



GREEN ECONOMY OPTIONS FOR UKRAINE: Opportunities for organic agriculture

POLICY BRIEF

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EXECUTIVE SUMMARY

The organic agriculture sector in Ukraine has experienced steady growth since the early 2000s. Nevertheless, there remains a significant opportunity for further growth in the sector, not least due to its geographic proximity to the lucrative and growing organic markets of the European Union (EU), as well as the largely untapped potential of Ukraine's domestic organic market. Key challenges for the further development of the sector include the recent political and economic instability in the country, limited knowledge on the benefits of organic agriculture among both farmers and the general population, and the subsequently underdeveloped domestic market.

Organic goods, and in particular food products such as yogurt, cereal, honey and ice cream, are also typically sold at a premium to cover investment. This premium is often keeping domestic buyers away in Ukraine, leading to reduced production, thereby discouraging Ukraine's agricultural producers from converting to organic practices. Another key barrier is obtaining organic certification. Most smallholder farmers in Ukraine are traditionally operating organically, but do not get international certification on organic products. There are also logistical and infrastructural barriers to growth, such as a lack of access or insufficient markets for organic products.

The export market offers ready opportunities to expand, but the domestic market for organic goods is underdeveloped. To foster growth under a green economy, Ukraine's domestic market needs to be strengthened through increased market access (supported by procurement efforts, for instance), concerted efforts to leverage public investments and increase private activity, capacity-building for organic cooperatives, and a national campaign to educate farmers and the public about the benefits of growing and consuming organic products. This support can lead to more favourable conditions for the sector, such as lower costs for producers, so they can sell products more affordably, while also educating buyers on the benefits of organic goods and explaining why they are worth the premium price. By strengthening Ukraine's domestic market, producers are also able to improve their production and expand their export volumes, tapping into the increasing international demand for organic agricultural products.

Ukraine has already become aware of these urgent needs: in recent years, appropriate steps have been taken by the authorities; awareness raising activities and trainings for interested expert and non-governmental organizations have intensified; small farmers are gradually beginning to feel the state's support; and consumers are receiving new options to influence the market.

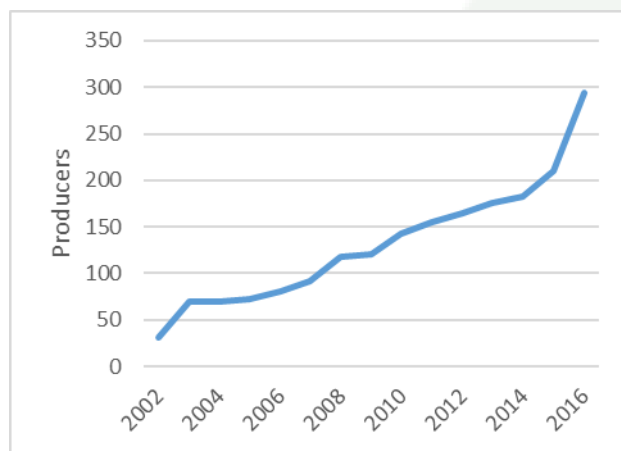
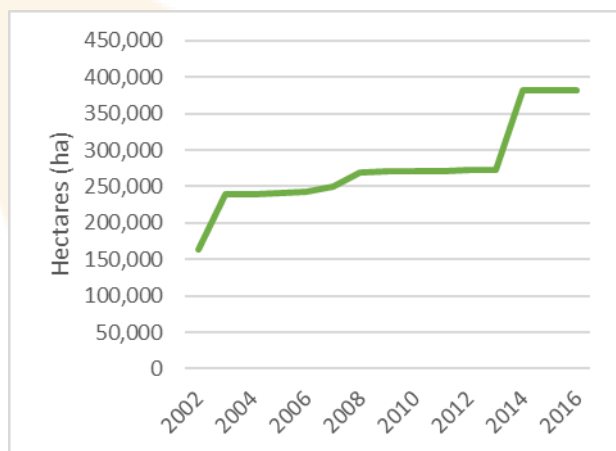
PROMOTING SUSTAINABLE DEVELOPMENT THROUGH ORGANIC AGRICULTURE

SECTORAL OVERVIEW AND POLICY LANDSCAPE

According to national statistics, prior to the ongoing conflict, which started in 2014, the overall value of Ukraine's agricultural output was significantly increasing between 2000, when it was valued at EUR 10,460.8 million (UAH 54,259 million), and 2010, when it was valued at EUR 19,274.4 million (UAH 189,405 million) and 2016, when it amounted to EUR 22,913.0 million (UAH 637,791 million)¹ (State Statistics Service of Ukraine 2016). Crop production represents roughly 70 per cent of this significant increase in the value added from 2000, while livestock represents just under 30 per cent. Total agricultural land has remained relatively stable, indicating that growth in agricultural output has been driven predominantly by increased productivity (yield per ha), but in 2013 Ukraine did experience the second highest growth in agricultural land in Europe (Lernoud & Willer, 2015).

