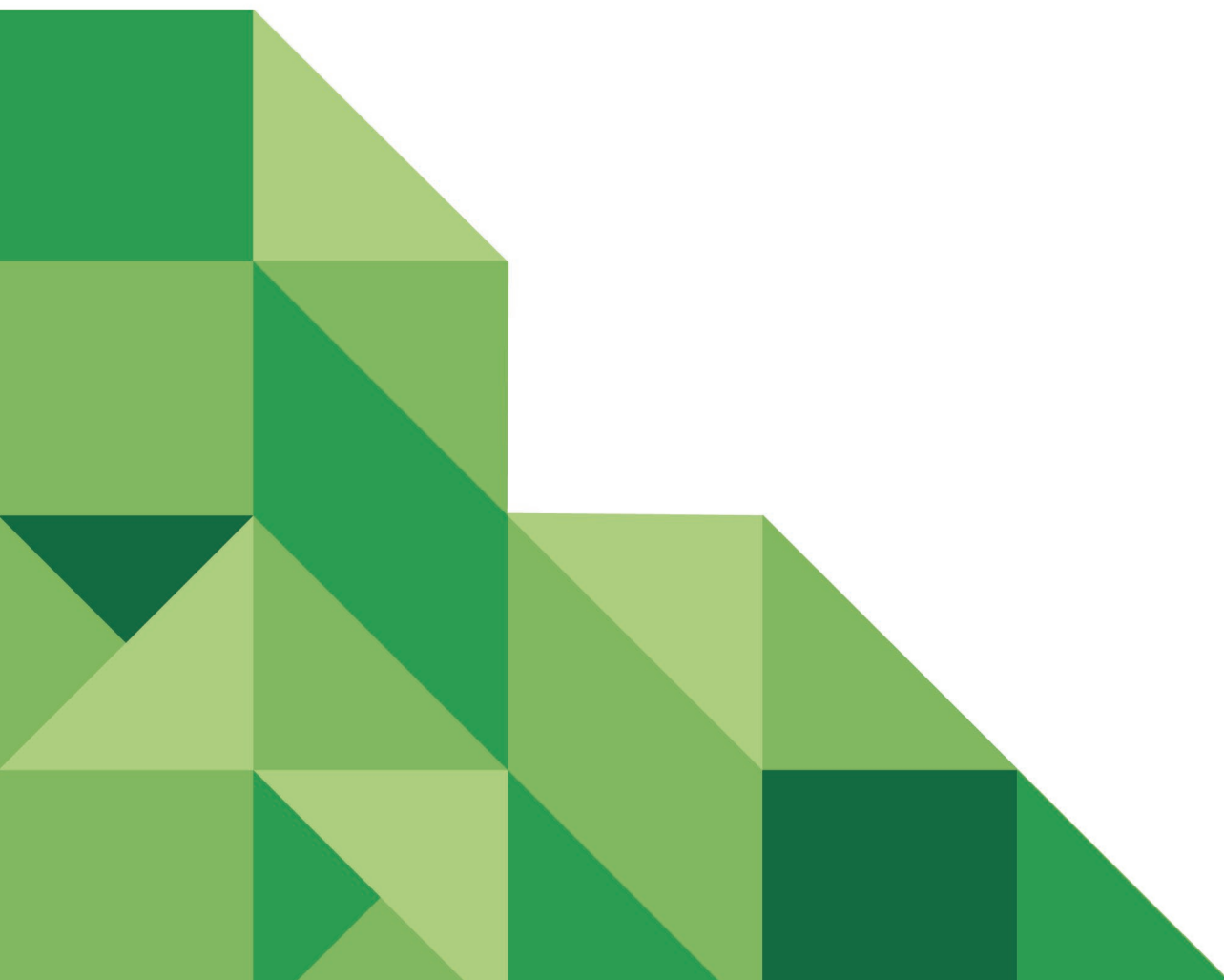




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Organic production development and the EU circular economy

Case study of Finland's challenges and
opportunities



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Contents

Definitions.....	4
1 Circular economy in forest natural resources utilization	6
1.1 Organic production and the EU circular economy.....	7
2 Organic certification in Finland	13
2.1 Finland in the organic certification and market in Europe	16
2.2 Current state of Finnish organic sector challenges and needs	22
3 Comprehensive EU organic action plan and Finland’s organic production.....	33
4 Discussion and conclusions	40
References.....	45

Definitions

(Author's translation based on definitions by Finnish Forest Centre and Ministry of Agriculture and Forestry of Finland)¹

- **Natural product:** products such as wild berries, mushrooms and herbs and other special natural products of forest origin such as char, tar and other wood distillations, sap, bark, peat, birch bark, willow, moss, reed, lichen and decoration plants.
- **Natural products allowed under every man's rights** are berries, mushrooms and herbaceous plants, like nettle (nokkonen) and willow herb (maitohorsma).
- **Natural products not allowed under every man's rights** are products whose collection or harvesting requires permission from the land owner. These are sap (mahla), spruce tips/needles (kuusenkerkät), resin (pihka), chaga (paku-rikääpä), birch leaves (koivunlehdet), juniper berry (katajanmarja), lichen (jäkälä).
- **Organic natural products:** natural products are collected or harvested from organic certified collection or harvesting area.
- **Difference between natural product and organic natural product:** A product can be a natural product but not organic (if the area of collection is not certified and placed under organic control).
- **Organic farming:** Production of organic produce. Can be from primary production, and/or collection/harvesting. In industrial primary production, industrial fertilizers and feeds as well as synthetic pesticides and the use of genetically modified genes (GMOs) are prohibited.
- **Organic primary production:** Organic farming is a certified and carefully monitored cultivated agricultural area/ farm. The principles of organic farming are recycling of nutrients; maintenance of soil conditions and biodiversity; and minimization of the use of non-renewable resources.
- **Organic collection or organic harvesting area:** is always organic certification approved, meaning the area has been inspected and placed under organic control. This is mainly used in relation to collection from e.g., organically certified forest.
- **Organic harvest:** natural products collected or harvested from a forest that are organically certified.

¹ Näriäinen N. 2021b., Ministry of Agriculture and Forestry of Finland 2022.

- **Organic raw material processing:** processing of natural raw material e.g., plant or branches from collection or harvesting area that has been inspected and placed under organic control.
- **Organic food/ product:** organic certification approved and labelled product.

There are two different ways of joining an organic collection area, i.e., organic certification of forests; the basic model (perusmallia) and the liquidator model (selvittäjämalli):

- The liquidator model is good if the forest owner only acts in the role of a collector or harvester and / or wants to give his forest for organic collection or harvesting. In this model, the liquidator, i.e., a legal entity, handles the obligations related to joining organic control on behalf of one or more forest owner(s).
- The basic model is used if the forest owner intends to personally and directly sell natural products as organic. In this model, the owner of the land personally applies for certification.

1 Circular economy in forest natural resources utilization

According to OECD 2019, there are three different layers of circularity, with increasingly broad coverage: i) closing resource loops; ii) slowing resource loops; and iii) narrowing resource loops. All these explicitly or implicitly aim at addressing the market failures associated with materials use, the failure to address local environmental consequences associated with extraction; or the failure to include the environmental externalities associated with waste generation, and/ or are economic inefficiencies associated with the inefficient use of scarce resources.² The European Union (EU) on the other hand describes circular economy as an aim to maintain the value of products, materials and resources for as long as possible by returning them into the product cycle at the end of their use, while minimising the generation of waste, meaning fewer products discarded, less raw materials is extracted, thereby conserving state of environment.³ MacArthur Foundation, adds the service design concept in its circular economy (CE) definition, describing it as an alternative to traditional linear concept of “take-use-dispose”. In their definition, CE is restorative and regenerative by design, relying on system-wide innovation to redefine products and services to design waste out while minimising negative impacts. A circular economy is deemed an alternative to traditional linear economy (make, use, dispose).⁴ Näyhä A. 2018, has gone deeper into looking at CE application in the bio-economy sector. Näyhä criticizes the definition as characterized by resource efficiency, closed loops, recycling and collaboration as leaning too much on old practices, and that it needs to have more emphasis on inventing innovative collaborations and products.⁵

There is no exclusive definition for circular economy. Across all definitions of the circular economy, all include as a basic assumption of the recognition of waste as a resource, and/or natural resources as limited, and thereby preventing as much as possible over-exploitation of limited resources and waste generation (in this case side streams) throughout product life cycle i.e., collection, processing and consumption. In combining the various concepts, the circular economy promotes preventing resources waste

² OECD 2020.

³ EC 2022.

⁴ Ellen MacArthur Foundation 2013.

⁵ Näyhä A. 2018.

through reusing materials, improving design to increase the durability of goods and products, and transforming waste such as side streams, into potential new products. In forest natural resource use, the circular economy should ensure that: raw materials (e.g. wood use, NWFPs) are provided whilst preventing waste generation through processing and production life cycles by making process of collecting or harvesting of natural resources efficient, optimising their reuse and allowing synergies across sectors (e.g., for side and waste streams).

In this report, CE is defined as a product or service design that considers resource efficiency by striving to maintain the value in collected, harvested or processed raw materials, while relying on system wide innovation to close, slow and narrow resource loops to protect the environments upon which product or service sector depends.

1.1 Organic production and the EU circular economy

Farmers and forest natural products producers (incl. NWFPs) face two, seemingly contradictory challenges in aligning actions to the EU CE strategy. The first is the need to feed and produce raw materials for products for millions of people, and secondly, to reduce greenhouse gas emissions and protect biodiversity at the same time. On one hand, biomass and land area are already scarce resources and will be in increasing demand in a circular zero-emission economy, as carbon from renewable sources such as trees are good replacement for fossil resources, both for fuel and as raw material in the production of various products.⁶ On the other hand, the production of biomass must take place within the framework of sustainable use of land area; meaning considerations need to be taken for biodiversity, food production and carbon storage.⁷ The use and processing of natural resources and the manufacture of products have environmental impacts e.g., on greenhouse gas emissions.⁸ In order to ensure this, the use of land area and biomass has been reconsidered and prioritised in recent EU frameworks and strategies, meaning a shift to circular economy is inevitable.⁹

Organic primary production is based on the recycling of nutrients, the maintenance of soil condition and biodiversity, the avoidance of the use of non-renewable resources

⁶ Deloitte 2020.

⁷ Ibid.

⁸ Sitra 2022.

