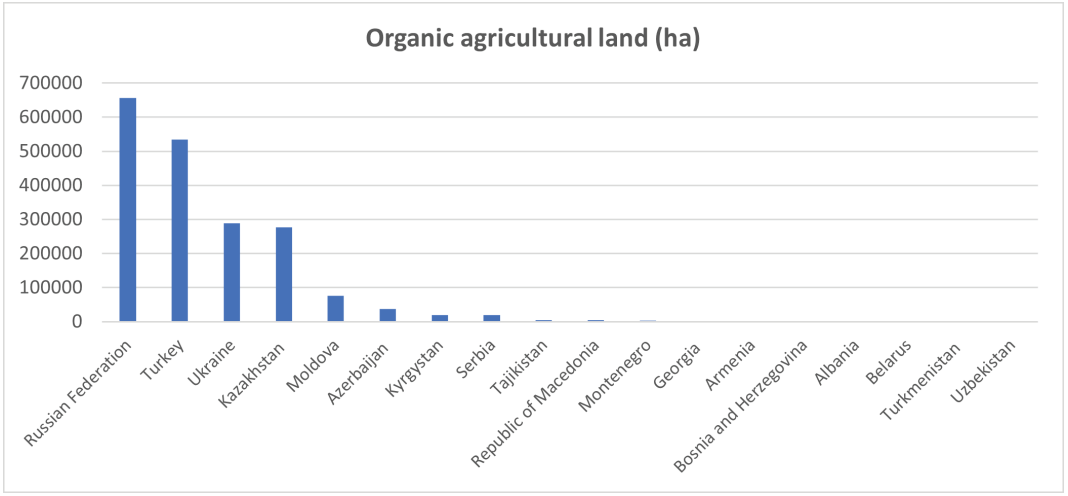

Figure 2. Organic certified agricultural land (including in conversion), 2017
Source: Willer and Lernoud, eds., 2019.

As shown in Figures 1, 2 and 3, some countries have larger land areas for plantings, such as the Russian Federation, whereas in others, such as Bosnia and Herzegovina, wild collection is the predominant activity. On the other hand, Ukraine is among the leading countries both for cultivated and wild collection. Uzbekistan has organic certified areas for wild collection only. Plants collected from suitable wild areas can be certified as organic with a comparatively short transition period in some legislation; therefore, the figures for wild harvest areas fluctuate more than for agricultural land, since companies may move their collection areas from one country to another if the quality and price are appealing.

[4] No data are available for Turkmenistan. In Uzbekistan, only the area for wild harvest was certified as organic in 2017.

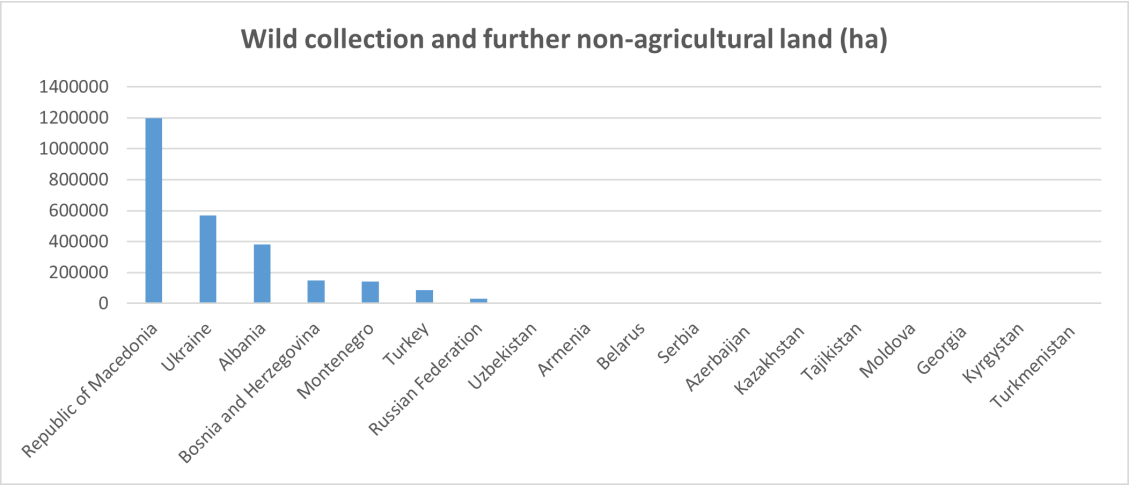

Figure 3. Organic certified areas for wild collection and further non-agricultural land, 2017
Source: Willer and Lernoud, eds., 2019.

The total agricultural land and the share of organic vary significantly among the targeted countries. The share of organic certified agricultural land is the highest in the Republic of Moldova, with 3.9 percent, followed by Turkey (2.5 percent) and Montenegro (1.1 percent). The average organic farm size in the Region varies from 1.4 ha (Georgia) to 5 271 ha (the Russian Federation). Except for the Russian Federation, Ukraine (1 297 ha), Republic of Moldova (264 ha) and Serbia (50 ha), the average sizes of organic farms are generally less than 10 ha (2017 figures) and dominated by smallholders.

2. Major products

In the Region, organic production consists mostly of plant and animal agricultural products – both marketed fresh or raw – or as their processed products. Food products, whether for direct consumption or for further processing, are the most common group in organic production, followed by crops used for feed and then by cotton. The major agricultural products covering the most surface organic area in the Region are cereals, oil seeds, dry pulses, medicinal and aromatic plants, nuts, and fresh and dried fruit, all of which have longer shelf lives. In countries in which large-scale farms are present, such as Kazakhstan, the Russian Federation and Ukraine, organic plant production for animal feed or for the processing industry (e.g. cereals, oil seeds, fruits and vegetables) dominates. Kyrgyzstan, Tajikistan and Turkey are among the major organic cotton producers in the world. In Kyrgyzstan, approximately 67 percent of the national cotton production is certified as organic.

3. Legislative and regulatory framework

The countries in the Region vary significantly regarding the presence and implementation of national legislation on organic agriculture. Such legislation is non-existent in some countries (e.g. Bosnia and Herzegovina, Turkmenistan and Uzbekistan) and is present but not implemented in others (e.g. Azerbaijan, Kazakhstan, Kyrgyzstan, the Russian Federation and Tajikistan). Full implementation of national legislation also is found in the region (e.g. North Macedonia, Republic of Moldova, Serbia and Turkey). European Union membership has triggered the alignment of legislative and regulatory frameworks with those of the European Union (EU). As can be seen in Table 1, all countries in Southern Europe have implemented legislation and support policies on organic agriculture, with the exception of Bosnia and Herzegovina. In Bosnia and Herzegovina, the entities

Federation of Bosnia and Herzegovina and Republic of Srpska have regulations, whereas Brčko District does not.

FAO has supported some countries in the development or implementation of projects for legislation on organic agriculture or in the improvement of existing frameworks in line with changes occurring in the regulations and standards valid in major markets or in importing countries. In most cases, the scope of the legislation is limited to agrifood products of cultivated or wild plants, livestock (including beekeeping and aquaculture), and inputs allowed. Some have special articles on wine, yeast and mushrooms. The processing of non-food organic commodities destined for the textile, leather, pharmaceutical or cosmetic industries are outside the scope of the legislation governing organic production.

In the countries where legislation is present and implemented, the competent authority governing the system is the ministry of agriculture or its equivalent. In countries where the implementation is not in place despite the adoption of the law, this circumstance is mainly because the role of governance is distributed among ministries or because the competent authority is not clearly identified. The other reason delaying enforcement is the lack of secondary legislation setting up the system of governance. Thus, in many countries of the region, existing legislation has not been fully implemented for several years (for example, in Azerbaijan, legislation on organic agriculture was issued in 2008 but has not yet been implemented). The organic legislative acts are highly dynamic and, as in the case of the European Union, many amendments are enforced every year. Thus, in many countries, when the time comes for implementation, the legislation is rather old and requires significant updating to align with international legislation. In this respect, a special group should be responsible for aligning the legislation as the changes occur.

4. National policies, strategies and action plans on organic agriculture

In countries with the regulatory framework in place, strategies and accompanying action plans have been drafted; however, in some cases, they are not enforced. In some countries, they are not renewed after the end of the period that the strategies and action plans initially targeted. In a few countries, organic is set up as a priority in the national strategy for agriculture, but a specific strategy and action plan for the development of organic agriculture have not been prepared (Table 1).

Table 1. Current state of regulatory frameworks and policies in 18 countries of the ECA region

Sub-regions/Countries	National Regulation	Support Policies	National Strategy/Action Plan on Organic Agriculture
Southern Caucasus			
Armenia	X	?	O
Azerbaijan	?	O	?
Georgia	X	X	O
Eastern Europe			
Belarus	?	O	O
Republic of Moldova	X	X	?
Russian Federation	?	O	O

Sub-regions/Countries	National Regulation	Support Policies	National Strategy/Action Plan on Organic Agriculture
Ukraine	?	O	?
Central Asia			
Kazakhstan	?	O	O
Kyrgyzstan	?	O	?
Tajikistan	?	O	O
Turkmenistan	O	O	O
Uzbekistan	O	O	X
Southern Europe			
Albania	X	X	?
Bosnia & Herzegovina	?	X	O
North Macedonia	X	X	X
Montenegro	X	X	?
Serbia	X	X	X
Turkey	X	X	?

Key: O – None; ? – Drafted or approved but not implemented/expired; X – Present and fully implemented.

In many developed countries, the state supports organic agriculture through various means, such as direct subsidies for farmers, support for certification, loans, support for research, and/or support for market development. In the Region, national policies that have promoted organic agriculture have created an impulse and triggered the development process. Some countries, such as Azerbaijan, Republic of Moldova and Turkey, have trade relationships with the European Union and/or are in the process of membership. In this respect, the legislation and policies are aligned with those of the European Union (EU). All of these countries have tools in place for financial support, whereas those in Central Asia are at the initial stage of setting up policies that are supportive of organic agriculture. The new interstate standard on organic agriculture that is expected to be implemented starting in 2020 will have a marked impact on the regulatory system of Member States. Within the region, only a few countries have an updated strategic plan that extends to the next few years.

5. National logo

The labelling of organic products is a significant attempt to raise awareness among consumers, and it confirms organic certification to meet the quality demands of markets. In almost every organic legislation/standard, there are rules defining the labels to be used for raw, processed, imported or locally produced organic products. Detailed labelling requirements – such as the size and colour of the label and logo and the information to be written (the code of the authorized certification body, the size of the lettering, etc.) – are accepted as an essential part of the legislation. The labelling conditions also define the details for use of the national logo. For example, the Turkish legislation does not allow the

use of the national logo for imported products. The size and colour codes of the logo are explained precisely. To use the national logo, the first step is to have official labelling rules; therefore, in the countries in which the regulatory framework is not in place or in which the legislation is not fully implemented, there is no national logo. Table 2 shows that just seven countries in the region have national logos developed for organic agrifood products: Armenia, Montenegro, North Macedonia, Republic of Moldova, Serbia, Turkey and Ukraine.

Table 2. National logos of the countries in the region used in the labelling of organic products

Armenia	Montenegro	North Macedonia	Republic of Moldova
			

Serbia	Turkey	Ukraine
		

6. Data collection systems and sources

Data are critical to almost all decisions regarding the development of strategies and support policies. Statistical data are important to guide trade and investment as well. In most cases, farm-level data are collected for organic agriculture and food production first, and market data are compiled during the later period of development. The 18 countries under study in this report vary greatly in the status of their organic data collection. For example, Republic of Moldova has a more complete data collection and information system, whereas in Turkmenistan, no data on organic agriculture are available.

Most of these countries are now trying to improve statistical data collection on organic agriculture through the cooperation and efforts of governments, certification bodies, non-governmental organizations and/or research institutions acting as data sources. In many cases, certification bodies authorized by the competent authority act as the major data sources, since organic production has traceability, and certification bodies keep the records of actors and processes of the chain. The annually published IFOAM–FiBL survey, *The World of Organic Agriculture,* presents data from the past two years on several basic indicators. After the announcement of the first version in February during BIOFACH, the biggest annual event for the organic sector, revisions are made when and whenever necessary during the year of broadcasting. The survey looks at the following indicators:

- organic area in hectares, breakdown by country and crops;
- livestock numbers;
- production data (volumes and values);
- producers and further operator types;

- domestic market data (total retail sales value, per capita consumption, share of the total market, breakdown by product); and
- international trade data (total imports, export values and volumes, and breakdowns by product).

In the publication of the IFOAM–FiBL survey (Willer and Lernoud, eds., 2019.), which presents figures for 2017 from 183 countries worldwide, information was available for organic production in all countries of the region except for Turkmenistan. In most of the countries with legislation on organic farming, there is a data collection system for agrifood production operated by the state.

One of the drawbacks in most countries in the Region is that the data collected cover only the farms certified according to the national law and forwarded by the certification bodies authorized by the competent authority for certification of organic agricultural and food products. The data system, in most cases, excludes products certified solely according to the legislation of the importing countries, non-certified or certified according to the Participatory Guarantee Systems (PGS). On the other hand, in all countries, there is land certified as organic according to other reference standards for the export market, such as the European Union (EU), the United States Department of Agriculture (USDA), Canada, or the Japanese Agricultural Standards (JAS). The deviations among different data sources originate mainly because of this ambiguity. Among the countries of the Region, data on land certified according to the national law and land certified according to other standards were presented and specified only in secondary data from Republic of Moldova.

Data collection has been a challenge for many countries, as well as for international trade, since efforts were not successful in adding digits for organic products to the harmonized codes at the global level. Data on organic agriculture can be available in a country, but the data quality has to be high in order to be beneficial to the stakeholders. Data quality can be defined as “fitness for use,” which means the service of the data for the purpose of the users.

Only a few of the 18 countries have export market data available, but most of these data are outdated and unreliable. For the collection of market data, various channels can be utilized. A sampling survey approach can be used for the collection of prices and consumption data. Sampling procedures should aim at minimizing sampling errors by giving specific attention to issues of representativeness and population coverage.

7. Inspection and certification

The inspection and certification process of organic goods marketed in the Region is generally performed as third-party certification by authorized (and, in some cases, authorized and accredited) control bodies. The authorization is received from the national competent authority, if legislation exists, or from the other countries to which the goods will be exported. In the European Union (EU) system, a certification body accredited according to ISO 17065 must apply to the EU. If approved, it is then authorized for certification in a specific country and for a specific product category, such as (1) unprocessed plant products (cultivated or harvested from the wild); (2) live animals or unprocessed animal products; (3) aquaculture products and seaweeds; (4) processed agricultural products for use as food; (5) processed agricultural products for use as feed; and (6) vegetative propagation material and seeds for cultivation. If the certification body is authorized for plant production but does not have the authorization for processing for use as food in a specific country, then the body can certify the production in the field but cannot certify the processing stage. Thus, the processed food cannot be labelled as organic. In this document, a list of EU-authorized certification bodies is listed under each country profile in Part II. However, the

EU authorizes certification bodies to operate for specific periods, and therefore the lists must be checked for validity. Some certification bodies may have withdrawn themselves, and the competent authorities may have banned others. In the EU, new regulation is expected to be enforced in 2021, and new rules will apply for concepts that existed in the current legislation as equivalency, compliance or third-country lists.

In the United States of America, the United States Department of Agriculture (USDA) accredits and registers certification bodies to function in any country for any product that is produced and certified according to the rules of the National Organic Program (NOP). Similar cases are present in other major markets, such as Japan and China. The national legislations on organic agriculture include articles regarding equivalency and how foreign certification bodies will function, especially for reporting data.

In Kyrgyzstan, there is a large group of farmers who are certified under the Participatory Guarantee System (PGS).[5] These farmers once had third-party certification for the export market, but problems in marketing and the high cost of the third-party certification by foreign certification bodies prompted them to start using the PGS.

8. Marketing and trade

Organic farming and processing are practised in almost all countries of the Region, and the domestic market develops along with production. However, the development of production and local demand do not proceed in parallel. The major demand for organic food and beverages is concentrated in North America and in the European Union, generating almost 90 percent of the global organic food and beverages market. All over the world, despite regulations present in 93 countries, the regular collection of market data for food and beverages is not present. The case is similar for non-food commodities, and data sets are sourced from non-governmental or professional organizations.

According to available figures, the largest organic food market is in North America,[6] totalling EUR 43 billion. This is led by the United States of America, with EUR 40 billion, and followed by Canada (as of 2017). The European Union as a whole is in the second position globally, with a total market size of EUR 34.3 billion. Data on organic markets is collected rarely, except in a few developed markets. Where data are available, they show that the organic market is increasing in all countries. As single markets, as of 2017, the top-ranked markets are the United States of America (EUR 40 billion), Germany (EUR 10 billion), France (EUR 7.9 billion), China (EUR 7.6 billion), Italy (EUR 3.1 billion), Canada (EUR 3.0 billion), Switzerland (EUR 2.4 billion), United Kingdom (EUR 2.3 billion) and Spain (EUR 1.9 billion). The potential markets in the East, such as Japan (EUR 1.41 billion), the Republic of Korea (EUR 330 million) and the Russian Federation (EUR 120 million as of 2012) also have expanding organic markets (Willer and Lernoud, eds., 2019). The two major markets, the United States of America and the European Union, release data for organic imports that include those of the countries in the Europe and Central Asia region, but sometimes without any breakdown of the commodities.

The total rate of increase in demand is still higher than increases in production or in land converted to organic agriculture. This has created (and still creates) a sink effect, and it triggers organic production, especially in developing countries destined for exportation. In the Europe and Central Asia region, organic production started as early as the 1980s and was enhanced after the 1990s, especially in the Southern and Eastern European countries, mainly for export to Europe. Still, the European Union is the main market for organic products in the Region, due to its proximity. During recent years, the United States of America and the

[5] For more information on the Participatory Guarantee System, see https://www.ifoam.bio/.

[6] According to FAO's designation of regions, North America contains only the United States of America and Canada. It is that definition that is referred to here.

Gulf Coast countries, as well as such others as the Republic of Korea and China, have started importing organic products from the Region. Turkey started a new marketing route for the United States of America market for organic products – including cereals, olive oil and dried fruit – and the export figures are steadily increasing. This increase in exports from Turkey has triggered trade within the Region by increasing imports for further processing or re-exportation. The products traded within the Region for re-export or further processing are generally the leading and, in most cases, the traditional products of the country. For organic cereals and oil seeds, Ukraine, the Russian Federation and Kazakhstan are the main suppliers. Uzbekistan, Georgia and Republic of Moldova are the main supplier of dried fruit and nuts.

In these 18 countries, the size of the domestic market varies significantly from one country to the next, even if export is the main and common target for all countries. As experienced in many countries, the products demanded by the export market have very little share in local consumption. In Albania, products or product groups having export market potential, listed in decreasing order, are medicinal and aromatic plants (wild or cultivated), dried mushrooms and berries, chestnuts, olive oil, fresh fruits and vegetables, and wine. The domestic demand for these products is in the reverse order. Thus, special effort must be put forth in designing the product range to include fresh fruits and vegetables, meat, milk and dairy products, cereals, and processed cereal products, to promote domestic markets.

In other countries, organic products are available only in bigger cities and marketed through supermarkets and open bazaars. The online sales and farm-gate sales marketing channels also are present in the region. In the event of short supplies, countries typically import organic food first from neighbouring countries or their trade partners, then seek other markets for import.

In the Russian Federation, the fast development of the domestic market has created opportunities for imports of organic, including for these 18 countries. Activities in Armenia include the production of organic vegetables, fruits, cereals, berries and alfalfa; the collection of wild species; beekeeping; and the production (by processing companies) of organic juices, nectars, concentrates, purees, quick-frozen products, herbal teas, dried fruits and bread. These products are intended for both local and international markets. Additionally, more than 400 organic products are being imported to Armenia by the SAS Supermarket chain, the Center for Agribusiness and Rural Development (CARD), and Fresh Line organic shops.

Developments within each country continue to activate new flows of organic goods within the Region. The presence of national standards, strict rules for imports and the requirement for third-party certification, which creates additional costs, slow down this movement within the region.

9. Major development partners supporting organic agriculture in the region

International organizations such as the European Union, FAO, the United Nations Development Programme, and development agencies of mainly European countries have implemented projects directed towards the development of organic agriculture in specific countries or groups of countries within the Region. The major areas supported by these projects have included organic production technologies, markets and value chains, green economies, natural resources management, climate change mitigation, food security and safety, integrated pest management, extension, diversification of agriculture, and trade. These organizations, together with such well-known institutions as FiBL and IFOAM, have supported activities on organic in ECA countries.

Many projects to support sustainable agriculture started after the 1990s, when most nations in the region gained their independence. Among the development partners, the European Union, the Swiss Agency for Development and Cooperation, the Austrian Development Agency, the United States Agency for International Development, Helvetas, Avalon Foundation (the Netherlands), the German International Development Agency (GIZ), the Government of Denmark, the Government of Finland, and the Turkish Cooperation and Coordination Agency.

10. FAO technical support to organic agriculture in Eastern Europe and Central Asia

FAO assistance in the development of organic agriculture in these countries in the ECA region has been guided by the Country Programming Framework (CPF) priorities of member countries. The FAO Organic Agriculture Programme collaborates and builds partnerships with interested institutions, including national organic programmes and associations, non-governmental organizations, and national and international research centres. The priority areas of FAO assistance for organic agriculture development include:

- institutional, legal and regulatory frameworks and policy assistance;
- organic accreditation and certification systems, inspection and labelling;
- organic agriculture production technologies and improvement practices;
- consumer awareness, marketing and value chains and information;
- organic data and information systems; and
- Public awareness, education and school curricula.

FAO also provide technical support for priority regional results funded under the regular programme and activities. The one-week regional training on organic agriculture production, processing, certification and marketing held in Moscow, Russian Federation, from 15 to 19 October 2018 was attended by eight Member Countries, including Bosnia and Herzegovina, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkey, Azerbaijan and Uzbekistan, and was supported under this scheme.

FAO projects implemented regarding organic agriculture in the region have resulted in publications. The project in Azerbaijan yielded the book *Organic Agriculture in Azerbaijan: Current status and potentials for future development* in 2018. Similarly, the FAO project carried out in Uzbekistan resulted in the book *Organic Agriculture in Uzbekistan: Status, practices and prospects and the Proceeding of the Conference on Development of Organic Agriculture in Central Asia*. The Proceeding also compiled information on the state of organic agriculture in the Europe and Central Asia countries through presentations from the participants. All of these publications are available and can be downloaded at http://www.fao.org/publications.

Table 3 summarizes the FAO technical assistance provided to some countries in the Europe and Central Asia region consisting of national Technical Cooperation Projects and some trust fund projects.

Table 3. A summary of FAO projects in the region on organic agriculture

REU:GCP/SRB/001/HUN – Assistance to the development of Capacity and Support Services for Organic Agriculture in Serbia: The project had four expected outputs: (1) A national programme for capacity development and provision of support services for region-specific organic products were to be elaborated, and a national subsidy policy for organic farmers was to be provided. (2) Organic agriculture curricula for secondary education were to be upgraded and tested. (3) Farmers and high school students in the pilot area were to be trained in market-oriented organic agriculture through courses, Farmer Field School (FFS) and Farmer Business School (FBS). The FFS and FBS approach was to be introduced to more than 900 farmers; extension officers, young entrepreneurs and researchers were to benefit from more than 70 sessions. (4) A local information and business support centre was to become operational, and organic agriculture was to be promoted.
UTF/TUR/052/TUR 2010 – Enhancing Organic Farming in Turkey: This project strengthened capacities in post-harvest handling, the reduction of losses, and market preparation of organic products. A market study on the domestic and export market potential and the requirements for major organic crops grown in Turkey was conducted, and recommendations were made for product development, marketing and organization.
TCP/MNE/3201 – Organic Agriculture in Montenegro: This project strengthened the institutional framework and capacities for organic agriculture in Montenegro. Key outputs included: (1) strengthened technical capacity of the national certification body and the extension support services in organic agriculture; (2) enhanced knowledge and capacities of small-scale growers to produce, process and market organic products; (3) increased public awareness of the potential benefits of organic agriculture and products; and (4) the development of an action plan and the training of key stakeholders in strategy and policy development.
TCP/UZB/3501 – Institutional capacity building to develop organic agriculture and to promote Good Agricultural Practices (GAP) in Uzbekistan: The project aimed to improve the legal basis, institutional framework, guarantee system (i.e. inspection, certification and accreditation) and capacities of farmers and extension specialists from public and private sectors in organic agriculture and good agricultural practices.
TCP/TUR/3001 – Formulation of a Project for the Development of Organic Agriculture and Alignment of Related Turkish Legislation (2004): This project provided technical support to the Turkish Ministry of Agriculture in the project formulation for EU assistance aimed at enhancing the sustainable and rapid development of organic agriculture in Turkey through legal alignment and organizational building.
TCP/TAJ/3501: Baby 3 – Support to Formulation of the National Legislation on Organic Agriculture in Republic of Tajikistan (2015): The project supported review of the current organic law and related legislation, the identification of the gaps and articles requiring significant revisions, and the organization of related trainings.
TCP/KAZ/3505 – Support for the Development of Organic Farming and Institutional Capacity Building (2015): This project strengthened the technical and institutional capacities of the Ministry of Agriculture in organic farming. The project's four major outputs included: (1) the status of organic agriculture and its development perspectives was reviewed; (2) national legislation and regulation on the development of organic agriculture were developed; (3) a proposal for setting up the certification system for organic agriculture was developed; and (4) capacities were strengthened and awareness was raised among key stakeholders on organic agriculture farming practices, organic standards and marketing.
GCP/AZE/006/TUR – Development of organic agriculture and institutional capacity building in Azerbaijan: The project supported improvement of the legal basis and organic agriculture management. The key outputs included: (1) The current status of organic agriculture and its development perspectives were determined. (2) Amendments were made to the improvement of the national legislation on organic agriculture. (3) Proposals for the improvement of the institutional development and inspection system for organic agriculture were developed. (4) The technical capacity of experts and the organic agriculture information dissemination system were strengthened.

TCP/MCD/3401 – Updating the National Strategy for Organic Agricultural Production: This Technical Cooperation Programme (TCP) project provided support for the formulation of a national strategy for organic production in North Macedonia. The major outputs were: (1) The status of organic agriculture development was reviewed. (2) A national strategy for organic production for the period 2012–2017 was formulated, accompanied by an action plan available in both Macedonian and English.

TCP/KYR/3501 – Support to formulation of the national legislation on organic farming in Kyrgyz Republic (2017): This TCP project supported the draft of an organic law. Key outputs included: (1) The national legislation of Kyrgyzstan in relation to the development of organic farming was reviewed. (2) A draft law on organic farming was prepared, discussed with a wide group of stakeholders, reviewed, and submitted to the Government of Kyrgyzstan.

TCP/TAJ/3704 – Improvement of the legal framework and institutional capacity to promote organic agriculture (2019): This project strengthened the legal framework, institutional system and national capacities on organic agriculture production. The major outputs included: (1) Amendments were made to the law of Tajikistan "On Biological Farming and Production" and the draft law of Tajikistan "On Organic Agriculture." (2) Supporting rules and a national strategy for organic agriculture were developed. (3) Capacities of growers, processors, researchers and extension specialists in organic production and management were strengthened. (4) Market opportunities for organic products were defined, and an improvement strategy was developed.

GCP/KYR/022/ROK – Supporting the Implementation of Organic Agriculture Policies and Increasing the Capacities of Farmers in the Kyrgyz Republic: The first component of this project was to provide support for the establishment of the legal and institutional framework for organic farming in Kyrgyzstan (2019).

Regional Training in Organic Agriculture Production, Processing, Certification and Marketing (2018): This regional training activity, funded under the FAO Regional Office for Europe and Central Asia regular programme, included eight countries: Azerbaijan, Bosnia and Herzegovina, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkey and Uzbekistan.

11. Regional networks on organic agriculture

In the region, there are various networks on organic agriculture to share and exchange information and experiences and to help enlarge the knowledge pool. Some of the networks involved in organic agriculture are summarized below.

Mediterranean Organic Agriculture Network (MOAN): The Mediterranean Organic Agriculture Network (MOAN) is an institutional network composed of representatives from the ministries of agriculture in partner countries of the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM). It was launched more than ten years ago in support of organic agriculture to coordinate the collection of data on organic agriculture and meetings on organic agriculture issues within the Mediterranean region. These include Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia and Turkey.

IFOAM Mediterranean Regional Group: AgriBioMediterraneo (ABM) was established as an independent regional initiative in Vignola, Italy, in 1990, and it received recognition as an official IFOAM Regional Group in 1997. IFOAM ABM members come from three different continents (Africa, Asia and Europe) and 16 Mediterranean countries, bordering the Mediterranean Sea. ABM has founded four working groups on marketing, research and development, standards and certification, and training.

IFOAM Euro-Asia Regional Group: IFOAM Euro-Asia is the regional alliance of the Euro-Asian organic movements aimed at assuring organic food and farming in their respective states. Its main goal is to create a single organic market in the Euro-Asian region and

enhance cooperation. Its vision is to create the proper conditions for the growth of the organic movement in participating countries, using the principles and experience of IFOAM – Organics International. Membership in the IFOAM Euro-Asia Group is open to all entities and individuals interested in organic agriculture from the following countries: Armenia, Azerbaijan, Belarus, Georgia, Kyrgyzstan, Kazakhstan, Republic of Moldova, the Russian Federation, Tajikistan, Uzbekistan, Ukraine and other Russian-speaking countries.[7]

EkoConnect: EkoConnect e.V., the International Centre for Organic Agriculture of Central and Eastern Europe, is a non-profit organization founded in 2003 and based in Dresden, Germany. It enforces and supports the exchange of information, knowledge and experiences in the field of organic agriculture. The organization also offers its network to people and their organizations engaged in the organic sector from Eastern Europe as a meeting platform to help them come into contact with each other, transfer knowledge, and establish dialogues among people who support organic farming.[8]

12. Key constraints and opportunities for the development of organic agriculture

Organic agriculture is being practised in most Europe and Central Asia countries, and the regulatory framework is fully in place in the Southern European subgroup, except for Armenia, Bosnia and Herzegovina, Georgia and Republic of Moldova. Ukraine has recently adopted a regulatory framework for organic agriculture, and such frameworks exist but are not yet implemented in Azerbaijan, Kazakhstan, Kyrgyzstan and the Russian Federation. Turkmenistan and Uzbekistan have not yet drafted frameworks. Even if data collection systems are present but not functioning in many countries of the region, data on organic agricultural or wild land are available in international sources for all of the 18 countries, except for Turkmenistan.

Each country has developed a range of organic products according to its own window of opportunity. In most cases, it has been the importers designing production patterns, focusing on products where they see market opportunities. The start is mostly for raw agricultural products and wild harvested crops, whenever relevant. As years pass and the organic sector gains experience, processed food or non-food (textiles, cosmetics, etc.) products are made available for local and export markets. In some countries, when production cannot fulfil the local market demands, the product range is widened through imported goods, as is the case in Serbia and the Russian Federation.

Except for a few countries in the region, organic agriculture is practised mostly by smallholder farms. This creates an opportunity for small-scale farms and rural communities through value-added production, if labour is available. In harvesting from the wild, sustainable collection rules are applied, and additional income is generated for rural communities through the creation of additional jobs and new and high-value crops or through the development of new skills, such as cleaning, sorting and packaging. Women, especially, are employed in such jobs, which contributes to the empowerment of rural women. As a new concept, organic attracts the attention of rural youth towards agriculture. If market linkage is established well, organic production supplies high-value and safe products to consumers.

At the global level, organic agriculture is highly dynamic and requires the close monitoring of changes, especially in legislation and markets. Two major developments include the enforcement of the interstate law on organic of the Eurasian Customs Union in 2020 (postponed from 2018) and of the new European Union regulation, to be implemented in 2021. Considering the rapid rates of development and change in the global organic market

[7] For more information, see https://www.ifoam.bio/en/regional-bodies/ifoam-euro-asia.
[8] For more information, see http://www.ekoconnect.org/.

(for example, the new regulatory framework, emerging markets in the Near East and Asia-Pacific regions, consumer preferences, and the production capacity of countries in Europe and Central Asia), a strong flow of knowledge is required to ensure access to markets with high added value and to maintain competitiveness. Within the region, some countries are expected to improve organic production capacity and, in the global market, replace some others or address the demand of their developing local markets. International donors can contribute to the sound and rapid development of organic agriculture in the region by supporting regional, sub-regional or national projects. The major areas in which technical assistance is essential in ECA countries, in whole or in part, are mentioned below:

Improvement of the regulatory framework to align with international standards, including the interstate standards on organic, in order to develop the setup for governing organic production (including of inputs allowed in organic), processing and trade, and identifying the required support for organic agriculture. Equivalency, compliance and regional reference standards are tools that can be assessed and developed and which may also facilitate marketing – both outward and inward – at the regional level. Regional or sub-regional standards also may be discussed among trade partners.