Ukraine has not yet completely realized the full potential of its organic agriculture. Figure 1 shows a rapid rise in organic production in 2002-2003 – coinciding with the first true emergence of organic practices and certification in Ukraine – while a more recent sharp rise in 2012-2013 corresponds with an overall boom in the country's agricultural exports and with the adoption of the Law of Ukraine on Organic Production and Marketing (see below). In 2016, land under organic management extended over about 381,000 ha, which is roughly 0.89 per cent of total agricultural land in the country (Organic Federation of Ukraine, 2018). While this is a small fraction of the overall agricultural land use (see Table 1), Ukraine's area for organic products has grown continuously, from roughly 164,000 ha and 31 producers in 2002, to 381,000 ha and 294 producers in 2016 (see Figure 1).

Figure 1: Total organic production area and number of producers, 2002 – 2016



Source: Organic Federation of Ukraine, 2018.²

¹ Throughout this report, figures given in UAH were converted to EUR using the historical exchange rates (corresponding to the date of the cited source), retrieved from: <http://www.oanda.com/currency/historical-rates/>

In this particular case, UAH is converted to EUR based on the 0.19279 EUR/UAH exchange rate observed on June 30, 2000; on the 0.10176 EUR/UAH exchange rate, observed on July 1, 2010, and on the 0.03593 EUR/UAH exchange rate, observed on July 1, 2016.

² There are no official statistics on organic agriculture in Ukraine. The Ministry of Agrarian Policy and Food of Ukraine started in 2017 to compile its own data to document the sector's development based on operational monitoring data on organic agriculture among certification bodies that certified organic production and trade of organic products according to the EU organic regulation in Ukraine. These figures relate to the end of 2016. All data about the organic sector in Ukraine, presented before 2016, were collected by the Organic Federation of Ukraine through their own channels. These data could be found in different publications (e.g. IFOAM statistics), as there was no official alternative.

Ukraine currently ranks as one of the top 10 countries in the world for areas under organic cereal production, as well as organic oilseed production and organic protein crop production (Lernoud & Willer, 2015).

In 2017, the Ministry of Agrarian Policy and Food of Ukraine collected operational monitoring data on organic agriculture among certification bodies that certified organic production and trade of organic products according to the EU organic regulation in Ukraine (O. Trofimtseva, N. Prokopchuk, 2018).

The data (as of 31 December 2016) show the following:

- Organic agricultural area – 289,551 hectares;
- Agricultural area in conversion – 91,622 hectares;
- Total area of agricultural land – organic and in conversion – 381,173 hectares;
- Organic share of total agricultural land – 0.89 per cent;
- Total number of operators – 426, including 294 agricultural producers;
- Total number of certification bodies under this monitoring – 19.

According to studies of the Organic Federation of Ukraine, the total value of Ukraine’s organic market in 2007 amounted to EUR 0.5 million, while in 2016 the internal organic market reached EUR 21.2 million, corresponding with an increase in the number of certified organic farms from 31 in 2002 to 294 in 2016 (Organic Federation of Ukraine, 2018). This trend illustrates a small but nevertheless rapidly growing organic market in Ukraine.

Currently, as much as 89 per cent of Ukraine’s organic production is directed to export markets (Organic Federation of Ukraine, 2018). The main organic export products from Ukraine are cereals, oil crops, pulses, wild collected berries, mushrooms, nuts, and herbs.

Table 1: Agricultural land use in Ukraine, as of early 2016
(in thousands of hectares)

Total agricultural land	42,726.4
Total land under organic management	381
Arable land	32,541.3
Cultivated area	27,573.1
Drained farmland	2,955
Irrigated farmland	2,166
Area of ley fields (i.e. fallow)	981
Grains and pulses	15,681.6
Technical (non-food) crops	7,722.9
Potatoes and gourds	1,920.9
Feed crops	2,247.7
Hayfields	2,408.8
Pastures	5,446.8

Sources: UNEP EaP GREEN 2015; State Statistics Service of Ukraine, 2016.