⁹ Ministry of Agriculture and Forestry of Finland 2022.

and the preventive welfare of farmed animals, allowing as far as possible species-specific behaviour.¹⁰ In industrial production, industrial fertilizers and feeds as well as synthetic pesticides and the use of genetically modified genes (GMOs) are prohibited.¹¹ The amount of food additives allowed in the processing of organic products is strictly limited and the substances must be of agricultural origin.¹² According to statistics compiled by FiBL, there exists a total of about 71.5 million hectares of organic land in the world.¹³

Organic production does play a dual societal role, where, on one hand, it provides for a specific market responding to consumer demand for organic products and, on the other hand, it delivers publicly available goods that contribute to the protection of the environment and animal welfare, as well as to rural development and social sustainability.¹⁴ Land farmed organically is stated to possess about 30 percent more biodiversity than land farmed conventionally.¹⁵ Organic farming is, for instance, also beneficial to pollinators.¹⁶ Organic farmers are not allowed to use chemical pesticides and synthetic fertilisers, and in addition, the use of GMOs and ionising radiation is prohibited and the use of antibiotics is severely restricted.¹⁷ Organic production focuses on the production of raw material and products that use minimal amount of external inputs and reduces negative environmental impacts e.g. emissions and waste discharges thereby promoting circularity.

IFOAM considers important factors for utilizing the potential of organic agriculture as enhancing Supply with capacity development of operators and other value chain actors; Stimulating Demand with communication support and awareness campaigns; and Advocating for a Policy and Guarantee environment that is conducive to truly sustainable production and consumption.¹⁸ In the strategic plan, IFOAM states their three pillars of action as: **Supply**: facilitate capacity development for truly sustainable production; **Demand**: campaign to multipliers and act as a resource centre for organic

¹⁰ LUKE 2022.

¹¹ IFOAM 2020.

¹² LUKE 2022.

¹³ Proluomu 2020.

¹⁴ FORI 2021.

¹⁵ EC 2022b.

¹⁶ Ibid.

¹⁷ EC 2022b.

¹⁸ IFOAM 2020.

communications; **Policy and Guarantee:** advocate and provide competence for the creation of a favourable policy environment.¹⁹ The principle of Organic Agriculture is stated as based on the principles of health, ecology, fairness and care.²⁰

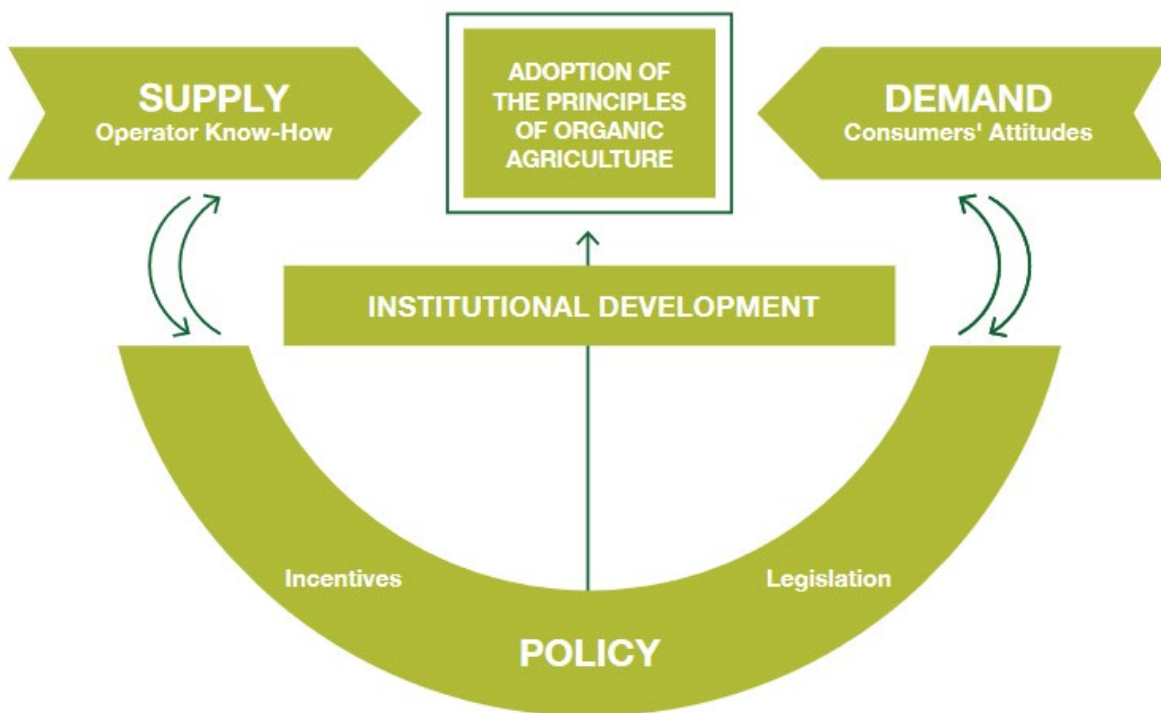


Figure 1. IFOAMs Theory of Change concept

Organic production is a certified production method based on both IFOAM's organic production principles and European Community organic legislation.²¹ Environmental standards and quality systems and programs are thereby used to communicate and verify organic production responsibility of organizations, companies, services and events.²² Standardized systems are always based on an external party assessing the fulfilment of a standard's criteria.²³ The use of some standards are supervised by an authority, some of which may be based in an association.²⁴ There are also quality

¹⁹ Ibid.

²⁰ IFOAM 2020.

²¹ LUKE 2022.

²² ELY-Keskus 2022.

²³ Ibid.

²⁴ ELY-Keskus 2022.

systems in place for tour operators.²⁵ Environmental standards and quality systems are important factors for utilizing the potential of organic agriculture.

At the European Union (EU) level, each member state defines its forest management approaches and forest policies.²⁶ The EU does not provide for a common forestry policy, but supports forestry sustainability through many policy frameworks including the EU Forestry Strategy and the EU Forest Action Plan defined with the Member States through the Standing Forestry Committee.²⁷ Sustainable Forest Management (SFM) has become a recognized and widely spread concept both for the national forest plans and in the international forest policy for safeguarding the different values and services provided by forests to the community and as a management system that seeks to balance social needs, economic aspects and ecological values associated with the forest, with consideration of future generations.²⁸ Common Agricultural Policy (CAP) is also a key economic tool for EU farmers: it provides a backbone for their incomes; it provides tools to help them secure a greater share in the value chain; and it provides instruments to encourage competitiveness in the sector.²⁹

The regulation of organic production in the EU began in 1991, when a Council regulation harmonized the definition of organic production as part of the regulation of the internal market.³⁰ According to Gibbon & Memedovic 2006, the starting point was by no means to develop organic but rather to remove technical barriers to trade. However, when the common agricultural policy was reformed in 1992, it became possible to receive support for organic farming.³¹ In March 2002 the European Commission issued an EU-wide label for organic produce, which later on became mandatory throughout the EU starting July 2010.³² This meant that any product labeled as organic and sold in the EU had to adhere to set regulations, and use the EU-wide label as part of consumer rights awareness that organic requirements have been met.³³

²⁵ Business Finland 2022.

²⁶ IFOAM 2020.

²⁷ Ibid.

²⁸ IFOAM 2020.

²⁹ EC 2022c.

³⁰ Gibbon P., Memedovic O. 2006.

³¹ Ibid.

³² MOFGA 2022.

³³ Ibid.

The regulation (EU) 2018/848 on organic production and labelling of organic products states that organic production is an overall system of farm management and food production that combines best environmental and climate action practices, a high level of biodiversity, the preservation of natural resources and the application of high animal welfare standards and high production standards in line with the demand of a growing number of consumers for products produced using natural substances and processes. The organic production is driven by a framework consisting various strategies and plans, namely:

- European Green Deal.
- Farm to Fork strategy.
- The biodiversity strategy for 2030.
- Action Plan for the Development of Organic Production.³⁴

and binding provisions on organic production also known as EU regulations:

- (EY) 834/2007 (replaced by Regulation (EU) 2018/848 since 1 January 2022³⁵)
- (EY) 889/2007 (may apply for a limited period)³⁶
- (EY) 1235/2008.³⁷

The regulations define what is organic, how organic fields are cultivated, animals bred and products produced. In addition, they regulate how these rules are enforced and how organic products should be labeled.³⁸ Each member state then establishes a competent authority to regulate organic products. EU regulations are minimum requirements, in addition to which countries can further set stricter limits.

Sustainable production and consumption are key to enhancing a circular economy (CE). Finland possessed the largest organic collection area in the world already in 2015, in addition to organically certified primary production area (agricultural land).

³⁴ Document 52021DC0141. COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS ON AN ACTION PLAN FOR THE DEVELOPMENT OF ORGANIC PRODUCTION.

³⁵ Regulation (EU) 2018/848 of the European Parliament and of the Council of 30 May 2018 on organic production and labelling of organic products and repealing Council Regulation (EC) No 834/2007.

³⁶ Commission Regulation (EC) No 889/2008 of 5 September 2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control.

³⁷ Commission Regulation (EC) No 1235/2008 of 8 December 2008 laying down detailed rules for implementation of Council Regulation (EC) No 834/2007 as regards the arrangements for imports of organic products from third countries.

³⁸ Portaatuomuun 2022.

However, this seem to not reflect in annual organic sales and/or domestic organic product consumption when compared to other EU counterparts such as Denmark, Austria, Switzerland, and Sweden who have considerable turnover in organic sales and consumption.³⁹ Therefore the state of Finland within the framework of organic certification is examined in this report.

³⁹ Sverigesradio 2016., FiBL & IFOAM 2013., Cronbergin T. 2011. p.13.

2 Organic certification in Finland

The demand for eco-friendly forest products and push for transparency of value chains by customers and consumers has led to new strategies such as certifications schemes and labelling in among other, forestry, agriculture and other natural resource sectors. This rise in certification has also been witnessed in the European Union (EU) including Finland.