Data collection and processing: Even in countries where official data is present, gaps exist. In order to guide strategies and markets, increasing the number of parameters (both at farm and market levels), improving the quality of data, and further processing the collected data at national and regional levels are required. There are few projects at the European level that can deliver methodology and best practices.

The socio-economic facets of organic agriculture, including its impact on gender, nutrition, and farmer and animal welfare, requires a lot of attention.

Market development and value chain management in major commodities are required, including the assessment of the current situation, the improvement of post-harvest handling, the prevention of losses of quality and quantity, and the collection of real-time and comparable data for domestic, import and export markets.

Dissemination of knowledge: The development of training tools (mainly visual), the establishment of demonstration plots for long-term monitoring (e.g. at microclimate level, designing appropriate rotation programmes to propose to farmers for major crops), farmer-to-farmer visits for the exchange of experiences and the establishment of such institutions as Farmer Field Schools, community centres, cooperatives and others.

Exchange of experiences through the development of national, regional and global networks and national or regional conferences to bring scientists, extension specialists and practitioners together to discuss problems and solutions. Organic agriculture relies on site-specific factors (agro-climatic or socio-economic), and thus networking and two-way flow of experiences and dialogues are important.

With better planning, enlarging the pool of knowledge, enhancing capacity and exchanging experiences through regional networking, these 18 countries will be more involved in organic production and trade in ECA region.

Part II

National Organic Agriculture Profiles

II

Albania

1. Background information on organic agriculture sector development

Activities on organic agriculture started with the Oxfam project on permaculture for smallholders in North Albania and the establishment of the Organic Agriculture Association in 1997. In 1999, Albania exported its first fresh organic culinary herbs to Switzerland; this was followed by organic olive oil marketed to Switzerland in the early 2000s. In 2004, the first national regulation on organic agriculture was developed and published. In 2005, the BioAdria Association, which gathered different operators, was established.

In 2007, the publication of the Strategy for Development of Organic Agriculture for the period 2007–2013, including a national action plan, created an impulse for the organic movement. In the same year, the national control body Albinspekt was founded. The Government started to subsidize organic operations in 2007, based upon the national action plan. For research and education, the Institute of Organic Agriculture was created in Durrës in 2010. In early 2012, the Ministry of Agriculture and Rural Development (MARD) established the State Commission for Organic Agriculture as the body in charge of the approval and supervision of control bodies and of the publication of a new law in 2016.

Moreover, non-governmental organizations such as the BioAdria Association – which has members as the farmers and farmers' groups, other operators, researchers and university professors – and exporters and retailers have also contributed significantly to the development of organic farming in Albania. The Albanian Association of Marketing is an important actor in the creation of marketing strategies, working with private and public entities in its field. The Institute of Organic Agriculture is the leading institution on on-farm research and extension-related activities, such as consulting with farmers and other organic operators, sharing research results, organizing training, forecasting plant disease, and more. The Agricultural University of Tirana actively participates in research, education and training activities on organic agriculture. The university is an important partner for the implementation of various projects, working in strong collaboration with international and national institutions (Bernet and Kazazi, 2012).

2. Organic production

Estimated total organic certified area: The total organic certified area (fully organic and in transition) is 615 ha, with 549 ha of fully organic land and 66 ha in conversion. The certified wild harvest area of Albania is 3 802 ha.

Estimated percentage of organic in total agriculture land area: 0.08 percent.

Main crops grown and respective areas: Among the main crops grown, medicinal and aromatic plants cover 395 ha (mostly wild harvested). Olives (43 ha), strawberries (43 ha), green herbs (39 ha), fresh vegetables (6 ha) and saffron (0.4 ha) are the other main crops.

Number of operators: The total number of organic operators is 150, and the number of producers is 61.

Organic animal husbandry: Organic animal husbandry includes beekeeping and aquaculture. Data are not fully available, but one aquaculture producer and one livestock producer are reported.

Processing of food and non-food organic goods: The processing of food and non-food (e.g. cotton and cosmetics) organic goods is present. There are 53 registered organic operators in the country, and they primarily are processors of fruit juices, essential oils and food.

3. Legislation, regulatory and policy framework

Key ministry/agencies responsible for organic agriculture: The key ministry is the Ministry of Agriculture and Rural Development (MARD).

Organic legislation and regulation: The first national legislation (Law No. 9199) was published in 2004, and efforts to improve the regulatory framework resulted in the approval and publication of the new law on 27 October 2016 (Law No. 106/2016), which was approved by the Parliament of Albania (Kuvendi i Shqipërisë) in 2016. This law is based on European Council Regulation No. 834/2007, with a scope that includes plant, livestock and aquaculture production rules, processed food and feed, labelling, controls and import rules. The law of 2016 has recently been supplemented by two by-laws for implementation: (1) Decision of Council of Ministers No. 336, dated 6 June 2018, "On detailed rules for organic plant production and seaweed production"; and (2) Ministers' Order No. 131, dated 28 March 2018, "On list of products and substances allowed to be used in organic production." There is no national organic logo yet.

National voluntary organic standards: There is no voluntary national organic standard or logo.

National organic control system: There is a national control system for organic agriculture, with some gaps in the implementation stage.

Competent authority and other governmental institutions involved in the system: The competent authority for organic production and processing in Albania is the Ministry of Agriculture and Rural Development, which delegated duties to the National Commission for Organic Production (KSHPO), which sits within the Ministry, in 2012. The Commission comprises members of the Ministry of Agriculture and Rural Development, other ministries, and universities. It has the mandate to overview legislative acts, coordinate the farmers' registry, manage a database, and approve certification bodies.

Certification bodies functioning/authorized (national and/or foreign): Control bodies must be approved by the Ministry of Agriculture and Rural Development in order to carry out inspections and certifications within Albania. A list of recognized control bodies is available at the Ministry.

The national certification body *Albinspekt* performs inspection and certification operations on organic according to the Albanian Law on Organic, the United States of America's National Organic Program, Switzerland's Bio Suisse and the Kosovo Organic Standards, in addition to the EU standards.[9]

National strategy and action plan on organic agriculture: The national strategy and the action plan were being prepared until 2013, and although this period has expired, a new national strategy and action plan have not yet been prepared.

[9] For more information, see: http://albinspekt.com/web/organike-be/.

List of control bodies authorized by the European Union for controls in Albania

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material & seeds for cultivation
A CERT (Greece)	AL-BIO-171	X	–	–	X	–	–
Albinspekt (Albania)	AL-BIO-139	X	X	–	X	–	–
bio.inspecta AG (Switzerland)	AL-BIO-161	X	–	–	x	–	–
Bioagricert SRL (Italy)	AL-BIO-132	X	–	–	X	X	
CCPB SRL (Italy)	AL-BIO-102	X	X	–	X	X	X
CERES (Germany)	AL-BIO-140	X	X	–	X	–	–
Control Union (the Netherlands)	AL-BIO-149	X	X	X	X	X	X
Ecocert SA (France)	AL-BIO-154	X	–	–	X	–	–
ICEA (Italy)	AL-BIO-115	X	–	–	X	–	–
Kiwa BCS (Germany)	AL-BIO-141	X	–	–	x	–	–
"Q-check (Greece)	AL-BIO-179	X	–	–	X	–	–

Source: OFIS, 2019.

Policy measures for supporting organic agriculture: The Government has subsidized organic agriculture by direct payments since 2008, but only if the land is certified according to the Albanian Organic Law. At the initial stage, the subsidies were unit-based and covered 50 percent of the certification cost. However, in more recent years the amount has been applied per farm. In 2018, support measures for farms using the organic production method have also included farms in conversion (with gradual increases in payments as progress has advanced during the conversion period).

4. Organic agriculture marketing

In Albania, organic production has been export-oriented from the very early stages. At present, there is limited availability in the domestic market, compared to the demand. In a study performed during the Sustainable Agriculture Support in Albania (SASA) project from 2001 to 2011, products or product groups having market potential were listed in decreasing order of potential: medicinal and aromatic plants (both wild and cultivated), dried mushrooms and berries, chestnuts, olive oil, fresh fruit and vegetables, and wine. The domestic demand for these products is ranked in the reverse order.

Domestic market: There is a domestic market of organic products, mainly in large retail stores and specialized retail shops in Tirana and other major cities. Organic products may be sold directly from the farm. The availability of organic products is still limited in the domestic market, and sometimes, as in olive oil, they may have the same price as the conventional products.

Imports: Organic baby food was one of the first organic products on the shelves. Retail shops have different types of organic products that are all imported. The organic law does not cover equivalency agreements. However, all products that are certified according to the EU legislation on organic farming may be marketed as organic within Albania.

Export market: Major organic products exported from Albania are olive oil, medicinal and aromatic plants, cornel juice, dried mushrooms, and plant essential oils. The main markets are Germany, Austria, France, Switzerland, the United States of America, Canada, Bulgaria and Turkey. Companies exporting organic products are based in the capital, Tirana, but various locally based companies play a marked role in exportation as well. These cities are Tropoja (chestnuts), Puka (cornel juice), Maminas (medicinal and aromatic plants and essential oils) and Elbasan, Durrës, Shkoder and Pogradic (mainly for wild collected plants and processed food)(Cakraj, 2019).

Data collection system at national level: There is an official data collection system at the farm level, and the State Commission has the mandate. However, there are inconsistencies in the available data.

5. National institutions and international organizations on organic agriculture

Key national institutions supporting organic agriculture: Key governmental bodies include the Ministry of Agriculture and Rural Development, the State Commission for Organic Production, directorates of the Ministry, and the University of Tirana.

Presence of farmers' groups and organizations involved in organic production: Major non-governmental organizations include BioAdria, the Organic Agriculture Association, the Institute of Organic Agriculture, the Albanian Association of Marketing, and the Albanian Essence Producers and Cultivators Association. The Organic Agriculture Association, established on 13 June 1997 by 22 agricultural specialists and farmers, is the oldest organization. Its members include farmers, university teachers, researchers, businessmen and other individuals in the Albanian organic movement. BioAdria, established in 2005, is an umbrella association for organic operators, including farmers, processors, traders and consumers. The association regularly publishes informational material on organic production techniques and research activities.

International organizations and donor projects supporting organic agriculture development: The first project was carried out by Oxfam to implement permaculture in small-sized farms in Northern Albania. The most stimulating project was the Sustainable Agriculture Support in Albania (SASA) project from 2001 to 2011, financed by the Swiss Agency for Development and Cooperation and the Swiss State Secretariat for Economic Affairs and implemented by the Organic Research Institute (FiBL-Switzerland). Other important programmes have been those carried out in collaboration with the CIHEAM Mediterranean Agronomic Institute of Bari: "Integrated Projects for Proliferation and Technical Assistance in the Implementation of Organic Production Methods" (PAB-Interreg IIIA 2004–2007) and "Provisions for Italian Participation in the Stabilization, Reconstruction and Development Process in Balkan Area Countries" (Bio-84/01). Additionally, various trainings, study tours and seminars have been organized on organic agriculture through the financial support of such donor organizations as Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the United States Agency for International Development (USAID), the United Nations Development Programme (UNDP), the Cooperation for the Development of Emerging Countries (COSPE), the Swedish International Development Cooperation Agency (SIDA), and the Turkish Cooperation and Coordination Agency (TIKA).

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: The farms are rather small and fragmented, run by resource-poor farmers, and there is a lack of formal and informal cooperation among them. Production systems require diversification and integration of technology (e.g. irrigation, post-harvest) suitable for the local conditions. Organic inputs are difficult to find. The law needs amendments for alignment with the European Union. The domestic market needs efforts for further development. The establishment of an efficient control system to favour fair competition and build trust in the domestic market is one of the main challenges in Albania. Public awareness and an increase of product diversity will help promote the domestic market for organic.

Main opportunities for the adoption or scaling of organic agriculture: Albania has diverse ecosystems and rich natural resources. In many regions, farming is still practised as low-input, and organic is closely linked to local products. Geographically, Albania is located very close to the main organic markets in Europe. Projects carried out in the country have allowed Albanian actors to conduct outreach and meet global actors at BIOFACH, the largest fair on organic products.

Major lessons learned from past organic agriculture projects: The SASA project revealed the need for a market-oriented mind-set, value chain management and formal or informal cooperation among farmers in order for them to gain market access.

Key strategy and actions for future development: A new strategy and action plan need to be drafted in a participatory approach and should provide guidance to decision-makers to further promote high-value, organic plant and animal products with export and domestic market potentials.

7. Websites for additional information

- http://www.bujqesia.gov.al/: Ministry of Agriculture and Rural Development
- http://www.ibb.al/: Institute of Organic Agriculture
- http://www.albinspekt.com/: Certification body Albinspekt
- http://www.aam.al/: Albanian Association of Marketing
- http://www.organicexport.info/albania.html
- https://globalorganictrade.com/country/albania
- https://www.organic-europe.net/country-info/albania/country-info-albania-report.html

Armenia

1. Background information on organic agriculture sector development

In Armenia, the organic agriculture industry was initiated about 20 years ago through international projects via the active involvement of local non-governmental organizations supported by HEKS-EPER (Switzerland), with the Swiss Agency for Development and Cooperation (SIDA) as the main donor. This was followed by projects from the United States Agency for International Development (USAID) and the European Union. However, there was no united organic movement or a common strategy to direct such activities in creating synergies. During the first decade, the major achievements were a campaign to promote organic through local television channels, access to organic inputs, the establishment of a local organic certification body, and access to export (mainly European markets).

The Armenian private certification body ECOGLOBE, formed in 2002, was an important step for development. Currently, the organic production of various plant species is well established in Armenia, along with beekeeping and collection from the wild. Processing companies produce organic processed products for the local and international markets. In 2008, the law "On Organic Agriculture," based on the *Codex Alimentarius* organic guidelines and the European Union organic regulations, was adopted. A project funded by the European Union and co-funded and implemented by the Austrian Development Agency from 2015 to 2019 had marked contribution to organic agriculture. In 2016, the Organic Agriculture Support Initiative (OASI) project directly supported about 50 farmers and processers with grants mainly covering certification costs and input supplies. The project enhanced awareness of organic agriculture among all stakeholders and thus aimed to increase supply and demand in Armenian markets.

2. Organic production

Estimated total organic certified area (fully organic and in transition): There are more than 60 certified organic producers and 20 000 ha area under management of organic production, including wild collection areas and areas in conversion (Sahaktyan, 2019). FiBL statistics report the organic certified land area as 1 430 ha of cultivated land and 4 820 ha of wild collection land, for a total of 6 250 ha of organic certified land. The number of operators is 36 (Willer and Lernoud, eds., 2019). The share of organic in total agricultural land is calculated as 0.1 percent.

Organic animal husbandry: Beekeeping is an important activity, and 1 818 organic beehives were reported in 2017 (Willer and Lernoud, eds., 2019).

Processing of food and non-food organic goods: Among organic operators, 22 are processors of mainly fruit juices, dried fruit and processing food.

3. Legislation, regulatory and policy framework

Key ministry/agencies responsible for organic agriculture: The Ministry of Agriculture is the key ministry in Armenia.

Organic legislation and regulation: The country's organic agriculture law was approved by the Government on 5 May 2008 and then enacted on 14 May 2009. The law regulates

the production, preservation, processing, transportation and sale of agricultural products and materials as well as the storage of wild plants, and it defines the principles of and legal grounds for the management of organic agriculture, its main circulation demands, guidelines for state support, and the duties of the authorized body. The scope of the law is broad and therefore requires further by-laws; this has resulted in implementation problems. The Armenian national organic logo, which is used on certified organic products, is set in Government Decree No. 704-N as of 26 June 2009.

National voluntary organic standards: To meet the requirements of the European Union organic market, Armenian producers are offered the private standard under the name "Green Caucasus" (a trademark developed by ECOGLOBE in cooperation with CAUCASCERT, an organic certification company from Georgia). This label is also used for local markets and those who are accredited according to EN45011 and EU regulations 834/2007 and 889/2008.

National organic control system: Despite the law on organic agriculture, the regulatory mechanisms to control organic labelling in the market are weak.

Competent authority and other governmental institutions involved in the system: The competent authority is the Ministry of Agriculture. In some cases, the Ministry of Economy or other ministries may be involved; for example, they may support such projects as the establishment of the Tamara Fruit organic gardens.

Certification bodies functioning/authorized (national and/or foreign):

List of control bodies authorized by the EU for controls in Armenia

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
Albinspekt (Albania)	AM-BIO-139	X	X	–	X	–	–
bio.inspecta AG (Switzerland)	AM-BIO-161	X	–	–	X	–	–
CCPB SRL (Italy)	AM-BIO-102	X	–	–	X	–	–
Control Union	AM-BIO-149	X	X	X	X	X	X
CERES (Germany)	AM-BIO-140	X	X	–	X	–	–
Ecocert SA (France)	AM-BIO-154	X	X	–	X	–	–
ECOGLOBE (Armenia)	AM-BIO-112	X	X	–	X	–	–
ICEA (Italy)	AM-BIO-115	–	X	–	X	–	–
Kiwa BCS (Germany)	AM-BIO-141	X	–	–	x	–	–
Organic Standard (Ukraine)	AM-BIO-108	X	–	–	X	–	–

Source: OFIS, 2019.

The Armenian certification body ECOGLOBE has achieved international recognition. ECOGLOBE has an alliance with its Georgian partner CAUCASCERT via harmonized regional standards. ECOGLOBE is also an accredited certifying agent of the United States National Organic Program.

National strategy and action plan on organic agriculture: There is no strategy or action plan specific to organic agriculture, even though this is presented as a priority in the 2010–2020 Sustainable Strategy Program for Agricultural and Rural Development.

Policy measures for supporting organic agriculture: Limited state support for organic sector development is present.

4. Organic agriculture marketing

Domestic market: The first organic consumer survey, conducted in 2005, revealed that half of the supermarket customers in Yerevan were keen to purchase ecologically pure and organic products. However, consumers had no clear understanding of organic labelling, production and certification requirements. Since then, several supermarkets have organized events to promote organic products. More than 400 organic products are being imported to Armenia by the SAS Supermarket chain, the Center for Agribusiness and Rural Development (CARD) and the Fresh Line organic shop. CARD has also opened the Green Day organic store in Yerevan. The supermarket chains Yerevan City, Moskvichka and SAS also sell a range of locally produced organic products such as juices, nectars, honey, herbal teas, instant fruity teas and oils. The domestic organic market is still small, but the demand is showing an increasing trend.

Imports: Shops in big cities such as Yerevan have on display organic products that primarily have been imported from European countries. According to the present law on organic agriculture, imported organic products should have certification documents of the exporting country and should be labelled and marked in conformity with the requirements of the Armenian law, international treaties and other legal acts. The importer should keep the above-mentioned certifying documents for at least two years.[10]

Export market: Since 1 January 2015, Armenia has been a signatory to the Eurasian Economic Union (EEU), and safety and quality certification and import procedures are based on EU standards. Armenian organic production is export-oriented, and the first Armenian organic products were exported in 2008. These products included honey, juices, nectars, preserved fruits, individual quick freeze products, and semi-finished products (such as purees and concentrates) derived from fruits and berries that were either cultivated or collected in the wild. Industry sources estimate that exports increased tenfold between 2010 and 2013. The main markets for Armenia's organic produce are the Russian Federation and the European Union – namely, Germany, France, Hungary and the Netherlands – while other export destinations include Kazakhstan and other countries in Central Asia. It is expected that the markets will expand to include the United States of America, Canada and Asia. The United States of America market is considered important, though actual export volumes remain limited. Processed fruits, herbs and honey are the organic products with the highest export potential. There also are opportunities for traditional varieties of cereals and pulses to be exported as specialty grains. Armenian organic export strategies are increasing their focus on value-added products, such as dried apricots (wild and farmed), fruit kernel oils, herbs (ideally in the form of extracts), and specialty honey (Leshchynskyy, 2018a).

[10] For more information, see https://globalorganictrade.com.

Data collection system at the national level: There are no official statistics on the Armenian organic market, and there is no systematic data collection by the private sector.

5. National institutions and international organizations on organic agriculture

Key national institutions supporting organic agriculture: The Ministry of Agriculture is a key governmental body supporting organic agriculture in Armenia. In addition, there are farmers' groups involved in organic production in the country, but no outstanding farmers' organizations. There also are several non-governmental organizations (NGOs) in Armenia that promote and support organic agriculture. Among the leading NGOs is the ICARE International Center for Agribusiness Research and Education, which aims to develop a sustainable knowledge capacity for the food and agribusiness sector in Armenia. It serves as an international centre of excellence for the creation of food and agribusiness leaders through state-of-the-art education programmes and cutting-edge research. The Center for Agribusiness and Rural Development (CARD) designs and implements agricultural development assistance programmes that address the priority needs of the sector for sustainable growth (Sahakyan, 2019).

International organizations and donor projects supporting organic agriculture development: A three-year, EU-funded project implemented by the Austrian Development Agency (ADA), the Organic Agriculture Support Initiative (OASI) was aimed specifically at increasing the value-added nature of Armenian organic products and helping to boost the efficiency of relevant public and private institutions. The Building Organic Agriculture in Armenia (BOAA) project was implemented by the Armenian National Agrarian University and the University of Natural Resources and Life Sciences in Austria, in cooperation with the International Federation of Organic Agriculture Movements (IFOAM). The project's objective was to contribute to the transdisciplinary development of organic agriculture in Armenia, improving the knowledge and skills of organic stakeholders through participatory curriculum development and outreach. The Rural Economic Development – New Economic Opportunities (RED-NEO) programme is a five-year programme funded by the United States Agency for International Development in 2019 to address economic challenges in rural Armenia. RED-NEO activities will promote inclusive, sustainable economic security and economic growth by supporting at least 100 businesses in at least 60 communities.

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: The main challenges that hinder the development of organic agriculture in Armenia are reported as: (1) limited state support for the development of the organic sector; (2) the lack of a national organic action plan; (3) the lack of an educational curriculum for organic farming; (4) the low level of awareness about Armenian organic products; and (5) weak regulatory mechanisms for the control of bio- and organic labelling in the market. Agriculture in Armenia has made limited progress towards modernization, as shown by its integration of technology. Farmers need to have access to knowledge and appropriate technology in order to acquire better management systems.

Main opportunities for the adoption or scaling of organic agriculture: Due to enlarging organic markets and enhanced consumer preferences for healthy products, the demand for Armenian organic products – such as dried fruit, fruit concentrates or honey – continues to grow. The existing low-input systems have paved the way for easier conversion to organic agriculture, with financial and technical support provided to farmers. The potential for agro-eco-tourism is high and may contribute to elevating farm incomes from non-agricultural sources. The rural population need education and training to prepare them for alternative, non-farm employment opportunities.

Major lessons learned from past organic agriculture projects: Projects on organic agriculture have led to the formation of successful institutions, namely non-governmental organizations. On the other hand, the decision-making bodies and authorities need to follow the developments at the same pace in order to develop at the national level.

Key strategy and actions for future development: A new national strategy and action plan need to be drafted in a participatory approach, and they need to guide decision-makers in the further promotion of high-value organic plant and animal products with export and domestic market potential.

7. Websites for additional information

- http://minagro.am/en/agriculture-in-armenia
- https://icare.am
- http://card.am/en
- https://statistics.fibl.org/world/key-indicators-world.html?tx_statisticdata
- https://globalorganictrade.com/country/armenia

Azerbaijan

1. Background information on organic agriculture sector development

Organic agriculture started in Azerbaijan during the late 1990s. One major milestone was the establishment of the Ganja Agribusiness Association (GABA) in 1996 by a group of scientists. In 2002, GABA became a member of the International Federation of Organic Agriculture Movements (IFOAM). In 2004, GABA developed a draft law on organic Agriculture, based on the European Union regulation, and submitted to Azerbaijan's parliament. The *Organic Agriculture* journal, a GABA publication, was published for the first time in Azerbaijan in 2006. In 2008, the law on organic agriculture was adopted; however, it was not fully implemented despite various amendments that were made.

During the past decade, various projects have been implemented through the support of such donors as the United States Agency for International Development (USAID), the Turkish Cooperation and Coordination Agency (TIKA), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), FAO and others. Organic products imported from European countries are currently on display in markets, either on special shelves labelled as organic or sold together with conventional products. In branches of some European brands, textiles made from organic cotton can be purchased. Special organic cosmetic shops were open in 2017 in Baku. Organic hazelnuts, juices and biohumus were exported as individual initiatives. The national road map on agriculture identified organic as one of the priority areas; however, organic agriculture still needs a stimulus for updating and amending the legislation for implementation and other initiatives to further development in Azerbaijan (Aksoy et al., 2018).

2. Organic Production

Estimated total organic certified area: In 2017, there were 37 630 ha of cultivated organic land, including lands in conversion. In addition, there were 123 ha of aquaculture, 123 ha of forest lands and 1 063 ha of wild collection lands. In total, 38 939 ha of land was reported as under organic management. There are 350 producers, 50 processors and 50 importers (Willer and Lernoud, eds., 2019., reporting 2015 data).

Estimated percentage of organic in total agriculture land area: 0.08 percent.

Main crops grown and respective areas: Cereals – 1 598 ha (0.2 percent); temperate fruit – 754 ha (1.4 percent); tropical and subtropical fruit – 495 ha (4.4 percent); citrus – 21 ha (0.7 percent), olives – 13 ha (0.4 percent); grapes – 41 ha (0.3 percent); vegetables – 213 ha (0.2 percent); and oil seeds – 126 ha (0.6 percent).

Certified wild harvest area: Wild collection of berries (161 ha), fruit (541 ha), nuts (179 ha), medicinal and aromatic plants (56 ha) and wild harvest certified area without details (126 ha).

Organic animal husbandry: Only beekeeping is reported, with 932 beehives managed organically.

Processing of food and non-food organic goods: Among organic operators, 50 are food processors, mainly of fruit juices and nuts.

3. Legislation, regulatory and policy framework

Key ministry/agencies responsible for organic agriculture: The Ministry of Agriculture, the Ministry of Ecology and Natural Resources, the Ministry of Education, the Ministry of Health and the State Committee on Standardization, Metrology and Patents (AZSTAND). AZSTAND was established on 17 April 2017, replacing the previous committee handling metrology and patents and the State Statistical Committee.

Organic legislation and regulation: The law "On Ecologically Clean Agriculture," dated 13 June 2008, sets up a legal and institutional basis for "ecologically clean" (used as a synonym for organic) agricultural production, processing, storage, transportation, packaging, labelling and marketing of organic products. The Decision of the Cabinet of Ministers "On Adoption of Some Legal Acts Relevant to the Law on Organic Agriculture" ("2009 Decision of Cabinet of Ministers") approved the implementation of the following regulations: regulations on the parallel production of organic and traditional products; regulations on the production of organic agricultural and food products and the list of natural and artificial substances allowed in organic agriculture; rules on issuing a certificate for organic producers and a template of the certificate; regulations on ecological inspection (observation) and certification in organic farming and functions of accredited bodies; regulations on certification of organic agricultural and food products and template of the certificate; rules on the circulation of organic farming and food products; regulations on the labelling of organic farming and food products; and regulations on the storage and transportation of organic agricultural and food products.

The 2010 presidential decree "On Additional Measures for Ensuring the Implementation of the Law on Organic Agriculture" specifies the ministries and other public institution responsible for the implementation of specific tasks defined by the law (Aksoy et al., 2018).

The legal analysis carried out during the FAO-implemented project "GCP/AZE/006/TUR: Development of Organic Agriculture in Azerbaijan" commented that the current legislation is not updated and is insufficient to ensure the effective governance and development of the organic sector in Azerbaijan. In this respect, proposals were prepared and delivered to the Ministry of Agriculture; however, those are still pending.

National voluntary organic standards: There is neither a voluntary national organic standard nor a logo.

National organic control system: The current national legislation on organic agriculture foresees that the Ministry of Economy performs market surveillance; however, since the system is not functioning at all, there is no registry for farmers or enterprises involved in organic. There is currently no national organic logo. The law and the following legal acts on organic agriculture have not clearly identified the competent authority or the order of command in Azerbaijan. Therefore, confusion or lack of understanding of the system during the formulation of the regulatory objectives is reflected in the distribution of responsibilities; among the various institutions given responsibilities, some do not have sufficient technical capacities for guiding the organic sector. Due to this gap, all inspection and certification functions are fulfilled by foreign control bodies in reference to the standard(s) demanded by the importing country.

Certification bodies functioning/authorized: Because the national institutional system is not functioning, control bodies function in Azerbaijan according to the regulations of the importing countries, such as the United States of America (and its National Organic Program), Canada and the European Union.

List of control bodies authorized by the EU for controls in Azerbaijan

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
A CERT (Greece)	AZ-BIO-171	X	–	–	X	–	–
AGRECO R.F. GÖDERZ GmbH (Germany)	AZ-BIO-151	X	X	–	X	–	–
bio.inspecta AG (Switzerland)	AZ-BIO-161	X	–	–	X	–	–
CCPB SRL (Italy)	AL-BIO-102	X	X	–	X	X	–
CERES (Germany)	AZ-BIO-140	X	–	–	X	–	–
Control Union (Netherlands)	AZ-BIO-149	X	X	X	X	X	X
Ecocert SA (France)	AZ-BIO-154	X	–	–	X	–	–
Kiwa BCS (Germany)	AZ-BIO-141	X	–	–	x	–	–
LACON GmbH (Germany)	AZ-BIO-134	X	–	–	X	–	–
Letis SA (Argentina)	AZ-BIO-135	X	–	–	X	–	–
ORSER (Turkey)	AZ-BIO-166	X	–	–	X	–	–
Organic Standard (Ukraine)	AZ-BIO-108	X	–	–	X	–	–

Source: OFIS, 2019.

In 2005, the first organic certification body in Azerbaijan, AZEKOSERT, was established with the support of GABA. However, it did not function. No national certification body is yet accredited or authorized for certifying organic operations.

National strategy and action plan on organic agriculture: The national strategy on agriculture has a section regarding organic agriculture. An action plan covering the period necessary to achieve the strategic targets by 2020 was drafted through an FAO project, but it has not been implemented.

Policy measures for supporting organic agriculture: The Strategic Roadmap for the Production and Processing of Agricultural Products (6 December 2016, No. 1138), which defines the main mechanisms for ensuring food security, has a section on organic agriculture. An action plan was drafted through an FAO project to achieve these targets, but that plan was not implemented. Currently, the Government subsidizes chemical inputs for conventional agriculture and biohumus; however, there are no subsidies for organic agriculture.

4. Organic agriculture marketing

In Azerbaijan, organic production has been export-oriented from the very early stages.

Domestic market: There is limited availability of organic products in the domestic market. Mainly fresh fruit and vegetables, honey, hazelnut, buffalo cream and dried wild fruits are marketed in open farmers' markets and through home delivery systems. Organic processed products are imported primarily from European countries; salad dressings, pasta and olive oil can be found in supermarkets in Baku.

Imports: Azerbaijan imports many plant- or animal-based raw or processed food products. Organic certified cosmetics and textiles from organic cotton can be found in Baku. European countries and the Russian Federation are the main import markets.

Export market: The export of organic products from Azerbaijan is driven by the private sector. There are several companies that have initiated organic production of pomegranate juice and some other fruits. Companies export products to the Russian Federation, Germany, Ukraine, Belarus, Estonia, and the United Arab Emirates. The main export products are raw and processed pomegranates, Oriental persimmons, hazelnuts and wild berries.

Data collection system at the national level: The State Statistical Committee has the mandate for data collection. Nevertheless, there are no official data since there is no system in place. The Organic Farming Regional Experimental and Resource Center collects data at local and national levels through farms and markets; however, the data presented in Willer and Lernoud (eds., 2019) dates back to 2015.

5. National institutions and international organizations on organic agriculture

Key national institutions supporting organic agriculture: Key governmental bodies include the Ministry of Agriculture, the Ministry of Economy, the Ministry of Ecology and Natural Resources, the Azerbaijan State Agricultural University, the Vegetable Research Institute in Absheron, and the Organic Farming Regional Experimental and Resource Center in Qakh, under the National Academy of Sciences.

