SUSTAINABLE GROWTH FROM RENEWABLE RESOURCES

Ministry of Agriculture and Forestry of Finland

SUSTAINABLE GROWTH FROM RENEWABLE RESOURCES

PROFITABLE FOOD PRODUCTION, TRADE BALANCE AND BLUE BIOECONOMY ON THE RISE

Sustainable food production is responsible and profitable

The key project “Profitable food production, trade balance and blue bioeconomy on the rise” has worked to safeguard the conditions for food production and the structural development of agriculture. Deregulation measures have improved the operating capacity and competitiveness of operators in the food supply chain. A variety of actions, including those defined in the development plan on the blue bioeconomy, have enhanced the growth of business based on water and fisheries resources.

The goal of the key project was to improve the profitability of agriculture, strengthen the liquidity of farms and promote our clean food, water and fisheries resources both in Finland and through exports abroad.

Key projects of the Ministry of Agriculture and Forestry

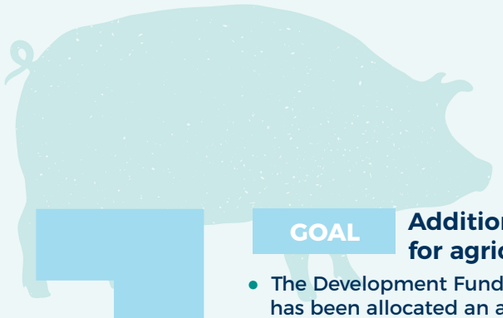
Profitable Finnish food production, trade balance and blue bioeconomy on the rise

Rehabilitating migratory and threatened fish populations

Recycling nutrients for clear waters

Forest data and electronic services

Reform of the forest ownership structure



1

GOAL

Additional funding for agricultural investments

- The Development Fund for Agriculture and Forestry (Makera) has been allocated an additional EUR 90 million to promote the profitability of food production. The additional funds have been used to secure financing for investments to improve the production structure of farms, reduce costs and support the introduction of new technologies and processes. A particular focus has been placed on investments that enhance the state of the environment and animal welfare and promote the use of renewable energy.
- In 2016–2018, funding was granted to 63 different research and investigation projects that support the profitability of agriculture. The selection criteria for funding focused on practical projects that aim to enhance the competitiveness of farms, support their profitability and develop their operations.

2

GOAL

Streamlining legislation and simplifying permit and notification procedures

- The main Government agencies dealing with the food supply chain were merged into the Finnish Food Authority.
- In connection with the comprehensive reform of the Food Act, regulations have been eased by updating the decrees on food hygiene. The goal has been to eliminate as many structural and functional requirements as possible without compromising on food safety.
- We have relieved the administrative burden on agricultural operators through deregulation and by making better use of the relief provided by EU legislation in areas such as food hygiene. Deregulation has helped to simplify the structural requirements of food premises, ease the auditing requirements of primary producers and streamline inspections of reindeer and moose meat, for example.
- Reinterpretation of the EU Novel Foods Directive has also enabled the use of insects as food in Finland.

3

GOAL

Better conditions for exports of food and food-related competence – improved cooperation throughout the food supply chain

- In cooperation with food system operators, we have compiled a food policy report (Ruoka2030) with systematic measures aiming to increase profitability, renewal and sustainable growth in the Finnish food industry and to promote food exports.
- Funding from Business Finland's Food from Finland export programme has helped in finding new customers for Finnish food products both in and outside of the EU.
- Work has also been done to promote the development of the Finnish Food Authority's market access and export monitoring programmes and to enhance the export capacity of Finnish small and medium-sized enterprises. We have also opened up new markets outside the EU for Finnish animal products, oats and berries. This has made it possible to begin exporting Finnish products to destinations including China, Japan, Korea, Singapore and South Africa.
- The Government has issued a resolution on public food and food service procurements, while a new procurement guide and advising service have improved access to information on procurement criteria. These actions make it easier for operators to make responsible procurement decisions when it comes to food. This, in turn, advances the use of local Finnish food in public kitchens.
- Origin labelling decrees have made the origins of ingredients more visible in restaurants and shops.
- The Government has also approved a new Food Market Act, which aims to improve the functionality of the Finnish food market. The purpose of the Act is to safeguard operators in vulnerable positions in the food production chain.