In Finland, unlike other European countries, forests have been certified with forest certificates (PEFC and FSC) and/or as organic wild collection or primary production areas (inspected and placed under organic control).⁴⁰ Non-wood forest products (NWFPs) in the country refer to wild berries, mushrooms and herbs and other special natural products of forest origin collected from wild collection certified areas.⁴¹ The Ministry of Economic Affairs and Employment Finland describes the non-wood forest natural products (“luonnontuotteet” in Finnish) as wild and half cultivated berries, mushrooms and herbs, special natural products such as char, tar and other wood distillations, sap, bark, peat, birch bark, willow, moss, reed, lichen and decoration plants.⁴² Natural products can be collected/ sourced from non-organically certified collection area, or alternatively from organically certified collection area.⁴³ The difference between natural product and organically certified natural product is that, for the natural product to be marketed or sold as organic, the product needs to meet the organic criteria above, meaning it be sourced from a wild collection area, that has been inspected and placed under organic control. For primary production (agriculture, farming), organic produce means produce from farmland that has been organically certified and placed under organic control.

⁴⁰ Taivanlanti T. 2019.

⁴¹ Ibid.

⁴² Taivanlanti T. 2019.

⁴³ Näriäinen N. 2021b.

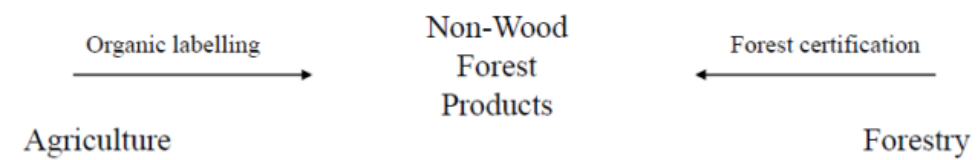


Figure 2. Angles of approach to non-wood forest products (natural products) certification in Finland.⁴⁴

To people in Finland, non-wood forest natural products e.g. forest berries are considered organic, and over 90 percent of forests easily able to meet the organic requirements.⁴⁵ The challenge, however, is that forests need to be organically certified for the collected products to be considered organic. This is because when selling product as organic, the seller needs to have proof of product's origin and organic nature, which is only possible by presenting organic certificate. The main wild organic products in Finland are blueberry, lingonberry and birch sap.⁴⁶

Finland's organic value chain consists primary production (i.e., certified cultivated agricultural area/ farm), wild harvesting (i.e., certified wild organic collectors e.g., berries, medicinal plants from forests), and processed products (i.e., certified operators processing or importing organic produce), retail (not certified but selling organic products in mainstream retail channels), catering (catering operators such as restaurants and public sectors not certified but using organic produce), and export and import (actors exporting organic certified produce).⁴⁷

Organic producers in the country commit to adhering to the control of organic production overlooked by the Finnish Food Authority, after which they can then use the EU organic label in their products. Organic production conditions include among other, the ban to use of synthetic crop protection agents and inorganic fertilisers. Additionally, for

⁴⁴ Taivanlanti T. 2019. NWFPs and organic certification even in the view of experts in Finland does conflict. NWFPs which originate from trees, such as chaga mushroom and sap water, are easily seen to be certified with FSC or PEFC, while for instance bilberries, growing underneath the trees are not seen suitable to be included in the forest certification. Fertilization for example, is currently considered as inconsistent between forest certificates and organic wild collection when looking at forests as holistic. Organic labelling importance was however emphasized.

⁴⁵ Luomuinstituutti 2022.

⁴⁶ Proluomu 2019.

⁴⁷ Organic-Finland 2014.

animal products to be considered organic, the animals must be able to graze, and they must be fed only organic feed. The processing phase for organic food products is also strictly regulated with ban on the use of additives and processing aids, with no exception of chemically produced synthetic raw materials.⁴⁸ The control system is stated to be in line with the Council Regulation (EC) No 834/2007 is based entirely on public inspection authorities⁴⁹:

- Food processors, wholesalers and importers are controlled by the Finnish Food Safety Authority, Evira (EU control body FI-EKO-201). Evira also controls the whole production chain of organic feed and propagation material.
- Producers and the production of organic agricultural products are controlled by the 15 regional Centres for Economic Development, Transport and the Environment, ELY Centres (FI-EKO-numbers from 101 to 115).
- The National Supervisory Authority for Welfare and Health, Valvira (FI-EKO-301) controls operators dealing with organic alcoholic beverages. The Finnish Customs work closely with Evira to control organic products entering Finland. The Municipal Health Officers control the marketing of organic products.
- Due to the unique autonomy, the Åland Government (FI-EKO-401) organises the certification in the Åland Islands.

Over the years, before 2014, the growth of organic production was about ten percent annually, and in comparison to other EU countries, the number of processing industries in Finland was significant.⁵⁰ The growth in demand for organic food was stated to offer new business opportunities for farmers and food business operators, especially small companies that process and market organic raw materials. Organic was also considered a way to increase the competitiveness of the food industry.⁵¹ In the same strategy, by 2020 one-fifth of Finland's arable land would be organic, the amount of organic production would correspond to domestic consumption, organic food sales will have tripled in the retail and professional kitchen sectors, and one-fifth of food served in kindergartens and schools will be organic.⁵²

⁴⁸ FORI 2021.

⁴⁹ Organic Europe 2022.

⁵⁰ Lisää luomua 2013. p.10. As per the 2013 government strategy programme 2014-2020, almost 600 companies produced organic food in Finland at the time.

⁵¹ Lisää luomua 2013.

⁵² LUKE 2022.

2.1 Finland in the organic certification and market in Europe

In general, the number of countries with an organic economy has risen from 26 to 154 since the early 2000s, making organic farming as no longer exclusive property of a few countries.⁵³ In relative terms, excluding microstates, Austria, Switzerland and Sweden had the highest organic agricultural primary production land, all with share above 10 percent already in 2011.⁵⁴ In 2011, Finland had the world's largest non-agricultural organic area (this means organic wild collection of forest berries and other natural products).⁵⁵

Table 5: World: Shares of organic agricultural land by country 2011, sorted
For an alphabetical country list, see page 318

Country	Share	Country	Share
Falkland Islands (Malvinas)	35.94%	Mexico	1.71%
Liechtenstein	29.28%	Comoros	1.70%
Austria	19.66%	Romania	1.67%
French Guiana (France)	17.51%	Uganda (2010)	1.64%
Sweden	15.40%	Solomon Islands	1.56%
Estonia	14.75%	Réunion (France)	1.39%
Samoa	11.80%	Israel	1.36%
Switzerland	11.69%	Ireland	1.31%
Czech Republic	10.84%	Canada	1.24%
Latvia	10.38%	Niue	1.22%
Dominican Republic	9.61%	Vanuatu	1.17%
Slovakia	8.61%	New Zealand	1.16%
Italy	8.61%	Martinique (France)	1.06%
Faroe Islands	8.43%	Republic of Korea	1.04%
Finland	8.21%	Papua New Guinea	0.99%
Sao Tome and Principe	7.98%	Dominica	0.98%
Timor-Leste	6.60%	Moldova	0.89%
Slovenia	6.58%	Peru	0.87%
Spain	6.52%	Bulgaria	0.82%
Uruguay (2006)	6.29%	Philippines	0.81%
Denmark	6.09%	Tonga	0.80%
Germany	6.08%	Belize	0.79%
Portugal (2010)	5.79%	Honduras	0.75%
Lithuania	5.75%	Sri Lanka	0.75%
Norway	5.36%	Cook Islands	0.73%
Belgium	4.31%	Ecuador	0.69%
Channel Islands (2009)	4.20%	Grenada (2010)	0.68%
Bhutan	4.14%	Ukraine	0.65%
United Kingdom	3.96%	Nicaragua (2009)	0.65%
Poland	3.94%	United States of America (2008)	0.60%
Greece (2010)	3.74%	India	0.60%
France	3.55%	Montenegro	0.60%
Hungary	2.94%	Taiwan	0.59%
Australia (2009)	2.93%	Costa Rica	0.53%
Luxembourg (2010)	2.84%	Lebanon	0.48%
Argentina	2.70%	Fiji	0.48%
Macedonia (FYROM)	2.47%	Azerbaijan	0.46%
Croatia	2.46%	El Salvador (2008)	0.44%
Cyprus (2009)	2.45%	Guadeloupe (France)	0.42%
Netherlands	2.45%	Ethiopia	0.40%
Egypt (2010)	2.23%	China	0.36%
Tunisia	1.82%	Iceland	0.36%
Turkey	1.82%	United Republic of Tanzania	0.32%
Occupied Palestinian Territory (2010)	1.73%	Guatemala	0.30%

56

Table 5: World: Organic shares of total agricultural land by country 2019 (sorted)
For an alphabetical country list, see page 313.

Country	Organic share	Country	Organic share
Liechtenstein	41.0%	Bulgaria	2.3%
Austria	26.1%	Guatemala	2.3%
São Tomé and Príncipe	24.9%	Canada	2.3%
Estonia	22.3%	Singapore	2.2%
Sweden	20.4%	Papua New Guinea	2.1%
Switzerland	16.5%	Martinique (France)	2.0%
Czech Republic	15.4%	Channel Islands	2.0%
Uruguay	15.3%	Montenegro	1.8%
Italy	15.2%	Republic of Korea	1.8%
Latvia	14.8%	Ireland	1.6%
Samoa	14.5%	Turkey	1.4%
Finland	13.5%	Philippines	1.4%
French Guiana (France)	11.3%	Bhutan	1.3%
Denmark	10.9%	India	1.3%
Slovenia	10.3%	Uganda	1.3%
Slovakia	10.3%	Moldova	1.2%
Australia	9.9%	United Arab Emirates	1.2%
Germany	9.7%	Taiwan	1.2%
Spain	9.7%	Palestine	1.2%
Greece	8.7%	Ukraine	1.1%
Timor-Leste	8.5%	Grenada	1.1%
Faroe Islands	8.4%	Cook Islands	1.0%
Portugal	8.2%	Israel	1.0%
Lithuania	8.1%	Togo	1.0%
France	7.7%	Peru	1.0%
Croatia	7.2%	Dominica	1.0%
Belgium	6.9%	Guadeloupe (France)	1.0%
Hungary	5.7%	Comoros	0.9%
Dominican Republic	5.5%	Ecuador	0.9%
Fiji	5.3%	Honduras	0.9%
Cyprus	5.0%	Niue	0.9%
Norway	4.6%	Thailand	0.9%
Vanuatu	4.5%	New Zealand	0.8%
Luxembourg	4.4%	Nicaragua	0.8%
Sierra Leone	4.0%	Azerbaijan	0.8%
Netherlands	3.7%	Burkina Faso	0.7%
Solomon Islands	3.5%	Tanzania, United Republic of	0.7%
Poland	3.5%	United States Virgin Islands	0.7%
French Polynesia	3.4%	Cape Verde	0.6%
Tonga	3.2%	Serbia	0.6%
Réunion (France)	3.1%	Ethiopia	0.6%
Egypt	3.0%	United States of America	0.6%
Tunisia	2.9%	Kenya	0.6%
Romania	2.9%	Brazil	0.5%
Falkland Islands (Malvinas)	2.8%	Viet Nam	0.5%
United Kingdom	2.6%	Costa Rica	0.5%
Sri Lanka	2.5%	Malta	0.5%
Argentina	2.5%	Cambodia	0.5%

57

Figure 3. Finland's share of organic agricultural land in world share of organic agricultural land.