Presence of farmers groups/organizations involved in organic production: GABA is the primary organization in Azerbaijan promoting organic agriculture. GABA renders significant online and direct services, embracing training and education, extension services, marketing, scientific research, ecological soil monitoring and business planning.

International organizations and donor projects supporting organic agriculture development: The "GCP/AZE/006/TUR – Development of Organic Agriculture and Institutional Capacity Building in Azerbaijan" project implemented by FAO aimed to develop an efficient institutional system to support and administer activities related to organic farming, processing and marketing in Azerbaijan. The USAID Smart Azerbaijani Farm project also promotes organic agriculture. Various trainings, study tours and seminars have been organized and reports prepared on organic agriculture through the financial support of such donor organizations as Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the United States Agency for International Development (USAID), the Economic Cooperation Organization (ECO) and the Turkish Cooperation and Coordination Agency (TIKA).

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: A lack of government support and weak communication among related government bodies are the major drawbacks. There is a need to align the national standards to those valid at international level and to develop a fully functioning national system. Formal and informal education and trainings must be organized for stakeholders, and a knowledge pool must be

established to help them overcome the knowledge gap. Such programmes should cover a wide range of stakeholders, from farmers, technicians and processors to consumers.

Main opportunities for the adoption or scaling of organic agriculture: Azerbaijan has diverse ecosystems, rich natural resources and a wide range of product diversity. The Government collects some plants from the environmental protection zones and registers the types and amounts that could be easily converted into organic. This may also improve the sustainability of such environmentally fragile zones. The use of inputs in agriculture is also variable, and products from low-input systems with longer shelf lives – such as nuts and medicinal aromatic plants – could be easily integrated into organic value chains.

Major lessons learned from past organic agriculture projects: During the implementation of past projects, various activities have been carried out with success. The sustainability of these activities after the termination of the projects requires the goodwill and follow-up of decision-makers.

Key strategy and actions for future development: The national institutional setup must start functioning by identifying the competent authority and its mandate. A new strategy and action plan need to be drafted with a participatory approach, and it should provide guidance to decision-makers to further promote high-value organic plant and animal products with export and domestic market potential.

7. Websites for additional information

- http://www.gaba.az/
- http://www.worldsrichestcountries.com/top-azerbaijan-exports.html
- https://www.stat.gov.az/source/agriculture/

Belarus

1. Background information on organic agriculture sector development

Organic agriculture in Belarus began in 2000, through pioneers and non-governmental organizations (NGOs), which have been the main actors in the development of organic farming. Since 2006, Ecohome and the Center of Environmental Solutions have implemented numerous projects related to organic farming. In 2006, an NGO called Women for the Revival of the Narotchansky District began an initiative to start organic farming, on a pilot scale, on 20 ha in the Narochansky National Park. A group led by scientists from the Grodno State Agrarian University runs a small organic farm in the Nadeshda rehabilitation centre for children from Chernobyl.

In July 2012, the Council of Ministers issued a decree and an action plan for the development of organic agriculture in Belarus. The NGO Agro-Eco-Culture was established in 2013 with the participation of professional experts and activists. In cooperation with international NGOs, Agro-Eco-Culture established a website,[11] organized seminars, published books and brochures, and disseminated information for all stakeholders. Conferences on organic agriculture took place for the first time in Belarus, in November 2013 and November 2014. The main organizers were NGOs, with the support of Coalition Clean Baltic. During recent years, close cooperation has been established between NGOs and the Government.

2. Organic production

Estimated total organic certified area (fully organic and in transition): The first producers started the organic certification process according to the European Union legislation in 2010. In 2013, there were eight farms with a total certified area of 100 ha. The pioneering farms are: 1) An educational experimental farm of Belarusian State University; 2) Luchenok Organic Farm (12.3 ha); 3) Vodoley (9 ha); 4) Malina (5 ha); and 5) DAK (60 ha) (Semenas, 2014). Additionally, 2 642 ha of wild collection (2016 data) is present (Willer and Lernoud, eds., 2019).

Estimated percentage of total agriculture land area: Data are not available.

Main crops grown and respective areas: Wild collected berries – 100 ha; wild collected mushrooms –2 642 ha; certified wild harvest area – 2 742 ha (2016 data).

Organic animal husbandry: Data are not available.

Processing of food and non-food organic goods: Among organic operators, one is mentioned as a processor and one as an exporter (2016 data).

3. Legislation, regulatory and policy framework

Key ministry/agencies responsible for organic agriculture: The Ministry of Agriculture, the National Academy of Sciences, and the Ministry of Economy.

Organic legislation and regulation: On 9 November 2018, the president signed the law "On the production and circulation of organic products," and it will become effective in 9

[11] For more information, see http://www.agracultura.org/.

November 2019. During this time, there is a need to develop the regulation, and organic certification requirements to implement the organic law.

National voluntary organic standards: There is neither a voluntary national organic standard nor a logo.

National organic control system: The law is not yet implemented. The competent authority for organic production and processing is the Ministry of Agriculture, and there is no system in place yet.

Certification bodies functioning/authorized (national and/or foreign):

List of control bodies authorized by the EU for controls in Belarus

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
A CERT (Greece)	BY-BIO-171	X	–	–	X	–	–
CCPB SRL (Italy)	BY-BIO-102	X	–	–	X	X	–
CERES (Germany)	BY-BIO-140	X	–	–	X	–	–
Control Union (the Netherlands)	BY-BIO-149	X	X	X	X	X	X
Ecocert SA (France)	BY-BIO-154	X	–	–	X	–	–
ECOGLOBE (Armenia)	BY-BIO-112	X	X	–	X	_	_
Ekoagros (Lithuania)	BY-BIO-170	X	X	–	–	–	–
Kiwa BCS (Germany)	BY-BIO-141	X	–	–	X	X	–
Letis SA (Argentina)	BY-BIO-135	X	–	–	X	–	–
Organic Standard (Ukraine)	BY-BIO-108	X	X	X	X	X	X
Valsts SIA (Latvia)	BY-BIO-173	X	–	–	–	–	–

Source: OFIS, 2019.

There are no national or local certification bodies in Belarus.

National strategy and action plan on organic agriculture: Organic farming is in the focus of the country's social and economic development programme for 2016–2020. There is no specific national strategy for organic farming yet.

Policy measures for supporting organic agriculture: There are no state subsidies provided to the organic sector.

4. Organic agriculture marketing

Domestic market: The organic market in Belarus is at the very beginning, and despite a demand for organic produce, there is no linkage between producers and consumers. In a survey from Ecohome, 95.4 percent of respondents said they would like to buy organic products. The majority (89.4 percent) explained by saying that organic foods are good for health. The preferred places for purchasing organic foods are common food shops (Semenas, 2013). Small-scale farmers cannot supply adequate organic food, although some supermarkets have declared their readiness to open departments of organic products if year-round supplies are available. The main channels for buying organic food are through Internet shops and/or direct sales from farmers (direct home delivery to consumers). Both channels handle seasonal products (apples, strawberries, watermelons, cucumbers and other vegetables) and products with long shelf lives (potatoes, carrots, beetroots and apple juice).

Imports: Not applicable.

Export market: Not applicable for organic products. For conventional agrifood products, the Russian Federation is the main export market.

Data collection system at the national level: There is no official data collection system. Data sources could not provide data for 2017 to FiBL–IFOAM surveys (Willer and Lernoud, eds., 2019).

5. National institutions and international organizations on organic agriculture

Key national institutions supporting organic agriculture: The key governmental bodies are the Ministry of Agriculture, the National Academy of Sciences, Grodno State Agrarian University, the Agro-Eco-Culture NGO and the Ecohome NGO.

Presence of farmers groups/organizations involved in organic production: In Belarus, NGOs are very active in the field of organic agriculture and embrace producers as well as researchers and other persons of interest.

Major non-governmental organizations: Ecohome was established in 1996 to promote ecological ways of life and ideas for sustainable development. At present, there are 82 members.[12] The Center for Environmental Solutions was established in 2009 to promote eco-friendly lifestyles, the principles of sustainable development, and the development of international cooperation in order to preserve the environment in Belarus.[13] Agro-Eco-Culture was established in 2013 to promote organic farming and an environmentally friendly style of life in Belarus. They were co-organizers of the Second International Organic Conference in Belarus and the Organic Fest.[14] The Resilient and Ecological Approaches for Living Sustainably (REALS) project is a non-profit organization focused on organic farming in the Belarus region, along with socio-economic development in Eastern Europe. The Foundation of Realization is an eco-group in Belarus that attempts to encourage and grow organic farming in the area.

International organizations and donor projects supporting organic agriculture development: European Commission Implementing Decision on the Annual Action Programme 2016, in favour of Belarus, and the Action Document for Strengthening Private Initiative Growth in Belarus (SPRING), financed under the European Neighbourhood Instrument between 2014 and 2017, had some capacity-development elements related to organic farming.

12 For more information, see http://ecohome-ngo.by/.
13 For more information, see https://www.ecoidea.by/.
14 For more information, see http://www.agracultura.org/.

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: Belarus has a higher percentage of state-owned land than any other country in this report, and state support is insufficient to promote organic agriculture. . The law "On the production and circulation of organic products" has been signed, and will be fully implemented by November 2019. There is an urgent need for the preparation of national regulations and standard, and organic certification systems; otherwise, implementation will be delayed. Elaboration of the strategic action plan on the development of organic agriculture in Belarus, in cooperation with leading stakeholders, is vital. In this respect, stakeholder consultation – and thus the formation of an organic movement in the country – is necessary. Strong cooperation is also expected between state and local authorities.

The absence of organic traders is a main constraint to market development. A lot of paperwork is required to start a business, and starting a retail system requires many licenses and much documentation. Additionally, low societal awareness and a lack of reliable information and consumer interest also limit the development of the organic sector.

Main opportunities for the adoption or scaling of organic agriculture: There is a strong grassroots movement and capacity to trigger activities on organic farming. However, to promote organic agriculture, further activities are required. These can be summarized as: simplification of the land renting procedures; preparation of support programmes with the implementation of the law; awareness-raising campaigns; training programmes and tools; education of professionals in organic farming; and creation of a state research programme on organic agriculture and extension of results.

Major lessons learned from past organic agriculture projects: Due to structural problems, there have been no significant impacts from the few projects that have been carried out.

Key strategy and actions for future development: For the rapid implementation of the law to take place, the required by-laws must be prepared and registry, data collection and surveillance systems must be established. Organic farming is in the focus of the country's social and economic development programme for 2016–2020, so actions should be put in place.

7. Websites for additional information

- http://ecohome-ngo.by/
- http://www.agracultura.org/
- https://www.ecoidea.by/

Bosnia and Herzegovina

1. Background information on organic agriculture sector development

Bosnia and Herzegovina, due to historical reasons, has a different administrative structure, and this has had an impact on the development and current state of organic agriculture. The country consists of two entities (the Federation of Bosnia and Herzegovina and the Republic of Srpska) and one region with a special status (Brčko District). Organic agriculture in the Federation of Bosnia and Herzegovina started in the 1990s following the booming of the organic market in Europe. The first activities were to promote the conversion and certification of organic agriculture, but the development process was rather slow. The first major development that marked this phase was the founding of the national certification body Organska Kontrola (OK) and its accreditation in 2003. In 2011, OK received equivalency from the European Union. In 2009, the Republic of Srpska adopted its first law on organic agriculture; later, in 2012, it adopted a new law, to which several amendments were made. In 2015, an organic producers' association was established in the Republic of Srpska. The Federation of Bosnia and Herzegovina adopted the law on organic agriculture in 2016 and is now focused on the registration of organic producers and on the development of a logo for organic products. The Federation of Bosnia and Herzegovina continues to align legislation and policies related to agriculture and the environment, including organic agriculture.

2. Organic production

Estimated total organic certified area: There were about 1 273 ha of cultivated areas and 150 604 ha of wild harvest areas in 2017, totalling 151 877 ha (Willer and Lernoud, eds., 2019).

Estimated percentage of organic in total agriculture land area: 0.1 percent.

Main crops grown and respective areas: On wild harvest areas, the main crops are medicinal and aromatic plants (103 575 ha), mushrooms (45 000 ha) and berries (2 030 ha). On cultivated land, the main crops are cereals (105 ha), oil seeds (87 ha), vegetables (28 ha), dry pulses (15 ha) and temperate fruit (1 ha).

Certified wild harvest area: 150 604 ha.

Organic animal husbandry (including beekeeping and aquaculture): Data are not fully available. Organic beekeeping is reported, with 293 beehives certified as organic.

Processing of food and non-food organic goods: Willer and Lernoud (eds., 2019) report that in Bosnia and Herzegovina there are a total of 304 producers, 31 processors (mainly organic food processing, such as fruit juices and vinegar, and essential oil extraction) and 15 exporters. Information from Agroklub[15] indicates that at the beginning of 2018 there were around 55 to 60 organic producers in the Federation of Bosnia and Herzegovina, whereas in the Republic of Srpska their number was estimated as 15 to 20. The products are cereals, barley, herbs, vegetables (beans, garlic), strawberry, fruit, nuts (walnuts), brown flax and medicinal and aromatic plants for the domestic market. The European Union-certified organic products are wild harvested herbs, mushrooms, elderberry, dog rose, wild blackberry and blueberry, wild apple and berries, cultivated raspberries, blackberries, vegetables, hazelnuts, cereals, industrial and medicinal herbs, spices, immortelle, aronia,

[15] For more information, see https://www.agroklub.ba/.

potatoes, buckwheat, lemon balm, pumpkins, essential oils and water extracts, juices and jams, fresh and frozen sour cherries, cherry juice, wild apple vinegar, corn flakes, dried fruit, sugar and honey (Neskovic, 2019).

3. Legislation, regulatory and policy framework

Key ministry/agencies responsible for organic agriculture: Due to the administrative structure in the country, there are key authorities at national, entity and local levels. At the national level, coordination is provided by the Sector for Agriculture, Food, Forestry, and Rural Development within the Ministry of Foreign Trade and Economic Relations (MoFTER). MoFTER is the competent authority in Bosnia and Herzegovina for performing activities and tasks related to defining policies, main principles and coordination activities, and also for harmonizing agricultural plans from entity authorities and institutions plans at the international level. At the level of the individual entities, the competent authorities responsible for organic agriculture are the Ministry of Agriculture, Forestry, and Waters (MAFW) in the Republic of Srpska; the Ministry of Agriculture, Water Management and Forestry (MAWMF) in the Federation of Bosnia and Herzegovina; and the Department of Agriculture, Forestry and Water Management (DAFWM) in Brčko District.

Organic legislation and regulation: The Federation of Bosnia and Herzegovina and the Republic of Srpska have issued regulations on organic to govern within their territories. The law in the Federation of Bosnia and Herzegovina is the Law on Agricultural Organic Production, Official Gazette of the Federation of Bosnia and Herzegovina No. 72/16. The Republic of Srpska has a Law on Organic Production, Official Gazette Republic of Srpska No. 12/13. Brčko District does not have any legislation on organic agriculture. There is no organic logo yet at the national level.

National voluntary organic standards: There is neither a voluntary national organic standard nor a logo.

National organic control system: The system is more developed in the Republic of Srpska; it is at the stage of development in the other areas.

Certification bodies functioning/authorized (national and/or foreign):

List of control bodies authorized by the EU for controls in Bosnia and Herzegovina

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
AGRECO R.F. GÖDERZ Gmbh (Germany)	BA-BIO-151	X	X	–	X	–	–
Albinspekt (Albania)	BA-BIO-139	X	X	–	X	–	–
bio.inspecta AG (Switzerland)	BA-BIO-161	X	–	–	x	–	–
IMOswiss AG (Switzerland)	BA-BIO-143	X	–	–	X	–	–
Ecocert SA (France)	BA-BIO-154	X	–	–	X	X	X
LACON GmbH (Germany)	BA-BIO-134	X	X	–	X	–	–
ORSER (Turkey)	BA-BIO-166	X	–	–	X	–	–

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
Organic Control System (Serbia)	BA-BIO-162	X	–	–	X	–	–
Organska Kontrola (Bosnia and Herzegovina)	BA-BIO-101	X	X	–	x	–	–

Source: OFIS, 2019.

The national certification body is Organska Kontrola (OK), founded in Bosnia and Herzegovina and accredited according to ISO 17065 in 2003. In 2011, OK received equivalency from the European Union. OK has authorization for organic certification according to the National Organic Program of the United States of America, the Japanese Agricultural Standard of Japan, and Bio Suisse of Switzerland. OK announces on its website the complete lists of organic operators certified for the European Union and Bosnia and Herzegovina markets, including those with valid certifications and those that have been suspended or decertified. Contact information is listed for each producer.[16]

National strategy and action plan on organic agriculture: There is no specific strategy or action plan at the national level. Organic agriculture is directly mentioned and targeted as an important sector of strategic plan for rural development of Bosnia and Herzegovina (2018–2021), adopted in February 2018.

Policy measures for supporting organic agriculture: Subsidies for organic agriculture are available in the Federation of Bosnia and Herzegovina, the Republic of Srpska and Brčko District.

4. Organic agriculture marketing

Domestic market: In the domestic market, organic products are sold through various marketing channels, including retail stores (hypermarkets, supermarkets), specialized retail shops, health shops/pharmacies, direct on-farm selling, wholesalers, and online selling. Organic products are promoted through television, radio, newspapers, fairs, advertisements on social networks, advertisements on public transportation, and printed promotional materials.

Imports: No imported organic products are sold in the market.

Export market: The export market was estimated as EUR 3.5 million in 2016 and EUR 4 million in 2017 (Willer and Lernoud, eds., 2019.). The main export categories were vegetables; fruits; medicinal plants; fresh, frozen and dried mushrooms; and berry fruits (raspberries, blackberries, blueberries, cranberries and strawberries).

Data collection system at the national level: Statistics currently do not cover organic production. Additionally, there are no registers of organic producers in the Federation of Bosnia and Herzegovina; they are present only in the Republic of Srpska.

[16] For more information, see http://organskakontrola.ba/site/eu_market_certified_operators.pdf.

5. National institutions and international organizations on organic agriculture

Key national institutions supporting organic agriculture: At the national level, coordination is provided by the Sector for Agriculture, Food, Forestry, and Rural Development within the Ministry of Foreign Trade and Economic Relations (MoFTER). MoFTER is the competent authority in Bosnia and Herzegovina for performing activities and tasks related to defining the policies, main principles and coordination activities, and for harmonizing the agricultural plans from entity authorities and institutions plans at the international level. At the level of the individual entities, the competent authorities responsible for organic agriculture are the Ministry of Agriculture, Forestry, and Waters (MAFW) in the Republic of Srpska; the Ministry of Agriculture, Water Management and Forestry (MAWMF) in the Federation of Bosnia and Herzegovina; and the Department of Agriculture, Forestry and Water Management (DAFWM) in Brčko District.

Presence of farmers groups/organizations involved in organic production: Organsko FBiH, a union of organic producers in the Federation of Bosnia and Herzegovina, was founded in 2009. It has 17 members (seven cantonal organic producer associations and ten associations dealing with organic production development) and brings together about 2 000 agricultural producers (MoFTER, 2018). An association of organic producers and processors was established in the Republic of Srpska in 2015. In the Republic of Srpska, there are approximately 26 producers involved in organic agricultural production, most of whom are currently involved in the production of medicinal herbs and berry fruits. In Brčko District, there are subsidies provided for organic production, but there is a lack of interest in organic production.

International organizations and donor projects supporting organic agriculture development: In Bosnia and Herzegovina, international organizations and donors are very active, and various projects have been performed regarding organic agriculture. One of the pioneering projects was a six-year project that started in 2000, implemented by the Dutch Avalon foundation, titled "Introduction and development of organic agriculture in SEE countries." In 2005, in the framework of the European Union's Community Assistance for Reconstruction, Development and Stabilization (CARD) programme, the non-governmental organization LIR (Local Development Initiative) conducted a project for the development of organic agriculture and the creation of a cluster for organic agriculture in the northwest part of the country. An ongoing project is the Farma II (2016–2020) project – phase II of Farma I (2010–2015) – which is supported by the United States Agency for International Development (USAID) and the Swedish International Development Cooperation Agency (SIDA). The project is aimed at increasing the confidence of local consumers in buying organic food and agricultural goods produced in Bosnia and Herzegovina. It supports export to the EU market, providing technical assistance and training to improve the sector's competitiveness and to enhance the production of value-added food products.

In 2015, the Association for Rural Development Banja Luka, together with the Centre for Economic and Rural Development and the Association of Citizens "Something More" implemented the project "Improvement of policies for organic farming and harmonization with EU standards," funded by the European Fund for the Balkans.

In the field of capacity building and education, an important instrument for Bosnia and Herzegovina is EU TAIEX, the technical assistance and information exchange instrument of the European Commission, which assists public administrations in the harmonization, application and enforcement of EU legislation and in the facilitation of sharing best practices from the EU.

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: The administrative structure and prevailing differences create barriers for the scaling up of organic agriculture. Rural areas in Bosnia and Herzegovina are characterized by poor development; thus, many problems – especially poor infrastructure, depopulation, lack of know-how and low capacity for work – prevail. Additionally, technical shortcomings, weak management, lack of consumer trust and lack of marketing knowledge are reported as major barriers.

Main opportunities for the adoption or scaling of organic agriculture: The agricultural potential in Bosnia and Herzegovina is high, with favourable agro-climatic conditions, cultivation and wild harvest of different crops, low-input management of land and water resources, traditions in agriculture and food processing, a large number of local products, and knowledge and efforts of agricultural manufacturers. According to the Organisation for Economic Co-operation and Development (OECD) classification, rural areas make up about 81 percent of the total area of Bosnia and Herzegovina, where about 61 percent of the total population lives. Strategic planning and support policies that help improve organic agriculture in terms of surface, value and sustainability will promote organic agriculture.

Major lessons learned from past organic agriculture projects: The social outcomes of projects are as important as the technical enhancement. In this regard, organic agriculture is accepted as creating an added value, since "the project activities created connection and acted as a 'glue' to unite different interest groups" (Habul and Nikolić, 2007).

Key strategy and actions for future development: Bosnia and Herzegovina's policy in the agricultural, food and rural development sector has evolved in line with the preparations for accession to the European Union. The European Union membership strategy and plans include progressive steps to harmonize and integrate laws, institutions and industrial practices with those in the European Union. A special challenge is the adoption and application of European Union regulations; thus, the strategic plan bears a component on organic agriculture, and "size of the area under organic production" is identified as one of the key monitoring indicators.

7. Websites for additional information

- http://www.mvteo.gov.ba/: Ministry of Foreign Trade and Economic Relations
- https://fmpvs.gov.ba/: Ministry of Agriculture, Water Management and Forestry of the Federation of Bosnia and Herzegovina
- http://www.vladars.net/: Ministry of Agriculture, Forestry and Waters of the Republic of Srpska
- bih/poljoprivreda-umarstvo-ivodoprivreda
- http://www.organskakontrola.ba/en/index.php

Georgia

1. Background information on organic agriculture sector development

Georgia is located along the eastern coast of Black Sea, with an area of 69 700 square metres and 4.3 million inhabitants. The landscape is quite diverse and rich in biodiversity, with 40 percent covered with forests. Georgia was one of the first Commonwealth of Independent States countries to initiate organic farming. In 1994, the Organic Farms Association "Elkana" was established. In 2013–2015, in connection with policy changes, the law "On safety and quality of products" was adopted, prohibiting the use of the terms "bio," "eco" and "organic" in labelling if the product does not have the certificate. On 30 July 2013, the Government of Georgia adopted Resolution No. 198/2013 "On bio-production." Recently, the Government declared the development of the local market for organic products as one of its priorities. The whole region of Mtskheta-Mtianeti became an IFOAM member and officially declared as a green zone (Ujmajuridze, Barkalaya and Tedoradze, 2018).

2. Organic production

Estimated total organic certified area: The cultivated organic certified land covers 1 452 ha, with an additional 215 ha of wild collection areas and 1 507 ha of other certified land, for a total of 3 174 ha (Willer and Lernoud, eds., 2019).

Main crops grown and respective areas: Temperate fruit, including apples, pomegranates and persimmons, cover 855 ha. Other main crops include grapes (130 ha), olives (70 ha), vegetables (8 ha), cereals, legumes and essential oil plants. Wild collection areas (for blackberries, raspberries, nuts and medicinal plants) cover 215 ha. Other non-agricultural areas account for an additional 1 507 ha.

Number of operators: In 2015, a total number of 1 075 operators were reported. Ujmajuridze, Barkalaya and Tedoradze (2018) report more than 50 organic farms; approximately 900 farms are united under the Elkana association.

Estimated share of organic in total agricultural land: 0.1 percent.

Organic animal husbandry: Beekeeping is an important activity in Georgia, and 570 organic beehives were reported for 2017. Organic fish farming is also practised.

Processing of food and non-food organic goods: There are many companies in Georgia involved in producing certified organic products, processing (e.g. wine, fruit, oil or herbal tea), or producing inputs allowed for use in organic (Ujmajuridze, Barkalaya and Tedoradze, 2018).

3. Legislation, regulatory and policy framework

Key ministry/agencies responsible for organic agriculture: The Ministry of Agriculture is the competent authority. A "Bio-Agro-Production" department was established in the Scientific-Research Center of Agriculture, which conducts scientific work in bio production system development and in testing biopreparations produced in Georgia or imported, mainly cereals and vegetable crops (Ujmajuridze, Barkalaya and Tedoradze, 2018).

Organic legislation and regulation: The first law on biological agriproduction entered into force in 2006. In 2014, the "Food Products/Animal Feed Safety, Veterinary and Plant Protection Code" (Law of Georgia No. 2285 of 17 April 2014) was issued. The law states the rules for labelling organic products. On 30 July 2013, the Government of Georgia adopted Resolution No. 198/2013 "On bio-production." Recently, the Government declared the development of the local market for organic products as one of its priorities (Ujmajuridze, Barkalaya and Tedoradze, 2018).

National voluntary organic standards: In Georgia and Armenia, there is a joint regional voluntary organic standard developed and implemented by the certification bodies ECOGLOBE in Armenia and CAUCASCERT in Georgia. This joint certification programme was developed within the framework of the 2002–2010 project "Development of Biological Agriculture and Bio Certification in South Caucasus," supported by the Swiss Agency for Development and Cooperation and Swiss Interchurch Aid. Elkana, in compliance with IFOAM standards and European Union regulations, has developed and officially registered an organic production standard, which is binding only on Elkana member farmers. The standard is the principal working document for Elkana and its member farmers (Elkana, 2019).

National organic control system: The Ministry of Agriculture is in charge of controlling the system. The competent authority is the Ministry of Agriculture. There is a commission consisting of 20 specialists who, in accordance with the country's legislation, have developed a concept for bio-agriculture development. The Bio-Agro-Production department, established within the Scientific-Research Center of Agriculture, conducts scientific work both in production model development and in testing local and imported biopreparations.

Certification bodies functioning/authorized (national and/or foreign): The national certification body CAUCASCERT has achieved international recognition from the European Union (since 2005), along with Switzerland and the National Organic Program of the United States of America.

List of control bodies authorized by the EU for controls in Georgia

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
A CERT (Greece)	GE-BIO-171	X	–	–	X	–	–
AGRECO R.F. GÖDERZ GmbH (Germany)	GE-BIO-151	X	X	–	X	–	–
bio.inspecta AG (Switzerland)	GE-BIO-161	X	–	–	X	–	–
CCPB SRL (Italy)	GE-BIO-102	X	X	–	X	X	X

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
CAUCASCERT Ltd (Georgia)	GE-BIO-117	X	X	–	X	–	X
Control Union (the Netherlands)	GE-BIO-149	X	X	X	X	X	X
Ecocert SA (France)	GE-BIO-154	X	–	–	X	X	–
Kiwa BCS (Germany)	GE-BIO-141	X	–	–	X	X	–
ORSER (Turkey)	GE-BIO-166	X	–	–	X	–	–
Organic Standard (Ukraine)	GE-BIO-108	X	X	–	X	–	–

Source: OFIS, 2019.

National strategy and action plan on organic agriculture: There is no national strategy and action plan specific to organic agriculture.

Policy measures for supporting organic agriculture: The Government has adopted a policy to promote organic agriculture, both for the local market and for export markets.

4. Organic agriculture marketing

Domestic market: The domestic market is still limited.

Imports: Imports are not significant. In 2016, the first "Agrohub" market was opened in Tbilisi, which offers imported organic products along with local production.

Export market: During recent years, important activities have been accomplished to encourage export, as well as local production for import replacement. In 2014, Georgia signed an Association Agreement with the European Union. The agreement introduces a preferential trade regime – the Deep and Comprehensive Free Trade Area (DCFTA) – and gives more economic opportunities by further opening the EU market to Georgian agricultural goods.

Data collection system at national level: No official data collection on organic agriculture is available.

5. National institutions and international organizations on organic agriculture

Key national institutions supporting organic agriculture: The key governmental body is the Ministry of Agriculture; it performs its activities with the support of the "Bio-Agro-Production" department and others. This department, in cooperation with other relevant departments, has started to work on organic fish farming, including fish feed.

Presence of farmers groups/organizations involved in organic production: The Organic Farms Association "Elkana" was founded in 1994. The main objectives in its

foundation were to promote traditions, active involvement of the rural population in the country's development, environmental protection ethics, and professionalism. Elkana and CAUCASCERT are the two major non-governmental organizations.

International organizations and donor projects supporting organic agriculture development: The first significant project on organic agriculture in Georgia was supported by Switzerland; the project paved the way for the establishment of the certification body CAUCASCERT in 2005 and the preparation of organic legislation. From 2004 to 2009, Elkana implemented the "Conservation and Sustainable Use of Georgia's Agrobiodiversity" project, funded by the Global Environment Facility and the United Nations Development Programme. The "Higher Income in the South Caucasus Thanks to Competitive Agricultural Products" project for 2017–2021, supported by the Swiss Agency for Development and Cooperation, focuses on strengthening smallholder livestock farmers, so they can move beyond subsistence farming to producing products for market. The 2017–2023 "Strengthening the Climate Adaptation Capacities in the South Caucasus" project, also supported by Switzerland, aims to facilitate the development of multi-hazard mapping and risk assessment methodology, contribute to safer livelihoods and infrastructure, and foster evidence-based policy-making and advocacy on climate adaptation, natural hazards and mountain development in the South Caucasus.

The "Green Economy: Sustainable Mountain Tourism & Organic Agriculture (GRETA)" project started in December 2018. The project will be carried out jointly by the European Union, Sweden and Austria to develop Georgia's Upper Svaneti, Racha-Lechkhumi and Lower Svaneti, and Imereti areas (GRETA Project, 2019).

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: Major limitations in the areas of finances, technical knowledge and resources, especially among smallholder farmers, hinder the further development of organic agriculture. Subsidy programmes are not supportive of conversion to organic farming. The national regulation requires continuous revisions to align with the international standards. The GRETA project reports many specific challenges of mountain regions, including: poor knowledge of local consultancy services; service of modern agricultural technologies among farmers; fragmented and densely located agricultural lands (buffer zones); non-registered agricultural lands; elderly populations; villages abandoned by young people; more income from tourism; less income from agriculture; pest management (such as the brown marmorated stink bug, which has appeared in the mountains, and chestnut disease); long winters and short agricultural periods (in mountain regions); availability of land cultivation machinery (in mountain regions); recordkeeping (among farmers); non-sustainable cooperatives; a lack of premium incentives (for certified products); old and non-profitable varieties; lack of business-minded farmers; anomaly diseases in people, plants and nature caused by climate change; and air pollution.

Main opportunities for the adoption or scaling of organic agriculture: Georgia is a country rich in agro- and natural biodiversity and has a long tradition of agriculture and processing. Supporting small-scale and mostly subsistence farms may promote the conversion to organic. The market demand and access to domestic and export markets must be evaluated in-depth, for production planning. In Georgia, access to international markets is simplified for high-quality products that are certified according to international standards. The GRETA project mentions the following advantages in Georgia that may help the promotion of organic agriculture: the existence of local certification bodies; the easier conversion to organic of many farms operating under low- or no-input systems; low reliance on expensive off-farm inputs; the presence of mountainous regions (which have good agricultural and less-contaminated environments for organic production); the good possibility of group certification; the availability of organic waste and the huge

potential for the production of organic inputs such as compost; the Georgian law on the development of high mountainous regions; and the new governmental programme to support organic farming and rich diversity among wild plants.

Major lessons learned from past organic agriculture projects: It is important to establish the institutions that are required to develop the value chain at the national level.