MAIN ORGANIC EXPORT PRODUCTS FROM UKRAINE

According to data from the leading certification body, Organic Standard, in 2017, the top organic products (by volume) exported by their clients from Ukraine were: corn, wheat, soya, barley, spelt, sunflowers, hulled millet, rapeseed, blueberries (frozen), oats, millet, lupine, apples (fresh), buckwheat, mustard, elderberries (fruits), pumpkin seeds, birch sap, flax, flakes, rye, walnuts (kernel), sea-buckthorn (frozen), blackberries (frozen), rosehip (frozen), coriander, pea, elderberries (flowers frozen), wild strawberry (frozen), cranberries (frozen), apple juice concentrate, hawthorn (frozen), sunflower cakes, durum wheat flour, cowberry fruits (frozen), black chokeberry fruits (frozen), chamomile (dried), hemp, raspberries (frozen), and sunflower oil. The top 11 importers (by volume) of Ukrainian organic products³ are the Netherlands, Germany, the UK, Italy, Austria, Poland, Switzerland, Belgium, the Czech Republic, Bulgaria, and Hungary. Ukrainian producers also export to the U.S., Canada, Australia and some Asian countries (O. Trofimtseva, N. Prokopchuk, 2018).

³ The data do not only refer to operators that were certified by Organic Standard.

Ukraine follows the global trend of “local + organic” and already has some success stories of Ukrainian exporters with products having both organic and regional labelling (from the Ukrainian Carpathians).

Ukraine’s organic agriculture is predominantly crop related, with little organic livestock farming. Among organic crop producers, the vast majority produces cereal legumes and oilseeds, although, according to Organic Standard, there was a rapid increase in the production and sales of berries and fruits, while fresh apples were among the top 7 export products in 2017.

The domestic market for organic products started to emerge at the end of the 2000s, and in 2008, the first Ukrainian organic labelled products appeared on the shelves of Ukrainian retailers. The main sales outlets are supermarkets and specialty shops in big cities. The assortment of organic products available on the shelves is still not diverse. Consumers can buy the following Ukrainian organic product categories in retail shops: dairy and meat products, grocery

and bakery products, flour, macaroni products, vegetable oils, beverages (juice, birch sap, herbal tea), canned products (e.g. berry paste, syrup, jam), and some vegetables and fruits. (O. Trofimtseva, N. Prokopchuk, 2018).

Important national stakeholders in organic agriculture include the Organic Federation of Ukraine and the BIO Lan Ukraine Association of Organic Production Stakeholders. Consultancies and civil society organizations (such as QueS consultancy, VIP Group, Sib-Agro, Ecoterra Lviv NGO and others) are servicing small and medium organic producers and enterprises in Ukraine – primarily by supporting the distribution of information as well as the development of new organic production capacity and value chains at national and regional levels. The Organic Standard certification body also works to disseminate information on requirements, standards, and technical expertise on organics (Ministry of Agrarian Policy and Food of Ukraine, n.d.). As with trends in overall organic production, the number of organic actors in Ukraine, from producers to retailers, is growing annually.

THE ROLE OF SMALL AND MEDIUM ENTERPRISES (SMEs) IN UKRAINE’S ORGANIC AGRICULTURE SECTOR

Currently, the vast majority of enterprises in the country are SMEs, and given the growing number of producers, processors, traders and retailers in Ukraine’s organic agriculture sector, SMEs are playing an important role in expanding the local and export markets. These SMEs contribute significantly to job creation, particularly in rural areas. In support of local entrepreneurship, start-ups receive public advisory services and financial assistance as well as supportive services for comprehensive innovation strategies for SMEs (FAO, 2012). Key actors in this field include the union of certified organic producers Organic Ukraine; the Association of bio-producers BIO Lan Ukraine; the Organic Federation of Ukraine; the Information Centre “Green dossier” on organic production; as well as other consultation bodies such as the VIP group, Sib-agro, which provides consultations for SMEs and service providers in the organic sector. Organizations such as the Ecoterra Lviv NGO and academic/research centres such as the Institute of Organic Production, Polissya-Organic and Poltava-Organic work to promote the concept of organic production on a regional scale in Ukraine. Specialized centres for sales and consumer consultations on organic products include Natur Boutique, Organic Business School, the Ukrainian Organic Cluster, and others (Ministry of Agrarian Policy and Food of Ukraine, 2018).

Though financing and complementary services are available, it is not easy to access funds. For SMEs in agribusiness accessing credit from banks is difficult, and non-bank financial entities are underdeveloped and are not competitive with financial institutions (Ukraine Agrobusiness Club, 2015). In addition, SMEs face other challenges, including corruption, absence of a mature risk-management system, inefficient tax regulation, high tax rates, underdeveloped market infrastructure and restrictive fiscal policy, to name a few (FAO, 2012; Ukraine Agrobusiness Club, 2015). Although the institutional framework for SMEs underwent a redesign in recent years, it still falls short in creating a favourable investment environment for SMEs (Ukraine Agrobusiness Club, 2015).