⁵³ Cronbergin T. 2011.

⁵⁴ FiBL & IFOAM 2013. Cronbergin T. 2011. p.13

⁵⁵ Cronbergin T. 2011., Organic Europe 2022.

⁵⁶ FiBL & IFOAM 2013.

⁵⁷ FiBL & IFOAM 2021.

The development of organic agriculture and wild collection natural products is reflected in the EU organic food and drink market which has doubled its size over the last ten years, worth around €41 billion in 2019.⁵⁸ In comparing organic statistics from the world and Europe, it was striking that Finland was not among the top ten countries by any measure, even though it excelled in the area certified for organic harvesting (by 2011, Finland had the world's largest non-agricultural organic area), and has in addition the organic primary production area that has gradually increased from 150, 000 ha in 2008, to 315,000 ha end of the year 2020, a progress in organic conversion and/or production development.⁵⁹

In comparing organic market share and consumption, Finland was not among the top ten countries by any measure, despite having the largest area certified for organic harvesting in the entire world already in 2011, in addition to agricultural land.⁶⁰ One interesting measure is the proportion of domestic organic products in food market where already in 2008, Denmark lead with 6,7 percent followed by Austria, Switzerland, Germany and Sweden.⁶¹ The amount of organic purchases in 2009 was 139 € / person in Denmark, 75 € / person in Sweden, 24 € / person in Norway, and 14 € / person in Finland.⁶² At the time, organic research was stated as fragmented in Finland with the business skills of farmers as often underdeveloped.⁶³ By 2011, none of Finland's strategic targets set for increasing domestic consumption and exports of organic food in the mid-2000s was achieved.⁶⁴ In 2012, Finland's organic products still accounted for only about 1.6 percent of retail food sales, compared to Denmark, where organic products accounted for more than 8 percent of food sales.⁶⁵ In May 2013, the Finnish Government launched the Organic Production Development Programme, aimed at having a minimum of 20 percent of the cultivated area (primary production; agriculture) farmed organically by the year 2020.⁶⁶ In 2015, the organic harvesting area accounted for 38 per cent of Finland's land area, the majority being in the provinces of Lapland, Northern Ostrobothnia and Kainuu.⁶⁷

⁵⁸ EC 2022d.

⁵⁹ Cronbergin T. 2011., Organic Europe 2022.

⁶⁰ Cronbergin T. 2011.

⁶¹ Cronbergin T. 2011.

⁶² TBA.

⁶³ Cronbergin T. 2011. p. 4.

⁶⁴ Cronbergin T. 2011. p.4.

⁶⁵ TBA.

⁶⁶ Organic Europe 2022.

⁶⁷ Ibid.

Between 2012–2019, the market share for organic products in the Finnish grocery trade had grown by approximately 1 percent (i.e. 2.6 percent up from 1.6 percent in 2012).⁶⁸ Despite increase in yields (in oats and legumes), the new regulations and organic support conditions that took place between 2018–2019 impacted primary production to some extent as no new farms were included in the organic subsidy in 2019, keeping the number of organic farms same as year before.⁶⁹ The number of natural products companies also dropped to 589 in 2019 from 600 in 2013.

Taulukko 1. Luonnontuotealan yritysten määrä ELY-keskuksittain v.2019 tarkastellussa yritysryhmässä.
Lähde: Tilastokeskus.

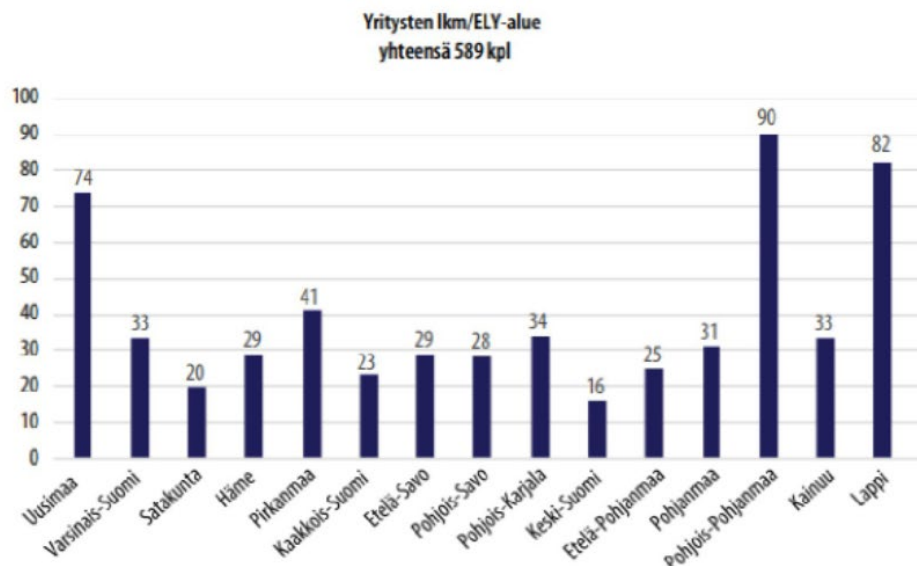


Figure 4. Natural products companies per province 2019 (Statistics Finland via Ämmälä. M. 2021).⁷⁰

The development of organic primary production has grown despite challenges in the sector, from 150,000 ha in 2008, to 315,000 ha end of the year 2020; a progress in organic conversion development that exceeded the goal of minimum 20 percent of the cultivated area in the provinces of Åland, Kainuu, and North Karelia.⁷¹ Finland's share of organic wild collection has however not produced similar success. The wild collection area reduced from 11.6 million to 4.6 million hectares by the end of 2019, a reduction of

⁶⁸ Proluomu 2020b.

⁶⁹ Proluomu 2020b.

⁷⁰ Ämmälä M. 2021.

⁷¹ Ibid.

over 60 percent from what it was before 2015 (11.6 million ha).⁷² In investigating the cause for the abrupt change in collection area, forest management was not the cause.⁷³ The reason was partly due to the Finnish Food Authority's 2018 renewed practical guidelines for wild collection areas tracing from EU guidelines. Before the change, landowner (forest owners) committed to organic certification through forest management associations.⁷⁴ This meant certification was implemented through joint certification, whereby large areas consisting different forest owners could be jointly certified by the liquidator.⁷⁵ However, after the 2018 changes, a private forest owner must declare their forest as an organic collection area on their own initiative and undertake to comply with the conditions.⁷⁶ Meaning, the liquidator must get binding contract from each landowner that the land has been accepted and is under organic control.⁷⁷

⁷² FiBL & IFOAM 2021., Proluomu 2021. p.10.

⁷³ Maaseuduntulevaisuus 2020.

⁷⁴ Ibid.

⁷⁵ Metsänomistajat 2019.

⁷⁶ Maaseuduntulevaisuus 2020.

⁷⁷ Metsänomistajat 2019.

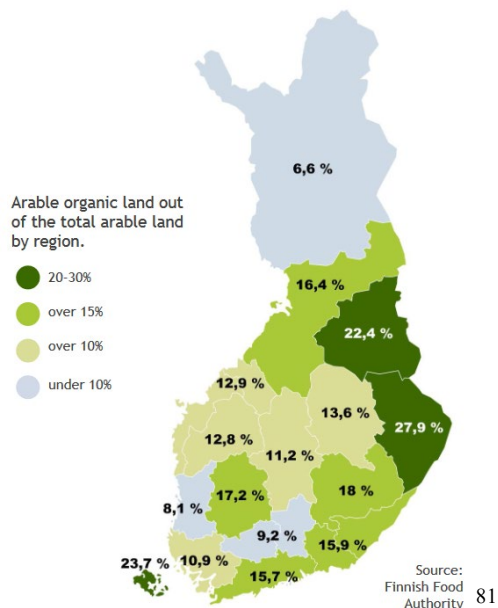
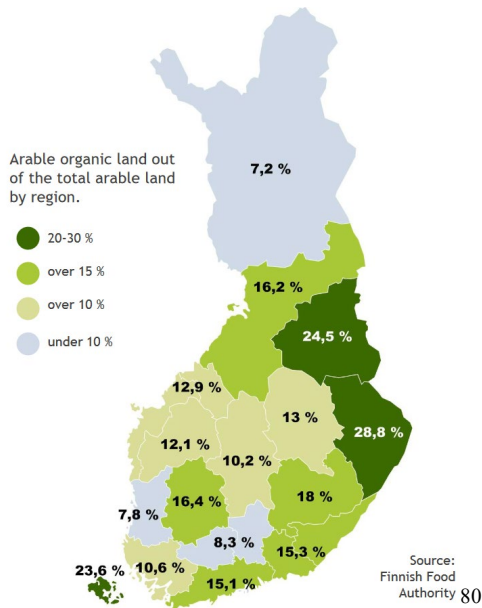
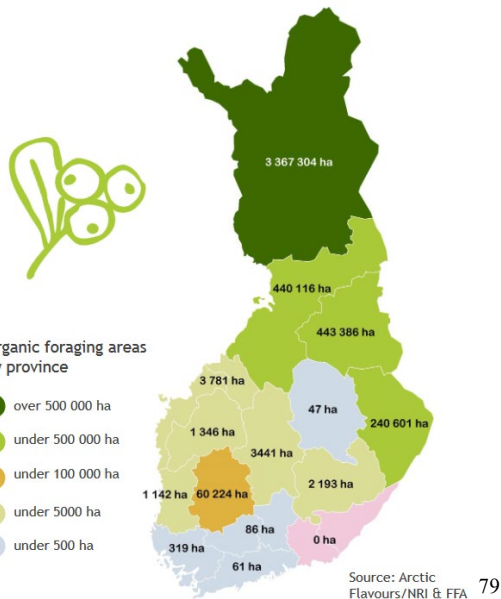
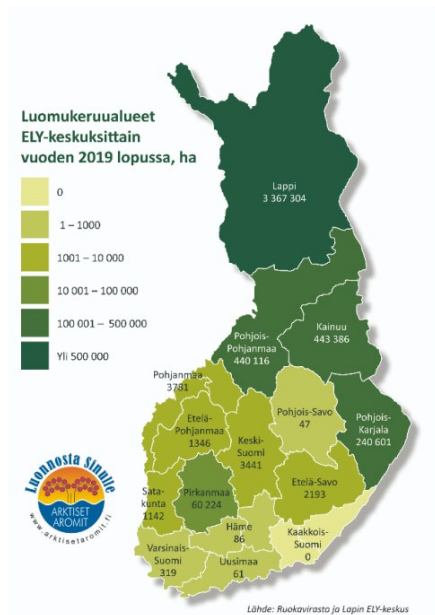


Figure 5. Organic collection area per municipality 2019 (Upper left & right), % of organic agricultural production land 2019 (lower left), % of organic agricultural production land 2020 (lower right).