Key strategy and actions for future development: Key actions for future development include increasing the public's awareness of the value of organic farming, implementing policy changes that ensure organic farming meets the rapidly growing consumer demand, conducting research to arrive at the necessary technological advances, and developing subsidy programmes for the production and processing of organic products.

7. Websites for additional information

- http://www.elkana.org.ge/: Elkana Biological Farming Association, Akhaltsikhe, Georgia
- http://www.moa.gov.ge/: Ministry of Agriculture
- http://caucascert.ge/: Certification body
- https://eeas.europa.eu/: GRETA project

Kazakhstan

1. Background information on organic agriculture sector development

In Kazakhstan, organic agriculture started around 2010 when the International Conference on Organic Agriculture in Central Asia was organized in Astana in that year. In 2013, the President decreed Kazakhstan's transition to a "green economy" during 2013 - 2020, which enabled opportunities for the development of environmentally green production. The law "On ecological production and institutional norms for its implementation" was drafted, and at the end of 2015, the parliament enacted the law "On organic production," which was then approved by the president.

With rising interest in organic agriculture among farmers in Kostanay, the Republican Association of Organic Agriculture decided to initiate a demonstration project to promote organic agriculture in Kazakhstan. The project initially involved six farmers on 200 ha of each farmer's cropland, but now land certified as fully organic has reached 14 050 hectares. The area under organic management and the domestic market is increasing rapidly. There are horticultural growers (open field and greenhouse production) and cattle farms that produce according to organic standards and export their products. However, efforts are still required to complete the implementation of the legislative framework in line with international regulations and markets.

2. Organic production

Estimated total organic certified area: In 2017, there was a total of 278 008 ha of certified organic land, out of which 277 145 ha was cultivated land and 863 ha was wild harvest land (Willer and Lernoud, eds., 2019).

Estimated percentage of organic in total agriculture land area: 0.1 percent.

Number of operators: There are 61 producers, 67 processors and seven importers reported in Kazakhstan.

Main crops grown and respective areas: Cereals (65 347 ha), dry pulses (32 726 ha) and oil seeds (42 726 ha) are the main crops. Grigoruk and Klimov (2016) report soft wheat, soybeans, soybean cake, flax, millet, peas, rapeseed and medicinal herbs as major organic products exported from Kazakhstan. Organic cereals and pulses are mainly produced in Aklomolinsk, Aktyubinsk, Almaty and Kostanay oblasts. Dried fruit and nuts recently have been produced as organic around Chimkent.

Certified wild harvest area (ha): A total of 863 ha are used for medicinal and aromatic plants.

Organic animal husbandry: No data are available.

Processing of food and non-food organic goods: There are many processors registered as processing according to organic rules, but no details are available.

3. Legislation, regulatory and policy framework

Key ministry/agencies responsible for organic agriculture: The Ministry of Agriculture and the Ministry for Investment and Development are the key ministries.

Organic legislation and regulation: In Kazakhstan, the Association of Organic Agriculture worked with FAO, the Ministry of Agriculture and non-governmental organizations to draft a law on organic agriculture, with a view to promoting an enabling government for policies to subsidize organic fertilizers, organic farming and organic certification. The law on organic agriculture was signed on 27 November 2015. The law comprises four chapters and 18 articles, laying the basis for regulation of organic production. The law contains a number of elements: the principles, goals and objectives of legal regulation in organic production; the distribution of responsibilities among relevant government bodies and local authorities; public support and provision of incentives; the main conditions for and the procedure of organic production, including the responsibilities of organic producers, the conditions for transitioning to organic production, confirmation of conformity and inspection control, maintaining a register of producers, and obligatory labelling requirements for organic products; and government control, responsibility and procedure for dispute resolution. Secondary legislation supporting the implementation of the law includes the regulation "On Registration of Organic Producers," approved by order of the Minister of Agriculture on 18 December 2015, No. 1-3/1102; the regulation "On Organic Production," approved by order of the Minister of Agriculture on 23 May 2016, No. 230; and the List of Allowed Inputs, approved by order of the Minister of Agriculture on 23 May 2016, No. 231.

On 1 May 2018, the following standards were put into effect in Kazakhstan:

- ST RK 3109-2017 "Organic products" regarding a national mark of conformity of organic products and technical requirements and order of labelling of organic products. This standard establishes the technical requirements for the national sign of conformity of organic production, as well as the procedure for labelling organic products.

- ST RK 3110-2017 "Conformity assessment" regarding the requirements for entities to confirm the conformity of the production of organic products and the organic products themselves.

- ST RK 3111-2017 "Organic products" regarding requirements for the production process. This standard specifies the requirements for the production of organic products of plant and animal origin and the requirements for the processing, packaging, storage and transportation of organic products (Zhazykbayeva, 2019).

National voluntary organic standards: There is neither a voluntary national organic standard nor a logo.

National organic control system: Even if there is a law, there is no national organic control system in place.

Competent authority and other governmental institutions involved in the system: The Ministry of Agriculture has been the competent authority for organic agriculture since February 2015. The other authority in charge of the development of organic agriculture is the Ministry for Investment and Development.

Certification bodies functioning/authorized (national and/or foreign): In Kazakhstan, certification bodies function according to the regulations and authorizations of the importing countries, since the national legislation has no regulation and national certification system to cover the inspection and certification of organic products.

List of control bodies authorized by the EU for controls in Kazakhstan

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
bio. inspecta AG (Switzerland)	KZ-BIO-161	X	–	–	X	–	–
A CERT (Greece)	KZ-BIO-171	X	–	–	X	–	–
AGRECO R.F. GÖDERZ GmbH (Germany)	KZ-BIO-151	X	X	–	X	–	–
Albinspekt (Albania)	KZ-BIO-139	–	X	–	–	–	–
Bioagricert SRL (Italy)	KZ-BIO-132	X	–	–	X	X	–
CCPB SRL (Italy)	KZ-BIO-102	X	–	–	X	X	–
CERES (Germany)	KZ-BIO-140	X	–	–	X	–	–
Ecocert SA (France)	KZ-BIO-154	X	–	–	X	X	–
ECOGLOBE (Armenia)	KZ-BIO-112	X	X	–	X	–	–
Ekoagros (Lithuania)	KZ-BIO-170	X	–	–	–	–	X
ICEA (Italy)	KZ-BIO-115	X	–	–	–	–	–
Kiwa BCS (Germany)	KZ-BIO-141	X	–	–	x	X	–
LACON GmbH (Germany)	KZ-BIO-134	X	–	–	–	–	–
Letis SA (Argentina)	KZ-BIO-135	X	–	–	X	–	–
ORSER (Turkey)	KZ-BIO-166	X	–	–	X	–	–
Organic Standard (Ukraine)	TJ-BIO-108	X	X	–	X	X	–

Source: OFIS, 2019.

There is no national certification body in Kazakhstan.

National strategy and action plan on organic agriculture: A national strategy and action plan on organic agriculture are not present in Kazakhstan. A draft document was prepared (Grigoruk and Klimov, 2016) but was not moved forward.

Policy measures for supporting organic agriculture: The "Kazakhstan National Strategy 2050" of 15 December 2012 defines, among the strategic goals of the agro-industrial complex, the creation of national competitive brands that are environmentally sustainable and the playing of a role in the global market of environmentally friendly products.

The concept for transition to a green economy adopted by the Decree of the President of the Republic of Kazakhstan dated 30 May 2013 is aimed at achieving a high quality of life through the careful and rational use of natural resources. It foresees that the agricultural sector should be sustainable and provide opportunities for restoring land fertility, creating new employment opportunities and providing a stable independence from food imports.

The State Program on Development of Agro-Industrial Complex for 2017–2021, approved by the Decree of the President of Kazakhstan dated 14 February 2017, No. 420, mentions organic agricultural production among the main directions for agricultural development and improved export policies. There are no subsidies for organic, since the system is not functioning.

4. Organic agriculture marketing

Domestic market: In Kazakhstan, organic markets are still in the early stages of development. The main organic products are food products, personal care products, children's goods and cosmetics. There have been about 20 organic stores in Almaty and Astana since 2012. The products presented on the shelves of these stores are positioned as "healthy products." All sellers of imported products have online stores and home delivery services. Currently, online shopping is the most common channel for the sale of organic products. Social networks (Facebook and VKontakte, for example) are actively used for direct sales, excluding intermediaries. There are only a few producers that brand themselves as organic, and some others sell as farmers' produce. Consumer awareness is quite low. The three organic products leading in demand are vegetables and fruits (36 percent), meat and fish products (25 percent), and dairy products (22 percent). Based on surveys, the main consumers of organic products are those with high incomes and families with children younger than 7. The different labels used in the domestic market confuse the consumer, using "organic" or "bio" labels for conventional products (including such products as "organic" hot dogs, "organic" döner, etc.) or such labels as "no chemicals," "non-GMO," "no preservatives" and "no hormones." The latter type of labelling is widely popular on the Kazakh market but do not damage organic producers' reputations (as opposed to the pseudo-organic products).

Imports: Kazakhstan mainly imports products with long shelf lives. In commercial networks, such products as nuts, groats, coffee, chocolate, dry semi-manufactured foodstuffs, drinks, syrups and others are widely presented. The total volume of imported organic products in commercial networks is less than 0.1 percent. The products are mostly imported from the European Union and the United States of America.

Export market: There are no official statistics on exports. According to data from the exporting companies, Kazakhstan organic products that are certified according to international standards go to the Russian Federation, Ukraine, Germany, Poland, the Netherlands, Turkey and Italy. The European Commission's Trade Control and Expert System (TRACES) reports an import of 50 250 tons of organic certified products from Kazakhstan in 2018, but without giving any breakdown of products.

Data collection system at the national level: There is no official data collection system for organic agriculture in Kazakhstan.

5. National institutions and international organizations on organic agriculture

Key national institutions supporting organic agriculture: The Ministry of Agriculture is responsible for developing the strategy and implementation plans. The Ministry for Investment and Development focuses on the development of technical regulations and, in

particular, on the development and adoption of required standards. Other governmental and civil society organizations that are involved are as follows:

- Kazakhstan Research Institute for the Economy of the Agro-Industrial Complex and Development of Agricultural Territories
- Committee for Consumer Rights Protection of the Republic of Kazakhstan
- Kazakhstan Federation of Organic Agriculture Movements "KazFOAM"
- "G-Global" coalition for green economy and development
- "Association of the Organic Farming" public union
- "International Academy of Environment" non-commercial organization
- "Organic Kazakhstan" and "ECO standard" public funds
- Kazakh-German Agrarian and Political Dialogue

Presence of farmers groups/organizations involved in organic production: There is a farmers' association in the Kostanay region.

International organizations and donor projects supporting organic agriculture development: FAO and Kazakh-German Agrarian and Political Dialogue have carried out projects on organic agriculture. The FAO Technical Cooperation Programme project focused on institutional and legislative development, and the other focused mainly on capacity building.

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: The legislative framework for organic production has delayed the implementation of the law. The absence of any state support for organic and for research on the issues of production, processing and marketing and the low availability of financial resources also act as barriers. The certification and labelling of the "Products with the ECO sign" group creates confusion among consumers. The organization International Academy of Ecology (IAE) was established in 2004 to resolve scientific and applied issues related to ecology. At present, the IAE offers its partners the "eco," "bio," "organic" and "non-GMO" trademarks. The institution has a technical committee on standardization of "ecologically clean products" that grants the aforementioned trademarks on the basis of the developed and registered standard CT PK 1618–2007. This standard is a real barrier hindering the development of organic agriculture. Limited knowledge and availability of inputs are significant issues requiring the efforts of all stakeholders. Additionally, bottlenecks are created by the absence in the region of laboratories (for research on pesticides, genetically modified organisms, etc.) accredited in accordance with international standards.

Main opportunities for the adoption or scaling of organic agriculture: The vast agricultural land and presence of climatic and agro-diversity are the basic advantages. The prevailing conditions in Kazakhstan enable the production of organic products, and there is sufficient socio-economic potential to develop an organic market at the national level. Additional opportunities for the upscaling of organic agriculture in Kazakhstan are created by low energy costs, low competition in the domestic organic products market, increased media interest, rapid dissemination of knowledge on organic production methods, and continuing demand for organic products on the international markets, especially in China and the Russian Federation.

Major lessons learned from past organic agriculture projects: Given the multidisciplinary nature of the organic sector, it is necessary to create coordinated interaction among stakeholders. There must be a permanent institutional structure that implements the

national policy in the field of organic market development and that responds promptly to the needs of interested parties and the market.

Key strategy and actions for future development: Organic production is a development priority for Kazakhstan as a part of its "green economy" initiative emphasizing the efficient use of water, land and biodiversity. The Agribusiness 2020 programme for the development of the agro-industrial complex for 2013–2020, approved by resolution of the Government of Kazakhstan No. 151 dated 18 February 2013, also favours organic agriculture. Public authorities such as the Kazakh Ministry of Agriculture and the Research Institute on the Economy of the Agro-Industrial Complex are working together on the adoption of relevant legislation for the inspection and certification of products.

7. Websites for additional information

- https://moa.gov.kz/: Ministry of Agriculture
- http://kazfoam.kz/: Kazakh Association of Organic farming
- http://organic-ca.org/: Organic agriculture in Central Asia

Kyrgyzstan

1. Background information on organic agriculture sector development

Agriculture is the backbone of Kyrgyzstan's rural economy; it employs about 40 percent of the labour force and accounts for 20 percent of the gross domestic product. The food sector in Kyrgyzstan is shaped by the Tien Shan Mountains that divide the country. Inadequate precipitation requires irrigation for most crop production. The organic movement began in 2003 through the Organic Cotton Production and Trade Promotion Project, building upon the earlier experiences of Helvetas and other organizations and upon the promotion of trade in Europe. In 2007, a service producer organization called Bio Service was established. In 2012, the Government of Kyrgyzstan adopted green economy as a strategic direction for sustainable development. Organic farming became one of the leading directions in the country's agrarian strategy to ensure food safety, to preserve the environment, and to provide a conducive legal framework for all organic initiatives.

In 2012, various actors (producers' groups, traders, support agencies and the Government) jointly formed an association of all stakeholders – the Federation of Organic Development Bio-KG. The Federation, which was officially launched during the First National Forum on Organic Movement in 2012, serves as the national umbrella organization. In January 2013, by the decision of the National Council for Sustainable Development of the country, the president of Kyrgyzstan enacted a decree approving the National Strategy for Sustainable Development of the Kyrgyz Republic for the period 2013–2017. On the basis of this national strategy, the Kyrgyzstan Organic National Action Plan for 2012–2025, also known as KONAP, was drafted as the roadmap for the development of organic agriculture with a multi-stakeholder approach. KONAP was revised but not adopted. Although a draft law "On organic production" was prepared and submitted to the parliament, it did not move further. In the beginning of 2014, the regional network of countries involved in organic initiated the IFOAM Eurasia Regional Group, which unites all Commonwealth of Independent States and Central Asian countries. Despite the lack of the legislative and institutional frameworks, organic agriculture continues developing through increased export opportunities and the cooperation of producers and the private sector. The financial limitations of smallholders brought by the high cost of the foreign third-party certification urged them to gather as cooperatives and to start applying Participatory Guarantee Systems, which are locally focused quality assurance systems. Kyrgyzstan was the first country to ban the use of genetically modified seeds and inputs. Organic farming is very suitable to countries with generally small farm sizes and cheap labour and that are short on capital. Thus, being aware of the benefits brought by organic systems, the Kyrgyzstan Parliament announced a plan in December 2018 to phase out all non-organic farming and switch to 100-percent organic agriculture by 2028 (Sagynalieva, 2018; mambetov, 2018).

2. Organic production

Estimated total organic certified area: Willer and Lernoud (eds., 2019) report 19 327 ha of certified organic area in Kyrgyzstan.

Estimated percentage of organic in total agriculture land area: 0.2 percent.

Main crops grown and respective areas: The land under organic management in Kyrgyzstan is composed of cotton cultivation (7 920 ha), temperate fruit (2 308 ha), cereals (716 ha), pulses (406 ha), vegetables (49 ha) and oil seeds (5 ha). Kyrgyzstan is among the global suppliers of organic cotton, producing 6.8 percent of the world's supply with an annual production of 8 019 metric tons in 2017. More than two-thirds (66.8 percent) of the national cotton production is certified as organic. The total area devoted to organic cotton was 7 920 ha in 2017 (6 929 ha organic and 991 ha in conversion), cultivated by 1 009 farmers. Jalalabad is reported as the main production area. Willer and Lernoud (eds., 2019) report that 1 097 producers, 11 processors and three exporters are involved with organic in Kyrgyzstan. Led by Bio-KG, 822 farms are under the participatory guarantee system.

Certified wild harvest area: In Kyrgyzstan, 10 ha is reported as certified for the wild harvest of rose hips. Additionally, Kyrgyzstan exports organic capers.

Organic animal husbandry: No official data are available.

3. Legislation, regulatory and policy framework

Key ministry/agencies responsible for organic agriculture: The Ministry of Agriculture, Food Industry and Melioration is the competent authority in Kyrgyzstan. The concept of the development of organic agricultural production in Kyrgyzstan for the years 2017–2022 was approved by government order No. 459, dated 2 August 2017.

The Law "On organic agricultural production" (Law) was adopted on 28 May 2019 and came into force from 21 November 2019 (6 months after its official publication that was on 21 May 2019). It contains 14 articles and outlines the basic rules and principles for organic agricultural production. The law envisages that more detailed rules will be adopted on organic production and processing (organic standard); procedure for certification activities; labeling; conversion terms; import and export issues; procedure for maintaining the register of organic producers (Zhazykbayeva, 2019).

The department and body responsible for organic agriculture has been created under the Ministry of Agriculture, and the Agrobiocenter will be reorganized into the Department of Organic Agriculture. Being a member of the Eurasian Customs Union, Kyrgyzstan joined the interstate standard GOST 33980-2016 ("Organic production: Production regulations, processing, labelling and implementation"), which was adopted by the Interstate Council for Standardization, Metrology and Certification on 25 October 2016. The interstate standard is expected to be enforced in 2020, and it will also affect the legislative framework in Kyrgyzstan. A new project financed by the Korean International Cooperation Agency (KOICA) now implemented by FAO to strengthen the legal and institutional framework for organic farming in the Kyrgyz Republic.

National voluntary organic standards: National voluntary organic standards are not present in Kyrgyzstan.

National organic control system: There is no legislation dealing with the national organic system.

Certification bodies functioning/authorized: The legislation on organic agriculture is not yet in place. Therefore, organic certification is performed by foreign certification bodies authorized according to the reference legislation of the importing country.

List of control bodies authorized by the EU for controls in Kyrgyzstan

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
AGRECO R.F. GÖDERZ GmbH (Germany)	KG-BIO-151	X	X	–	X	–	–
bio. inspecta AG (Switzerland)	KG-BIO-161	X	–	–	X	–	–
CCPB SRL (Italy)	KG-BIO-102	X	X	–	X	X	–
CERES (Germany)	KG-BIO-140	X	–	–	X	–	–
Control Union (Netherlands)	KG-BIO-149	X	X	X	X	X	X
Ecocert SA (France)	KG-BIO-154	X	X	–	X	X	–
ECOGLOBE (Armenia)	KG-BIO-112	X	X	–	X	–	–
Kiwa BCS (Germany)	KG-BIO-141	X	X	–	X	X	–
Letis SA (Argentina)	KG-BIO-135	X	–	–	X	–	–
ORSER (Turkey)	KG-BIO-166	X	–	–	X	–	–
Organic Standard (Ukraine)	KG-BIO-108	X	X	–	X	–	–

Source: OFIS, 2019.

There is no national certification body accredited for certifying organic in Kyrgyzstan. Foreign certification bodies are operating.

National strategy and action plan on organic agriculture: The concept of the development of organic agricultural production in Kyrgyzstan for 2017–2022 was adopted by Resolution of the Government of the Kyrgyz Republic No. 459 on 2 August 2017. The purpose is to create favourable conditions for the development of organic agriculture by improving regulations and taking other measures that contribute to the sustainable development of the agricultural sector of the economy, increasing the competitiveness of organic products. Control of the organic plan was entrusted to the Committee on Agrarian Policy, Water Resources, Ecology and Regional Development of the parliament.

Policy measures for supporting organic agriculture: There is a ban on genetically modified organisms (GMOs), and there are restrictions on chemical use, but there are no subsidies for organic production.

4. Organic agriculture marketing

Domestic market: There is no domestic market for organic products. Organic products imported from other countries occasionally may be found.

Imports: No organic products or raw material are specifically imported for the organic market. Some organic products are found on supermarket shelves.

Export market: Kyrgyzstan is a global player in organic cotton exports. In 2017, an additional 991 ha in conversion to organic suggests further growth in the coming years. This trend is fuelled largely by projects from Turkish mills. A significant amount is exported to Turkey to be processed after ginning. The import statistics regarding organic cotton have reported exports from Kyrgyzstan since 2008. The organic fair trade cotton produced by Bio Service goes mainly to mills in Eastern Europe. Turkey imports such organic certified food products from Kyrgyzstan as beans, dried apples, capers, rice, pistachios and other dried fruit. The imported amounts fluctuate, possibly due to demand and supply and to prices in the global markets. The European Union has reported that 49 tons of organic produce were imported in 2018.

Data collection system at the national level: There is no official data collection system in place, and no official data are available on organic production in Kyrgyzstan.

5. National institutions and international organizations on organic agriculture

Key national institutions supporting organic agriculture: The Ministry of Agriculture, Food Industry and Melioration is the competent authority. The Ministry of Economy, the Faculty of Agriculture from the Kyrgyz-Turkish Manas University, and national research institutes work on organic agriculture. Active non-governmental groups are:

- Bio-KG: The Federation of Organic Development Bio-KG was founded in 2012 to support the organic movement.
- Bio Service: Bio Service is a service provider founded in 2007 to carry out services on training/consultancy and internal control systems and to facilitate external certification and marketing. Bio Service is active in promoting organic farming in Kyrgyzstan.
- The AgroLead Group of Companies unites PA AgroLead, the AgroLead Plus cooperative, and FairMatch Support Central Asia.

Presence of farmers groups/organizations involved in organic production: Bio-KG is a non-governmental organization promoting organic agriculture by creating organic aimaks (rural governments) and introducing participatory guarantee systems. Its members are farmers and refiners who support the idea of organic agriculture and advocate strongly for organic farming development on the national level.

The Bio Farmer agricultural commodity and service cooperative was founded in 2007. It has 1 394 members with a total area of 2 950 ha. Among the farmers, 98 percent have an area of less than 2 ha, and 19.12 percent are women. Bio Farmer has organic certificates by certification bodies authorized by the European Union and Fairtrade International. The main product is organic cotton, and the main market is Germany.

Vega Plus LLC and the service cooperative Kyrgyz Tokoy Baylygy were initiated in 2014. They hold a European Union organic certificate and a Fairtrade International certificate. The main product is walnut kernels, and the main market is the Netherlands.

The AgroLead Group of Companies unites PA AgroLead, the AgroLead Plus cooperative and FairMatch Support Central Asia. Each company conducts activities on training and consulting, the supply of seeds and the sale of products for the cooperative, and the building of global value chains. AgroLead as a group is involved in activities representing the full cycle of production.

International organizations and donor projects supporting organic agriculture development: The Nutrition in Mountain Agro-ecosystems Project is funded by the Swiss Agency for Development and Cooperation (SDC) and implemented in Kyrgyzstan and a few other countries in Asia, Africa and South America. This project aims to scale up promising sustainable agricultural practices to diversify and enhance nutrition and resilience in mountain areas.

The WAPRO project to integrate water stewardship into organic cotton is funded by the Swiss Agency for Development and Cooperation (SDC), with focussed to combine value chains in the rice and cotton sector with water stewardship.

The United States Agency for International Development's Agro Horizon Project (2014–2019) is implemented by ACDI/VOCA, an economic development organization based in Washington DC in the United States of America. The project area is Osh, Jalalabad, Batken and Naryn. The project aims to partner private industry and farmers to increase agricultural sector competitiveness.

The project "Biodiversity conservation and poverty reduction through community-based management of walnut forests and pastures in southern Kyrgyzstan" (2014–2018) was commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ).

The donor and implementing agency of the "Capacity building and support for the implementation of policies in the field of organic agriculture" (2019–2023) project is the Korean International Cooperation Agency (KOICA). FAO is implementing the first component of the project, on legal and institutional support.

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: Misuse and poor practices have resulted in the degradation of agricultural land. Additionally, inadequate water management continues to hamper production. There is still no legitimate legal framework with regard to organic agriculture and regulation of the organic system. There is no data collection system, no support, and no national system for accrediting certification bodies. Rural families practise subsistence farming in their home yards and rely mostly on their own food supplies. They lack a clear understanding of organic farming, and production volumes are small. The level of processing and value addition is still low, and almost all products are sold as raw. As the area increases, rotation crops also see demand in the organic markets. Organic is seen as an opportunity for export. The purchasing ability of the population is low, and so they are unwilling to pay more; this hinders the development of domestic organic markets.

Main opportunities for the adoption or scaling of organic agriculture: Diverse plant products adapted to soil and climatic conditions, rich biodiversity, and low use of inputs create opportunities for the further development of organic agriculture. There is potential for the development of exports of wild products (walnuts, herbs, berries and their processed products) and the sustainable use of the fragile forest ecosystems.

The ban on GMOs creates an opportunity for organic cotton, since many other producers (such as India) face cross-contamination. The success story of organic cotton, which now makes up roughly 66.8 percent of the country's total production, can be a model to apply and initiate organic agriculture in other crops. The required infrastructure is improving, and there are control-toxicological laboratories (accredited according to ISO 17025) and the National Academy of Sciences (NAS) Laboratory (for GMO analysis).

Major lessons learned from past organic agriculture projects: Activities performed through the projects must be in line with and/or supported by the policies adopted by the Government. Activities and decisions must be carried out timely, as planned.

Key strategy and actions for future development: Since the Government has made the important decision to be 100-percent organic by 2028, the strategy developed must be followed in a timely fashion. The completion of the legislative framework on organic agriculture and the establishment of the national system – including registry systems; authorization and supervision of the certification bodies; surveillance of the domestic, import and export markets; and awareness-raising activities – are the basic issues to be solved urgently.

7. Websites for additional information

- http://www.agroprod.kg/
- http://www.biokg.org/
- http://www.bioservice.kg/
- http://agrolead.org/
- https://directory.ifoam.bio/affiliates/
- http://organic-ca.org/: Organic Agriculture in Central Asia

Montenegro

1. Background information on organic agriculture sector development

Agriculture is one of the most important sectors in Montenegro, and it is a significant source of employment and income for some of the segments of society, especially in the mountainous north. Although it is dominated by small-scale family farms, the average size of available agricultural land is 6.3 ha. The development of organic agriculture in Montenegro can be divided into two phases: first, the period between 2001 and 2004, and the second from 2004 to today.

The first phase was characterized by activities with the primary goals of informing producers and consumers about organic agriculture, developing the market, education, and identifying problems faced in organic agriculture. The second phase has been characterized by the preparation of the legislative framework, the drafting of laws and by-laws, the education of local agricultural experts, and the establishment of the certification body Monteorganica.

The first milestone for organic agriculture regulation in Montenegro was in 2004–2005, when the first law on organic agriculture – Law No. 01-1006/2 – and the secondary legislation were adopted. At the same time, financial support for organic agriculture was provided as part of the national agro-budget. At the end of 2005, the national control and certification body Monteorganica was established, authorized and financed by the Ministry of Agriculture and Rural Development (MARD). In 2006, Monteorganica issued its first organic certificate in Montenegro.

The Government of Montenegro and the MARD entered into a loan arrangement with the World Bank under the title "Montenegro – Institutional Development and Agriculture Strengthening" (MIDAS Project, 2009–2014). Growth of the agricultural budget and subsidies provided to organic farming came as a consequence of this project. MARD announced the first National Organic Agriculture Development Programme in 2009. In 2011, the National Association of Organic Producers was established as the first initiative of farmers. During subsequent years, smaller local associations of organic producers were founded in close cooperation with the national association. A grant from the Danish International Development Agency (Danida) for organic agriculture development came in 2012 and 2013. The first national action plan for organic agriculture (2012–2017) was adopted in 2012, while in 2013 a new law on organic agriculture, harmonized with European Union regulation (EU 834/2007 and 889/2008), and was approved. In the period 2014–2017, a secondary legislation was adopted to pursue full harmonization with Regulation (EC) No. 889/2008. In 2016, an organic bazaar started to function weekly to link farmers with consumers and to promote organic agriculture. European Union candidature has prompted Montenegro to work on legislation for EU acquis, including amendments to the legislation on organic farming and quality policy (Mirecki, 2019; Rakocevic, 2019).

2. Organic production

Estimated total organic certified area (fully organic and in transition): From 2016 to 2017, there was a slight decrease in the organic certified agricultural area. In 2016, the figures were 3 470 ha fully organic and 420 ha in conversion, for a total of 3 890 ha. In 2017, those numbers were 2 797 ha of fully organic and 1 035 in conversion, for a total of 3 832 ha.

Estimated percentage of organic in total agriculture land area: The percentage of area under certified organic management was reported as 1.12 percent in 2016 and 1.09 percent in 2017, due to a decrease in the land area.

Main crops grown and respective areas: In Montenegro, permanent grassland is the leading land use type, with 1 992 ha, followed by 423 ha of permanent crops and 300 ha of arable crops. Among the arable crops, cereals rank first, covering 235 ha, followed by clover grass mixtures, at 128 ha. As for permanent crops, mixed fruit plantations (usually combining the cultivation of apples, pears and plums in the same area) take the lead with 251 ha, followed by plums (79 ha), apples (32 ha), olives (4 ha) and grapes (1 ha).

Certified wild harvest area: Organic forests and wild collection remain the dominant area of production, with more than 143 000 ha in total.

Number of organic operators: The total number of organic operators increased from 280 in 2016 to 308 in 2017. All are farmers, except for three processors. The number of operators is reported as 616 for 2017 (Willer and Lernoud, eds., 2019), possibly also including those certified in organic production according to other regulatory systems.

Organic animal husbandry: Sheep are the leading livestock category in Montenegro, with 1 194 head in 2017. Second is poultry, with 390 head, while the number of goats is 265. Bovine animals also are worth mentioning, with a total of 218 head. The classification of livestock based on use indicates that all sheep present are reared for meat, whereas goats are all intended for milk production. The bovine animals are reared mostly for meat production (200 head), while milk production is comparatively small (18 head). Beekeeping represents the predominant sector in organic animal production. Organic beehives reached a total of 2 375 in 2017.

Processing of food and non-food organic goods: Three processing companies are reported to process organic products (Willer and Lernoud, eds., 2019.), however, many of the organic farms have on-farm processing/packing facilities, such as those for making cheese, sorting and packing fruit, and making jam.

3. Legislation, regulatory and policy framework

Key ministry/agencies responsible for organic agriculture: The Ministry of Agriculture and Rural Development (MARD) is the competent authority. The Quality Policy and Land Administration Department within the Directorate for Agriculture in MARD adopts regulations regarding quality policy, organic production and agricultural land. The national agency for certification and control of organic produce, Monteorganica, was founded in 2005 by MARD, which was then the Ministry for Agriculture, Forestry and Water Management.

Organic legislation and regulation: Organic production is regulated by the Law on Organic Agriculture (Official Gazette of Montenegro, No. 49/04), which includes the production of organic agricultural products, processing, labelling, packaging, storage and transport. It has rules on plant production, livestock production, aquaculture production, processing of food/feed, labelling, controls, and import, and is equivalent with the European Union. In terms of harmonization of legal documents, some work is still needed. There is a national logo for organic products.

National voluntary organic standards: There is no voluntary national organic standard.

National organic control system: The organic control system is established through the national Law on Organic Agriculture. The list of authorized legal persons (certifier) is

published in the Official Journal of the Republic of Montenegro. The producer can hire a foreign legal person (certifier) for the certification of his products, with the prior approval of the competent authority. The competent authority is obliged to check whether the foreign competent authority authorized the foreign legal person (certifier) to issue certificates for products of organic agriculture.[17]

Certification bodies functioning/authorized (national and/or foreign):

List of control bodies authorized by the European Union for controls in Montenegro

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
AGRECO R.F. GÖDERZ GmbH (Germany)	ME-BIO-151	X	X	–	X	–	–
Albinspekt (Albania)	ME-BIO-139	X	X	–	X	–	–
CERES (Germany)	ME-BIO-140	X	–	–	X	–	–
Ecocert SA (France)	ME-BIO-154	X	–	–	X	–	X
Kiwa BCS (Germany)	ME-BIO-141	X	–	–	x	–	–
Organic Control System (Serbia)	ME-BIO-162	X	–	–	X	–	–
Organska Kontrola (Bosnia Herzegovina)	ME-BIO-101	X	X	–	X	–	–

Source: OFIS, 2019.