The State Programme of Ukrainian Rural Development until 2015 included a goal to raise organic production to 10 per cent of total agricultural production, but without concrete implementation mechanisms, a budget or institutional arrangements, this target still remains unmet. The current *Strategy for Agriculture and Rural Development for 2015-2020* notes the need to “adapt the regulatory framework on organic production, promoting equivalence with the major markets, and promote organic farming, in order to meet the increasing global demand for organic products and contribute to solving environmental problems” (Ministry of Agrarian Policy and Food of Ukraine, n.d.). This strategy provides an overview of the sector, documents the supporting policy and legal framework, highlights key challenges and strengths, and suggests policy options for reform. This strategy has been initiated and elaborated on by the Ministry of Agrarian Policy and Food of Ukraine in cooperation with local organic stakeholders and international partners. Experts on the organic priority of the strategy started their work in May 2017 at the Reform Support Team of the Ministry of Agrarian Policy and Food of Ukraine (O. Trofimtseva, N. Prokopchuk, 2018).

Another key document is the Law of Ukraine (no. 425-VII) on *Organic Production and Marketing of Organic Agricultural Products and Raw Materials*, which entered into force in January 2014, but has not been implemented yet (GoU, 2014). This law contributes to Ukraine’s organic agricultural development by defining the necessary criteria for products to be labelled and marketed as organic. It also identifies the authorities and procedures for ensuring the authenticity of organic produce. The law is intended to ensure fair competition and enhance consumer confidence in organic agriculture. The Ministry of Agrarian Policy and Food of

Ukraine has initiated a new draft of the law on organic agriculture and elaborated on it in partnership with key organic agriculture stakeholders and with support from international partners aiming at harmonization with the EU organic agriculture regulations. This draft law on the basic principles and requirements for organic production, circulation, and labelling of organic products is registered in the Ukrainian Parliament under No 5448 of 24.11.2016 (O. Trofimtseva, N. Prokopchuk, 2018). The draft law passed by the Committee on Agrarian Policy and Land Affairs of the Verkhovna Rada of Ukraine was adopted in the first reading (April 19, 2018) and is now awaiting further consideration.

The Ministry of Agrarian Policy and Food of Ukraine officially registered a Ukrainian state logo for labelling organic products.

Certification of organic products is mainly done on the basis of the standard for organic production and processing, which is equivalent to Council Regulation (EC) No 834/2007 and European Commission Regulation No. 889/2008, which is used both for export and domestic markets. Other certifications featuring among Ukraine’s organic producers include NOP (USA), Bio Suisse (Switzerland), Bioland (Germany), Naturland (Germany) and Soil Association (United Kingdom). There are also 19 private internationally accredited certification bodies⁴ that are approved by the European Commission (EC 1235/2008).

Domestically, price differentials depend on “product type, quality, lot volumes, [and] delivery basis” (UNEP, 2011). Typically, the prices of locally produced organic products are 2-3 times higher than those for conventional products – particularly in the case of yogurt, honey, oils and cereal.

⁴ These bodies include Organic Standard, Bio-Inspecta AG, Ecocert SA, CERES Certification of Environmental Standards GmbH, Control Union Certifications, Kiwa BCS Öko-Garantie GmbH, Ecoglobe, Istituto Certificazione Etica e Ambientale (ICEA), Lacon GmbH, Suolo e Salute srl, Agreco R.F. Göderz GmbH, Bioagricert S.r.l., Ekoagros, A CERT European Organization for Certification S.A., Letis S.A, CCPB Srl and Valsts SIA “Sertifikācijas un testēšanas centrs” (O. Trofimtseva, N. Prokopchuk, 2018). Out of these, only Organic Standard is a Ukrainian company, and all other certification bodies are of foreign origin (Ministry of Agrarian Policy and Food of Ukraine, n.d.).

OPPORTUNITIES FOR ORGANIC AGRICULTURE

The 2011 UNEP report, “Organic Agriculture: A step towards the Green Economy in the Eastern Europe, Caucasus and Central Asia region”, identified a number of benefits associated with the development of organic production, including:

- Direct economic benefits for the farmer, trader and processors from the production itself (e.g. higher price and/or lower costs);
- Economic benefits to society in the form of employment (throughout the value chain);
- Economic benefits to society in the form of increased exports (e.g. organic products, and/or decreased imports, e.g. energy and agro-chemical);
- Direct economic benefits for the producer from selling public benefits or services (e.g. biodiversity conservation and landscape management, or carbon pricing mechanisms targeted at sequestration);
- Long-term benefits in the building up of natural capital, particularly in soils;
- Reduced costs for society (e.g. for water purification and health care);
- Increased social capital (e.g. cooperation between farmers, pride of doing something that is appreciated, increased trust in the value chain, and better understanding between consumers and producers).