78 Näiriäinen N., Soppela J. 2021, p. 16.

79 Proluomu 2020b.

80 Ibid.

81 Proluomu 2020b.

The state with organic wild collection has faced several challenges. This reflected particularly in the 2019 harvest of the most important natural organic berry, organic bilberries, as only about half a million kilos was foraged, almost 3 million kilos less than the previous year.⁸² According to Proluomu, bilberry yields were also partly impacted by weather conditions, with overall organic accounting for less than 12 percent of all bilberries, 8 percent of all lingonberries, and 30 percent of all cloudberries.⁸³

Recent statistics show that retail sales for organic products has increased by over 128 percent in the last 10 years, from approximately €18 billion in 2009 to €41 billion in 2019.⁸⁴ On average, each European is stated to spend around €84 per year on organic products.⁸⁵ In Europe, organic sales consist 40 billion euros with the largest organic market in Europe being Germany, where organic sales in 2018 amounted to almost EUR 11 billion.⁸⁶ In both Switzerland and Denmark, during same year (2018), organic consumption was 312 euros per capita.⁸⁷ Despite the almost halved wild collection production area (11.6 million ha, to 4,6 million), Finland still holds the largest non-agricultural organic certified area. In addition, Finland is stated as one of the most developed markets for organic food sales and production.⁸⁸ These strengths however, seem not utilized i.e. when looking at the statistics.

Sweden for example, has almost similar climate, political structure, population, and land ownership policies and structures to Finland which makes comparing of these states possible.⁸⁹ Both countries also have vast forest lands with over 70 percent of both covered by forest. Northern Sweden, with 97 percent of the productive land area covered by forest, is stated as one of the most forest dense regions in Europe and considered a key player in the green transition. Sweden is also considered a success case with organic production.⁹⁰ To create incentives for farmers to become certified, organic farm subsidies were partially reshaped in Sweden. Swedish organic farmers are not required to be certified to receive organic farm subsidies if they comply with the EU

⁸² Proluomu 2020b.

⁸³ Ibid.

⁸⁴ EC 2022b.

⁸⁵ EC 2022b.

⁸⁶ Proluomu 2020.

⁸⁷ Proluomu 2020.

⁸⁸ Pekkala A. 2019.

⁸⁹ E.g., every man's right, forest ownership.

⁹⁰ Daugbjerg C. 2020.

regulation on organic farming, with most organic food products marketed in Sweden certified by the private, state-recognised certification body KRAV. Another incentive to promote organic food in Sweden has been the setting of goal for consumption of certified organic food in the public sector. As a result, by 2015, sales of organic food increased by nearly 40 percent in the country.⁹¹ In Finland, during same year 2015, retail sales increased by just 6.7 percent, even though according to FORI, if all the forests in Finland that qualified for organic were certified, the whole organic area in Finland would cover 87 per cent of Finland's land area, the agricultural area included.⁹²

Regional strategy is also stated to have played a role in increasing organic production in Sweden. In 2017, Swedish government adopted a new food strategy. This was followed by the government's action plan adoption of the voluntary food strategy, stating that by 2030, 60 percent of the food purchased in the public sector should be organic certified.⁹³ According to Lindström et. al 2022, the voluntary instrument has translated to an increase in expenditures per capita devoted to organic food making which became quite substantial following the adoption of the local policy.⁹⁴ The Finnish government also launched policy initiative to increase the consumption of organic food within the public sector. Comparing achievements in 2019, Sweden was most successful with 39 percent of the food served in the public sector being organic, while Finland achieved 12 percent.⁹⁵

2.2 Current state of Finnish organic sector challenges and needs

According to Proluomu, well over half of Finnish population consider it at least quite important that organic products are used in professional kitchens, with more than half of Finnish consumers stated as likely or very likely to purchase more organic foods if the price were cheaper.⁹⁶ About 46 percent of professional kitchens are stated as already using organic products at least every week with reasons for using organic products in professional kitchens as environmental issues, taste, and ethics. 2.2 million Finns are stated as using organic regularly, with purity and no pesticides, taste, and health

⁹¹ Sverigesradio 2016.

⁹² FORI 2017.

⁹³ Daugbjerg C. 2020.

⁹⁴ Lindström et. al 2022.

⁹⁵ Daugbjerg C. 2020.

⁹⁶Proluomu 2019b.

highlighted as the most important purchasing criteria for organic products. The importance of taste and environmental friendliness is stated as increased among the target group with more and more consumers who buy organic products also wanting to increase their consumption of organic products in the future. Active organic users are stated as needing more availability and selection, and occasional users as needing more convincing about the differences between organic and regular products. Still consumers feel that fair compensation for producers is important in ensuring this and hope that the incentives can be developed to address the issue.⁹⁷

Presently, the share of Finnish organic production and how this translates to the European market as returns are rather far apart (chapter 2.1). In 2019, the market share for organic products in the Finnish grocery trade was 2.6 percent. Finland has a lot of potential with organic production but there is need to adopt incentives that can drive this growth.⁹⁸ According to the recent proposal of the Finnish country brand delegation, organic production agricultural development standard and agricultural production need to be 50 percent by 2030.⁹⁹ Key challenges mentioned in the strategy 2014-2020 and issues post 2020 still needing development are presented in table 1 below.

⁹⁷ Ibid.

⁹⁸ Proluomu 2019b.

⁹⁹ Cronbergin T. 2011.

Table 1. State of Finnish organic sector challenges and needs based on secondary data.

Challenges and needs (2014–2020 organic strategy ¹⁰⁰)	Challenges and needs 2019 onwards (based on secondary data i.e. research, studies, strategies)
Organic certification and collection	
Certification of collection areas perceived as cumbersome.	<ul style="list-style-type: none"> -Organic certification useful, but also challenging (Näiriäinen N., Soppela J. 2021) -Challenges along the certification process and lack of time, bureaucracy (Näiriäinen N., Soppela J. 2021. p.31). -Benefits derived from the certification is not directed to all actors in the value-chain which highlights the role and values of forest owner (Taivanlanti T. 2019. p. 31, p.41).
Certification of collection areas perceived as expensive.	<ul style="list-style-type: none"> -Costs relating to certification process challenging, ideal benefit sharing of certification for the value chain needed (Näiriäinen N., Soppela J. 2021. p.31., Taivanlanti T. 2019. p. 48). -Certification process of forests is expensive when each land-owner must do this personally (Metsänomistajat 2019).
Establishment of new collection areas outside Lapland and Kainuu.	<ul style="list-style-type: none"> -Over half of municipality owned collection areas not utilized for organic collection despite stating certification as beneficial (Näiriäinen N., Soppela J. 2021. p. 25). -Lack of information about organic collection certification (Näiriäinen N., Soppela J. 2021. p.26). -Very high interest (86%) of organic certification by municipalities. In North Karelia 100% but certification criteria not clear (Näiriäinen N., Soppela J. 2021. p. 28., (Taivanlanti T. 2019. p. 34). -Local organic products options not utilized. Superfoods imported to Finland could be easily replaced with local products from organic natural products (Taivanlanti T. 2019). -Information about municipal organically certified collection areas utilization possibilities needed (Näiriäinen N., Soppela J. 2021).
Legal aspects of law can be difficult to comprehend, need of practical expert advice on both requirements of food law and the procurement rules.	<ul style="list-style-type: none"> -Need of one-on-one practical expert advice and/ or via information forums 73% (Näiriäinen N., Soppela J. 2021. p. 31). -Information need to clarify aspects e.g., changes in law during process of getting certification, some products such as fish, reindeer not considered organic (Näiriäinen N., Soppela J. 2021. p. 31). -Confusion between organic certification and forest certificates (such as FSC, PEFC, and relation (Taivanlanti T. 2019. p. 44).
Processing of organic produce	
The current range and availability need to be improved as food	<ul style="list-style-type: none"> -Lack of raw material (Näiriäinen N., Soppela J. 2021. p. 31., Taivanlanti T. 2019. p.23). -Uncertainty of raw material (Näiriäinen N., Soppela J. 2021. p. 31).

¹⁰⁰ Proluomu 2020.

<p>manufacturers do not get enough organic raw material.</p>	<ul style="list-style-type: none"> -Multiproduction benefits need be looked into, e.g. organic harvesting could support co-production of some NWFPs, keep demand for timber harvest to sustainable (Taivanlantti T. 2019. p.23). -Necessary to study means for increasing yield levels in organic production (FORI 2021). -Development need for recycled organic fertilizers and to guarantee their quality and safety (FORI 2021).
<p>There is a need of product assembly centers where small batches could be combined for larger shipments.</p>	<ul style="list-style-type: none"> -The current laws have made it difficult for collection, e.g., for berries. Companies cannot get enough raw material making business not economically feasible. At the same time, exporting becomes almost impossible as organic. Organic produce sold as non-organic means less income for SMEs (Metsänomistajat 2019). -Lack of interaction between organic producers (FORI 2021). -There is a need for awareness about organic certification of wild collection areas, as well as guidelines about how to go about these in order to encourage municipalities, landowners, as well as natural product and tourism companies (Näiriäinen 2021).
<p>Need for pre-processing companies between farmers and organic food producers to meet consumer expectations for the availability of organic food. Need for pre-processing units to serve the needs of institutional kitchens.</p>	<ul style="list-style-type: none"> -The current areas under organic certification are very fragmented making it impossible to collect enough raw material in most environmental and cost-efficient way (Maaseuduntulevaisuus 2020). -Need for digital solutions and novel technologies that offer up-to-date information to help increase the transparency of the value chain and the control of organic production (FORI 2021).
<p>Organic product share in the market</p>	
<p>Some organically produced raw materials do not end up on the market as organic due to poor knowledge of food law and procurement requirements by small businesses. There is need of practical expert advice on both requirements of food law and the procurement rules.</p>	<ul style="list-style-type: none"> -Need of information on actual benefits of organic certification. Show of interest by companies in utilizing organically certified collection areas, better market and processing possibilities could translate to number of organic certification (Näiriäinen N., Soppela J. 2021. p. 31, 32,). -Local organic products options not utilized or visible. Superfoods imported to Finland could be easily replaced with local products from organic natural products (Taivanlantti T. 2019). -Certificates are important for exports. Market entry for exports is very difficult for small company, unless some big player has own system (Taivanlantti T. 2019. p.40). -Lacking origin attached to the traceability (grown in forest, cultivated), and value-chain verification e.g., clarity that the product is from forest and no inputs, such as watering used, consumer surface longs for verified methods (Taivanlantti T. 2019. p. 25). -Need for assessment of the environmental impact of organics as this is not yet sufficient (FORI 2021).