4

GOAL

An innovation-friendly operating environment as the foundation for water-related business

- The development plan on the blue bioeconomy details strategy measures aiming to turn business based on water and water resources into a strong growth sector by 2025. This includes the idea of developing business activities that are in harmony with a healthy environment. The development plan also includes a programme for exporting water-related expertise.
- Open, wide-reaching and international discussions have led to growth-oriented partnerships, clusters of competence and thriving business activities. As part of the Out of the Blue research and knowledge agenda for the blue bioeconomy, we have created an action plan aiming to target research and expertise towards achieving growth and renewal of business and making international breakthroughs. The action plan is guided by the UN's Sustainable Development Goals.
- The Nordic Road Map for Blue Bioeconomy lays down the common goals of the Nordic countries for business activities connected to water and water resources. The Nordic countries are working towards rapid growth of the blue bioeconomy by engaging in closer cooperation and sharing new concepts. Cooperation has been enhanced especially in aquaculture – that is, farming of fish and other aquatic animals – and in the development of high value added products such as food, cosmetics and pharmaceuticals.

APPLYING THE CRITERIA HAS HELPED MANY MUNICIPALITIES TO INCREASE THEIR USE OF LOCALLY PRODUCED FOOD.

School lunches made from local ingredients

In summer 2016, the Government issued a resolution that state operators would commit to choosing only responsibly produced products in their public food and food service procurements.

In practice, this means that rather than choosing a provider based on cost alone, the selection criteria would place a strong emphasis on environmentally sustainable farming methods, food safety and the wellbeing and health of farm animals. The responsibility criteria have encouraged state-owned kitchens to use berries that can be consumed safely without heating, salmonella-free eggs produced without antibiotics and meat products from animals raised in good conditions promoting their welfare.

The decision has also led to a stronger focus on responsibility criteria when renewing contracts with food service providers in Government cafeterias, which can be seen in the form of increased use of ingredients from Finland. Applying the criteria has helped many municipalities to increase their use of locally produced food, which reduces the environmental impact of food production and supports the local employment rate and economy.

THE EXPORT PERMIT WAS THE RESULT OF YEARS OF WORK AND NETWORKING.

Bringing lactose-free Finnish milk to the South African market

In 2017, a Finnish dairy company announced that it would begin exporting lactose-free milk products to South Africa. The export permit was the result of years of work and networking. Networking events and business meetings organised by Business Finland's Food from Finland trade mission programme made it possible for the company to find local partners and customers.

At the same time, experts from the predecessor of the Finnish Food Authority, the Finnish Food Safety Authority Evira, advanced the export process by preparing the reports needed to obtain the expert permit and ensuring that the company's products fulfil the requirements of South African legislation. The delegations for the Team Finland trade missions included representatives from companies and authorities, along with political leadership and senior officials from the Ministry of Agriculture and Forestry.

Their job was to lead negotiations between authorities and open doors for bilateral cooperation.

So far, the key project has also promoted opening up the export of fish and pork products to South Africa.

WE NEED TO COME UP WITH SOLUTIONS TO ENSURE SUFFICIENT WATER RESOURCES, CLEAN WATER AND WELL-FUNCTIONING SANITATION FOR THE ENTIRE GLOBAL POPULATION.

Sustainable use of aquatic natural resources now and in the future

Water presents a major opportunity for Finnish growth business and exports

Population growth, the increasing need for food and energy, urbanisation and changing lifestyles are forcing us to seek new solutions. The global need for clean water and its significance for the world are continuing to grow. The growing needs and potential conflicts associated with water and water bodies are being further exacerbated by climate change. New solutions and operating methods related to the use, quality and supply of water are needed in all areas of society, since water is connected to nearly all of society's functions.

The key project on the blue bioeconomy has recognised the important role that water plays for the wellbeing of societies. There is a growing demand for solutions that conserve water and energy in the bioeconomy, different sectors of the manufacturing industry and in municipal water services. This was the inspiration for the key project on the blue bioeconomy, which has granted funding to bold experimentation and development projects. The funded projects are related to the utilisation of nutrients and energy, new service concepts for water tourism and internationalisation and digitalisation in the water sector.