Ukraine is one of the leading organic producers in the region and its geographical location presents tremendous potential for export to the EU – one of the most lucrative organic markets in the world. Opportunity for growth has recently been demonstrated through the Swiss and German development agencies that are actively engaged in promoting the organic sector in Ukraine through training, seminars, conferences, fairs, promotional campaigns and other activities (UNEP, 2011; Prokopchuk & Eisenringm, 2011). A more robust and stable domestic market would provide more certainty and price stability to producers, thereby offering an opportunity to address the various intercountry market access issues that they experience. Ukraine’s highly fertile, black chernozem soils are also a natural advantage for the country’s organic sector as they are able to provide high yields and reduce the need for synthetic fertilizer inputs (FAO, 2001).

Estimates suggest that lower input costs, reduced application of fertilizers and pesticides, and reduced biodiversity and organic matter losses for organic agriculture can approach roughly EUR 275 per hectare (UNEP, 2011). The simulation analysis presented in this report highlights the greater added value of increased organic activity in Ukraine.

CHALLENGES FOR ORGANIC AGRICULTURE

The lack of a formalized national programme or action plan on organic agriculture was a major barrier to greater organization and development of the sector in Ukraine over the years. An unstable political and economic situation also has an impact, as shown by the recent downturn in the sector. However, in the latest official strategic documents, the development of organic agriculture has been proclaimed as a priority area, relevant special sections have been integrated into complex agricultural and rural development plans, and national and regional support programs for farmers have already been developed and implemented in some places. Year after year agricultural growth (conventional plus organic) was positive, especially in the last couple of years thanks to the Deep and Comprehensive Free Trade Area (DCFTA) built upon the Association Agreement between the EU and Ukraine. The forecasts of the Ministry of Agriculture Policy and Food support this assessment, projecting modest growth of roughly 2 per cent over the 2016-2025 time frame under a business as usual scenario.⁵ The belief is that this instability will not be the best scenario for organic producers who are more exposed to easily disrupted trade chains than conventional producers – primarily because they are of smaller size and have less organizational capacity to absorb temporary instability.

Ukraine also lacks support systems to existing agricultural cooperatives and associations, thereby limiting the joint use of inputs and facilities such as equipment, agricultural inputs, and subsidies (Ministry of Agrarian Policy and Food of Ukraine, n.d.). Other challenges for the organic agriculture sector include instability in the current supply and delivery chain of organic products, lack of cooperation between producers and coordination among logistic services, as well as little interest from processing units (Ministry of Agrarian Policy and Food of Ukraine, n.d.).

There are also a number of additional challenges related specifically to the export and local markets for organic produce (UNEP EaP-GREEN, 2015; UNEP, 2011; Organic Federation of Ukraine, 2018).

Retailers have noted that even if there were interest for

organic products, there is a lack of reliable supply and infrastructure to support organic markets in Ukraine. Value chain disorganization is therefore a major challenge.

The certification process is rapidly improving: there is an increase in the number of certification requests, there are applications for financial support for the certification of small producers, and awareness raising activities are being conducted with farmers. The shift to smaller producers indicates that the uptake of organic practices is indeed expanding, but studies by the Ukrainian Institute of Agrarian Economics have shown that larger producers (over 5,000 ha) are best able to compensate for the increased costs of production and certification (Legeza, 2011).

The price differential that is typically observed between conventional and organic products presents a barrier for organic producers. Organic products typically require a price premium to make a profit, and consumers have yet to show willingness to pay an additional price. This is the result of a number of factors including consumers' lack of awareness on organic benefits, their lack of trust in producers'/retailers' organic claims. Therefore, manufacturers together with expert and non-governmental organizations conduct joint activities promoting organic products and consumer education. They are looking for innovative ways to better represent their products and service consumers (various exhibitions, contests, popular video clips and attractive outdoor social advertising, delivery of products at home or in offices, improved packaging design for goods, etc.). Training is ongoing for actual and potential producers of organic products (organizations, such as the Organic Business School, professionally specialize in such training). Producers and sellers jointly organize tours for consumers to organic production spots. All these measures are in great demand. Only in 2016, more than 1,000 producers were trained under the program of the Organic Ukraine Public Union of Producers of Certified Organic Products, with hundreds of consumers taking part in tours to organic farms. Activists of the organic movement of Ukraine also conduct campaigns to identify unscrupulous producers or sellers, - record such facts, and publicize them in social networks.