Individual farmers cannot find suitable channels to market their products.	-Lack of effective marketing showing the values of organic certification, there's need to promote the organic way of thinking (Taivanlantti T. 2019. p.37). -Need for assessing the opportunities of organic wild collection areas and products in increasing wellbeing (FORI 2021).
Consumer awareness and empowerment	
The meaning of the concept of organic need be made clear to consumers.	-NWFP certification is lacking common practices in Finland of the kind of certification systems are applied to NWFPs creating confusion with organic certification (Taivanlantti T. 2019. p. 24). -Still a need to demonstrate the differences of raw materials and products gathered from sparsely populated areas (Taivanlantti T. 2019. p. 24). -Confusion between organic certification and forest certificates such as FSC, PEFC, and relation (Taivanlantti T. 2019. p. 44).
The development of new organic marketing channels is important.	-The forest origin as a part of a brand is needed, explains the special feature of the product (Taivanlantti T. 2019. p. 29-31). -The attitude towards the Finnish organic sector is very favorable, which serves the market conditions and the public mindset towards organic production (Organic Europe 2022).
Organic goals lacking from the regional strategies e.g. of municipalities and food strategies.	-Need of information on actual benefits of organic certification due to regulation changes over the years (Organic Europe 2022).

From the desk research (table 1), current challenges in organic sector range across the whole organic chain. Organic certification and collection, processing of organic produce, and market access and organic visibility are most prioritized. Organic certification is considered useful and important e.g. for exports, but challenges along certification process and laws makes it difficult for small companies to for example source raw material, and/ or access export markets. Confusion around organic produce also affects the organic actors as this creates consumer confusion which reflects on the business viability.

The following needs arise from the desk research:

- need for interaction between organic producers;
- improving awareness about organic collection certification (e.g. in North Karelia region where there exists very high interest e.g. by municipalities 100% but certification criteria not clear);
- need of practical expert advice on both requirements of food law and the procurement rules;

- need for framework or strategy that can help improve market access and export conditions for SMEs;
- need for actions that can improve visibility and awareness of organic produce.

Discussions and interviews with sector actors were carried out during the NPA GOALS project bridging period (1.1.2022–30.6.2022). The aim was to investigate in detail the state of organic sector in Finland, current challenges, and needs that came up during the desk research. A total of 5 respondents consisting sectoral agencies and business support organizations (BSOs) were used to source more information about current challenges and needs. These representatives were interviewed as it was easier, in the limited timeframe of the preparatory project, sourcing accurate information i.e. reliable data from them as they work directly (i.e. represent SMEs in the organic sector) or indirectly (engage with the sector SMEs and/ or assist with organic certification, market access processes) with SMEs. Interviewing sectoral and BSOs was considered the best way to source reliable data in limited timeframe and also get more detail information about potential sources of challenges.

The interviews were carried out via teams and the process consisted of two parts i.e. (a) 3 open-ended discussion questions for identifying challenges and needs, and (b) follow-up quantitative questionnaire used to give weights to challenges and needs. Table 2 shows the results of the quantitative questionnaire. Open-ended questions are discussed within the text.

Table 2. State of Finnish organic sector challenges and needs based on primary data.

Note: The need for intermediary between producers and manufacturers that pre-process products was considered a difficult question termed by three respondents as “chicken-and-egg” dilemma. Certification framework plays a role.

	Organic sector challenges (based on secondary data)	Average
1	Need to reduce obstacles and challenges in processing (1= no, 5= Yes,)	5
2	Networking and collaboration across supply chain (1= Not needed, 5= Very much needed)	5
3	Encouraging and developing companies producing organic products (1. Not important, 5. Very important)	4,7
4	The approval process for organic collection areas at the moment (1. Not problematic, 5. Very problematic)	4,7
5	Expert help with organic legislation (1. Not needed, 5. Very much needed)	4,5
6	Information and statistics of consumption demand (1. Not important, 5. Very important)	4,3

7	The current organic certification system is not profitable (1. Disagree, 5. Very much agree)	4,3
8	Consumers' and professional kitchens' awareness of organic product production methods and organic brands (1. Not important, 5. Very important)	4,3
9	Good practices identification support for SMEs (1. Not needed, 5. Very much needed)	4
10	Need to develop organic marketing channels (1. Not needed, 5. Very much needed)	3,7
11	Small market share is a problem for processing and marketing (1. Not at all, 5. Very much)	3,7
12	Organic targets lacking from regional and food services strategies (1. Disagree, 5. Very much agree)	3,7
13	Procurement instructions for food and food services (1. Not important, 5. Very important)	3,6
14	Need for legal expert advice with procurement laws (1. Not important, 5. Very important)	3,5
15	Current quality and advice on procurement procedures serves actors (1. Not at all, 5. Very much)	3
16	Current quality and advice on procurement procedures serves actors (1. Not at all, 5. Very much)	3
17	Need to reduce obstacles and challenges in marketing (1. Not important, 5. Very important)	2,8
18	Organic legislation advisory service for SMEs (1. Not needed, 5. Very much needed)	2,7
19	Organic produce in regional strategies (1. Not necessary, 5. Very necessary)	2,5
20	Need for intermediary between producers and manufacturers that pre-process products (1. Not important, 5. Very important)	-
21	Finding suitable channels to market organic products is difficult (1. Not at all, 5. Very difficult)	1,3

The **approval process for organic** collection is considered problematic. Respondents state a need for revisiting the current organic legislation to make it viable also for small actors, as at the moment, the process is very bureaucratic, expensive and makes it not feasible for landowners, and/or small businesses.

Respondent: "The other problem is that the current framework is more beneficial for owners with larger patches of forest compared to small actors. The certification cost is the same for large or small forest owner. The current fragmentation of map

when forest owners are not interested due to the costs and bureaucracy makes it even more difficult. Think about it, the time moving from place to place and when you add the current situation where also cost of gas has gone higher.”.

Expert help with legislation is considered necessary...

Respondent: “It is very difficult at the moment. The bureaucracy. The certification system needs to be relooked. Possibly an expert to open up the legislation. There is need for lighter model for overlooking actors in this framework that could be also financially feasible for all actors. The current climate is good but requires large land owners. Not favorable for small companies.”.

...with an emphasis on wild collection area which is stated by respondents as very problematic.

Respondent: “I feel that the certification from agriculture has been loosely adapted for wild collection area. The certification process makes it difficult for actors and landowners are getting discouraged by the costs and bureaucracy. The new guidelines that came into force about 2018-2019 affects the actors as this made it so that landowner must themselves be actively involved in the whole process. This means contract must be done with every landowner and this followed up every year. This entails work hours, huge costs, etc. For this change is hoped.”.

Respondent: “There is a need for a model that could be applied for forest wild collection, which can ease current barriers and challenges, and help drive organic production and market access.

Respondent: “It seems to me that the organic certification was first adapted to the primary production and later became loosely attached to the wild collection area.”.

According to respondents, the **current certification system demoralizes** not only small actors (SMEs), but also landowners with organic lands (not fertilized) from certifying lands due to the bureaucracy and costs. When landowners are demoralized, the raw material is also affected. The actors hope for a framework or model that could encourage landowners and companies in organic sector. However, since this trace back to the

regulations, revisiting the regulation and/or proposing a framework that encourages actions is considered vital to solving the current problems.

Respondent: “The organic certification process should not demoralize landowners, it should do the opposite. There should be a regulation structure that encourage landowners to get certified and join the organic wild collection area, which in turns gives the possibilities for natural products companies. Is good to think what direction should this be developed that encourages over demoralizing actions. I have no straight answers as this depends on the EU regulation. At least I have the understanding that Finnish laws have been set stricter than what the EU requirements are but this needs more researching. Of course, we cannot be sure about the differences directly does another EU country have a model that better advances organic production-consumption actions, and difficult to tell are they according to EU regulations. This is also one thing that needs to be looked at; how the different states’ organic certification is framed in line with EU regulations.”.

Respondent: “Other problem why it is difficult, the certification, is that the forest owner has to certify the forest and maintain the requirements, but then anyone can pick the berries. This can be difficult for small owners who must take the raw products from these specific certified forests. Sometime comes the unavailability of produce, or not enough to be economically feasible.”.

Long distances as a result of fragmentation of collection areas was stated as negatively impacting the ability to source enough raw material, and keep these in needed quality for further processing. Increasing fuel costs and its impact on the upcoming harvesting season was also brought up. **Climate change** is also considered a threat for the sector as this impact e.g., on the yearly availability of raw material. There is a need to find solutions to challenges affecting SMEs such as long distances and climate change. **Networking and collaboration across value chain** were stated as issues that could be considered in encouraging and developing companies producing organic products.

Respondent: “The availability of produce is at the moment problematic partly due to climate change and partly long distances that affect the access and competitiveness in markets. The seasons have also changed and the quality is best in produce at specific times. Freeze drying technology is hoped for in Kitee. The berries for example need to be pre-processed to make it easier for logistics. At the

moment this is problematic. It's a Finnish technology that can double or triple the process which preserves it for few years. This could add value to the product chain as the berries need to be in specific quality for example for cosmetic industry."