Blue bioeconomy projects

- Government key project funding for 20 projects
- EUR 5 million in total

Maa- ja metsätalousministeriö
Jord- och skogsbruksministeriet
Ministry of Agriculture and Forestry

EXPORT BUSINESS	WATER TOURISM	NUTRIENTS / ENERGY	DIGITALISATION / INNOVATIONS
Boosting internationalisation of the water sector Cooperation partners e.g. in Asia and Africa	New service concepts for water tourism	Sustainable utilisation of nutrients and energy in water bodies	Support for digital solutions and innovations in the water sector
funded by € 1,010,727	funded by € 499,880	funded by € 440,000	funded by € 2,829,632

READ MORE ABOUT THE PROJECTS

Environmentally friendly recirculation aquaculture in Laukaa

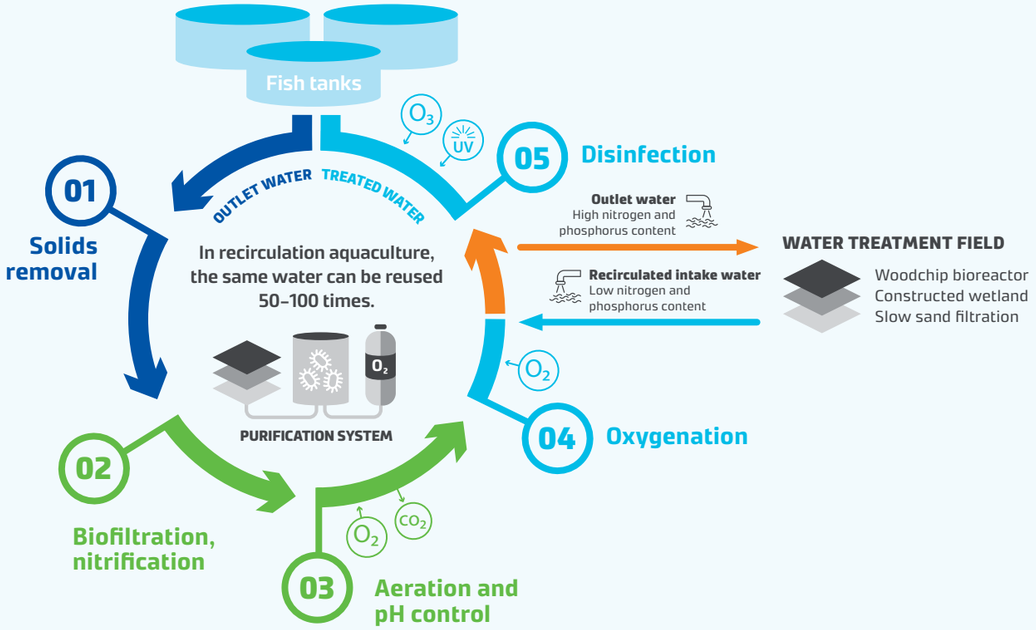
Fish farming is the fastest-growing food production industry in the world. Recirculation aquaculture is increasing in popularity because it is an environmentally friendly method that makes it possible to farm fish in optimal conditions year round. Recirculation aquaculture saves water, and the technology used to purify the water leads to a significant reduction in the nutrient load of fish farming.

The Natural Resources Institute of Finland (Luke) has developed an entirely new water treatment concept for recirculation aquaculture. The Laukaa recirculating plant, to be completed in summer 2019, will utilise constructed wetlands for water purification, remove nitrogen using wood chips and create artificial groundwater.

Thanks to the technological expertise of the Natural Resources Institute, it is possible to make new recirculation aquaculture methods profitable both in Finland and abroad. This development work benefits aquaculture, research institutes and technology operators alike. Recirculation aquaculture systems have enormous global potential especially in regions where the water resources are scarce.

THE REASONS FOR THE INCREASE IN POPULARITY ARE THE ENVIRONMENTAL FRIENDLINESS OF THE METHOD AND THE POSSIBILITY TO FARM FISH IN OPTIMAL CONDITIONS.

The recirculation aquaculture process



New water technology and treatment at the Mikkeli wastewater treatment plant

There is global demand for expertise and technological development in the water sector. In the Mikkeli region, a new testing environment has been launched for wastewater purification based on a new kind of water technology and treatment. Construction is also under way on a new water treatment plant. In addition to modernising the treatment of water, the expertise accumulated from the testing and learning environments is creating new opportunities for Finland in the growing fields of reuse and recycling of water and energy saving.

New products from herring and roach

Significant growth could be achieved in the Finnish blue bioeconomy if underutilised fish catches and side streams could be used more productively. In Finland, the side streams created by the fish processing industry amount to about 20 million kg a year. Herring, sprat and cyprinids are fish with a low processing rate. The Kasnäs fish meal factory is significantly increasing the economic impact of herring in Finland, reducing environmental load through its operations and improving the self-sufficiency of Finnish fish production. A total of EUR 6.5 million has been invested in the fish meal factory, of which 49 per cent was provided by the European Fisheries Fund.