⁵ Forecast of the dynamics of the major macroeconomic and industrial indicators of Ukraine's economic development for the period 2015-2030.

SIMULATION ANALYSIS AND KEY RESULTS

A simulation model was created to forecast the likely outcomes of the implementation of a green economy policy. These simulated outcomes are assessed against a business as usual (BAU) scenario to better understand the net impacts of green economy interventions on social, economic and environmental indicators. Data taken for the simulation analysis are as of 2013. The absence of official statistics on organic agriculture in Ukraine required the use of data and information from alternative sources.

ASSUMPTIONS

The transition to organic agriculture entails several uncertainties associated with four factors that provide the parameters for the simulations:

- The level of investment required for certification and production;
- The effective yield (which is likely to change over time, starting low and gradually increasing);
- Market prices and access (which depend on the product and demand);
- The required labour force (which is positive regarding employment creation, and negative regarding costs, including salaries and wages).

The simulations assign values for these factors, and test the profitability of the sector under the two scenarios shown in Table 2. The optimistic scenario (Green Economy plus, or GE+) assumes investments of EUR 91 (US \$100) per hectare per year offset by reductions in operating costs (due to the reduction in the use of fertilizers and pesticides, for example); a 10 per cent increase in yield (approximating

medium and longer-term impacts); a market price 20 per cent higher than products of conventional agriculture; and labour intensity 20 per cent higher than that under conventional agricultural production.

The pessimistic scenario (Green Economy minus, or GE-) assumes investments of EUR 182 (US \$200) per hectare per year also offset by reductions in operating costs; a 30 per cent decline in yield (approximating short-term impacts); market prices equal to conventional products; and labour intensity that is 10 per cent higher than that under conventional agricultural production.

Ukraine's strategies for the sector include plans for the development of conditions for environmentally oriented technologies and organic farming and a doubling of the area farmed with these methods;⁶ for increasing the area of certified organic agricultural land by 7 per cent by 2020; and for increasing the share of organic products in the country's gross output by 10 per cent by 2020.⁷

Table 2: Assumptions for simulation analysis on optimistic (GE+) and pessimistic (GE-) scenarios

	GE+	GE-
Investment	+EUR 91/ha	+ EUR 182/ha
Yield	+10%	-30%
Market price	+20%	no premium
Labour intensity	+20%	+10%

⁶ Закон України «Про основні засади (стратегію) державної екологічної політики України на період до 2020 року» [Law of Ukraine on main principles/strategy for national environmental policy for the period until 2020]. Available at: <http://zakon5.rada.gov.ua/laws/show/2818-17>

⁷ Lupenka, Y.O., Mesel-Veseliyaka, V.Y. 2012. «Стратегічні напрями розвитку сільського господарства України на період до 2020 року» [Strategic directions for the development of agriculture of Ukraine until 2020]. Institute of Agrarian Economics of Ukraine. Available at: <http://agroua.net/docs/strateg.pdf>

KEY RESULTS

Under the optimistic GE+ assumptions, the doubling of organic land area to 800,000 ha by 2030 implies production of 6.2 million tonnes in 2020, 7.5 million in 2025, and 8.8 million in 2030, and implies an added value of EUR 149.9/year in 2020, EUR 181.8/year in 2025, and EUR 213.8/year in 2030.

Under the pessimistic GE- assumptions, the doubling of organic land area to 800,000 ha by 2030 implies production of 3.9 million tonnes in 2020, 4.8 million in 2025, and 5.6 million in 2030, and implies added value of EUR 16.8/year in 2020, EUR 20.4/year in 2025, and EUR 24.0/year in 2030.