Monteorganica is the national certification body founded by MARD in 2005. Its website[18] provides basic knowledge and national and international legislation on organic agriculture, list of operators (including the names of the operators and cities, the products, and validity of the certificates) and useful links.

Policy measures for supporting organic agriculture: An important achievement in national support policies was the implementation of the National Organic Action Plan (NOAP) for the period 2012–2017, prepared by MARD through the Danida project. The general objective of the NOAP was to "support the development of organic farming, processing, and consumption of organic products in the domestic market, including tourism, and using comparative advantages of Montenegro for creating a coherent, market-oriented organic sector with the necessary professional staff at all levels" (Rakočević, 2019).

Compensatory payments are granted under a special scheme that has been running since 2004. Producers who are engaged in organic production receive government assistance in the form of compensation per hectare of land or livestock animal. Support for the beekeeping sector provided from the project "Raising the Centres for selection, breeding and parent reproduction" (Martinovic and Konjevic, 2015).

[17] For more information, see https://globalorganictrade.com/country/montenegro.
[18] The website for Monteorganica is located at https://orgcg.org.

Incentives in agriculture and rural development are currently adopted on a yearly basis and implemented through the agricultural budget, prepared by MARD. Further support is provided to organic farming by rural development measures and measures for the sustainable management of natural resources. The budget allocation is directed mainly towards the sustainable use of mountain pastures (51 percent), while 39 percent of the funds is foreseen for improvement in the field of organic production in breeding cows and heifers, sheep, goats and poultry, with the ultimate goal being the sustainable use of forest natural resources, reductions of the negative impacts of agriculture on the environment, protection of biodiversity, and increases in the quality of agricultural products (Martinovic and Konjevic, 2015). Additional support is provided for advisory services and participation in international projects.

4. Organic agriculture marketing

In Montenegro, agricultural and food products have an important role in foreign trade, since the country is a net importer of agricultural and food products and is facing a trade deficit. In Montenegro, products are not produced in quantities sufficient to overcome imports – especially during the summer season, which comes with additional demand from tourists.

Domestic market: The marketing and promotion channels for organic products in Montenegro are diverse, but they do not include large retailers and wholesalers due to the limited amount of production. The major products and their marketing channels are as follows:

- Specialized retail shops: Honey, dairy products (goat cheese, yogurt and whey), flour, fresh fruits and vegetables, and eggs.
- Health shops/pharmacies: Medicinal herbs and teas.
- Direct on-farm selling: Honey, dairy products and olive oil.
- Online selling: Buckwheat flour, rye flour, wheat flour, fresh fruits and vegetables, and honey.

The organic products with the highest demand on the local market are generally healthy foods, such as honey, buckwheat flour, olive oil and goat cheese.

Imports: The rules for organic imports are set by the national regulation. Organic products may be imported if the operator possesses a certificate issued by a control body included in the list of designated control authorities and approved control bodies in the European Union or in the European Union's official list of control authorities and control bodies operating in third countries. Operators importing organic products certified by control bodies not included in the official lists are subject to a process of recognition by the national competent authorities. Yogurt, fruits and vegetables, medicinal herbs, dietary supplements, confectionery products and juices are the most widely imported products. Based on a rough estimate, the amount and value of imported organic products in 2017 were equal to 2 650 tons and EUR 5.5 million, respectively (Rakočević, 2019).

Export market: The major share of certified land area is devoted to wild harvest or permanent grassland. There is no breakdown of wild harvested products, but blueberries and medicinal herbs are the leading export categories. The exported organic products totalled 560 tons in 2017, with a total value of EUR 1.3 million (Rakočević, 2019).

Data collection system at the national level: There are two main sources of data and information about the Montenegrin organic sector: MARD and Monteorganica. Monteorganica's website gives a full and detailed list of operators in the native language. Market data and data on organic products generated by foreign certification bodies are not available.

5. National institutions and international organizations on organic agriculture

Key national institutions supporting organic agriculture: The Ministry of Agriculture and Rural Development (MARD) is the competent authority in Montenegro. Other organizations actively involved in the organic agriculture are the Biotechnical Faculty of the University of Montenegro, Monteorganica, Organic Montenegro, and the National Association of Organic Producers of Montenegro. The main institution carrying out research into organic agriculture is the Biotechnical Faculty of the University of Montenegro.

Presence of farmers groups/organizations involved in organic production: The National Association of Organic Producers of Montenegro is the main organization linking with farmer organizations at the local level.

International organizations and donor projects supporting organic agriculture development: The project "Development of organic agriculture in Montenegro" was funded by the Danish International Development Agency (DANIDA) in 2009–2013. An action plan was prepared, and various activities were performed. The project consisted of two components: 1) institutional development (support to organic education and research, preparation of Monteorganica for accreditation, training of agricultural extension service providers, and support for the development of producers associations); and 2) a competitiveness component (establishment of a grant facility for investigation in organic production, processing and distribution, and support for the marketing and promotion of organic food).

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: The main barriers with an impact on organic are linked to the general challenges in agrifood production and trade; the leading barrier is migration from rural areas and the ageing of the farming population. On the other hand, there is an urgent need to enhance the domestic supply of organic food. Meeting the demand for organic products in luxury hotels is also becoming a big challenge. The number of organic food producers is growing, with yearly fluctuations; therefore, the reasons for withdrawal must be analysed so that organic agriculture can be promoted the fluctuation prevented. The slow development of domestic production and of local markets represents a significant constraint to growth and an obstacle to the long-term sustainability of the sector. Many farmers lack information on organic methods, as well as on markets and support opportunities. In the exportation of organic products, traders play the biggest role.

Main opportunities for the adoption or scaling of organic agriculture: Montenegro, despite its size, has a wide variety of biodiversity and a richness of genetic resources in agriculture, yielding diverse products in different regions. In the coastal region, the cultivation of olives, citrus and other subtropical fruit are common; in the central regions, fruit and vegetables dominate, along with significant meat, milk and egg production. Karst areas are represented by livestock, mainly goats, while the northern part of the country is dominated by potato production, horticulture, and extensive cattle and sheep breeding. In addition to the suitable conditions, market demand is increasing in the country, in Europe and in other trade partner countries. Knowledge-generating activities are identified as a priority for organic operators in Montenegro, since most producers have

to face many challenges to comply with the organic certification requirements. In this respect, the reasons for withdrawal from organic agriculture must be analysed per region/commodity, and then special programmes need to be designed to prevent this fluctuation. Adequate education and research should, directly and indirectly, affect production in terms of improving producers' understanding of the principles of organic production, fulfilment of regulations, and technological know-how. The institutional strengthening of organic farmers' associations through the inclusion of professionals to support members in facilitating their production work while improving produce quality could bring rapid solutions. Organic products may be linked to other quality schemes, especially with geographical indications, to add value to locally produced, diverse organic products.

Major lessons learned from past organic agriculture projects: As in the case of the DANIDA project, institutional (legislation and policy framework) and capacity development help to build a strong basis to prepare Montenegro for European Union candidature. However, this base should be strengthened by locals for any updates required.

Key strategy and actions for future development: Montenegro is preparing for European Union membership, so the establishment of the organic system should be in this direction. However, taking into account the favourable conditions for production, Montenegro should take action to become a producer rather than an importer of organic products.

7. Websites for additional information

- http://www.mpr.gov.me/: Ministry of Agriculture and Rural Development
- http://www.minpolj.gov.me/: Ministry of Agriculture and Rural Development
- https://www.savjetodavna.org/: Information about activities of the advisory services
- https://www.ucg.ac.me/btf/
- https://orgcg.org/: Certification body
- http://www.organicmontenegro.me/: Organic Montenegro
- https://globalorganictrade.com/country/montenegro

North Macedonia

1. Background information on organic agriculture sector development

In North Macedonia, the first initiative on organic agriculture was in 1997, when the Alkaloid pharmaceutical company converted to organic its wild collection of medicinal plants (linden and chamomile) for herbal tea production. Shortly afterwards, the company stopped all activities on organic, restarting partially in 2007. Organic agriculture was triggered after farmers organized themselves around civil society organizations, and the Law on Organic Agriculture was drafted in 2000. A workshop was organized in 2002 for the country's associations on organic agriculture and their national union. Regional cooperation in organic agriculture among Balkan countries was promoted through the organization of several workshops titled "Promotion of Organic Agriculture in the Balkans" between 2002 and 2005.

In 2003, local associations joined in a national organic federation (Biomak, headquartered in Kavadarci). During this stage, one project promoted the conversion of some persimmon producers, and 13 farmers received the first organic certificates in 2004. In that same year, the first law on organic agriculture was accepted and enforced. The second by-law, the Organic Agriculture Support and Development Programme, was adopted in March 2005. In 2006, organic farmers founded the new association of producers of organic products, BIOSAN, in Skopje. In 2007, the first national strategy was approved, for the period 2008–2011. The Federation of Organic Producers of Macedonia was established in 2008 with the task of unifying and coordinating regional producers' associations. In 2009, the new law was adopted and later revised to be harmonized with the European Union regulation (EU 834/2007 and 889/2008). In 2009, the first Macedonian certification body, Procert, started its activity. In 2010, a national campaign for the promotion of organic agriculture was launched. In order to ensure continuous development, in 2013, the national plan was adopted for the 2013–2020 period. Promotional activities continued between 2016 and 2018, with the aim of raising awareness and disseminating knowledge. Work on legislation to align with the new EU draft law is ongoing.

2. Organic production

The available sources of information report variable data for North Macedonia, mainly retrieved from the certification bodies. There is a national registry and data collection system, but it is reported to have gaps.

Estimated total organic certified area (fully organic and in transition): From 2016 to 2017, the organic cultivated agricultural area in North Macedonia decreased from 3 240 ha (with an additional 1 167 ha in conversion), to 2 900 ha (plus 1 226 ha in conversion) (Gjorgijevski, 2019). Organic forest and wild collection areas represent the largest areas in the country, covering around 560 000 ha in 2016 and 1 197 000 ha in 2017. Most of this land – 1 113 200 ha – is certified for the collection of medicinal and aromatic plants, and no details are available for 50 990 ha (Willer and Lernoud, eds., 2019).

Estimated percentage of organic in total agriculture land area: The percentage was 2.9 percent in 2017, down from 3.0 percent in 2016.

Main crops grown and respective areas: Cereals (wheat, barley and oats) represent the largest area of arable crops, with 940 ha (corresponding to 32.4 percent of the total organic area), followed by forage, with 681 ha in 2017. For perennial crops, data were available only

for fruits, with a total area of 559 ha (corresponding to 19.3 percent of the total organic agricultural area). Organic fruit and vegetables are mainly plums, apples, grapes nuts (almonds, hazelnuts) and potatoes. Another important activity is agrifood processing (jams, cheeses, teas and grape products as vinegar).

Certified wild harvest area: These areas accounted for 1 197 000 ha in 2017, according to Willer and Lernoud (eds., 2019), and 500 000 ha in 2017, according to Gjorgijevski (2019). Since there is no conversion prerequisite if the selected location fulfils the requirements, there is high variability in wild collection figures of many countries.

Number of operators: A total of 650 producers, 119 processors, six importers and seven exporters were reported as of 2017. Some of the producers are processors, exporters and importers simultaneously.

Organic animal husbandry (including beekeeping and aquaculture): Organic livestock is dependent on sheep (92 386 head, 88.2 percent of organic animals), followed by bovine animals (8 565 head, 8.2 percent) and goats (3 833 head, 3.7 percent) (Gjorgijevski, 2019). Organic beekeeping is a significant activity, with 7 676 beehives under organic management in 2017 (Willer and Lernoud, eds., 2019).

Processing of food and non-food organic goods: There are few processing companies operating in the Macedonian organic industry. The companies Alkaloid (organic tea), Vinarija Grkov (organic vine), Vitalia (organic marmalade) and Kastel i Intermak (mushrooms) are pioneers in organic products processing. Some companies produce dried herbs and preserved and processed fruits (mostly wild berries), as well as juices, juice concentrate and jams. Most of these productions are export-oriented. Furthermore, there are some on-farm processing capacities (e.g. honey, juice, bread and essential oils).

3. Legislation, regulatory and policy framework

Key ministry/agencies responsible for organic agriculture: The Ministry of Agriculture, Forestry and Water Economy (MAFWE) is the competent authority. The Institute for Accreditation is responsible for accrediting bodies authorized for organic agriculture inspection and certification, as well as for the inspection and certification of organic products in accordance with the international criteria. BIOSAN is the biggest farmers' organization and the leading engine of the organic movement.

Organic legislation and regulation: The first organic legislation was approved in 2004 which regulated the general provisions related to the production, processing, marketing, certification and labelling of organic production and comprised all types of organic agricultural products intended for human consumption and animal feeding. After the adoption of the new European Union regulations, this Organic legislation was revised in 2009. The Law on Organic Agriculture (Official Gazette No. 146/2009, 7 December 2009), valid from 1 January 2010, is fully harmonized with the EU acquis, resulting in Law No. 146 "On Organic Agricultural Production," fully consistent with European Regulations 834/2007 and 889/2008 on organic production and the labelling of organic products. The current national legislation was adopted in 2009 and entered into force the same year. It is fully implemented and is harmonized with the EU regulation (EU 834/2007 and 889/2008). In addition to the law, a number of by-laws were also adopted in 2010 and modified in 2011 for more efficient implementation. A full review of the national law started in 2014, resulting in new amendments adopted in 2016 for better harmonization with the EU regulation.

National voluntary organic standards: There is no voluntary national organic standard in North Macedonia.

National organic control system: The by-laws or regulations complement the Law on Organic Agriculture provide a complete legal framework on organic agriculture production. The overall control and supervision system for organic agriculture is performed by the State Agricultural Inspectorate and the Food and Veterinary Agency. In addition, each entity applying for financial support for organic production undergoes control by the Agency for Financial Support of Agriculture and Rural Development.

Certification bodies functioning/authorized: In North Macedonia, the certification process for organic products was initiated in 2004 for wild harvest and then extended through a Swiss project in 2005. Several foreign international certification bodies are currently present in the country. The control and certification process is performed by private certification bodies accredited by the Institute for Accreditation of North Macedonia and authorized by MAFWE. According to the national law on organic agriculture, expert control of organic producers, processors and traders is to be conducted by registered inspection bodies. These bodies must have headquarters in the country, employ at least three staff persons, and be accredited. All entities interested in using support from the national agriculture support programmes for organic agriculture should have a certificate issued by the control and certification body authorized by MAFWE.

List of control bodies authorized by the EU for controls in North Macedonia

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
A CERT (Greece)	MK-BIO-171	X	–	–	X	–	–
AGRECO R.F. GÖDERZ GmbH (Germany)	MK-BIO-151	X	X	–	X		
Albinspekt (Albania)	MK-BIO-139	X	X	–	X	–	–
Balkan Biocert Skopje (North Macedonia)	MK-BIO-157	X	X	–	X	–	–
CERES (Germany)	MK-BIO-140	X	X	–	X	–	X
Control Union (the Netherlands)	MK-BIO-149	X	X	X	X	X	X
Ecocert SA (France)	MK-BIO-154	X	–	–	X	–	X
Kiwa BCS (Germany)	MK-BIO-141	X	–	–	x	–	–
LACON GmbH (Germany)	MK-BIO-144	X	X	–	–		–
Organic Control System (Serbia)	MK-BIO-162	X	–	–	X	–	–

Source: OFIS, 2019.

Balkan Biocert Skopje[19] is authorized by the competent authority as a national certification body. It has national and international accreditation and is authorized to perform inspection and certification operations in North Macedonia by the European Union (functions only in North Macedonia for the EU certification) since 2012 and by Bio Suisse since 2015.

[19] For more information, see http://www.balkanbiocert.mk/.

Procert Control and Certification OKS[20] offers inspection and certification services for international, private and national standards, including organic production, according Macedonian law, the European Union, the National Organic Programme of the United States of America, and the Japanese Agricultural Standard, independently or in cooperation with its partners. As of April 2019, it is not listed among the EU-authorized certification bodies. It lists the German certification body CERES as a partner.

National strategy and action plan on organic agriculture: A significant step was undertaken with the approval of the national strategy and action plan for organic agriculture for 2008–2011, which set various targets for 2011, including 2 percent of the total agricultural surface for organic agriculture and 5 percent for the collection of wild plants.

Policy measures for supporting organic agriculture: Various policy documents also embrace organic agriculture, including:

- Stabilization and Association Agreement (2001): Covers social justice, employment and the use of national resources for the sustainable development of the country.
- Final draft of the National Strategy for Agriculture and Rural Development: Covers the status and needs for setting up an agri-environmental policy in North Macedonia.
- Strategy for the harmonization of the local agrifood sector with the European Union's Common Agricultural Policy: This strategy lays down the needs for the identification of regions eligible for organic production and harmonization with EU regulations.
- Second National Environmental Action Plan (adopted in 2006): This plan aims at the mainstreaming of environmental concerns into agricultural development policy and the maintenance of high-level, basic natural resources essential for sustainable agricultural development. Measures related to the achievement of these aims include the enhancement of organic production and improvement of the monitoring system. Accordingly, the establishment of an EU-recognized certification system for organic products is defined.

Support from MAFWE for the organic sector has been continuous, with a significant increase in the level of subsidies starting in 2015. Financial support for organic agriculture was also part of the Programme for Agriculture and Rural Development 2013–2017. The National Plan for Organic Production 2013–2020 includes the key targets. In 2017, the implementation of measures for financial support, prescribed in the Programme of Financial Support in Agriculture and Rural Development, continued with funds provided from the state budget for stimulating and developing organic agriculture. Support for organic agriculture is also part of the National Strategy for Agriculture and Rural Development 2014–2020, and support for agro-environmental measures and organic production are part of the EU Instrument for Pre-Accession Assistance Rural Development (IPARD) 2014–2020 Programme. The Law on Agricultural Development Support paves the way for annual financial support programmes to be established per sector, including organic production (Bilali, et al., 2014).

4. Organic agriculture marketing

In North Macedonia, the law on organic agriculture regulates the domestic, export and import markets.

Domestic market: The organic production of cultivated crops is still not developed sufficiently in volume and diversity to be able to implement real marketing activities. Organic products are mostly sold in supermarkets and small, open-air markets like those

[20] For more information, see http://www.procert.mk/uslugien.html.

of Bitola, Prilep, Rosoman and Skopje. In these cities, there are organic market stands selling organic food, but all market channels – including large retail stores, specialized retail shops, health shops/pharmacies, direct on-farm selling, wholesalers and online selling – have organic products. Other activities include the selling of freshly squeezed fruit juices in several café bars and the direct selling of selected products (e.g. honey, bread and fruits). The first national event for the promotion of organic food, Organic Production Day, was organized in 2008 and continued in subsequent years. The first national campaign for the promotion of organic agriculture took place in 2010.

Imports: Importation is regulated by the National Organic Law for Organic Production. There are many imported organic products in North Macedonia, mostly processed food such as iced teas; smoothies; juices; almond, quinoa, rice and soybean milk; oils; coconut oil; muesli; gluten-free cake; gluten-free pasta; organic seeds; wholegrain rice; millet; cocoa; buckwheat; waffles and soy mayonnaise. However, data on values and quantities are not available.

Export market: Organic export information is only available for the types of products, but no value or quantity figures are recorded. A few companies are processing and trading wild collected products and producing dried herbs/tea, mushrooms, preserved and processed fruits (mostly wild berries), juices, juice concentrate and jams. Most of the production is export-oriented due to the limited local market within the county. The other exported products are processed traditional food, such as ajvar, hummus, malidzano, ljutenica and teas. Except for wild collection, production volumes do not make possible the exportation of other cultivated organic products.

Data collection system at the national level: There is an official registry and data collection system at the farm level, but there are gaps – such as in volume and value – in the available data.

5. National institutions and international organizations on organic agriculture

Key national institutions supporting organic agriculture: The organic agriculture unit is part of the Agriculture Department within the Ministry of Agriculture, Forestry and Water Economy (MAFWE), which is the competent authority for the organic sector in North Macedonia. The Institute of Accreditation and the Federation of Organic Producers of Macedonia, together with two certification bodies operating in the country (Balkan Biocert and Procert Control and Certification OKS) are considered key actors of the sector regarding certification issues. There are two faculties of agriculture in North Macedonia where research on organic agriculture is conducted and where organic agriculture is a part of the higher education curriculum.

The Ministry of Education and Science approved the introduction of organic agricultural production as an elective subject in the fourth year of secondary education in agricultural schools as of September 2007.

Presence of farmers groups/organizations involved in organic production: The organic movement was pushed mainly by the civil society organizations gathering farmers and processors. BIOSAN, the association of producers of organic products headquartered in Skopje, is the leading farmers' organization. BIOSAN's primary role is to guide and coordinate the activities of local organic farmers' associations and to promoting organic agriculture at the national level.

International organizations and donor projects supporting organic agriculture development: In North Macedonia, projects supported by international organizations or donors have helped trigger organic agriculture since the 2000s. The Instrument for Pre-Accession Assistance Twinning Project "Organic Agriculture Production and Quality Protection of Agriculture Products" (2013–2014) ensured a full review of the North Macedonian national legislation on organic agriculture and resulted in several amendments adopted in 2016. Recent projects supported by Swiss funds aim at strengthening the national and regional capabilities at the institutional level on organic production and quality protection. The international cooperation project "Increasing Market Employability – IME" (2014–2018) established the first register of organic farmers in North Macedonia. The most recent activity (started in 2018) concerns collaboration with the Swiss Foundation for the Promotion of Organic Agriculture and is aimed at the harmonization of national legislation with the new EU draft regulation (EU 2018/848) to be enforced in 2021. Short training programmes have been performed in foreign countries or in North Macedonia with the support of international organizations and donor projects (GIZ, the Mediterranean Agronomic Institute of Bari (Italy) of the International Centre for Advanced Mediterranean Agronomic Studies, the United States Agency for International Development, the EU-funded Structural and Legal Reform Project, and others).

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: The major constraints for organic agriculture development in North Macedonia include the limited availability and high prices of organic farm inputs; insufficient investments in organic agriculture; lack of well-trained advisers and extension agents; underdeveloped domestic organic market; an insufficient and unorganized offering of organic products; limited organic agriculture research; an insufficient infrastructure (e.g. storage facilities); a lack of accredited laboratories; the low capacity of the processing industry; and limited funds for the support of organic agriculture.

Main opportunities for the adoption or scaling of organic agriculture: Considering its climate and soil conditions, North Macedonia has a significant potential to develop the organic sector especially crop production, beekeeping and wild collection. Farming practices still rely on low use of inputs. With improved marketing and stronger support to the organic supply chain from the Government, this sector could emerge as one of the most developed sectors of agriculture in North Macedonia, and it could decrease the agrifood trade balance.

Major lessons learned from past organic agriculture projects: Projects targeting groups of producers and linking them with the market by improving their capacity through cooperation have seen some success. In addition to focusing on the conversion to organic, other weaknesses in the production system – such as quality, safety and limitations faced due to the infrastructure or certification cost – need to be considered for smallholders. The farmers' management system (e.g. integration of animals and use of on-farm inputs) must be considered while designing projects.

Key strategy and actions for future development: The National Plan for Organic Production covers the period between 2013 and 2020. Key targets are strengthening the competitiveness of organic agriculture; increasing the certified area to 4 percent of the total agricultural land; increasing certified organic livestock (including bee families and fisheries) to 4 percent of the total livestock in the country; and strengthening organic farmers' associations and other non-governmental organizations, along with their networking within the sector. The timely implementation of actions to achieve these key targets is required for the future development of organic agriculture in North Macedonia.

7. Websites for additional information

- http://www.mzsv.gov.mk/: Ministry of Agriculture, Forestry and Water Economy
- http://www.iarm.gov.mk/: Institute of Accreditation of Republic of North Macedonia
- http://www.fpopm.com/: Federation of Organic Producers of Macedonia
- http://www.procert.mk/: Procert Control and Certification OKS
- http://www.balkanbiocert.mk/: Balkan Biocert Skopje
- https://www.organicexport.info/north-macedonia.html
- https://globalorganictrade.com/country/macedonia
- https://www.organic-europe.net/country-info/country-info-macedonia-fyrom/country-info-macedonia-fyrom0.html

Republic of Moldova

1. Background information on organic agriculture sector development

The agriculture and agri-processing sectors play a prominent role in Republic of Moldova's economy. During the past decade, organic agriculture has developed rapidly, led by the legislative and policy frameworks. Data from the Ministry of Agriculture, Regional Development and Environment (MARDE) shows that in 2000, the Government adopted a national concept of organic farming, promoting the production and marketing of genetically unmodified food. In 2001, the first certified organic farm was created. In 2003, organic agriculture was practised on 80 ha, with an additional increase of 168 ha at the end of 2003. The national law on organic agrifood production (No. 115 from 9 June 2005) was enforced. Further legislative acts were accepted in 2006 and 2008 as Government Decision No. 149 from 10 February 2006, for implementation of the law regarding organic agrifood production, and Government Decision No. 1078 from 2 October 2008, regarding the approval of the technical regulation "Organic agro-food production and labelling organic agro-food products."

In 2006, the Government initiated a programme with the aim of developing ecological and competitive agriculture that included a national programme for promoting organic. The development of the organic sector was triggered by this initiative. Between 2005 and 2009, the area under organic farming has expanded 35-fold. In 2009, local governments in the Stefan Voda and Causeni regions organized seasonal, organic, open-air markets to raise awareness and foster growth in the organic sector. In 2010, 2 percent of the country's subsidies was allocated to the agricultural sector in order to support farmers' conversion from conventional to organic practices. Since 2013, additional subsidies for organic vineyards and orchards has been set up. Two local organic certification companies were created to reduce the cost of third-party organic certification for farmers. These initiatives have contributed significantly to the development of the organic sector. By 2013, the land under organic cultivation reached 51 681 ha, representing 2.87 percent of the country's total arable land. However, in 2014, the area dropped to 48 700 ha. Government Decision No. 884 from 22 October 2014 approved the regulation regarding use of the national mark "Agricultura Ecologică – Republica Moldova" (Organic Agriculture – Republic of Moldova). In recent years, organic production and export have displayed strong growth. The main drivers of this growth are the market demand from the European Union, which today accounts for more than 50 percent of the total trade flows, in addition to favourable government policies and the engagement of non-governmental organizations and the private sector. The European Union's demand for organic produce from Republic of Moldova has remained high, despite the periods during which the European Union organic market stagnated due to economic crises (Ghedrovici and Ostapenko, 2016).

2. Organic production

Estimated total organic certified area: The Ministry of Agriculture, Regional Development and Environment data states that 75 686.1 ha were certified as organic in 2018 (Stahi, 2019).

Estimated percentage of organic in total agriculture land area: In 2018, 3.9 percent of the total agricultural land was organic land.

Main crops grown and respective areas: Organic cereals cover the biggest part of Republic of Moldova's organic land, with 20 097 ha in 2017. These were followed by oil and protein crops, which were cultivated on 4 183 ha. The other organic crops are dry

pulses (515 ha), temperate fruit (279 ha), vegetables (109 ha) and grapes (7 ha). This land use breakdown was reported for a total surface area of 30 142 ha in 2017 by Willer and Lernoud (eds., 2019).

Certified wild harvest area: In 2017, certified wild area covered 424 ha (Willer and Lernoud, eds., 2019.).

Number of organic operators: The total number of organic operators in 2017 was reported as 136, out of which 47 had contracted with national certification bodies and 89 had contracted with international certification bodies (Stahi, 2018). The total number of operators were mentioned as 104 in 2018 by Stahi (2019). Willer and Lernoud (eds., 2019) report 114 operators, out of which 72 are exporters of organic products.

Organic animal husbandry: In 2017, the number of head was 320 bovines and 1 115 sheep.

Processing of food and non-food organic goods: Republic of Moldova hosts such organic processing functions as the production of organic wine from organic grapes, the extraction of essential oils from organic aromatic plants, the production of organic cheese at dairies, the processing of organic sunflower seeds at oil mills to produce sunflower oil, the drying of organic fruits.

3. Legislation, regulatory and policy framework

Key ministry/agencies responsible for organic agriculture: The key ministry – and the competent authority – is the Ministry of Agriculture, Regional Development and Environment (MARDE).

Organic legislation and regulation: The first law regarding organic agriculture products, law No. 115-XVI, was enforced on 9 June 2005 (Government Decision No. 149). On 22 September 2008, the "Organic agro-food production and labelling of agro-food products" regulation (No. 1078) entered into force. This regulation requires that inspection and certification bodies be accredited in accordance with ISO 17065 and by the Moldovan Centre of Accreditation in the Field of Products' Conformity Assessment. MARDE authorizes the operation of qualified accredited bodies. Regulations include ecological principles and methods of processing, organic food production, inspection and certification system in the field, and import and export of organic agrifood products. Each organic farm and processor must be registered by the authorities of Republic of Moldova. MARDE has the function of controlling and supervising the activity of authorized inspection and certification bodies, and collecting data and lists of inputs allowed for use in organic production and processing in the country. In 2013, the Government issued a policy directive under which a new agency, the Moldovan Agricultural Payment Agency, was established as the body responsible for managing subsidies for the agricultural sector, including for organic producers (Leshchynskyy, 2018b).

National voluntary organic standards: There is no voluntary national organic standard in Republic of Moldova.

National organic control system: The national control system is governed by the Ministry of Agriculture, Regional Development and Environment (MARDE) according to the system put forth in the law and implementing regulations. MARDE coordinates data collection through nationally authorized and foreign certification bodies, such as the European Union. MARDE also controls and supervises inspection and certification bodies to ensure the objectivity of inspections. It also checks the effectiveness of control and irregularities and/or violations and limits and, when necessary, withdraws or suspends

the authorization. MARDE also prepares and updates the official list of inputs allowed in Republic of Moldova for organic production.

Certification bodies functioning/authorized (national and/or foreign): In organic production, certification is handled by authorized private bodies. On a half-yearly basis, control bodies present to the competent authority information on their activities, such as information on operators, inspected surfaces, detected non-conformities and more.

List of control bodies authorized by the EU for controls in the Republic of Moldova

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
AGRECO R.F. GÖDERZ GmbH (Germany)	MD-BIO-151	X	X	-	X	–	–
Albinspekt (Albania)	MD-BIO-139	–	X	-	–	-	-
bio.inspecta AG (Switzerland)	MD-BIO-161	X	-	-	X	-	-
CCPB SRL (Italy)	MD-BIO-102	X	-	-	X	X	-
CERES (Germany)	MD-BIO-140	X	X	-	X	-	–
Ecocert SA (France)	MD-BIO-154	X	-	-	X	-	-
ICEA (Italy)	MD-BIO-115	X	-	-	X	-	-
Kiwa BCS (Germany)	MD-BIO-141	X	-	-	X	-	-
Letis SA (Argentina)	MD-BIO-135	X	-	-	X	-	-
Organic Standard (Ukraine)	MD-BIO-108	X	X	-	X	-	-
A CERT (Greece)	MD-BIO-171	X	-	-	X	-	-

Source: OFIS, 2019.

Three national certification bodies are present (Stahi, 2018):

- Certificat Eco SRL: Established in 2006 and accredited according to ISO 17065 in 2013;
- Bio Cert Tradițional SRL; and
- Control Union Dnejstr.

Policy measures for supporting organic agriculture: Republic of Moldova has acknowledged the potential of sustainable farming methods not only for increasing the yields and incomes of agricultural producers, but also for revitalising its countryside and restoring the integrity of ecosystem services. In this respect, the country has provided support for organic agriculture since the mid-2000s. The subsidy programme covers various products, and the amount given per unit area varies according to the year of conversion. Stahi (2019) reports that the subsidy programme for the first year in conversion ranges between EUR 38.09 for permanent pastures to EUR 71.42 for orchards, vineyards and strawberries. The amounts increase for the second and third years. To help them maintain organic practices, after conversion, farmers receive such support as a 20-percent price

premium above the conventional for organic certified products, based on the presentation of invoices.

4. Organic agriculture marketing

Organic agriculture is mainly export-oriented, and the European Union is the largest trading partner.