The fund has also supported increasing the value of underutilised fish material through fisheries innovation programmes. Local fish is being used to develop new products. Fish oil, for instance, can be used in nutritional supplements, while the newest trend, pulled fish, is made from small fish that are ground whole.

THE GOALS OF THE KEY PROJECT ARE ALSO SUPPORTED WITH OTHER FUNDING.

Fish meal factory in Kasnäs

LOCAL IMPACT
EUR 8–12 million
in increased turnover.

Increase in the domestic consumption of herring caught in Finland from 54% (2016)
67% (2017)

NUTRIENT RECYCLING
means a decrease in phosphorus and nitrogen loads in the Baltic Sea.

The factory purchases
EUR 23–47 million
incl. primary production and transport

MULTIPLIER EFFECTS
EUR 23–47 million
incl. primary production and transport

FISH MEAL AND OIL
are sold to animal feed factories.
This enables the production of fish feed from the Baltic Sea and the recycling of nutrients in marine aquaculture.

THE TRADE BALANCE OF FISH MEAL AND FISH OIL
is on the increase.
Investments have created new sustainable growth opportunities for the fisheries sector.

STRENGTHENING MIGRATORY AND THREATENED FISH POPULATIONS

Pro Kala ry

What has the key project achieved?

- Building fish passages and migration solutions
- Developing downstream migration solutions for juvenile fish
- Restoring breeding grounds
- Wide-scale introduction of juvenile fish in brooding grounds
- Building trust and developing smooth cooperation with concerned operators

Long-term work to rehabilitate fish populations

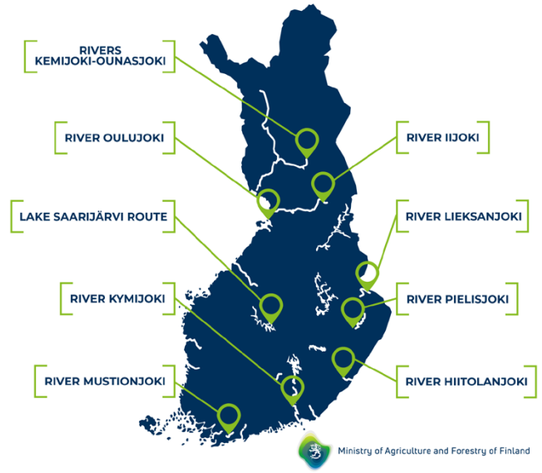
Migratory fish are species that hatch in flowing waters, spend their growing stages in the sea or lake and return to their birthplace to spawn. Some examples of migratory fish are salmon and trout.

Rehabilitating threatened and endangered migratory fish populations requires long-term work and a wide range of measures. Rehabilitation projects have been launched or completed in ten different river basin using a combination of state "leverage" financing and significant local self-financing.

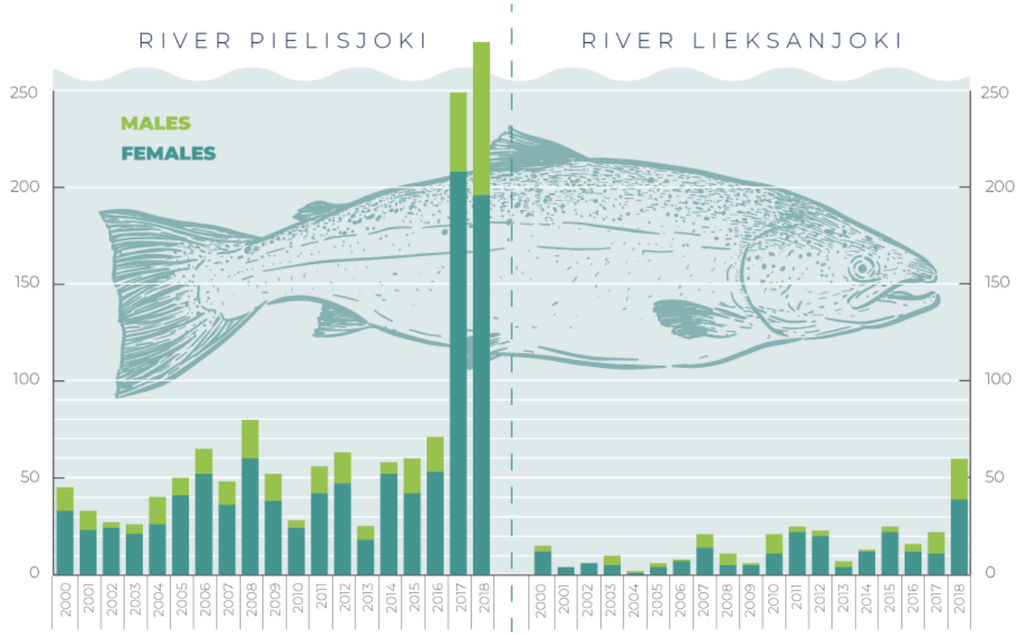
Overall costs of migratory fish projects approx.