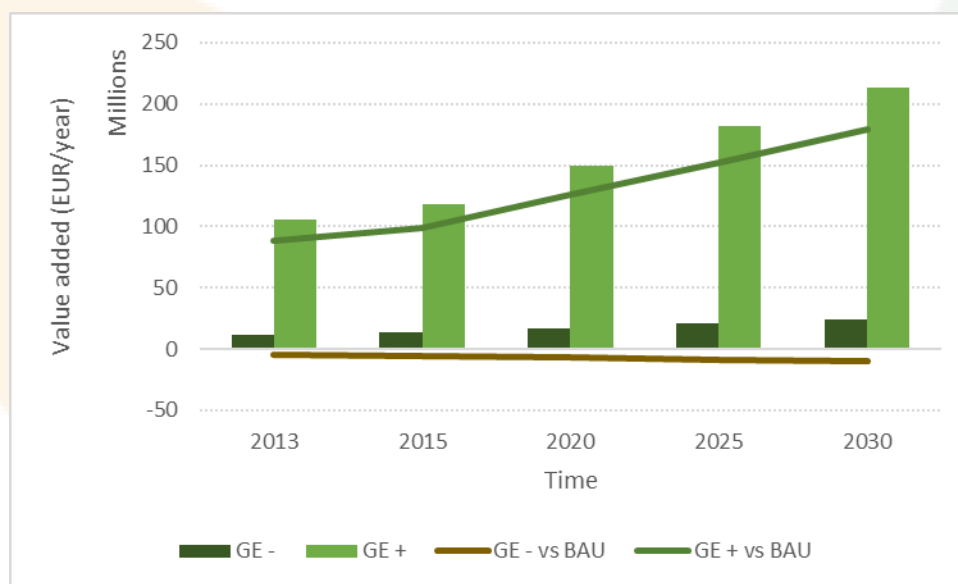
With the doubling of the organic area by 2030 (reaching 800,000 ha), results show that production could reach between 3.9 and 6.2 million tons in the year 2020, between 4.8 and 7.5 million tons in the year 2025, and between 5.6 and 8.8 million tons in the year 2030, leading to an added value in the range of EUR 16.85 million to EUR 148 million in 2020, EUR 20.4 million to EUR 180 million in 2025 and EUR 24 million to EUR 212 million in 2030. The large differences in value added are due to the combination of assumptions about investments, yield and market price. (See Table 2.) The upper value is therefore calculated considering an investment of EUR 91/ha and market prices 20 per cent

higher for organic products (i.e. low investment/high return). In addition, to put these numbers into context, if we were to extrapolate the recent growth of the organic agriculture sector to 2020 a projected value of the organic market will reach EUR 1.64 billion.

Compared to a business as usual scenario, where conventional practices remain in place, the value added of a green economy scenario with enhanced organic production is projected to be up to EUR 132 million higher per year on average (Figure 2). The cumulative added value in GE+ scenario is EUR 748 million higher by 2020, EUR 1.44 billion higher by 2025 and EUR 2.27 billion higher by 2030 (Table 3). This is to be assessed considering the extra investment required, which is on average EUR 44 million higher per year.

Finally, the expansion of organic agriculture production is projected to create co-benefits in the form of more jobs relative to those created by conventional agriculture (Figure 3, Table 3). In addition, the value of carbon sequestration, which is enhanced as organic farming improves the soil's ability to store carbon, and which increases with additional land farmed organically, would reach EUR 246,400 in the year 2030 alone.⁸

Figure 2: Total organic value added: optimistic (GE +) and pessimistic (GE -) scenarios



⁸ A general per-tonne carbon value of US \$5 (EUR 4.65) is used as a conservative estimate for carbon pricing, using global carbon pricing models, particularly the EU-ETS as a guide. Further, it is assumed that the additional carbon sequestration for organic agriculture is on the order of 2 tonnes of CO₂ per hectare per year (Høgh-Jensen, 2004).