Domestic market: The domestic market is comparatively limited, with growing demand for organic products in urban areas, most notably in Chisinau and Balti. An important step taken by the Government towards the development of the local organic market was the provision of a 20-percent price premium above the price of conventional products to organic producers during 2007–2009. Based on the Law on Public Procurement, organic products, vegetables and fruits were purchased by the state for public catering. These procurements are based on a government tender for which interested farmers may bid. Organic products are purchased first, and additional purchases are then complemented with conventional products. Potatoes and berries have just begun to be grown organically, mainly for local kindergarten and school consumption. There is still insufficient awareness-raising and promotion of organic products, and the local markets predominantly face shortages of organic products. Fresh, organic fruit and vegetables, and organic dairy and meat products are not widely available in shops. The major opportunity to widen the product range and to generate income could be the processing of organic products destined for export markets in the country.

Imports: Not applicable.

Export market: The main certified and exported organic products are wine, shelled walnuts, dried fruits (dried prunes, dried apples and dried cherries), rose hips, preserved cherries, pumpkin seeds, sunflower seeds, sunflower oil, soy seeds, rapeseed, cereals (wheat, barley, triticale and rye), grains (such as animal feed), lavender oil, beans and barley. The main markets for organic products in the European Union are Czechia, Germany, Italy, Poland and Slovakia. Walnuts are among the top-ranking products and are mostly destined for the German market. Organically grown agricultural products – including cereals, oilseeds, dried pulses, herbs, honey, fruits, berries and nuts – are well-suited for export to European Union countries. Among the organic grains grown in Republic of Moldova are soft wheat, durum wheat and spelt, which are exported mainly to Slovakia, Czechia and Poland.

Data collection system at the national level: There is an official data collection system that integrates both the national certifying agents and those authorized by the importing countries.

5. National institutions and international organizations on organic agriculture

Key national institutions supporting organic agriculture: The Ministry of Agriculture, Regional Development and Environment (MARDE) is the key national institution responsible. , Within the MARDE, a special unit was created to support the development of the organic farming the “Organic Farming and Products of Origin” Service. The Service initiates the development of the pertaining regulations, leads the Commission for authorisation of inspection and certification bodies, maintains the Register of organic farmers, and coordinates the public policies in the field of organic farming through a sector development program. Several institutions are active in conducting research and promoting organic agricultural practices. The Selectia Research Institute of Field Crops, the Institute of Biological Protection of Plants, the

All-Union Institute of Biological Plant Protection, and the Faculty of Agronomy at the Agricultural State University of Moldova are the leading institutions with long experience in organic agriculture.

EcoVisio is a grassroots non-governmental organization (NGO), created in 2017, that is working on education for sustainable development, peace and transformative leadership, social entrepreneurship and green economy, rural development and tourism, trees and organic agriculture, waste management, eco-construction, and energy. The NGO ProRuralInvest, established in 2003, conducts field demonstration projects and seminars and has prepared publications on different aspects of organic production and established contacts with similar organizations in other countries. The Moldova Organic Value Chain Alliance (MOVCA) is a membership-based business association for organic agriculture and products in Republic of Moldova to promote and protect organic with a unifying voice that serves, engages and encourages its diverse members from farm to marketplace.

Presence of farmers groups/organizations involved in organic production: The National Association of Organic Farmers (APEM-AGRO), established in 2010, promotes the products of its members by organizing joint stands at local and international fairs. It aims to be the voice of the private sector in dialogue with the Government.

International organizations and donor projects supporting organic agriculture development: The EU-funded Greening Economies in the European Union's Eastern Neighbourhood (EaP GREEN) partnership programme was designed provide support to the countries in the European Union Eastern Neighbourhood Partnership – in particular, Armenia, Republic of Moldova and Ukraine – in strengthening their organic agrifood supply chains and trade flows. The Environmental Fiscal Reform Project, funded by the United Nations Development Programme and the Global Environment Facility, financed the *National Study on Organic Agriculture and Greening of Conventional Farming* report in 2014.

The Technical Assistance and Information Exchange Instrument of the European Commission (TAIEX) project "Strategic Support to the Moldovan Organic Farming Sector" was directed towards improving the organic sector in Republic of Moldova (May 2017 to June 2018). The "Support of Organic Agriculture" project was funded by the United States Agency for International Development and implemented by the NGO People in Need. It aimed at increasing the production of organic products and expanding the organic agricultural sector.

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: Organic production faces similar challenges as conventional production; these challenges include a lack of necessary infrastructure, such as substandard roads, a lack of pressurized irrigation systems and technologies, and a lack of facilities for harvesting, controlled storage and processing. Other issues presenting challenges to the sector's future development are a lack of trained labour, an unfavourable land ownership structure, and poor financing and marketing schemes. Organic production is severely affected by shortages in processing technology. Getting organic certification and labelling requires documentation and financial resources, which are difficult and expensive for many small-scale producers. The pool pf knowledge on organic production and markets is still limited among producers. The national policies supporting organic production and government subsidies for organic farmers are subject to frequent changes and have various restrictions that limit the attractiveness of converting to and pursuing organic agricultural practices.

Market growth is challenged by low awareness and purchasing power of consumers, in addition to unstable supply, fluctuating quality, and the limited range of organic products.

Fluctuations in export market demand also discourage long-term investments in organic production, branding, marketing and trade infrastructure. For smaller farms, the cost of organic certification is too high, and in the majority of cases, the traders and exporters hold organic certificates. This has the advantage of helping provide resource-poor farmer access to the international market, but the farmers have no decision-making or bargaining power for marketing their organic produce.

Main opportunities for the adoption or scaling of organic agriculture: In general, the conditions for organic production in Republic of Moldova are favourable because of the low use of inputs, especially of import-dependent chemical fertilizers. The Government has adopted policies to upscale sustainable and organic agriculture. There is a strong grassroots movement closely cooperating with the Ministry of Agriculture, Regional Development and Environment and other stakeholders. Organic products destined for export markets, including walnuts, cereals, oils and dried fruit, are all produce with long shelf lives, overcoming the requirement for more proper storage and transportation technology.

Major lessons learned from past organic agriculture projects: Projects carried out to develop the organic sector in Republic of Moldova have focused on analysis of the sector, identification of the issues that hinder development, and the development of solutions for improvement, using a participatory approach with stakeholders, including the state, NGOs and the private sector.

Key strategy and actions for future development: The legal framework and the system governing organic agriculture are in place in Republic of Moldova. There is a need to focus on improving processing, storage and transportation facilities. In marketing, the balanced development of the domestic and export markets is required. According to an assessment of the European market, protein-rich raw materials for feed mixes – such as oilcakes, soybeans and dried pulses – have the largest export potential. The market is very promising for cereals (e.g. wheat, corn, barley, rye, triticale, spelt and oat) and oilseeds such as sunflower kernels. Thus, once policies supporting organic agriculture based on the strategy are stable for the medium and long term, increases are expected to continue.

7. Websites for additional information

- https://gov.md/: the Ministry of Agriculture, Regional Development and Environment
- http://www.movca.md/: Moldova Organic Value Chain Alliance (MOVCA)
- https://certificat-eco.md/: Certification body Certificat Eco SRL
- https://www.ecovisio.org/: Eco Visio, an NGO working on sustainable development and organic agriculture
- https://globalorganictrade.com/country/moldova

Russian Federation

1. Background information on organic agriculture sector development

In the Russian Federation, organic agriculture started parallel with the enlarging organic markets in the world, almost two decades ago, and has shown a steady increase. This interest has been pronounced more for the export market, especially through very big companies. The domestic market, on the other hand, enlarged until 2004 with imported European organic products. As the domestic market grew, various green labels and private certification schemes were introduced, creating confusion and lack of trust among consumers. As a consequence, some of the initiatives that were very successful at the time lost their market shares and had to stop. To establish and regulate the organic system at the national level, three national standards (GOSTs) were adopted between 2014 and 2016, putting forth rules for the production and distribution of organic products in the Russian Federation. These were:

- GOST R 56104-2014 "Organic Food Products: Terms and Definitions," dated 10 September 2014;
- GOST R 56508-2015 "Organic Products: Production, Storage and Transportation Rules," dated 30 June 2015; and
- GOST R 57022-2016 "Organic Products: Guidelines for Voluntary Certification of Organic Production," dated 5 August 2016.

In addition, an interstate standard (GOST 33980- 2016/CAC/GL 32-1999, NEQ "Organic Products: Rules for Production, Labelling and Sale") was developed to regulate organic production in the Commonwealth of Independent States and was originally expected to be enacted in January 2018. Its enforcement has been postponed to 2020 since its implementing regulations are not yet fully in place. Once enforced, it will replace the three GOSTs. The new strategy for the Russian Federation, as the president declared in December 2015, is to become the world's largest supplier of "ecologically clean and high-quality food." In order to achieve this goal, activities to improve the legislative and institutional frameworks are ongoing.

2. Organic production

In the Russian Federation, there is no official data collection system yet. The figures used here come from Willer and Lernoud (eds., 2019) for the year of 2017. They have been compiled through some certification bodies and are noted as incomplete. Organic production is dispersed throughout the country but is more concentrated in the western regions, in the European part of Russia – the major areas being Yaroslavskaya oblast, Saratovskaya oblast, Rostovskaya oblast, Krasnodarskiy kray, and Moskovaskaya oblast. The average Russian organic farms are small to medium in size, approximately 50–100 ha each. However, bigger companies take the largest share of the production and marketing of organic products. Therefore, despite the large area under organic management, the number of producers is still few in number. There are four large holding companies in organic production: Agrivolga (brand Ugliche pole), Arivera, Savinskaya and Niva. The certified non-agricultural areas in which organic produce (wild plants) are grown or collected are quite scattered. Regions in which more than one producer of bioproducts are present are the Saratov, Tomsk, Kaliningrad, Kaluga and Moscow regions, Primorsky and Krasnodar territories, and the Republic of Mordovia.

Estimated total organic certified area: In the Russian Federation, 656 933 ha of cultivated land and 30 991 ha of wild harvest land are certified as organic, totalling 687 924 ha under organic management. Arable land under organic management is 598 120 ha, with permanent crops covering 104 ha and permanent grassland covering 6 320 ha.

Estimated percentage of organic in total agriculture land area: 0.3 percent.

Main crops grown and respective areas: The main crops are cereals (156 619 ha fully organic and 45 089 ha in conversion), oil seeds (114 575 ha), dry pulses (26 447 ha), vegetables (96 ha), temperate fruit (51 ha), and grapes (16 ha).

Total number of organic producers: About 69 processors and 28 exporters have been counted in the Russian Federation.

Certified wild harvest area: 30 991 ha.

Organic animal husbandry: No organic animal production data, including for beekeeping, are reported by Willer and Lernoud (eds., 2019), but there are certification bodies authorized by the European Union for animal production. Mitusova and Buyvolova (2017) report that dairy products account for 13 percent of the organic production in the Russian Federation, followed by meat and meat products at 11 percent, based upon data from the National Organic Union.

3. Legislation, regulatory and policy framework

Key ministry/agencies responsible for organic agriculture: The Ministry of Agriculture is the key ministry.

Organic legislation and regulation: Three national standards (GOSTs) currently are present to regulate the production and distribution of organic products in Russia:

- GOST R 56104-2014 "Organic Food Products: Terms and Definitions," dated 10 September 2014, provides definitions of organic agriculture, the organic production process, organic food products, and organic certification and inspection.
- GOST R 56508-2015 "Organic Products: Production, Storage and Transportation Rules," dated 30 June 2015, provides detailed guidelines on organic production (including plant production, animal husbandry, beekeeping and aquaculture); conversion to organic production; organic feed production; collecting, packaging, transporting, and storing organic products; and labelling organic products.
- GOST R 57022-2016 "Organic Products: Guidelines for Voluntary Certification of Organic Production," dated 5 August 2016, outlines rules for the certification of organic production.

The interstate standard (GOST 33980-2016/CAC/GL 32-1999, NEQ "Organic Products: Rules for Production, Labelling and Sale") provides a definition of organic products and outlines rules for production, processing, labelling and distribution (Yavruyan, 2018). This interstate standard regulates organic production in the Commonwealth of Independent States countries and was expected to become effective in January 2018, replacing the three Russian Federation national standards. However, this date has been postponed to 2020. There is no organic logo yet.

National voluntary organic standards: There are some local Russian certification companies that certify organic producers in accordance with their own voluntary certification systems registered with Rosstandart, the Federal Agency for Technical

Regulation and Metrology, which serves as the country's national standardization body (Mitusova and Buyvolova, 2017). These local voluntary certification systems are mostly based on adapted translations of European Union organic standards. Since the introduction of GOST R 56508-2015, certification companies have been using this standard as the reference in their certification process. However, since there is no well-established official system for organic certification, such certification bodies have added to the confusion among consumers. Three Russian certification companies currently operating in the market through their own systems are Organic Expert;[21] the Ecological Union,[22] with its own Eco labelling programme Vitality Leaf; and Eco Control.[23]

National organic control system: There has been no implementation of the legislation, since the system is not yet fully established.

Certification bodies functioning/authorized (national and/or foreign): The legislation on organic agriculture has not yet been implemented; therefore, foreign certification bodies having authorization from the competent authority perform inspection and certification operations according to the respective reference legislation of the importing country.

List of control bodies authorized by the EU for controls in Russian Federation

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
A CERT (Greece)	RU-BIO-171	X	–	–	X	–	–
AGRECO R.F. GÖDERZ GmbH (Germany)	RU-BIO-151	X	X	–	X	–	–
bio.inspecta AG (Switzerland)	RU-BIO-161	X	–	–	x	–	–
CCPB SRL (Italy)	RU-BIO-102	X	–	–	X	X	–
CERES (Germany)	RU-BIO-140	X	X	–	X	–	–
Ecocert SA (France)	RU-BIO-154	X	–	–	X	X	–
ECOGLOBE (Armenia)	RU-BIO-112	X	X	–	X	–	–
Ekoagros (Lithuania)	RU-BIO-170	X	X	–	X	–	–
IBD Certificações Ltda. (Brazil)	RU-BIO-122	X	X	–	X	–	–
ICEA (Italy)	RU-BIO-115	X	X	–	X	–	–
Kiwa BCS (Germany)	RU-BIO-141	X	X	–	X	X	–
LACON GmbH (Germany)	RU-BIO-134	X	–	–	–	–	–
Letis SA (Argentina)	RU-BIO-135	X	–	–	X	–	–

21 For more information, see http://organikexpert.ru/.
22 For more information, see http://ecounion.ru/.
23 For more information, see http://eco-control.ru/.

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
OneCert International PVT Ltd (India)	RU-BIO-152	X	–	–	X	–	–
Organic Standard (Ukraine)	RU-BIO-108	X	X	–	X	X	–
Organización Internacional Agropecuaria (Argentina)	RU-BIO-110	X	–	–	X	–	–
Valsts SIA (Latvia)	RU-BIO-173	X	X	–	X	X	X

Source: OFIS, 2019.

There is no national certification body accredited for certifying organic. Foreign certification bodies are operating.

National strategy and action plan on organic agriculture: No national strategy has been prepared on organic agriculture.

Policy measures for supporting organic agriculture: The Government does not have a general subsidy scheme for organic agriculture. The development of organic agriculture is not mentioned as a priority area in the Russian Federation's Agriculture Development Program 2013–2020, nor is there a specific programme to develop organic agriculture in the country. However, some of the policy decisions may positively contribute to the development of organic. In 2016, the Russian Federation banned the breeding and cultivation of genetically modified organisms (GMOs). In January 2018, the country's Prime Minister, Dmitry Medvedev, said that the Russian Federation would capture 10 to 25 percent of the global market for organic foods. It is also expressed that some support measures are expected to be put in place after the implementation of the interstate law on organic agriculture. There are some examples of political support, such as in Belgorod region, where the regional government adopted some laws directed to the introduction and support of green farming methods. Taking into consideration the difficult landscape conditions in this region, this positive change will serve sustainable use and protection of land and water resources at the regional level.

4. Organic agriculture marketing

Domestic market: Organic farms in the Russian Federation produce mostly grains (23 percent of the total organic production) and fruits and vegetables (22 percent). Dairy products account for 13 percent of the organic production in the country, followed by meat and meat products at 11 percent. The largest organic producer agricultural holdings are also present on the retail side and have their own specialized stores in Moscow and St. Petersburg, where the domestic market is concentrated. Russians buy their organic products mainly in premium supermarkets in major cities and in online stores.

The retail channels for organic products include the supermarkets (mostly "premium" stores) – such as Azbuka Vkusa and Globus Gurme. Organic products are presented in the Auchan network of hypermarkets with smaller price premiums. Other supermarkets have begun to open healthy food sections. There are no special shelves allocated to organic

products, but they are displayed in these "healthy foods" sections. One survey showed that 80 percent of Russian consumers purchase organic for health-related reasons. The limited organic product range is widened by imported organic products. The demand for organic products in the Russian Federation is still limited (Mironenko, 2017).

Imports: Organic products sold in the domestic market are mostly imported (roughly 85 percent). Imported products are mainly sweet and salty snacks, fruit and cereal bars, vegetable preserves, juices, cereals, spaghetti, tea, coffee, cocoa, chocolate and superfoods. European countries are the main exporters of organic products to the Russian Federation.

Export market: The bulk of Russian organic products is sold abroad. A large percentage of exports goes to Asia for processing and re-exportation, mainly to China and Turkey due to the sanctions on imports/exports with the United States of America and the European Union. Traditional Asian crops such as adzuki beans, soybeans and chickpeas are being grown more and more in the Russian Federation. Some of the products are exported to Europe.

Data collection system at the national level: There is no official data collection system yet in the Russian Federation.

5. National institutions and international organizations on organic agriculture

Key national institutions supporting organic agriculture: Key national institutions include the Ministry of Agriculture, the Federal Agency on Technical Regulating and Metrology (Rosstandart), and research organizations, including the Institute of Organic Agriculture,[24] the Kuban State Agrarian University, the Moscow Timiryazev Agricultural Academy of the Russian State Agrarian University, and Lomonosov Moscow State University. The associations involved in organic are the National Organic Union[25] and the Union of Organic Agriculture.[26]

Even if there are research organizations performing research on organic agriculture, the structures allowing the dissemination of results to organic farmers or any other stakeholders are not in place.

Presence of farmers groups/organizations involved in organic production: The National Organic Union represents mostly large organic producers certified according to European Union standards or GOST R 56508-2015 and retailers that sell organic products. The Union of Organic Agriculture represents organic producers and other groups of "ecological" producers that are not necessarily certified according to the valid organic standards.

International organizations and donor projects supporting organic agriculture development: No major projects by donors or international organizations are supporting organic agriculture in the Russian Federation, except for reports (such as by the World Bank) and training courses (such as from FAO).

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: In the Russian Federation, the organic legislation has been being prepared since 2014, but it is not yet implemented due to gaps in legislative and institutional framework. Efforts are being made to start implementation of the interstate law, which will rule over the Russian GOST

[24] For more information, see http://www.ioa.institute/.
[25] For more information, see http://rosorganic.ru/.
[26] For more information, see http://sozrf.ru/.

standards by 2020. By then, the legislation will require updates to align the international standards. To avoid postponing the enforcement, it is recommended that the required articles be amended. The competent authority must finalize the setting up of the institutional framework and the building of trust inside and outside the country, including the data collection system and market surveillance. It is also necessary to bring together all stakeholders to exchange capacity and knowledge and strengthen the organic movement in the Russian Federation. Considering the distances between regions, regional activities and networks have to be initiated.

Main opportunities for the adoption or scaling of organic agriculture: The Russian Federation has a vast potential, with land area and proximity to the main organic markets to the west and east. The demand has triggered organic production in the Russian Federation, mainly for the export market, but the number of actors and products are limited. To enlarge the product range, there is a need to focus on the domestic market. In this respect, establishing a well-functioning and transparent certification and market surveillance system will help build consumer trust and overcome confusion with other "healthy food" concepts. Education, training and awareness-raising activities will enlarge the knowledge pool. These projects must be planned at national and regional levels. It is also necessary to disseminate objective and updated information in mass media and among all interested parties about the organic agriculture principles, methods, standards and markets.

Major lessons learned from past organic agriculture projects: There are no outstanding projects on organic, but the domestic market and consumers' expectations should receive more attention.

Key strategy and actions for future development: A strategy and action plan needs to be drafted in a participatory approach. The national organic system must be established and start carrying out various functions, such as aligning national legislation to the international legislation, certification, data collection, education and training activities, and domestic/import and export markets. Since the Russian Federation has among the highest organic area in the world, with increases during the past few years, these aspects become even more urgent.

7. Websites for additional information

- http://www.ioa.institute/
- http://rosorganic.ru/
- http://sozrf.ru/
- http://ecounion.ru/
- http://eco-control.ru/
- https://globalorganictrade.com/country/russia

Serbia

1. Background information on organic agriculture sector development

In the 1980s, a few pioneering farmers started practising organic agriculture in Serbia. Lion Food Company produced its first organic produce in 1989, and it began exporting in 1990. The major move came when the first association on organic, Terra's, was established in 1990 by a network of producers, farmers, advisers and academics involved in organic production in the city of Subotica in northern Serbia to promote organic agriculture. The first national law on organic agriculture was adopted in 2000. The second law, which included the use of the national logo, was adopted in 2006. The last law was passed in 2010, to comply with European Union rules. After the adoption of the first law, a department on organic agriculture was established within the Ministry of Agriculture, Forestry and Water Management in 2004. The ministry issues a permit for the authorization of the control bodies.

In Serbia, the first certification body was founded in 2003 with the help and cooperation of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ, the German International Development Agency) and the German control body Kiwa BCS. In 2009, the National Association on Organic Agriculture was founded, and in 2011, the Expert Council for Organic Agriculture was founded. Also in 2011, the Rulebook on Organic Agriculture was approved. In 2013, the certification body Organic Control System (OCS) was established. Organic agriculture was included in agricultural high school education curricula in 2014. There are educational programmes in secondary vocational schools and faculties. Six regional centres for organic agriculture were formed in Serbia – in Selenča, Valjevo, Svilajnac, Leskovac and Negotin in 2011 and in Uzic in 2013. The creation of a national research agenda for organic production sector is accepted as a priority measure (Measure 6.1).

2. Organic production

Estimated total organic certified area: Different figures are reported for Serbia in various data sources, and the following figures were extracted from the sources referred. The organic agricultural area in Serbia covered a total of 21 324 ha in 2016 (14 358 ha organic and 6 966 ha in conversion). The area decreased to 19 318 ha in 2017 (13 423 ha and 5 895 ha in conversion). The decrease was both in organic and in conversion land. When all organically managed area is calculated, the total land area is reported as 20 868 ha (13 423 ha organic, 5 895 ha in conversion and 1 550 ha organic wild harvest) in 2017 (Milić, 2019; Willer and Lernoud, eds., 2019). The organic certified area in Serbia in 2015 was stated to cover a total area of 15 298 ha (with meadows and pastures, but without the collection of wild berries, mushrooms and medicinal herbs), including areas that are in organic status and in the conversion period (Manojlovic, 2018).

Number of organic operators: Organic production started in 1990. Between 2006 and 2015, the largest number of manufacturers was recorded in 2010, at 3 887. Processors appear as self-registered producers and as subcontractors. The number of organic operators rose from 390 in 2016 to 434 in 2017 (Milić, 2019). This increase is mainly among producers and processors. In contrast, the number of exporters dropped from 60 to 48 in the same period. Taking into consideration the decrease in certified land area, more small farms have seemed to enter organic production. Willer and Lernoud (eds., 2019) report the number of operators in Serbia as 6 022, based upon different data sources, including the Ministry of Agriculture, Forestry and Water Management. The difference is possibly

due to additional operators certified according to foreign organic standards and/or those involved in wild harvest. Serbia Organica has announced the presence of 6 000 organic operators on 14 000 ha of land (Serbia Organica, 2019).

Estimated percentage of organic in total agriculture land area: The share of organic land of the total agricultural land in 2017 was 0.39 percent, down from 0.41 percent in 2016.

Main crops grown and respective areas: Serbia possesses a temperate continental climate and is divided into nine edaphic-climatic regions. The climatic variation among regions governs the production patterns, and thus some regions are more concentrated in organic agriculture. The major crops include cereals, fruits and vegetables. For arable crops, cereal production is predominant, with wheat taking the lead with 1 348 ha (accounting for 10 percent of the total organic agricultural area), followed by corn, with 953 ha. Among perennial crops, raspberries rank first, with 1 575 ha (11.7 percent of the total organic agricultural area), followed by apples (887 ha) and plums (771 ha) (Milić, 2019). Willer and Lernoud (eds., 2019) report an area of 2 255 ha devoted to oil seeds and 215 ha for vegetables.

Certified wild harvest area: A total of 1 550 ha of certified wild harvest area has been reported (Willer and Lernoud, eds., 2019).

Organic animal husbandry: Organic livestock production is relatively well-developed, considering the regional context, and most of the livestock categories are uniformly developed in terms of the number of head. Sheep are the most numerous (4 665 head), followed by poultry (4 415 head) and bovine animals (3 094 head). Goats are reared as well, totalling 2 048 head, and organic beekeeping is practised on 2 307 beehives. Equines are also present, with a population of 177 head.

Processing of food and non-food organic goods: The processing of organic food and non-food (especially medicinal and aromatic plants) is advanced in Serbia, supplying a wide range of products for the domestic and export markets, including in neighbouring countries. Among the major processing activities are pumpkin and sesame oil extraction, the processing of fruit and vegetables (chips, spreads and jam), and milling.

3. Legislation, regulatory and policy framework

Key ministry/agencies responsible for organic agriculture: The Ministry of Agriculture, Forestry and Water Management is the competent authority and carries out its functions through various departments.

Organic legislation and regulation: The first Law on Organic Agriculture on Serbian territory, during the times of the former Yugoslavia dates back to 2001. In the Republic of Serbia, organic production is regulated by the Law on Organic Production and Organic Products ("Official Gazette of RS", No. 62/2006), enacted in July 2006. In May 2010, a new Law on Organic Agriculture was passed by the Parliament. In compliance with EU regulations on organic production (EC 834/07 and 889/08), this law provides for a competent, government-affiliated authority in the field, as well as for an accreditation of certification bodies by the Accreditation Board of Serbia. The law covers plant, livestock, and aquaculture production rules; the processing of food/feed; labelling; controls; and import rules. Subsidies for the organic sector are based on the legislation on subsidies in agriculture and rural development (Official Gazette No. 10/13, No. 142/2014, No. 103/2015 and No. 101/2016).

National voluntary organic standards: There is no voluntary national organic standard.

National organic control system: The national control system is governed by the Ministry of Agriculture, Food and Water Management according to the system put forth in the law and implementing regulations.

Certification bodies functioning/authorized (national and/or foreign): In organic production, certification is handled by authorized private bodies.

List of control bodies authorized by the EU for controls in Serbia

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
A CERT (Greece)	RS-BIO-171	X	–	–	X	–	–
AGRECO R.F. GÖDERZ GmbH (Germany)	RS-BIO-151	X	X	–	X	–	–
Albinspekt (Albania)	RS-BIO-139	X	X	–	X	–	–
Bioagricert SRL (Italy)	RS-BIO-132	X	X	–	–	–	–
CCPB SRL (Italy)	RS-BIO-102	X	–	–	X	X	–
CERES (Germany)	RS-BIO-140	X	X	–	X	–	X
Control Union (The Netherlands)	RS-BIO-149	X	X	X	X	X	X
Ecocert SA (France)	RS-BIO-154	X	X	–	X	–	X
Kiwa BCS (Germany)	RS-BIO-141	X	–	–	x	–	–
LACON GmbH (Germany)	RS-BIO-134	X	X	–	X	–	–
Organic Control System (Serbia)	RS-BIO-162	X	–	–	X	–	–
Organska Kontrola (Bosnia Herzegovina)	RS-BIO-101	X	X	–	X	–	–
Q-check (Greece)	RS-BIO-179	X	–	–	X	–	–

Source: OFIS, 2019.

Organic Control System (OCS), founded in 2003, is the only certification body of Serbian origin. Through trainings and support provided by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the Program for Private Sector Development in Serbia (ACCESS), Organic Control System, in Subotica, was officially listed by the European Commission on 21 June 2013. OCS has approval from the European Commission for Serbia, Montenegro, Bosnia and Herzegovina, and North Macedonia, and it is also included in the official list of recognized certification bodies in Switzerland. OCS provides services of certification products with geographical indication, along with the inspection and certification of organic products according to the National Organic Program of the United States of America, the Japanese Agricultural Standards, the KRAV organic standard extra requirements, and the Bio Suisse private standard.

Policy measures for supporting organic agriculture: The first financial support for organic agriculture in Serbia was provided in 2004, in the form of subsidies for organic producers. In 2009, with the help of a GIZ project, the first national action plan for the development of organic agriculture in Serbia was developed. Currently, subsidies for the organic sector are based on the legislation on subsidies in agriculture and rural development (Official Gazette No. 10/13, No. 142/2014, No. 103/2015 and No. 101/2016). This law allocates at least 40 percent more subsidy to organic production than to conventional

production. Subsidies are intended for the conversion period and for certified plant and livestock production. Subsidies for plant production are granted based on the cultivated unit area, and subsidies for livestock are based on the number of head. For beekeeping, subsidies are allocated based on the number of beehives, and for organic milk, a price premium is introduced. Additional support is given for organic agriculture in the form of refunds of the costs of control and certification.

4. Organic agriculture marketing

Domestic market: The domestic market is still in an emerging state. Consumer awareness has started to rise – primarily in bigger urban environment in which organic products are present, such as in Belgrade and Novi Sad. Large retailers have included organic products in their product ranges, thus increasing its availability. Several retail shops and some green markets are the main sources for the purchase of organic products. Online shopping is available, as well. Since 2015, city markets in Belgrade periodically have been setting up organic caravans. Organic fresh products come from domestic production, and organic plant products dominate the market. Organic meat was available first in the domestic market in 2015. Larger retail chains have shown interest and demanded greater quantities, but domestic producers have been unable to provide continuity and quantity, leading to rises in imports.

Imports: Due to lower offerings on the domestic production side, products demanded by the local consumers, such as fresh fruits, are being imported. The demand for organic products is growing, and imports of organic products amounted to EUR 4.4 million in 2015. The demand is mainly for processed products, but fresh products are also imported. Recently, organic meat has been imported, due to shortages in the domestic market.

Export market: Organic production in Serbia is mainly export-oriented; roughly 99 percent of the total is designated for export. The European Union countries – mainly Germany, France, Italy and the United Kingdom of Great Britain and Northern Ireland are the leading destinations. According to the 2015 figures, EU Member States had a share of 70.4 percent. The United States of America had a share of 21.8 percent, with the European Free Trade Association at 3.7 percent and others at 4 percent. The total export value was EUR 19.573 million. The commodities that are exported the most are fresh and frozen fruits. In Serbia, fruits such as raspberries, cherries, apples, strawberries and blueberries have the most important share of the exports, followed by fruit juice concentrates, dried raspberries, blackberries, sour cherries, medicinal herbs, mushrooms and frozen berries (Serbia Organica, 2019). In 2015, raspberries were top-exported fruit, with a value of EUR 10.9 million. These were followed by frozen blackberries (EUR 3.2 million) and fresh organic apples (EUR 1.7 million). Among processed fruits, apple concentrates amounted to EUR 1.0 million, dry fruits to EUR 750 000, and sour cherries, quince and blackberry puree with a total of EUR 232 000 (Simić, 2017). Cereals and vegetables are also exported (Manojlovic, 2018).

Data collection system at the national level: There is an official data collection system at the farm level managed by the Ministry of Agriculture, Forestry and Water Management, but there are gaps, especially regarding the market. Data on the value and share of the domestic market are not available. Customs collects data on organic exports and imports. Serbia Organica carries out market surveys through which on-site data are collected (Simić, 2017).

5. National institutions and international organizations on organic agriculture

Key national institutions supporting organic agriculture: Among the key governmental bodies is the Ministry of Agriculture, Food and Water Management (MAFWM), which is the competent authority for organic agriculture. Within the MAFWM, two groups are

in charge of issues related to organic agriculture. The Group for Organic Production, as part of the Directorate for National Reference Laboratories, performs various tasks in the domain of organic. The other important institutional actors in the Serbian organic sector are the Accreditation Body of Serbia and the Chamber of Commerce and Industry of Serbia. Among the other key sector actors, Serbia Organica plays an active role among producers and consumers. The Terra's non-governmental organization, the Vojvodina Organic Cluster, the Selenča Centre for Organic Production, and the citizens association Luka Znanja (The Knowledge Harbour) can be named.