EUR 20 million.

Migratory fish key project



Spawning landlocked salmon from Pielisjoki and Lieksanjoki 2000–2018



The increase in the number of female spawning salmon is largely due to new provisions in the Fishing Act, which, among other measures, protected landlocked salmon with an adipose fin starting in 2016. Successful introductions of juvenile fish in Pielisjoki 2–3 years ago have also supported the increase in the number of female fish.

RECYCLING NUTRIENTS FOR CLEAR WATERS

Recovering nutrients from side streams

The nutrient recycling pilot led by the Centres for Economic Development, Transport and the Environment for South Ostrobothnia provided funding for experimental plants and process development aiming for more efficient utilisation of manure, sludge from wastewater treatment plants and other organic waste. The pilot programme has led to the emergence of several new companies that are bringing new organic fertiliser products and processing methods to the market.

The “Making use of agricultural nutrients” project led by the Natural Resources Institute of Finland has assisted companies applying for funding by helping them to develop their ideas, distributing information about the possibilities of nutrient recycling and bringing together different operators aiming to promote the circular economy and water protection.

The “Success stories from horse manure” project has encouraged horse industry operators to develop suitable solutions for the processing of horse manure and the recycling of nutrients. The project has played an important role in developing more commercially viable horse manure solutions. It has also led to an increase in business activities using horse manure as energy.

Abundance of nutrient-rich biomasses in Finland

Total of nutrient-rich biomasses

21,100,000 t / year

READ MORE ABOUT THE PROJECTS

FOREST DATA ENTERS A NEW ERA

The Forest data and electronic services key project brought forest data to the modern age. Open forest data and the digital leap of electronic services have transformed the use of forest data and made the lives of forest owners easier. Higher-quality, more up-to-date data and new electronic services are now available. Altogether EUR 13 million has been allocated for development, piloting and research related to forest data and electronic services.

Forest data and electronic services

IMPROVING THE QUALITY OF DATA	ADVANCING THE MOBILITY OF DATA	PROMOTING THE USE OF ELECTRONIC SERVICES
Interpreting changes in satellite images as part of supervising compliance with the Forest Act	Open forest data • Amendment to the Forest Data Act (HE26/2018) enabled the open use of forest data • 6,700 downloads • forest resource data • Forest use declaration data and Kemera (Financing of Sustainable Forestry) data	The Metsään.fi service – data and services in one place • 109,000 forest owners • 700 operators / 3,100 users • data on more than 12 million hectares of forest • nature data • antiquities • zoning plans • electronic services: Forest use declarations and Kemera (Financing of Sustainable Forestry)
Utilising data from forest machinery • in the real-time monitoring of forest resource data • as supplementary material for interpreting data on the growing stock		
Models	Recommendations based on implementation data	
Quality of growing stock		Kuutio.fi online timber market
Producing data on seedling stand	Standardisation of forest data facilitates the transfer of data between operators	
Harvesting readiness maps	Digital forestry recommendations	Forest data service platform > successful piloting > data can be transferred and refined for applications in the future

Developing the size and structure of forest holdings

The administrative branches of the Ministry of Agriculture and Forestry and the Ministry of Finance have created incentives aiming to promote generational change in forest holdings and improve the size and structure of forest holdings.

- Forest gift deduction for generational change
- Entrepreneurship deduction for forest holdings
- Relief of the asset transfer tax if a forest owner establishes a limited liability company to continue forestry operations
- Dozens of regional advising programmes focusing on generational change and the establishment of jointly owned forests

The updated national forest strategy also includes ten strategic projects that aim to reform the forest industry and its structures and promote the comprehensive sustainable use of forests.

Ministry of Agriculture and Forestry of Finland

Ministry of Agriculture and Forestry
FI-00023 Government, Finland
Tel. 0295 16 001