Figure 3: Total employment: optimistic (GE +) and pessimistic (GE -) scenarios

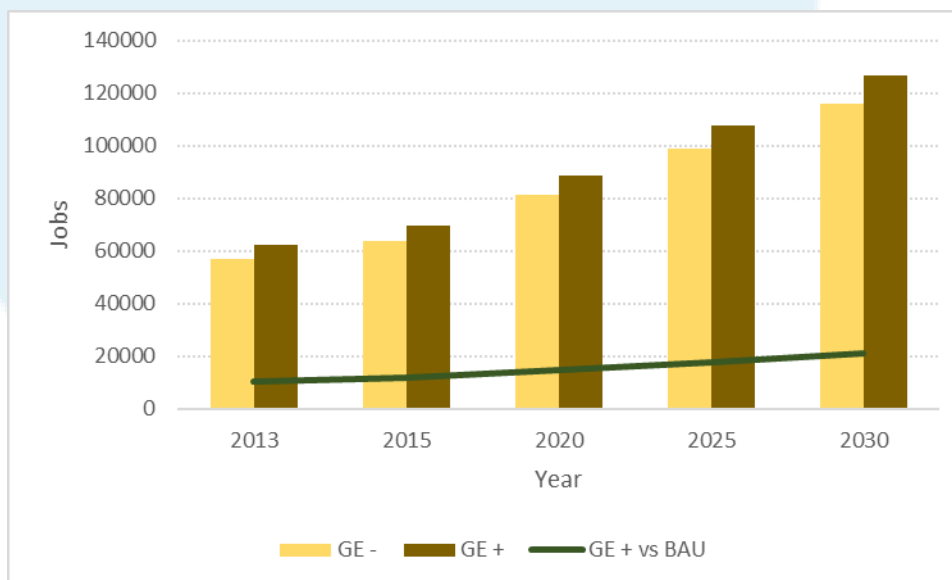


Table 3: Results of Organic Agriculture Simulation Analysis

Year	2013	2020	2025	2030
Organic agriculture area (ha)	393,400	560,824	680,412	800,000
Additional annual investment (EUR/year) in millions				
GE + (EUR 91/ha/year)	29.9	42.6	51.7	60.8
GE - (EUR 182/ha/year)	59.8	85.2	103.4	121.6
Total organic production (tonne/year) in millions				
GE + (+10% Yield)	4.3	6.2	7.5	8.8
GE - (-30% Yield)	2.8	3.9	4.8	5.6
BAU	3.9	5.6	6.8	8.0
Total value added (EUR/year) in millions				
GE + (+20% in Market Price)	105.1	149.9	181.8	213.8
GE - (No Change in Market Price)	11.8	16.8	20.4	24.0
BAU	16.9	24.0	29.1	34.3
Cumulative value added differential (EUR) in millions				
GE + (+20% in Market Price)	-	748.1	1,443.5	2,273.0
GE - (No Change in Market Price)	-	(42.8)	(82.6)	(130.1)
Additional organic employment (people)				
GE + (+20% in Labour Intensity)	10,390	14,810	17,960	21,120
GE - (+10% in Labour Intensity)	5,193	7,403	8,981	10,560
Emissions avoided (tonne/year)				
GE	786,800	1,121,647	1,360,823	1,600,000
Carbon value (EUR/year)				
GE	121,167	172,734	209,567	246,400

POLICY CONSIDERATIONS AND ENABLING TOOLS: THE WAY FORWARD

The role of governments in a green economy is to provide support for green economic development, while at the same time removing barriers that may be hindering implementation of a green transition. A number of considerations and suggestions to help transition towards a green economy have been identified.⁹ Here are some of the considerations and suggestions that can help policymakers address challenges and realize opportunities associated with organic agriculture in Ukraine.

Strengthen policy

Ideally, the National Action Plan on Organic Agriculture would be developed (apart from special chapters integrated into sectoral strategies) and implemented with the cooperation and engagement of all key stakeholders. This national plan can provide some overall guidance to the sector and could include specific direction on the points discussed below. It would also provide much-needed public clarity on the regulations and practices associated with organic agriculture and engender confidence in the sector.

Support organic farmer cooperatives

Effective organic farmer cooperatives can support local and export markets, stimulate production efficiency and facilitate local logistics such as drying, storing, sorting, pre-processing and final processing (EaP-GREEN, n.d.). Such support can come in the form of sharing information on local and export markets and facilitating access to necessary agricultural inputs, as well as through fiscal mechanisms such as grants and credits to organic farmer cooperatives. Some steps have already been taken in this direction; it is worth continuing this activity.

Stress the environmental benefits of organic agriculture

The environmental services and impacts of organic agriculture include improved soil quality, reduced emissions, and enhanced water quality. Policy-making can support these benefits by establishing fiscal mechanisms – such as payments for ecosystems services – that support these services, and by applying the polluter-pays principle to practices that are harmful to the environment.

Focus on the development of domestic markets

A reliable domestic market for organic products reduces producers' reliance on exports and provides a market for organic goods that is geographically closer to production sites. Developing the domestic markets may include investing in more cost-efficient certification (with clear labelling and quality control), educating the consumer base on benefits of organic products, forming partnerships with private interests to invest in market creation, supporting cooperatives to create more stable market supply and access, and, where possible, having the government lead procurement efforts. The goal is to ensure that supply chains are reliable for producers, intermediaries (such as shop-owners) and consumers.

Support education and capacity-building

Producer education can ensure that production practices align with certification requirements while achieving the highest possible yield. Consumer education can build public confidence in organic products and practices, provide a rationale for the willingness to pay premium prices, and generate momentum in the creation of a stronger domestic market. Capacity-building efforts can target groups for specialized training on the comprehensive benefits and advantages of organic farming.

Stimulate private investment

Policymakers can create a more attractive investment environment for the sector through low-interest loans, public-private partnerships, facilitation of investment opportunities, assistance in securing export opportunities, and regulatory reforms. An improved investment environment would help not only in production, but also in building supply chains and market-access infrastructure both domestically and internationally.

Promote the organic sector

Government can help foster the emerging green sectors by supporting access to markets and by leading by example, that is, by presenting the public a show of support for organic products, in particular, by procurement efforts, where possible, for school canteens or other government food service operations.

⁹ For additional recommendations see UNEP (2011).

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