Presence of farmers groups/organizations involved in organic production: Serbia Organica plays an active role in the development of organic agriculture. Producers, processors, traders, academicians and consumers are present as members.

International organizations and donor projects supporting organic agriculture development: In 2000, after the establishment of the new government, foreign investments and projects arrived. This created an opportunity to improve knowledge and export opportunities. The first foreign organizations to promote organic production in Serbia through regional projects were Avalon, from the Netherlands; the Swedish International Development Cooperation Agency, from Sweden; and Diaconia, from Germany. Since 2006, numerous projects oriented to develop the organic sector have been approved. Among them:

- a project focusing on regional development in rural areas in Vojvodina and Sandzak, funded by the Austrian Development Agency;
- a large project to introduce food safety standards, from the Swiss Agency for Development and Cooperation; and
- a project from GIZ that concentrated on advisory policy, donor coordination and the creation of business associations.

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: The largest share in agricultural production comes from small holdings with between 5 ha and 10 ha of arable land. This is both a barrier to and an opportunity for the development of organic agriculture. Insufficient infrastructure, low technology integration, lack of education and support, and problems in management make the scaling of organic production harder. Linked to financial resource limitations, these create problems in procuring raw materials (seeds, soil amendments, plant protection agents, etc.), covering the costs of certification, and building up storage and other infrastructures. The availability of inputs allowed in organic is also limited.

Main opportunities for the adoption or scaling of organic agriculture: A large part of Serbia has natural resources suitable for developing organic agriculture. The regions and macrorayons of agriculture are clearly defined in Serbia, which are important factors considered in the development of regional and agri-environmental policies. With its fertile soils, uncontaminated land and diverse agricultural production, Serbia has an opportunity to successfully scale up organic agricultural production and processing. The production is fragmented and represented mostly by small-scale farms; this has created an opportunity for berry fruits in the current organic product design. Organic agriculture has a greater chance of development in less-developed areas, with low-input farming on small plots. There is a strong grassroots movement and cooperation among stakeholders. Scientific institutions play a major role in the development of organic agriculture in Serbia by widening the knowledge pool and carrying out applied research. The legislative framework is well-developed, and incentives are provided to the organic sector. If the

amounts were to increase through the promotion of organic agriculture, this would increase the competitiveness of Serbian organic products (Tabakovic et al., 2017).

Major lessons learned from past organic agriculture projects: Since the establishment of Serbia, many European and other donor organizations have supported projects on organic agriculture. The main contributions seem to have occurred in terms of institutional building, improvement of legislative framework, and the building of capacity at all levels.

Key strategy and actions for future development: The national action plan for the development of organic agriculture integrates organic production and biodiversity conservation with the national research agenda for the organic agricultural sector (2013). In 2018, a plan for the development of organic production was adopted as an integral part of the National Rural Development Programme. The programme is for the period of 2018–2020 (Official Gazette No. 60/18) has five key targets: 1) the agricultural production and processing sector; 2) environment and natural resources; 3) income and quality of life in rural areas; 4) implementation of local rural development strategies; and 5) knowledge generation and transfer. In future development, the multifunctionality of organic farming – with its impact on biodiversity and natural resource preservation and rural development – will guide future developments in Serbia parallel with those in the European Union.

7. Websites for additional information

- http://www.minpolj.gov.rs/: Ministry of Agriculture, Forestry and Water Management
- http://www.dnrl.minpolj.gov.rs/: Ministry of Agriculture, Forestry and Water Management; Directorate for National Reference Laboratories, Group for Organic Production
- http://www.ats.rs/: Accreditation Body of Serbia
- http://www.pks.rs/: Chamber of Commerce and Industry of Serbia
- http://www.serbiaorganica.info/: National Association for organic production “Serbia Organica”
- http://www.terras.org.rs/: Organic association “Terra’s”
- https://www.organica.rs: Organic Control System, Serbian certification body
- http://www.organiccentar.rs/: Centre for organic production Selenča
- http://www.vok.org.rs/: Vojvodina Organic Cluster
- https://globalorganictrade.com/country/Serbia

Tajikistan

1. Background information on organic agriculture sector development

Tajikistan is primarily an agricultural country, with as much as 70 percent of its population living in rural areas and 65 percent of the workforce being employed in the agricultural sector, especially the cultivation and production of cotton. Organic agriculture started in 2008 with organic cotton in the north, through a Helvetas project. Farmers established a cooperative in 2012 and took over the organic activities. The Helvetas project is ongoing in six districts of organic cotton growing. The Ministry of Agriculture established a lab through the Cotton Development Project (Decree of the Government No. 28), with branches in other regions. The number of organic cotton farms has increased especially since 2014. In 2017, 1 049 farmers were growing 6 405 metric tons of certified organic cotton on 4 920 ha of land, supplying approximately 5 percent of the global market share (Textile Exchange, 2018).

There is a law on organic agriculture (No. 1001), which was put into force on 22 July 2013; however, it requires major revisions to align it with international standards. Additional requirements include inputs and methods utilized in plant and animal production and wild harvest, processing, labelling, authorization of control bodies and supervision of the system, data collection, promotion of research, and development of the institutional framework. Organic production has been initiated and is currently being promoted by projects supported by international organizations. Future activities are required for the development of organic agriculture in Tajikistan.

2. Organic production

Estimated total organic certified area: In 2017, a total of approximately 5 000 ha was reported (Husenov, 2019).

Estimated percentage of total agriculture land area: 0.07 percent.

Main crops grown and respective areas: The main crops grown are cotton and rotational crops, namely, lucerne (3 500 ha), alfalfa (700 ha), apricots (500 ha), peanuts (500 ha), beans (200 ha), maize (200 ha), wheat (200 ha) and tomatoes (100 ha) (Husenov, 2019). Textile exchange has reported organic cotton production on 5 095 ha (4 920 ha plus 175 ha in conversion). The main producing regions are Fergana valley/Khujand. There are 1 049 farms certified for organic cotton production, and 7.5 percent of the national cotton production is under organic management.

Certified wild harvest area: There were 500 ha of certified wild harvest area in 2017 (Husenov, 2019). Willer and Lernoud (eds., 2019) report over 1 000 000 ha of wild harvest and 12 659 ha of cultivated land, as of 2012 data. Local sources have confirmed that the reported wild area was certified as organic only for one year, but then the project was terminated.

Number of operators: Willer and Lernoud (eds., 2019) report the number of producers as 10 486 and the number of organic cotton producers as 1 049. The total number of producers of all organic crops is estimated at around 1 500.

Organic animal husbandry (including beekeeping and aquaculture): Not applicable.

Processing of food and non-food organic goods: The organic cotton processor DoCotton is a Turkish company based in Kahramanmaraş, Turkey. BioKishovarz is a producer cooperative for cotton and other products. Sugdagroserv Organic (PA SAS Organic) is heavily involved with cotton and cotton products, and Oro Isfara LLC is a dried fruit and nut processing and packing company.

3. Legislation, regulatory and policy framework

Key ministry/agencies responsible for organic agriculture: The Ministry of Agriculture is the key ministry in Tajikistan.

Organic legislation and regulation: The law "On organic agriculture and organic production" (No. 1001) was put into force on 22 July 2013, but significant revision is needed to align it with the international standards. In due time, the Ministry of Agriculture issued two decrees:

1. Decree 41: A working group of experts was established at the Ministry of Agriculture to develop organic agriculture between 2015 and 2020. The first working group meeting was organized in April 2015.
2. The Government Resolution "On determining the authorized state body in the field of biological farming and production," dated 27 February 2014 (No. 127) assigns the Ministry of Agriculture as the authorized state body in organic farming.

. FAO experts analysed national legislation, prepared recommendations on improvement and discussed them with national stakeholders through a Technical Cooperation Programme project.

National voluntary organic standards: There is no voluntary national organic standard.

National organic control system: There is no system established to register stakeholders and to regulate the system. There is currently no national organic logo.

Competent authority and other governmental institutions involved in the system: The Ministry of Agriculture has been the competent authority for organic agriculture since February 2015. Other key state institutions include Tajik Agrarian University and Tajik Academy of Agricultural Sciences, which are involved in education and research programmes (including sustainable agriculture and breeding plant varieties resistant to diseases and pests).

Certification bodies functioning/authorized (national and/or foreign): Control bodies function in Tajikistan according to the regulations of the importing countries (such as the European Union regulations and the National Organic Program of the United States of America), since the national legislation is not implemented.

List of control bodies authorized by the EU for controls in Tajikistan

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
bio.inspecta AG (Switzerland)	TJ-BIO-161	X	–	–	x	–	–
CCPB SRL (Italy)	AL-BIO-102	X	–	–	X	X	–
CERES (Germany)	TJ-BIO-140	X	X	–	–	–	–

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
Control Union (the Netherlands)	TJ-BIO-149	X	X	X	X	X	X
Ecocert SA (France)	TJ-BIO-154	X	–	–	X	–	–
ECOGLOBE (Armenia)	TJ-BIO-112	X	X	–	X	–	–
Ekoagros (Lithuania)	TJ-BIO-170	X	–	–	X	–	–
Kiwa BCS (Germany)	TJ-BIO-141	X	–	–	x	–	–
Letis SA (Argentina)	TJ-BIO-135	X	–	–	X	–	–
Organic Standard (Ukraine)	TJ-BIO-108	X	–	–	X	–	–

Source: OFIS, 2019.

No national certification body is present in Tajikistan.

National strategy and action plan on organic agriculture: A national strategy and action plan are not present.

Policy measures for supporting organic agriculture: There is no support for organic agriculture. There are two policy documents issued, as presented here:

- The National Development Strategy of the Republic of Tajikistan for the period until 2030 (approved by Resolution of the Parliament of the Republic of Tajikistan No. 636, dated 1 December 2016)
- Programme of medium-term development of the Republic of Tajikistan for the period 2016–2020 (approved by Decree of the Parliament of the Republic of Tajikistan No. 678, dated 28 December 2016).

4. Organic agriculture marketing

In Tajikistan, organic production, led by cotton, is promoted mainly by international organizations for export markets.

Domestic market: At present, there is limited availability of organic products in the domestic market, as few processed products are displayed – mainly in supermarkets and shops. Online sales from one company also are available.

Imports: Not specified for organic.

Export market: Organic cotton is the leading product for the export market. There are a few key actors in the organic sector in Tajikistan, including:

- DoCotton, a Turkish company producing cotton certified by the National Organic Program of the United States of America and by the European Union on their own fields or purchase from other farmers;
- the farmers' cooperative BioKishovarz Association of Organic Farms, which also has Fair-trade-certified products;

- Oro Isfara, a company involved in dried apricots, kernels and other dried fruit and nuts; and
- Sugdagroserv Organic (PA SAS Organic), which is heavily involved with cotton and cotton products.

Data collection system at the national level: There is no official data collection system for organic agriculture. The current law on organic agriculture does not have an article on the registry system.

5. National institutions and international organizations on organic agriculture

Key national institutions supporting organic agriculture: The Ministry of Agriculture has been the competent authority for organic agriculture since February 2015. Other key state institutions are the Tajik Agrarian University and Tajik Academy of Agricultural Sciences. BioKishovarz, the producer cooperative established in 2009 for cotton and other products, is another significant actor in Tajik organic agriculture.

Presence of farmers groups/organizations involved in organic production: The farmers' cooperative BioKishovarz is the producer cooperative for cotton and other products; it was established in 2012 as an output of Helvetas project activities. The cooperative currently has 1 600 members. A second cooperative, Mevahoi Firdovs, was established in 2018 in the Ashd district and has 32 apricot farmers, mainly for sun drying.

International organizations and donor projects supporting organic agriculture development: Organic agriculture was initiated and further promoted through projects supported by international organizations led by Helvetas and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and also supported by the United States Agency for International Development. GIZ has programme offices in Dushanbe, Khujand, Khorog and Kurgan-Tyube, implementing projects on forestry, wildlife management and natural resources management, with a focus on vocational training and promotion of regional water resources management. The United Nations Development Programme-implemented regional project "Aid for Trade for Central Asia" is designed in line with Finland's Development Policy programme to promote inclusive, green economic growth through promoting trade and enhancing national competitiveness and sustainable development by helping poor and vulnerable communities share in the gains from trade. This project also has capacity-building activities for small and medium enterprises related to organic production, namely, the EU Regulation (EEC) No. 834/2007 on organic production.

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: Agriculture in Tajikistan faces a series of general problems that affect the development of organic agriculture. These are as follows: the lack of a legal and regulatory framework to support organic agriculture development, , the limited funding support, the limited land and water resources, the impacts of climate change, the limited access for organic agricultural inputs, the high cost of certification, limited technical knowledge and awareness, and the limited access to market.

Main opportunities for the adoption or scaling of organic agriculture: Advantages for the development of organic agriculture include the prevailing diverse climatic conditions, yielding a local diversity of crops and varieties; the presence of areas suitable for early vegetables, fruits and berries; high employment rates in agriculture; and relatively cheap labour. Similarly, higher prices for chemical inputs and their limited availability

favour conditions for scaling up organic agriculture. Tajikistan is improving collaboration at regional and international levels. Markets for organic are growing in neighbouring countries, such as China and the Russian Federation, as well as for exports to the European Union. The opportunities are increasing with the upscaling of organic cotton, peanuts and apricots and of such wild harvested crops as pistachios, rhubarb and medicinal and aromatic plants.

Major lessons learned from past organic agriculture projects: During project implementation, various activities have been fulfilled successfully. However, sustainability after the termination of the project requires the goodwill of decision-makers, local support, and instruments to ensure the sustainability of project outputs.

Key strategy and actions for future development: The national regulatory bases and certification systems must be revisited. The national strategy and action plan need to be drafted in a participatory approach and should provide guidance to decision-makers to further promote high-value organic plant and animal products with export and domestic market potentials. Trainings and knowledge-sharing tools should be established.

7. Websites for additional information

- http://www.biokishovarz.tj/: Association of Organic Farms
- http://organic-ca.org/: Organic agriculture in Central Asia
- http://oro-isfara.com/fruit/: Oro Isfara, a packaging and processing company
- http://neksigol.tj/nashi-proekty/oo-sas-organik/: Sugdagroserv Organic (PA SAS Organic)
- https://textileexchange.org/: Organic cotton market
- https://www.helvetas.org/

Turkey

1. Background information on organic agriculture sector development

Traditionally, Turkey has been known as a leader in the global dried fruit and nut trade. As the European organic market enlarged during the mid-1980s, European traders approached Turkish exporters and processors to initiate organic production of dried fruit. The first products certified as organic were dried grapes (sultanas) and figs, exported during the 1984–85 season. Until 1990, the product range was limited to a few dried fruits and hazelnuts. Organic cotton was grown for the first time in Turkey as part of a Dutch initiative, but the initiative later moved to Africa. In 1992, the Association of Organic Agriculture Organization (Ekolojik Tarım Organizasyonu Derneği, or ETO), a non-governmental organization, was formed as an umbrella embracing stakeholders from all fields of the organic sector. AgriBioMediterraneo's 1992 conference was held in Izmir, linking the Turkish organic movement with Mediterranean and global actors.

The first European regulation on organic plant production (EEC 2092/91) triggered the drafting of the first regulation on organic agriculture in Turkey, which was enforced in 1994. Together with the first regulation, the Ministry of Agriculture and Forestry became the competent authority governing the national organic system. Two committees – the Organic Agriculture Committee, composed of staff members from the ministry, and the National Orientation Committee, composed of representatives of other ministries, universities and non-governmental organizations – were established and still function. In 2002, Turkey's General Directorate of Agricultural Research and Policies initiated a research group on organic agriculture. The Ministry of Agriculture and Forestry established a special department for organic agriculture in 2003, which later became responsible for organic and good agricultural practices. In December 2004, the law on organic was adopted. The final implementing regulation was issued in 2010 for setting up the principles and implementation of organic farming in line with European Union regulations. Financial supports are provided to the organic sector. Decision of the Council of Ministers dated 25 February 2004 allows selective lending of low-interest credit to farmers and provides the opportunity to use three-year-term investments and one-year-term business credits at a discount of 60 percent of the current interest rate. In 2005, the "Communiqué Regarding the Direct Income Support Payment for Plant Production" provided direct additional support to organic producers. Between 1996 and 2004, ETO, jointly with the Ege University Faculty of Agriculture, organized training courses that were attended by approximately 2 500 ministry staff members, agronomists, veterinarians and unemployed new graduates. Starting in 1999, ETO initiated the national symposium on organic agriculture to share experiences and research results among research organizations. The sixth such symposium was held in May 2019 during the Ekoloji Fair in Izmir.

From the early days, organic production was destined for European markets. The exporters and processors contracted small-scale farmers under a project, transferred know-how, paid the certification cost and provided necessary inputs. This structure allowed smallholders to increase their quality and gain access to export markets. During the past five years, the United States of America market has become a significant destination. The domestic market is developing, especially in large metropolitan cities.

2. Organic production

The Ministry of Agriculture and Forestry has a data collection system that functions through authorized certification bodies. This system covers only the operators certified according to the Turkish law. There are no reliable data for organic Turkish production certified only for the standards of the importing countries, such as the EU standards, the National Organic Program of the United States of America, the Japanese Agriculture Standards, etc. The below figures are derived from the Ministry of Agriculture and Forestry and show operators certified according to the Turkish organic legislation.[27]

Estimated total organic certified area: The total organic certified area in 2018 was 626 884.8 ha. Out of that total, 533 793.7 ha (365 889.5 ha organic and 167 904.2 ha in conversion) were cultivated, 86 885.5 ha were certified for wild harvest, and 6 205.6 ha (2 494.1 ha organic and 3 711.5 ha in conversion) were left as fallow.

Estimated percentage of organic in total agriculture land area: 2.45 percent of cultivated agricultural land.

Main crops grown and respective areas: There are more than 240 kinds of agricultural (raw) products produced organically in all provinces of Turkey. Fruits and vegetables, pulses, cereals, nuts, spices and herbs, industrial crops, oil seeds, and wild collection products make up most of the organic production in Turkey. Öktem Bayraktar (2019) reports the following crops in 2017 as the leading three: wheat (97 072 ha), clover (31 940) ha and vetch 25 130 (as animal feed and green manure) among annual cultivated crops; and olives (58 514 ha), figs (12 728 ha) and hazelnuts (8 859 ha) among perennial crops.

Certified wild harvest area: The certified wild area has fluctuated significantly; in 2018, it was 86 885.5 ha.

Number of organic operators: The total number of farmers was reported as 79 563 in 2018. Among them, 54 666 had received organic certification and 24 897 were in conversion.

Organic animal husbandry: Compared to plant production destined for export markets, which began much earlier, organic animal husbandry started developing during the last decade for the domestic market. Poultry – mainly laying hens – dominates the sector. There are 1 242 170 hens certified as organic. In 2018, the numbers of animal head in conversion were 1 036 bovines, 6 918 goats and 6 498 sheep. The numbers for organic certified animal head were 5 113 bovines, 10 685 goats and 10 475 sheep. The main organic animal produce sold in the market is milk, followed by such dairy products as cheese, yogurt, ayran, butter and cream. In 2018, 174 675 362 organic eggs were marketed domestically.

Processing of food and non-food organic goods: During the past ten years, the number of processors and processed organic products has been increasing. Dried fruits and vegetables, dried fruit bars, canned preserved fruits and vegetables, frozen fruits and vegetables, fruit and vegetable juice, wheat flour, olives and olive oil, seed oils, tomato paste, sauce, ketchup, vinegar, chocolate and cacao products, and biscuits are some of the organic processed products in Turkey. Food processing has the highest share, but Turkey also is among the countries producing and exporting organic textiles (e.g. underwear, home textiles, towels, ready-made garments and baby wear). Organic cosmetic production is showing an increasing trend.

[27] For more information, see https://www.tarimorman.gov.tr/Konular/Bitkisel-Uretim/Organik-Tarim/Istatistikler.

3. Legislation, regulatory and policy framework

Key ministry/agencies responsible for organic agriculture: The key ministry is the Ministry of Agriculture and Forestry (MAFF). The Department of Good Agricultural Practices and Organic Agriculture under the Plant Production General Directorate is responsible for the governance of the system. The national research institutes under Turkey's General Directorate of Agricultural Research and Policies are carrying out research projects. Universities are also involved in research and educational activities on organic agriculture. The major ones are Ege University, Uludağ University, Ondokuz Mayıs University, Ankara University and Çukurova University.

Organic legislation and regulation: The first regulation on organic plant production was adopted in 1994. The Law on Organic Farming No. 5262, dated 3 December 2004, lays down the principles and procedures for relevant measures to be taken in relation to the production of organic products and inputs. Turkish Organic Regulation No. 27676, dated 18 August 2010, is fully harmonized with EU Regulation 834/2007; it defines implementation rules for organic production, processing, packaging, labelling, storage, transportation, marketing, control and certification. A consolidated version, with all changes since the first publication in 2010 is accessible online.[28] The legislation embraces methods on organic plant production, mushroom and yeast production, animal production, aquaculture, processing, packaging, storage, transportation, labelling and marketing, certification, authorized certification bodies, operators, work licenses, penalties, committees, and control and certification systems. The most recent amendment to the present regulation was published in January 2018 (Official Gazette No. 30297). It brings various changes, among others, to:

- aquaculture production, where it is now possible, in specific cases of significant losses, to renew aquaculture stocks from non-organic aquaculture;
- livestock production, where herds cannot be renewed with non-organic animals outside of the transition period;
- labelling, where the word "organic" must be part of the label and any recertification of products must be indicated.

There is a national logo that can be used only for products certified by certification bodies authorized by the Ministry of Agriculture and Forestry according to the Turkish legislation. The logo cannot be used on imported products.

National voluntary organic standards: There is no voluntary private national organic standard. Two private standards on open bazaars coordinated by ETO and organic for the eastern Anatolia Region were drafted by non-governmental organizations but not implemented.

National organic control system: The national control system is governed by the Ministry of Agriculture and Forestry (MAFF) as put forth in the law and implementing regulations. The Ministry issues and amends legislation, develops strategies and policies, coordinates the registry of operators, and links with other databases, such as the farmer and animal registry systems and subsidy portals. MAFF has a data collection system for organic production through the certification bodies authorized for the Turkish system. The ministry also carries out trainings for inspectors, certifiers, farmers and technicians, and it supports research. In all activities, the ministry closely cooperates with other public and private entities and NGOs.

[28] For more information, see www.mevzuat.gov.tr.

Certification bodies functioning/authorized (national and/or foreign): In Turkey, organic production is carried out in reference to various organic regulations/standards, such as the Turkish standards, the European Union standards, the National Organic Program of the United States of America (NOP), the Japanese Agricultural Standards (JAS), Korea Organic, Chinese Organic, GOTS and other significant standards, such as Bio Suisse, KRAV, Naturland, Demeter and other social and sustainability standards as demanded by markets. There are two types of certification bodies functioning: those authorized by the Turkish Ministry for Turkish legislation (listed under national certification bodies), and foreign or Turkish certification bodies authorized to do certification according to other regulations or standards. All certification bodies doing certification according to the Turkish regulation must be accredited according to ISO 17065 and be authorized by the Ministry of Agriculture and Forestry. Foreign certification bodies must establish companies according to the Turkish legislation. When certification bodies are certifying according to the foreign organic regulations or standards (such as the standards from the EU, NOP, JAS or China), the certification body functions through the authorization of those countries. Some of the national certification bodies are also authorized by the EU or the United States Department of Agriculture to perform certification in Turkey according to their own regulations. The Turkish regulation requires issuing product certificates for each farmer's harvest quantity per production year for each organic sale (product certificates are in compliance with the Annex of Turkish Organic Regulation No. 27676). The Turkish Regulation requires certification bodies to follow up on operators' organic stocks.

List of control bodies authorized by the EU for controls in Turkey

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
Albinspekt (Albania)	TR-BIO-139	–	X	–	–	–	–
BAŞAK (Turkey)	TR-BIO-175	X	–	–	X	–	–
bio.inspecta AG (Switzerland)	TR-BIO-161	X	–	–	X	–	–
Bioagricert SRL (Italy)	TR-BIO-132	X	–	–	X	–	–
CCPB SRL (Italy)	TR-BIO-102	X	X	–	X	X	X
CERES (Germany)	TR-BIO-140	X	X	–	X	–	–
Ecocert SA (France)	TR-BIO-154	X	X	–	X	X	X
FOG (USA)	TR-BIO-144	X	–	–	X	–	X
ICEA (Italy)	TR-BIO-115	X	–	–	X	–	–
Kiwa BCS (Germany)	TR-BIO-141	X	X	–	X	X	–
LACON GmbH (Germany)	TR-BIO-134	X	–	–	X	–	–
Letis SA (Argentina)	TR-BIO-135	X	–	–	X	–	–
ORSER (Turkey)	TR-BIO-166	X	–	–	X	–	–
Q-CHECK (Greece)	TR-BIO-179	X	–	–	X	–	–
CAAE S.L.U. (Spain)	TR-BIO-178	X	–	–	X	–	–
A CERT (Greece)	TR-BIO-171	X	–	–	X	–	–

Source: OFIS, 2019.

The Ministry of Agriculture and Forestry issues a list of certification bodies authorized to perform certification according to the Turkish legislation. Currently, there are more than 50, and the updated list can be found online.[29]

Policy measures for supporting organic agriculture: There is a subsidy programme for organic farms per unit area after the completion of the first year in conversion. For animal production, subsidies are per animal head, and for beekeeping, per hive. The subsidy programme applies only to farmers certified according to the Turkish legislation. So, some farmers, even if the product goes to the export market, ask for Turkish certification. Farmers, processors and input producers have access to credits with 60-percent reduction in interest rates. For exporters, 50 percent of the cost of analyses is refunded if the results comply with the limits.

4. Organic agriculture marketing

Domestic market: The domestic market is comparatively limited. However, there is growing demand for organic products in metropolitan cities. The local demand cannot be fully supplied by the products destined for export markets; these are dominated by cereals, dried fruit and nuts, and medicinal and aromatic plants. There are nearly 30 open markets – bazaars – in Turkey specific to organic products, where mainly food – especially fresh fruit, vegetables, and non-food organic products such as cosmetics and washing solutions – are sold. Organic open bazaars in Turkey are supported and managed by NGOs and municipalities, but the overall control is by the provincial directorates of the Ministry of Agriculture and Forestry. Supermarkets, specialized shops, online sales and open fresh markets are the main channels. In large metropolitan cities, "food communities" formed by consumers willing to link themselves to producers are becoming more widespread. Some are acting as community-supported agriculture, linking to the local farms, whereas some perform direct purchases from producers distributed throughout the country. The development of the local market is a priority. This requires a joint action with promotional and awareness-raising campaigns and support for the farmers.

Imports: Imported organic products require recertification by a certifier registered with the Ministry of Agriculture and Forestry. Organic products or inputs without the proper certificate cannot be imported as organic products or inputs. Imported products cannot use the Turkish organic logo, but they must have a label in Turkish that complies with the general labelling rules, including organic labelling. Imported products vary from year to year. During recent years, soybeans, corn, wheat and other grains have been imported for further processing and/or re-exporting. In 2017, soybeans (from the Russian Federation, Kazakhstan and Ethiopia), corn (from the Russian Federation), wheat (from the Russian Federation, Kazakhstan and the United Arab Emirates), sunflowers and sunflower products (from the Russian Federation, the Netherlands, Austria, Germany and the United States of America), lentils (from the Russian Federation), and canola oil (from the Russian Federation) were the leading imported organic products.

Another line for imports contains imported organic products from such foreign brands as IKEA and Starbucks. Countries of origin are Germany, Slovenia, India, Kyrgyzstan, Morocco, the Russian Federation, China, the Netherlands, Uganda, Ethiopia, Italy, Iran (Islamic Republic of), Kyrgyzstan and South Africa.

Export market: Organic agriculture started with the impulse coming from Europe in the 1980s and is still dominated by exports. The European countries, European Union Member States and Switzerland are the major destinations. Traditionally, dried fruit and nuts dominate organic exports from Turkey. In 2018, Turkey exported organic certified products to European

[29] For more information, see www.tarimorman.gov.tr.

Union Member States totalling 264 218 tons. With this volume, Turkey supplied 8.1 percent of the European Union's organic imports, which ranked it fifth in the world. Fruit, fresh or dried, excluding citrus and tropical fruit, enters the EU from Argentina and Turkey with each contributed about s (20.7 percent each. The United States of America has become a trade partner for Turkish organic products – mainly for cereals, olive oil and dried fruit. Cereals are either grown in Turkey or produced in neighbouring countries and processed or re-exported from Turkey. Turkey has emerged as a leading country for the export of organic soybeans, (with a value of USD 103 million) to the United States of America, with 43 percent of the USA's imports market share in 2016. Turkey had 74 percent share in organic corn exports (worth USD 117 791 million) in 2016. The value of organic olive oil export was USD 1.64 million. Organic dried figs and apricots are also exported to the United States of America. Turkey is among the top five organic cotton producers in the world, supplying 7 741 metric tons (6.6 percent of the world's total). It also imports organic cotton or yarn and processes and exports them, but no specific data are available on organic non-food products.

Data collection system at the national level: There is an official organic data collection system for farm-level data in organic agriculture and food production: the OFIS system (OTBIS in Turkish), operated by the Ministry of Agriculture and Forestry. It integrates data obtained through the national certifying agents. There are official data for imports of organic goods, such as country of origin, product and amount. Export data exist but are not reliable. There are no data for the production, import or export of organic non-food processing activities and/or products. There are no data for organic production certified solely by certification bodies authorized by importing authorities.

5. National institutions and international organizations on organic agriculture

Key national institutions supporting organic agriculture: The key governmental bodies are the Ministry of Agriculture and Forestry, the General Directorate for Plant Production, and the General Directorate for Agricultural Research and Policies. Others:

- The Aegean Exporters' Association is the exporters' association responsible for coordinating exportation activities in Turkey. It is a member of the Turkish Exporters Assembly and is linked to the Ministry of Trade.
- The Association of Organic Agriculture Organization (ETO) is the umbrella NGO of the organic movement in Turkey.
- The Buğday Association for Supporting Ecological Living is an NGO supporting local organic markets and networking of agrotourism farms.
- KSKDER is an NGO of inspection and certification bodies working on agricultural products.
- Ege University[30] is a higher education institution carrying out research and educational activities on organic agriculture in Izmir.
- Uludağ University[31] is a higher education institution carrying out research and educational activities on organic agriculture in Bursa.
- Ondokuz Mayıs University[32] is a higher education institution carrying out research and educational activities on organic agriculture in Samsun.
- IZFAŞ is a company that has been organizing the Ekoloji Fair on organic agriculture in Izmir since 2010.

30 For more information, see https://ege.edu.tr/
31 For more information, see http://www.uludag.edu.tr/
32 For more information, see http://www.omu.edu.tr/

Presence of farmers groups/organizations involved in organic production: There are farmers' cooperatives active at local and commodity levels. Tire Milk Cooperative (Izmir) is the leading farmers' cooperative in organic milk and dairy products. The Association of East Anatolia Agricultural Producers and Animal Farmers is active in eastern Turkey on pulses, meat and meat products. TARİŞ is the union of cooperatives; specific cooperatives function in organic olive oil, dried grapes and figs. There are a few organic hazelnut cooperatives, such as Çarşamba, which is active in northern Turkey.

International organizations and donor projects supporting organic agriculture development: FAO carried out a project titled "Formulation of a project for the development of organic agriculture and alignment of related Turkish legislation" (TCP/TUR/3001), which triggered organic agriculture in Turkey. This project, supported by FAO, helped the Turkish Government to submit a project proposal to the European Union. A project document on "Development of Organic Agriculture and Alignment of Related Turkish Legislation with the EU Acquis" was formulated for a three-year period, complete with annexes and terms of reference. This project proposal, prepared through an FAO Technical Cooperation Programme project, was accepted by the European Commission in October 2004 and supported for a two-year period. The project helped build a strong institutional and legal basis for organic in Turkey. Other than the above two projects of FAO and the European Union, other international projects have been limited in number and focused mainly towards the improvement of quality and safety (support from the German Government to ETO, implemented by FiBL) and marketing opportunities (a project financed by the Islamic Bank and implemented by FAO). A few Erasmus projects have been aimed at the exchange of experiences among project partners and enhancing training curricula and tools. The Ministry of Agriculture and Forestry is one of the funding agencies in the CORE Organic Plus project (Coordination of European Transnational Research in Organic Food and Farming Systems) for 2013–2018, providing support for approved research projects on organic.