Market access and non-visibility of actors' values are considered challenges that affects the share of organic product in the market. Exporting products is stated as very difficult and especially exporting products as organic as almost impossible for small companies. Organic produce sold as non-organic due to current challenges with visibility tracing from certification means less income for SMEs. Consumer awareness and suppliers' empowerment is deemed necessary in developing the organic sector i.e., consumers' and professional kitchens' awareness of organic product production methods and organic brands. However, the organic sector producers currently face a major setback when trying to for example export their products even to just other EU countries. On one hand, consumers need information about the values of a company which in most instances is easiest to prove through labels as these somewhat fulfill the philosophy of a product as meeting the organic principles. On the other hand, labels are so many with different countries requiring sometimes additional systems or certificates to enter the market. This makes it very challenging for SMEs. There is a need for finding ways of supporting SMEs increase competitiveness e.g. via good practices identification and sustainability communication as this could help increase visibility of organic producers and products.

Respondent: "Organic shows that products are produced responsibly and that the producer values of responsible production. The certification in that sense is important and good. However, even just within the EU, clients from the various countries require separate or addition systems to prove product origin and organic values. It would be good to have uniformity, it would help access market. It would be a great step to right direction if for example there would be one uniform EU organic certification criteria and label that can be easily identified by consumers and can be used by actors for the EU trade area."

Respondent: "I have also got acquainted with the organic labels and these are various. Most of these derive from the primary production and possibly why in Finland it is challenging as the aspect of primary production is production without fertilizer and these are at least in here not applicable in forest wild collection. So, framed for primary production then adapted loosely for forest wild collection."

Respondent: "I visited Germany few weeks ago, the producers also brought up that consumers demand the organic but the most important is that the people are made aware that from where the product comes, then possibly the certificate is not necessary, but of course people are more trusting to labels as these somewhat fulfills the philosophy of product as meeting the organic principles. I wonder would it for example be possible to prove that no chemicals have been used, that the product meets the requirements of the organic label, as this is what the consumer wants to know, could it be enough? I think this is something many people are possibly also thinking- they are thinking the market positioning, as in Finland it's difficult to get a considerable pricing as it is at the moment very expensive for companies to manage organic certification."

Respondent: "For example, regions need to have certificates to prove the organic nature of products. It would be great if it could include the whole value chain. This is missing at the moment. For example, if exporting to Korea, one cannot use the term "natural" for a product. Possibly a Finnish brand would be ideal and could be used also for food export and travel. The CAP framework does stress better farming and wild collection. The quality chain support would open new markets for products. EU organic and local product could be enough in branding."

Respondent: "If certification is lightened, it will benefit and serve the organic market as this is the only way to show that it is a responsibly produced product, the production has considered the environmental impacts, it is safe, and it is healthy product. I hope so because at the moment this does not serve the actors, especially the natural products sector and the organic wild collection."

Respondent: "The image and branding of organic products also need to be improved as there is much potential for organics."

The interviews resulted in similar needs as the desk research, with clarifications on some aspects e.g. certification process challenges, raw material accessibility and supply chain challenges, market entry and visibility related problems.

3 Comprehensive EU organic action plan and Finland's organic production

In March 2014, following proposals of Advisory Group on Organic Farming, the commission proposed a new regulation for the organics sector. On 2 December, 2021, the agreement on reform of the common agricultural policy (CAP) was also formally adopted.¹⁰¹ The new legislation, which is due to begin in 2023, paves the way for a fairer, greener and more performance-based CAP.¹⁰² It will seek to ensure a sustainable future for European farmers, provide more targeted support to smaller farms, and allow greater flexibility for EU countries to adapt measures to local conditions.¹⁰³ Agriculture and rural areas are central to the European Green Deal, and the new CAP will be a key tool in reaching the ambitions of the Farm to Fork and biodiversity strategies.¹⁰⁴ The policy focuses on ten specific objectives, linked to common EU goals for social, environmental, and economic sustainability in agriculture and rural areas namely:

- **Horizontal regulation:** Regulation (EU) 2021/2116 of the European Parliament and of the Council of 2 December 2021 on the financing, management and monitoring of the common agricultural policy and repealing Regulation (EU) No 1306/2013.¹⁰⁵
- **Strategic Plan regulation:** Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013.¹⁰⁶

¹⁰¹ EC 2022e.

¹⁰² Ibid.

¹⁰³ EC 2022e.

¹⁰⁴ Ibid.

¹⁰⁵ Document 32021R2116. Regulation (EU) 2021/2116 of the European Parliament and of the Council of 2 December 2021 on the financing, management and monitoring of the common agricultural policy and repealing Regulation (EU) No 1306/2013.

¹⁰⁶ Document 32021R2116. Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 on the financing, management and monitoring of the common agricultural policy and repealing Regulation (EU) No 1305/2013.

- **Common Market Organization Regulation:** Regulation (EU) 2021/2117 of the European Parliament and of the Council of 2 December 2021 amending Regulations (EU) No 1308/2013 establishing a common organisation of the markets in agricultural products, (EU) No 1151/2012 on quality schemes for agricultural products and foodstuffs, (EU) No 251/2014 on the definition, description, presentation, labelling and the protection of geographical indications of aromatised wine products and (EU) No 228/2013 laying down specific measures for agriculture in the outermost regions of the Union.¹⁰⁷

The new organic legislation has been applicable from 1 January 2022, following a year postponement of its implementation. The new regulation is stated as designed to ensure fair competition for farmers whilst preventing fraud and maintaining consumer trust through the following:

- production rules simplified through the phasing out of a number of exceptions and opt outs;
- the control system strengthened by tighter precautionary measures and robust checks along the entire supply chain;
- third countries to comply with the same set of rules as those producing in the EU;
- organic rules covering a wider list of products and have additional production rules;
- certification made easier for small farmers tracing from a new system of group certification;
- a more uniform approach to reducing the risk of accidental contamination from pesticides.

Recently, the Commission additionally set out a comprehensive organic action plan for the European Union. Through it, the Commission aims to achieve the European Green Deal target of 25 percent of agricultural land under organic farming by 2030. The action plan is broken down into three interlinked axes that reflect the structure of the food supply chain and the Green Deal's sustainability objectives. The three axes are to be supported by 23 actions aimed at (a) continuing some of the successful 2014-20

¹⁰⁷ Document 32021R2116. Regulation (EU) 2021/2116 of the European Parliament and of the Council of 2 December 2021 on the financing, management and monitoring of the common agricultural policy and repealing Regulation (EU) No 1306/2013.

actions, as well as (b) putting forward an array of new actions and mobilising different sources of funding. Exploring new and improved ways for organic farming to reduce its environmental impact, continue progress in production and processing, and increasing the consumption of organic products and strengthening consumers' trust are key aims behind the actions.¹⁰⁸

Axis 1: stimulate demand and ensure consumer trust.

- promote organic farming and the EU logo;
- promote organic canteens and increase the use of green public procurement;
- reinforce organic school schemes;
- prevent food fraud and strengthen consumer trust;
- improve traceability;
- facilitate the contribution of the private sector.

Axis 2: stimulate conversion and reinforce the entire value chain.

- encourage conversion, investments and exchanges of best practices;
- develop sector analysis to increase market transparency;
- support the organisation of the food chain;
- reinforce local and small-value processing and foster short trade circuit;
- improve animal nutrition in accordance with organic rules;
- reinforce organic aquaculture.

Axis 3: organics leading by example: improve the contribution of organic farming to environmental sustainability.

- reducing climate and environmental footprint;
- enhancing genetic biodiversity and increasing yields;
- developing alternatives to contentious inputs and other plant protection products;
- enhancing animal welfare;
- making more efficient use of resources.

¹⁰⁸ EC 2022b.

The EU Biodiversity Strategy and the EU Farm-to-Fork Strategy set the target to manage 25% of agricultural land under organic farming by 2030. The Action Plan on Organic Farming aims to promote the adoption of organic farming practices to achieve this target, as well as the development of organic products and demand for organic products.¹⁰⁹ The new EU forest strategy for 2030 was adopted in July 2021. Its implementation will contribute to achieving the EU biodiversity and climate objectives.¹¹⁰ The new EU Soil Thematic Strategy aims to tackle in a comprehensive way soil and land degradation, as well as to fulfil EU and international commitments on land degradation neutrality.¹¹¹

In addition, the zero-pollution vision for 2050 is for air, water and soil pollution to be reduced to levels no longer considered harmful to health and natural ecosystems, that respect the boundaries with which our planet can cope, thereby creating a toxic-free environment. It is translated into key 2030 targets to speed up reducing pollution at source by:¹¹²

- improving air quality to reduce the number of premature deaths caused by air pollution by 55%;
- improving water quality by reducing waste, plastic litter at sea (by 50%) and microplastics released into the environment (by 30%);
- improving soil quality by reducing nutrient losses and chemical pesticides' use by 50%;
- reducing by 25% the EU ecosystems where air pollution threatens biodiversity;
- reducing the share of people chronically disturbed by transport noise by 30%, and
- significantly reducing waste generation and by 50% residual municipal waste.

The coherence of the Common Agricultural Policy with the Green Deal and trade policy has been considered a topic of major importance.¹¹³ The common agricultural policy (CAP) will be mobilised fully to support the implementation of the action plan.¹¹⁴ Financial support for organics will continue to be offered through rural development commitments, with an additional stream of funding made available through eco-

¹⁰⁹ EC 2022f.

¹¹⁰ Ibid.

¹¹¹ EC 2022f.

¹¹² EC 2022g.

¹¹³ EC 2022c.

¹¹⁴ EC 2022b.

schemes.¹¹⁵ CAP support will also include technical assistance and the exchange of best practices and innovations in organics.¹¹⁶ Farm advisory services will be strengthened, notably as part of Agricultural Knowledge and Innovation Systems (AKIS), to promote relevant knowledge exchange.¹¹⁷

Environmental standards and quality systems and programs are stated as basis for developing the organic sector, as well as communicating and verifying organic production responsibility of organizations, companies, services and events. In comparing organic certification framework across the EU, Finland, Denmark, Estonia and Spain are only countries within the EU with quality of organic products controlled by the authorities.¹¹⁸ In Sweden, for example, the special KRAV mark indicates that production is controlled in accordance with Swedish criteria.¹¹⁹ When looking at certification in general, promotion of organic food within the public sector in Sweden is stated as framed broader than in Finland.¹²⁰

A new proposal emphasizing Finnish agriculture shift to organic production has been made with the goal being that by 2030 organic production should account for at least half of the overall production.¹²¹ The Finnish Organic Research Institute, which started actions in 2013, is one of the concrete results of the country brand process.¹²² Finnish Organic Research Institute (FORI) coordination unit has thereafter prepared the revision and prioritization of research needs for organic production. Their strategy is a result of survey of over 60 participants consisting steering group, the scientific advisory committee and stakeholders. In the Strategy, the European Green Deal and Farm to Fork Strategies have been analyzed.