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: The main barrier is the lack of a national strategy and weak support given by the state for the promotion of organic agriculture. The data collection system is limited to organic agriculture and food (it excludes non-food processed products), and it excludes certification according to other standards. The legislation requires amendments to include group certification and align with the new European Commission regulation. The Turkish organic system requires additional efforts on market surveillance and equivalency with major global regulations. Farmers need more support for improving production methods and gaining access to domestic consumers. Consumer trust is a barrier for the further development of the organic domestic market.

Main opportunities for the adoption or scaling of organic agriculture: Turkey has a long tradition and history in organic agriculture, in addition to a strong legal basis, widespread organic production, a wide range of products, and advanced processing facilities. The research capacity is also strong, but it needs better planning. Closer links among stakeholders and the identification of major barriers and potential solutions will help to upscale organic rapidly.

Major lessons learned from past organic agriculture projects: Organic started with the impulse of importers and exporters, from the top down. The strategy of first strengthening the network at the national level and then preparing project proposals in a participatory approach has delivered applicable results. As in CORE Organic, funding multinational projects helps not only to implement research projects but also to widen networking for future cooperation.

Key strategy and actions for future development: The national strategy and action plan was prepared until 2016, and then terminated. There is an urgent need to prepare the national strategy and action plan based upon the changing situation at national and international levels.

7. Websites for additional information

- https://www.tarimorman.gov.tr/Konular/Bitkisel-Uretim/Organik-Tarim/Istatistikler: Official data source for organic production in Turkey
- http://www.mevzuat.gov.tr/MevzuatMetin/1.5.5262-20100311.pdf: Legislation on organic
- https://www.tarimorman.gov.tr/Konular/Bitkisel-Uretim/Organik-Tarim/Yetkili-Kuruluslar-KSK: list of certification bodies authorized for Turkish organic legislation
- www.eto.org.tr: Association of Organic Agriculture Association
- www.bugday.org: Buğday Association for Supporting Ecological Living
- www.kskder.org: Association of Control and Certification Organizations for Agricultural products
- www.egebirlik.org.tr: Aegean Exporters' Association
- https://globalorganictrade.com/country/turkey

Turkmenistan

1. Background information on organic agriculture sector development

Turkmenistan is a predominantly desert country in which just 4 percent of the total land area is cultivated. Agriculture in Turkmenistan is a significant sector of the economy, contributing 12.7 percent of the gross domestic product and employing 48.2 percent of the workforce. The two largest crops are cotton, most of which is produced for export, and wheat, which is domestically consumed. Turkmenistan is among the top ten producers of cotton in the world. Minor crops – including wheat, citrus fruits, dates, figs, melons, pomegranates, olives and sugarcane – are grown in some parts of the country (Lerman et al., 2012).

There is little information on Turkmenistan organic agriculture available. There are a few inspection and certification bodies (Kiwa BCS, Ecocert and CCPB) authorized for the European Union that have declared that they have no certification activities in Turkmenistan. In a news release by (Hortidaily, 2019), a new project on organic greenhouse vegetable production. The greenhouse complex of 8 ha for growing various sorts of vegetables was launched on 9 January 2019 in Maryisky province in Turkmenistan. The complex is planning to achieve a capacity of 500 tons of high-quality organic vegetables. There are also beehives in the complex to be used for pollination and create mutual benefits.

2. Organic production

No data are available for organic production, including cotton, in Turkmenistan.

3. Legislation, regulatory and policy framework

Not applicable.

Certification bodies functioning/authorized (national and/or foreign):

List of control bodies authorized by the EU for controls in Turkmenistan

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
AGRECO R.F. GÖDERZ GmbH (Germany)	TM-BIO-151	X	X	–	X	–	–
CCPB SRL (Italy)	TM-BIO-102	X	–	–	X	X	–
Control Union (the Netherlands)	TM-BIO-149	X	X	X	X	X	X
Ecocert SA (France)	TM-BIO-154	X	–	–	X	X	–
ECOGLOBE (Armenia)	TM-BIO-112	X	X	–	X	–	–

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
Kiwa BCS (Germany)	TM-BIO-141	X	–	–	x	–	–
LACON GmbH (Germany)	TM-BIO-134	X	–	–	X	–	–

Source: OFIS, 2019.

There is no national certification body in Tajikistan.

National strategy and action plan on organic agriculture: Not present.

Policy measures for supporting organic agriculture: Not present.

4. Organic agriculture marketing

Domestic markets: There are no organic production or market data for Turkmenistan. General information is given related to conventional agrifood production to give an idea about the potential.

Imports: Kazakhstan, the Russian Federation and Ukraine are the main exporters of food and agricultural products to Turkmenistan, supplying mostly wheat, flour, beverages, confectionery products, tobacco and sugar.

Export market: Turkmenistan exports about 80 percent of manufactured textile products to the European Union, the United States of America, Canada, the Russian Federation, Turkey, Hungary, China, the Baltics, Ukraine and other countries. Turkey has been by far the most important export destination for cotton, hides and wool products from Turkmenistan.

Data collection system at the national level: No data are available.

5. National institutions and international organizations on organic agriculture

International projects: A few projects have been carried out on the development of sustainable agriculture and the building of capacity in the Ministry of Agriculture, Forestry and Water Economy. The United States Agency for International Development (USAID) reported that a lack of management and effective irrigation systems are barriers to the implementation of sustainable agriculture practices. USAID aimed to prioritize greenhouse horticulture; help high-value fruit and vegetable production, processing and marketing; and connect with local and international markets.

According to Support for Further Sustainable Agriculture and Rural Development in Turkmenistan (SARD III), the European Union has drawn plans for a four-year project. This complex initiative to improve sustainable agriculture in Turkmenistan required presentations in addition to a lengthy outline. In addition to government plans, aid organizations have chosen to address the issue through education and new technology.

Together, the United Nations Development Programme (UNDP), the Global Environment Facility and the Ministry of Agriculture, Forestry and Water Economy of Turkmenistan have resolved to construct a water pipeline to assist with the issue of sustainable agriculture.

Education about effective agricultural methods has been covered by other development agencies, as well. Aid organizations and volunteers aim to make sustainability projects a priority and to make sustainability plans a reality.

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: Turkmenistan has almost no large agricultural enterprises engaged in primary agricultural production. Crop production is heavily controlled by the state, while the livestock sector operates on a more private basis. Thus, there has been a more significant increase in livestock production. Despite the relative decline of cotton production after the 1990s, Turkmenistan remains a significant cotton producer in the region. Forced labour in cotton harvest is heavily criticized among international buyers. Four agricultural subsectors have been almost unreformed since Soviet times: grain, cotton, rice and sugar beets. Agricultural trade is rather limited. Foreign trade is de facto controlled by the state through the obligation to register all wholesale and export-import contracts with the State Raw Material and Commodity Exchange (FAO, 2012).

Main opportunities for the adoption or scaling of organic agriculture: Turkmenistan is a major grower of cotton, and there is a big demand in the global organic cotton market. The processing capacity – especially of bread products and flour, processed fruits and vegetables, and non-alcoholic beverages – has increased significantly.

Major lessons learned from past organic agriculture projects: A project carried out on sustainable agriculture in Turkmenistan has summarized that implementation was difficult due to a lack of resources and a lack of an effective way to maintain agricultural plans. Improvements in the country's agricultural systems are currently being discussed by activists and governments across the globe.

Key strategy and actions for future development: Not applicable.

7. Websites for additional information

- https://borgenproject.org/sustainable-agriculture-in-turkmenistan/

Ukraine

1. Background information on organic agriculture sector development

Ukrainian pioneer Semen Antonets established the first organic farm in 1977. By 2000, this farm had grown to 7 000 ha in the Poltava Region and was certified as organic, exporting grain to Europe. Organic Standard was founded in 2007 in the framework of the Swiss–Ukrainian project "Organic Certification and Market Development in Ukraine." It was the first Ukrainian inspection and certification body to provide services in inspection and certification of organic production. On 19 September 2007, the Cabinet of Ministers of Ukraine approved the State Programme of Rural Development until 2015. The state programme for agriculture development, published in 2007, declared an official goal that 10 percent of production should be organic by 2015. However, the subsequent measures to make this happen were never implemented.

The first Ukrainian organic products for the local market, such as Zhmenka organic buckwheat, Hercules organic flakes and Melnyk Farm organic vegetables, started to appear on retailers' shelves in 2008. The country's first specialty shop for organic and natural products, Natur Boutique, also opened its doors in September 2008, and shortly after increased the number of outlets. In October 2009, with the support of local authorities, FiBL and the Ministry of Agrarian Policy and Food organized the first Ukrainian organic open-air fair in the city of Lviv. Since then, organic open-air fairs have grown in size and number.

In October 2010, the Ministry of Agricultural Policy of Ukraine announced support for the development of organic production as one of the priority areas of the agro-industrial sector for attracting international technical assistance. In 2011, the Ukrainian parliament adopted a law on organic, but the president of Ukraine vetoed the law in April 2011. In 2015, the Ministry of Agrarian Policy and Food of Ukraine created the new Single and Comprehensive Strategy for Agriculture and Rural Development for 2015–2020 to increase the competitiveness of the agriculture sector and promote sustainable rural development in accordance with the European Union and international standards. This strategy strongly emphasizes the development of organic agriculture to give farmers access to high-value-added foodstuffs and better quality of life in rural areas.

In August 2, 2019 the Law of Ukraine "On Basic Principles and Requirements for Organic Production, Circulation and Labelling of Organic Products" entered into force. The law was developed by the Ministry of Agrarian Policy together with the organic sector in order to improve the legal principles of organic production in Ukraine and to adapt them to the relevant EU legislation.

There is a strong grassroots movement promoting organic agriculture with the support of the international organizations. The domestic market is highly developed, and there are some high-end restaurants, caterers and hotels that have introduced organic food in their menus. The monthly *ORGANIC UA* magazine has been published since 2009. Other local journals on organic agriculture include *Ukrainian Organic* magazine, the *BIOLan Bulletin and Green Pharmacy Magazine*. Various activities are being carried out to raise awareness in the society, including the All-Ukrainian Fair of organic products, lectures at universities and schools, press conferences and others, including a photo contest. International conferences organized in Ukraine also help to promote organic products and enhance networking at national and international levels.

2. Organic production

Estimated total organic certified area: The Ministry of Agrarian Policy and Food of Ukraine reports 289 000 ha of agricultural land, including land with organic status (201 000 ha) and land in transition (88 000 ha) as of 31 December 2017. The organic farmland area is composed of 304 organic certified farms.

Estimated percentage of organic in total agriculture land area: 0.7 percent.

Main crops grown and respective areas: In total, 235 290 ha is cultivated with arable crops, 5 000 ha is under permanent crops, and 34 680 is covered by permanent grassland. Major products are cereals, pulses and oilseed crops, fruits, vegetables, greens, meat and meat products, milk and dairy products, flour, bakery products, cereals, oils, juices, syrups, jams, fruit and berry paste, tea, berries, mushrooms, nuts, chocolate, spices and honey. The leading species in various groups are:

- for pulses: beans, vetch, peas and soybeans;
- for vegetables: cabbage, cauliflower and carrots;
- for oil seeds: sunflowers, rapeseeds, mustard and flax;
- for fruit: grapes, apricots, pears, plums, cherries and apples, as well as walnuts;
- for berries: gooseberries, cluster berries, elderberries, blueberries, raspberries, blackberries, strawberries, bilberries, cranberries and currants, from cultivation and wild collection;
- for herbs and medicinal plants: echinacea, chamomile and calendula: and
- for mushrooms: porcini and chanterelles, from cultivation and wild collection.

Regarding the area under organic management, in 2017 cereals covered 133 440 ha, oil seeds covered 52 020 ha, pulses covered 14 450 ha, temperate fruits covered 2 500 ha, and vegetables covered 5 780 ha. Also in 2017, 300 beehives were reported to have organic certification.

Certified wild harvest area: The wild area certified was reported as 570 000 ha in 2017 (Willer and Lernoud, eds., 2019).

Number of organic operators: The number of organic operators (organic and in transition) is 617 (Rakova, 2019). The types of activities are as follows: 617 in crop production, 167 in export/import, 89 in food/feed production and processing, 71 in trade, 51 in wild collection, 53 in beekeeping, 27 in inputs, 16 in animal husbandry and one in aquaculture.

Organic animal husbandry: No data are available on the number of animals, but 16 animal farms and one fish farm are reported to have organic certification. Additionally, Ukraine is reported to produce various organic livestock products, including eggs, milk, kefir, sour cream, cottage cheese, meat, pork, sausages and honey.

Processing of food and non-food organic goods: Ukrainian organic plant and animal products are processed in such facilities as wineries, oil and flour mills, dairies, food and meat processing units, and chocolate factories.

3. Legislation, regulatory and policy framework

Key ministry/agencies responsible for organic agriculture: The Ministry of Agrarian Policy and Food of Ukraine is the key ministry.

Organic legislation and regulation: The first law regarding organic agriculture products, Law No. 425-VII "on the production and circulation of organic agricultural products and raw materials," was accepted in 2013 and came into force on 9 January 2014. The law defined the conditions for products to be marketed and labelled as organic. It also defined the responsible authorities and the controls that should be implemented to ensure the authenticity of organic produce. It also set the rules for the legal, economic, social and institutional framework of organic agriculture and the requirements for the cultivation, production, processing, certification, labelling, transportation, storage and marketing of organic products and raw materials. By-laws were in the process of elaboration, and by 2015, many updates were made; however, they were not sufficient for implementation.

On August 2, entered into force. The law was developed by the Ministry of Agrarian Policy together with the organic sector in order to improve the legal principles of organic production in Ukraine and to adapt them to the relevant EU legislation.

The new law of Ukraine *"On Basic Principles and Requirements for Organic Production, Circulation and Labelling of Organic Products"* was approved on 10 July 2018 and now entered into force on the 2nd August 2019. The law covers the following issues: the requirements for the production, circulation, marking and marketing of organic products; the mechanism of certification of organic production; open registers of market operators, certification bodies, organic seeds; state support for organic production; state supervision (control) over the activity of operators of the organic market and certification bodies; and administrative liability for violation of the law.

National voluntary organic standards: Private organic standards were developed in Ukraine by the local non-governmental organization BIOLan in 2007 for domestic organic farming and labelling. However, the BIOLan standard had stricter requirements than the European Union standard. As a result, it was difficult to obtain the appropriate ingredients for processed products, and Ukrainian producers preferred to work according to the EU standard. Other than BIOLan, there is no voluntary national organic standard. The Ukrainian national logo for organic is approved and can be voluntarily used for all types of exported organic goods.

National organic control system:, In November 2015, the Government adopted the national organic logo. The use of the logo is voluntary. It can be used for organic export products, processed products and raw materials. So far, no product is labelled with the national organic logo. The European Union organic logo is highly recognized and frequently used by many organic producers and processors in Ukraine. Most organic products for the domestic market are certified according to the legislation of the European Union on organic farming.

Certification bodies functioning/authorized (national and/or foreign): In Ukrainian organic production, certification is handled by private certification bodies registered by the authorities of the importing countries.

List of control bodies authorized by the EU for controls in Ukraine

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
AGRECO R.F. GÖDERZ GmbH (Germany)	UA-BIO-151	X	X	–	X	–	–
Albinspekt (Albania)	UA-BIO-139	–	X	–	–	–	–
bio.inspecta AG (Switzerland)	UA-BIO-161	X	–	–	X	–	–
Bioagricert SRL (Italy)	UA-BIO-132	X	–	–	X	–	–
CCPB SRL (Italy)	UA-BIO-102	X	X	–	X	X	–
CERES (Germany)	UA-BIO-140	X	X	–	X	–	–
Control Union (Netherlands)	UA-BIO-149	X	X	X	X	X	X
Ecocert SA (France)	UA-BIO-154	X	X	–	X	X	–
ECOGLOBE (Armenia)	UA-BIO-112	X	X	–	X	–	–
ICEA (Italy)	UA-BIO-115	X	–	–	X	–	–
Kiwa BCS (Germany)	UA-BIO-141	X	–	–	X	X	–
LACON GmbH (Germany)	UA-BIO-134	X	–	–	–	–	–
Letis SA (Argentina)	UA-BIO-135	X	–	–	X	–	–
Organic Standard (Ukraine)	UA-BIO-108	X	X	X	X	X	X
Suolo e Salute SRL (Italy)	UA-BIO-150	X	–	–	–	–	–
A CERT (Greece)	UA-BIO-171	X	–	–	X	–	–
Valsts SIA (Latvia)	UA-BIO-173	X	X	–	X	X	X

Source: OFIS, 2019.

The control and certification process is performed by private control bodies, which have to be approved by the Ministry of Agrarian Policy and Food of Ukraine. However, the process of registration and approval for certification bodies is not yet completed. Organic Standard is a certification body of Ukrainian origin that was founded in 2007 as the first Ukrainian inspection and certification body that provides services in inspection and certification of organic production.

Policy measures for supporting organic agriculture: Despite a target having been set up many times to increase organic agriculture, no support policies are implemented.

4. Organic agriculture marketing

Domestic market: In 2010, the main distribution channels of organic products in Ukraine were small specialized shops in big cities such as Kyiv, Lviv, Donetsk, Kirovograd, Dnipropetrovsk, Ivano-Frankivsk and Kolomyia. However, the domestic market has displayed rapid growth. The number of cities in which organic products are available has increased. Supermarket chains are also playing a more active role in the organic trade,

as Ukrainian customers' interest in organic and healthy food and readiness to pay a price premium is increasing. Supermarkets therefore are giving greater priority to healthy and organic foods. There is a rapid diversification of the product range through improved processing facilities. The total volume of the domestic organic market is estimated at EUR 29.4 million in Ukraine, and the consumption per capita is estimated at EUR 0.68 per annum (Ministry of Agrarian Policy and Food, 2019; Sorokina, 2019).

Imports: As supermarkets have started to sell more certified organic products, they supply both from domestic producers and from imported goods.

Export market: In 2017, the export volume of organic products was reported at EUR 99 million, with the European Union Member States taking approximately 96 percent, followed by 4 percent for other markets. The main destinations for Ukrainian organic products, as of 2016, are the Netherlands, Germany, the United Kingdom of Great Britain and Northern Ireland, Italy, Austria, Poland, Switzerland, Belgium, Czechia, Bulgaria, Hungary, the United States of America and Canada. The primary exported goods, listed according to amount, are: corn (99.5 thousand tons), wheat (58), barley (22.9), sunflowers (11.6), soybean (10.9), spelt (9.4), wheat/millet (4.1) and rape (4.1) (Rakova, 2019). Ukraine is reported among the top exporters of organic agrifood products to the European Union, with 266 741 tons in 2018. The European Union's imports from Ukraine consist mainly (70 percent) of cereals, broken down into cereals other than wheat and rice (42.8 percent) and wheat (28.5 percent). Oilseeds represent more than 15 percent of the total, broken down into oilseeds other than soybeans (10.8 percent) and soybeans (5 percent). In decreasing order, other exported organic products and their shares are: fruit, fresh or dried, excluding citrus and tropical fruit (4.9 percent); fruit juices (2.2 percent); flours and other products of the milling industry (1.5 percent); vegetables, fresh, chilled and dried (1.3 percent), oilcakes (1.0 percent) and other (2.1 percent)(European Commission, 2019).

Data collection system at the national level: There is no official data collection system. Non-governmental organizations and Organic Standard are the major data sources collecting organic data for Ukraine.

5. National institutions and international organizations on organic agriculture

Key national institutions supporting organic agriculture: The key governmental body is the Ministry of Agrarian Policy and Food. Being the national focal point of the EaP GREEN programme, the Ministry of Ecology and Natural Resources also could be named. Some of Ukraine's agrarian universities, such as the National University of Life and Environmental Sciences of Ukraine, the Zhytomyr National Agroecological University and other agrarian colleges (such as Illintsi, Talyankivskyy and Zolochivskyy) have included organic modules in their curricula. In Ukraine, non-governmental organizations are active in the promotion of organic agriculture, and they cooperate with the national institutions (Leshchynskyy, 2018c).

Presence of farmers groups/organizations involved in organic production: There are several organizations active in the field of organic:

- The Association of Organic Production Stakeholders (BIOLan Ukraine) was created in 2002 to support all in favour of organic production.
- Organic Ukraine was established in 2003 as an association of organic producers and business partners. It has 81 members as of 2019. Its main vision is to form, develop and promote the organic market, and it envisages organic food for every Ukrainian household.

- The Organic Federation of Ukraine, created in 2005, promotes the organic movement parallel with the global organic movement. It aims to improve the efficiency of agricultural production safe for humans and nature.
- The All-Ukrainian Association of Organic Agriculture and Horticulture is an association of producers of ecologically clean products, its distributors and consumers.
- The Club of Organic Agriculture is an organization that unites small farms (roughly 1 ha to 2 ha in size) practising organic agriculture.
- The Chysta Flora association of organic producers was founded in 2009 in the Ukrainian Carpathians to develop agritourism.

International organizations and donor projects supporting organic agriculture development: Phase one (2005–2011) of the Organic Agriculture Certification and Market Development project was supported by the Swiss State Secretariat for Economic Affairs (SECO) to contribute to the growth of the Ukrainian organic sector and its integration within the world trade system. A second project, Organic Market Development in Ukraine 2012–2016, was carried out with the financial support of the Swiss Confederation through SECO and implemented by the Research Institute of Organic Agriculture in Switzerland. The project focused on the education and training of specialists and executives in organic farming. The Swiss Import Promotion Programme supports the participation of Ukrainian organic producers at the BIOFACH international organic agriculture trade fair.

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: Ukraine, on a very large agricultural area, has a small number of huge agricultural enterprises and a very large number of small plots and micro-farms for subsistence living. The average yields are low in plant and animal production. The main reasons for the low productivity of Ukrainian farms include limited income, lack of investment, insecure land tenure, inefficient use of natural resources, and limited knowledge and experience. Strategic support and financial incentives from the Government have been delayed, and the completion of the legal framework has been postponed. In Ukraine, most fruit and vegetables and most livestock are produced by small-scale household farms. These farmers need technical support and guidance for certification and market access.

Main opportunities for the adoption or scaling of organic agriculture: The land devoted to agriculture is high, and farm sizes vary. In Ukraine, the area of cultivated crops (87 percent) is much larger than the area of grasslands. The famous fertile black soils (chernozem), historically low levels of pesticide and fertilizer use, the significant number of small farms, and the availability of agricultural labour, as well as the country's close proximity to the European Union (one of the largest and fastest-growing markets for organic products), all make the country ideally suited for organic production and trade. Additional contributions to the adoption and upscaling of organic agriculture are made by increases in global (for large quantities) and local market demand for organic products with high value (of cultivated crops and wild collection) and additional income opportunities, such as eco-tourism.

Major lessons learned from past organic agriculture projects: If built on the needs of the country, projects can provide a platform for the exchange of experiences, link local stakeholders to international networks, enhance trade, and build partnerships.

Key strategy and actions for future development: Future actions need to target the development of an appropriate legal and regulatory framework for organic production, coverage, and marking of organic production. This is expected to be enforced starting

from 2 August 2019. After the law's implementation, the new European Union regulation will be applied in 2021, requiring additional amendments to align with the new organic regulation, since the EU is an important trade partner for Ukraine. Reports from the United Nations Environment Programme have concluded that organically produced protein crops for feed mixes, cereals and oilseeds (sunflower kernels, for example) have the highest export potential for Ukraine. The production and export of organic fruits, berries, nuts, herbs and honey from smallholder farms have the potential for multiple positive socio-economic benefits. Policies to further these benefits require integration with the national strategy and action plans.

7. Websites for additional information

- https://minagro.gov.ua: Ministry of Agrarian Policy and Food of Ukraine
- https://www.oecd.org/environment/eapgreen.htm
- https://menr.gov.ua: the Ministry of Ecology and Natural Resources
- https://zakon2.rada.gov.ua/laws/show/425-18: the law on organic agriculture
- www.organicukraine.au: Organic Ukraine
- https://eatorganic.in.ua/: website on organic food and clothing in Ukraine
- http://www.organic.com.ua/en: Organic Federation of Ukraine
- https://organicstandard.ua
- https://globalorganictrade.com
- http://www.biolan.org.ua
- https://ukraine.fibl.org/en/ua-about-project.html
- http://www.agroecology.in.ua/en
- http://www.dossier.org.ua/en
- http://www.organic-europe.net/country-info/ukraine/country-info-ukraine-report.html-c16728

Uzbekistan

1. Background information on organic agriculture sector development

Uzbekistan has a total area of 44.8 million ha, about 10 percent of which is arable. Agriculture plays a major role in the economy, employing 44 percent of the total population. The main crops grown in Uzbekistan are cotton, wheat, barley, rice, maize, potatoes, vegetables and fruits. Cotton and winter wheat occupy 80 percent of the total irrigated area.

Organic agriculture started in 2010 by private initiatives of organic certified wild harvest of plant products, including almonds, pistachios, dried grapes, apples and other fruits, and medicinal and aromatic plants. In this respect, the state supported sustainable production systems, including organic agriculture. Projects implemented have helped to draft legislation, a national strategy and market assessments, but these attempts have not been fully finalized and/or implemented (Nurbekov et al., 2018).

2. Organic production

No reliable data are available officially. Organic import data from Turkey state that the importation of organic dried fruit (apples, prunes, grapes and sour cherries) and beans from Uzbekistan date back to 2011. For 2018, the European Union reports that 949 tons of organic products were imported from Uzbekistan (European Commission, 2019).

Estimated total organic certified area: Willer and Lernoud (eds., 2019) report 5 000 ha of area certified for wild harvest, but only according to 2010 data.

Estimated percentage of total agriculture land area: Not available.

Main crops grown and respective areas: No reliable data are available. The Fergana Valley and the Samarkand region seem to be the leading regions.

Certified wild harvest area: According to 2010 data, 5 000 ha are used mainly for medicinal and aromatic plants but also for capers, nuts, berries and dried fruit.

Organic animal husbandry: No official data are available.

3. Legislation, regulatory and policy framework

Key ministry/agencies responsible for organic agriculture: The Ministry of Agriculture and Water Resources is the competent authority. The Centre for Standardization of Agriculture and Water Resources is the department responsible for organic agriculture.

Organic legislation and regulation: The Practical Plan of Measures for the Integrated Development of Organic Agriculture, Production of Organic Agriculture and Food Products in the Republic of Uzbekistan for 2019–2022, approved on 19 January 2019 (No. 03/1-4665), was developed by ministry staff during the FAO Technical Cooperation Programme project TCP/UZB/3501 on institutional capacity building to develop organic agriculture and to promote good agriculture practices in Uzbekistan to provide guidance to stakeholders. It was submitted to the Government of Uzbekistan.

A draft law "on organic production" was also developed by FAO experts based on the international reference standards, and this draft served as a basis for developing a national draft law. The draft was discussed with national stakeholders in a number of training workshops. It is expected to be submitted to the Parliament in 2019.

The standard O'z DSt 3084:2016 on "Organic agriculture and food products on organic agriculture" was accepted as the first step in forming the basis of the law. It includes the main terms and definitions relevant for the organic sector, based on terms and definitions from international reference standards (Saotov, 2018).

National voluntary organic standards: Not present.

National organic control system: There is no legislation dealing with the national organic system.

Certification bodies functioning/authorized (national and/or foreign): Legislation on organic agriculture is not in place. Organic certification, therefore, is performed by foreign certification bodies authorized according to the reference legislation of the importing country.

List of control bodies authorized by the EU for controls in Uzbekistan

Name (Country of Origin)	Code number	A: Unprocessed plant products	B: Live animals or unprocessed animal products	C: Aquaculture products and seaweeds	D: Processed agricultural products for use as food	E: Processed agricultural products for use as feed	F: Vegetative propagating material and seeds for cultivation
AGRECO R.F. GÖDERZ GmbH (Germany)	UZ-BIO-151	X	X	–	X	–	–
bio.inspecta AG (Switzerland)	UZ-BIO-161	X	–	–	X	–	–
CCPB SRL (Italy)	UZ-BIO-102	X	–	–	X	–	–
CERES (Germany)	UZ-BIO-140	X	X	–	X	–	–
Control Union (Netherlands)	UZ-BIO-149	X	X	X	X	X	X
Ecocert SA (France)	UZ-BIO-154	X	–	–	X	X	–
ECOGLOBE (Armenia)	UZ-BIO-112	X	X	–	X	–	–
ICEA (Italy)	UZ-BIO-115	X	–	–	X	–	–
Kiwa BCS (Germany)	UZ-BIO-141	X	–	–	X	–	–
Letis SA (Argentina)	UZ-BIO-135	X	–	–	–	–	–
Organic Standard (Ukraine)	UZ-BIO-108	X	–	–	X	–	–
Valsts SIA (Latvia)	UZ-BIO-173	X	X	–	–	–	–

Source: OFIS, 2019.

There is no national certification body accredited for certifying organic. Foreign certification bodies are operating.

National strategy and action plan on organic agriculture: In January, the Prime Minister accepted the action plan "Practical Plan of Measures for the Integrated Development of Organic Agriculture, Production of Organic Agriculture and Food Products in the Republic of Uzbekistan for 2019–2022" (No. 03/1-4665, dated 19 January 2019) developed during the FAO project TCP/UZB/3501.

Policy measures for supporting organic agriculture: The Government does not have a general subsidy scheme for organic agriculture. There is some research work that has delivered results to be transferred to organic agriculture.

4. Organic agriculture marketing

Domestic market: There is no domestic market for organic products. Organic products imported from other countries occasionally may be found.

Imports: No organic products or raw material are specifically imported for the organic market. Some organic products imported from other countries, such as the Russian Federation or Poland (or other European Union countries), can be found on supermarket shelves.

Export market: Certified organic production started about a decade ago for exporting to the main global organic markets. Importers interested in Uzbek traditional products, such as dried grapes, beans, nuts and dried fruit, have started projects on organic agriculture. Official import data from Turkey contain figures for the products and the amounts imported from Uzbekistan, mainly dried fruit, beans and nuts. For 2018, the European Union reports 949 tons of organic products imported from Uzbekistan.

Data collection system at the national level: There is no official data collection system, and no official data are available on organic production in Uzbekistan.

5. National institutions and international organizations on organic agriculture

Key national institutions supporting organic agriculture: Pearls of Samarkand, a private company, helped initiate organic and Fair-trade-certified products in Uzbekistan.

Presence of farmers groups/organizations involved in organic production: There is no organic farmers' group in Uzbekistan.

International organizations and donor projects supporting organic agriculture development: FAO has implemented projects to develop organic agriculture.

6. Opportunities and challenges

Main barriers for the adoption or scaling of organic agriculture: The main barriers are the lack of legislation and the organic system. In addition to these basic aspects, other barriers exist:

- There is a lack of registry and certification systems and statistics on number of producers, regions, and volume of production and sale.
- Commercial traders and agents have little access to information.
- There are no national associations or networks of organic producers.

- There is low interest in selling in the domestic market.
- There is high interest in exporting, and therefore there is low competition (pricing, quality and choice) in the domestic markets.
- Costumers are not satisfied with the diversity, the amount of the supply and the higher prices compared to conventional products.
- Despite being a leading country for cotton, the use of forced labour during the cotton harvests has hindered the development of organic cotton projects, until lately.

Main opportunities for the adoption or scaling of organic agriculture: Uzbekistan has a high potential in the agrifood sector. This potential can be converted to organic management rather easily, since most of the land area receives low levels of off-farm inputs. Diversification (as alternatives to cotton) and intensification of crops are beginning to be seen as policies for agricultural development. If the appropriate policies are adopted, Uzbekistan can become a leader in organic cotton, dried fruit, nuts and wild harvested plants, once all basic conditions for certification are fulfilled (JIA, 2017).

Major lessons learned from past organic agriculture projects: Activities performed through the projects must be in line or with supported by the policies adopted by the Government. The activities/decisions must be carried out timely, as planned.

Key strategy and actions for future development: Several items are needed for future development: finalization of the legislation on organic agriculture and establishment of the national system, including registry systems; authorization and supervision of the certification bodies; strategic planning; surveillance of the domestic, import and export markets; and awareness-raising activities.

7. Websites for additional information

- http://www.stat.uz/en/: State Committee of the Republic of Uzbekistan on Statistics
- http://organic-ca.org/: Organic Agriculture in Central Asia

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