According to the Finnish Organic Research Institutes strategy 2021–2024 s, organic enterprises will face major changes, to which they need to adapt in their activities, since

¹¹⁵ Ibid.

¹¹⁶ EC 2022b.

¹¹⁷ EC 2022b.

¹¹⁸ Cronbergin T. 2011.

¹¹⁹ Ibid.

¹²⁰ Daugbjerg C. 2020. This does not mean that it is not in accordance to the minimal requirements set by the EU. The author sees an opportunity for cross-analysis of how national frameworks drafted are sourcing from the EU framework are framed, and how they support the countries organic consumption and market which is the EU goal.

¹²¹ Organic Europe 2022.

¹²² Ibid.

the application of regulation (EU) 2018/848 on organic production and labelling of organic products, which defines the principles of organic production, will begin and the Common Agricultural Policy (CAP), that guides the agricultural subsidy system, will be revised during this strategy period.¹²³ As a result, there will be even more significant changes in the organic operating environment in the near future, which is why it is considered sensible to steer organic research and development more strongly towards the future.¹²⁴ Research related to the development of criteria for organic certification systems, the control of production conditions of Finnish Food Authority 2020 and the general principles of organic production need key consideration in the organics in the future.¹²⁵ The strategy further states that¹²⁶:

- the position of organics in the legislation and governance, as well as legal interpretations related to the monitoring of organic production and the subsidy policy, are key research themes that have an impact on the functioning of Finland's organic chain and the operating environment of the organic sector as a whole.
- research related to the development of regulations on organic production is needed so that organic production can be better differentiated from conventional production in the future within the scope of the certification system.
- the traceability and authenticity assessment (organic visibility) is also stated as important to distinguish commercial organic products from conventionally produced products on the market since the profitability of organic enterprises is linked to improved technical and operational effectiveness and to demonstrating environmental and social sustainability to consumers and society as a whole. Identifiable special features maintain the profitability of small-sized organic enterprises, and organic business models are reflected not only in the food system, but also in other business sectors, such as sustainable tourism.
- research on pricing principles of organic products in Finland has to account for the overall market structure in retailing and processing, since responsibilities of producers are inter-linked with responsibilities of other organic value chain stakeholders.

¹²³ FORI 2021.

¹²⁴ FORI 2021.

¹²⁵ Finnish Food Authority 2020.

¹²⁶ FORI 2021.

- Support for organic producers is needed. It is stated that helping in identifying and developing the success factors of different sales channels for organic products, also from a consumer-driven perspective, will potentially increase the position of organic production in Finland and internationally. To increase the procurement of organic products of professional kitchens calls for cooperation between the research fields of primary production and organic food and nutrition.
- Expertise in many different fields must be brought together in research projects as networks between different parties, farms, enterprises and educational institutes is both an opportunity for organic research.

Having the largest certified organic collection area in the world before 2018 (about 12 million hectares), in addition to organic primary production area (agriculture), Finland was in an excellent position to meet the growing demand for organic produce which would also positively contribute to emission reduction.

4 Discussion and conclusions

Farmers and forest natural products producers (also termed NWFPs) face two, seemingly contradictory challenges in aligning actions to the EU CE strategy. The first is the need to feed and produce raw materials for products for millions of people, and secondly, to reduce greenhouse gas emissions and protect biodiversity at the same time. On one hand, biomass and land area are already scarce resources and will be in increasing demand in a circular zero-emission economy, as carbon from renewable sources such as trees are good replacement for fossil resources, both for fuel and as raw material in the production of various products. On the other hand, the production of biomass must take place within the framework of sustainable use of land area; meaning considerations need to be taken for biodiversity, food production and carbon storage. The use and processing of natural resources and the manufacture of products have environmental impacts e.g., on greenhouse gas emissions. In order to ensure this, the use of land area and biomass has been reconsidered and prioritised in recent EU frameworks and strategies, meaning a shift to circular economy is inevitable.

CE is defined as a product or service design that considers resource efficiency by striving to maintain the value in collected, harvested or processed raw materials, while relying on system wide innovation to close, slow and narrow resource loops to protect the environments upon which product or service sector depends. Organic production does play a dual societal role, where, on one hand, it provides for a specific market responding to consumer demand for organic products and, on the other hand, it delivers publicly available goods that contribute to the protection of the environment and animal welfare, as well as to rural development and social sustainability. Land farmed organically is stated to possess about 30 percent more biodiversity than land farmed conventionally and causes less loading on water ecosystems and the climate, while benefiting biological diversity. Organic production focuses the production of raw material and products that use minimal amount of external inputs and reduces negative environmental impacts e.g. emissions and waste discharges thereby promoting circularity. Organic production aligns strongly with the EU CE strategy.

Organic primary production has been more successful than wild collection area. Even though Finland still holds the largest wild collection area in the world, this area has decreased by over half (from 11.6 million to 4.6 million) at the end of 2018. Organic wild collection gives forest owners new ways of earning money, reduce forest owners' reliance on wood as sole source of income, thereby contributing to preserving forests to

sustainable level via multiple use forests management. The utilization of wild collection area can additionally reduce overdependence on primary production (agriculture) and on timber as only source of livelihood for forest owners.

The new EU organic legislation has been applicable from 1 January 2022, following a year postponement of its implementation. The new regulation is stated as designed to ensure fair competition for farmers. However, key challenges persist in Finland (possibly also in other EU states) that need intervention. In Finland, challenges along the certification process e.g., bureaucracy and costs relating to certification process for wild collection is considered expensive and not ideal for SMEs. Organic certification is considered useful, in some cases (e.g., exporting) necessary. Interviews resulted in similar needs as the desk research, with key issues stated as needing immediate attention being (a) certification process challenges, (b) raw material accessibility challenges, (c) supply chain challenges, and (d) market entry and visibility related problems. The need and challenges are similar to those being addressed by the new EU reforms such as organic action plan. The promotion of organic produce and supporting of organic producers to improve availability and organic market is necessary. Organic certification is considered useful, in some cases (e.g., exporting) necessary.

The renewed regulations of joining an organic collection area needs further investigation, since a drastic change in organic certification of wild collection areas happened after 2018–2019 regulatory updates in Finland. Finland is missing out on both internal market as well as the market for organic exports when considering organic market share and possibilities even in Europe alone. The position of organics in the legislation and governance, as well as legal interpretations related to the monitoring of organic production and the subsidy policy is urgent. One way would be to investigate how national frameworks sourcing from the EU framework are framed, regional strategies drafted, and how they support the country's organic consumption and markets which is the EU goal. A model framework that could support, not deter actors is wished for the natural products sector. Based on this report's findings, it would be interesting to compare central government policies (e.g. cross analysis of frameworks of Finland and Sweden/ Finland and other Nordic countries, etc) and how they are framed to drive sustainable production and consumption, i.e. considering Swedish results how the regional policy and voluntary actions translated to increased consumption of organic produce. This could produce some learning outcomes that could help the sector develop/ transfer best practice actions which in turn could accelerate the achievement of the goals set out under the comprehensive organic action plan of the European Union

The principle of Organic Agriculture is stated as based on the principles of health, ecology, fairness and care with the three pillars of action as (a) supply facilitating capacity development for truly sustainable production, (b) demand campaigning to multipliers and acting as a resource centre for organic communications and (c) policy and guarantee as advocating and providing competence for the creation of a favourable policy environment. Multiproduction benefits need be looked into, e.g. how wild organic harvesting could support regional co-production of some products that keep the primary production to sustainable level. Experts estimate that, when considering EU forest management requirements for organic wild collection area, over 90 percent of Finnish forests would meet conditions for this certification. Investigating pricing and land ownership-management structures and their differences across various EU jurisdictions could also help in the development of organic wild collections and encouraging landowners to place lands under organic control since e.g. in Finland, landowners can place their lands under other management (e.g., forest management services) meaning they own the forest land(s), but may not necessarily manage the land(s) as the active role in forest management is mainly handled by third party. In addition, it is necessary to study means for increasing yield levels in organic production and increasing awareness about organic certification of wild collection areas, among other those certified by municipalities and/or cities. Table 3 shows proposed changes based on the findings from this research.

Table 3. Proposed changes for top 10 challenges stated by organic actors during interviews.

Proposed changes for top 10 challenges stated by organic actors during interviews. (Average scores: orange: 4.5-5; yellow: 4-4; green score: 3.7)	Contribution to EU Organic Action Plan for realizing European Green Deal sustainability objectives by 2030.		
	Axis 1 (Demand): stimulate demand and ensure consumer trust.	Axis 2 (Supply): stimulate conversion and reinforce the entire value chain.	Axis 3 (Environmental sustainability): advocate and provide competence for the creation of a favourable policy environment that improve the contribution of organic farming to environmental sustainability.
Reducing obstacles and challenges in processing.		*	*
Encouraging networking and collaboration across supply chain.		*	*
Encouraging and developing companies producing organic products.		*	*

Improving the process for organic collection areas that are problematic at the moment.		*	*
Harmonization and/or re-framing organic legislation to encourage sustainability transition and/or current actors.	*	*	*
Organic certification system that is financially viable for actors.		*	*
Availability of information and statistics on consumption demand.	*	*	*
Creating awareness of organic product production methods and organic brands.	*	*	*
Offering good practices identification support for SMEs.	*	*	*
Developing organic marketing channels.	*	*	
Enhancing actions that increasing market share of organic produce.	*	*	*
Organic targets in regional and food services strategies	*	*	*

The attitude towards the Finnish organic sector is stated as very favourable, which serves the market conditions and the public mindset towards organic production. Finnish consumers feel that fair compensation for producers is important in ensuring wider range and availability of organic products in the market and hope that the incentives can be developed to address the issue. The current areas under organic certification is stated as very fragmented. This can make it difficult for collection, which partly translates to lack of raw material, and local organic products options not utilized or visible. The certification is also considered costly. Processing companies between farmers and organic food producers could be useful in helping meet consumer expectations for the availability of organic food. This would be one way of improving the share of organic

wild collection raw materials and products when considering remoteness, land fragmentations, and climate changes that impact availability for example.

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