



Brussels, 18.12.2020  
SWD(2020) 370 final

## **COMMISSION STAFF WORKING DOCUMENT**

### **Commission recommendations for Cyprus' CAP strategic plan**

#### *Accompanying the document*

### **COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS**

#### **Recommendations to the Member States as regards their strategic plan for the Common Agricultural Policy**

{COM(2020) 846 final} - {SWD(2020) 367 final} - {SWD(2020) 368 final} -  
{SWD(2020) 369 final} - {SWD(2020) 371 final} - {SWD(2020) 372 final} -  
{SWD(2020) 373 final} - {SWD(2020) 374 final} - {SWD(2020) 375 final} -  
{SWD(2020) 376 final} - {SWD(2020) 377 final} - {SWD(2020) 379 final} -  
{SWD(2020) 384 final} - {SWD(2020) 385 final} - {SWD(2020) 386 final} -  
{SWD(2020) 387 final} - {SWD(2020) 388 final} - {SWD(2020) 389 final} -  
{SWD(2020) 390 final} - {SWD(2020) 391 final} - {SWD(2020) 392 final} -  
{SWD(2020) 393 final} - {SWD(2020) 394 final} - {SWD(2020) 395 final} -  
{SWD(2020) 396 final} - {SWD(2020) 397 final} - {SWD(2020) 398 final}

## Contents

<b>1. COMMISSION RECOMMENDATIONS FOR CYPRUS' CAP STRATEGIC PLAN</b>	<b>2</b>
<b>1.1 Foster a smart, resilient and diversified agricultural sector ensuring food security .....</b>	<b>2</b>
<b>1.2 Bolster environmental care and climate action and contribute to the environmental- and climate-related objectives of the Union .....</b>	<b>3</b>
<b>1.3 Strengthen the socio-economic fabric of rural areas and address societal concerns.....</b>	<b>3</b>
<b>1.4 Foster and share knowledge, innovation, digitalisation in agriculture and rural areas.....</b>	<b>4</b>
<b>1.5 Recommendations .....</b>	<b>5</b>
<b>2. ANALYSIS OF AGRICULTURE AND RURAL DEVELOPMENT IN CYPRUS</b>	<b>8</b>
<b>2.1 Support viable farm income and resilience across the EU territory to enhance food security.....</b>	<b>8</b>
<b>2.2 Enhance market orientation and increase competitiveness including greater focus on research, technology and digitalisation .....</b>	<b>9</b>
<b>2.3 Improve farmers' position in the value chain.....</b>	<b>10</b>
<b>2.4 Contribute to climate change mitigation and adaptation, as well as sustainable energy .....</b>	<b>11</b>
<b>2.5 Foster sustainable development and efficient management of natural resources such as water, soil and air.....</b>	<b>12</b>
<b>2.6 Contribute to the protection of biodiversity, enhance ecosystem services and preserve habitats and landscapes.....</b>	<b>14</b>
<b>2.7 Attract young farmers and facilitate business development in rural areas.....</b>	<b>16</b>
<b>2.8 Promote employment, growth, social inclusion and local development in rural areas, including bio-economy and sustainable forestry .....</b>	<b>17</b>
<b>2.9 Improve the response of EU agriculture to societal demands on food and health, including safe, nutritious and sustainable food, as well as animal welfare.....</b>	<b>18</b>
<b>2.10 Cross-cutting objective on knowledge, innovation and digitalisation .....</b>	<b>19</b>

## **1. COMMISSION RECOMMENDATIONS FOR CYPRUS' CAP STRATEGIC PLAN**

In the framework of the structured dialogue for the preparation of the common agricultural policy (CAP) strategic plan, this document contains the recommendations for the CAP strategic plan of Cyprus. The recommendations are based on analysis of the state of play, the needs and the priorities for agriculture and rural areas in Cyprus. The recommendations address the specific economic, environmental and social objectives of the future CAP and in particular the ambition and specific targets of the Farm to Fork Strategy and the Biodiversity Strategy for 2030. As stated in the Farm to Fork Strategy, the Commission invites Cyprus, in its CAP Strategic Plan, to set explicit national values for the Green Deal targets<sup>1</sup>, taking into account its specific situation and these recommendations.

### **1.1 Foster a smart, resilient and diversified agricultural sector ensuring food security**

Efforts to develop a sustainable farming system in Cyprus are hampered by the dualistic character of its farm structure. With 56% of the farms being very small, it is difficult to achieve economies of scale. Nonetheless, there is potential for progress in this area by stimulating cooperation between farmers, so that they can increase their bargaining power, reduce their overheads and enhance their profits.

Incentives should therefore be found to create more producer organisations and expand existing ones, especially in livestock (sheep and goat) farming and the fruit and vegetable sector where their concentration is particularly low (20%). As education and training provision does not seem to have instilled a culture of cooperation (identified as the main factor limiting organisation in production), experience-sharing with other Member States in which producer organisations play an important role - could help in identifying other possible incentives.

Another way of increasing farm-based earnings is to focus on the cultivation of niche and high-quality produce, such as organic products, and fetch premium prices on the market. The supply of high-quality and added-value products is critical to the sustainability of the agricultural sector. Farmers, preferably collectively, should try to identify niche markets and explore the viability of tapping into export markets.

As Cypriot agriculture has been significantly lagging behind in developing EU protected designation of origin (PDO) and protected geographical indication (PGI) quality schemes, incentives should be given to register more quality schemes, as a way of generating more added value. Also, quality assurance schemes focussing on consumers' sensitivities and interests (e.g. focusing on products produced with a low carbon footprint, products that respect higher standards of animal welfare, mountain products, etc.) could increase returns from the market<sup>1</sup>. Improving harvesting, processing and storage methods would enable farmers to match supply to demand, reduce losses and waste, and limit sales prices volatility, especially for seasonal and perishable goods. This will require considerable investments and innovation. In the long term, the effective use of innovative technology in production processes, such as biogas production, waste recovery, water recycling, biological control of diseases, etc. may help to incentivise young farmers to seek new careers in the agricultural sector, particularly when these technologies increase competitiveness and income.

---

<sup>1</sup> It concerns the targets related to use and risk of pesticides, sale of antimicrobials, nutrient loss, area under organic farming, high diversity landscape features and access to fast broadband internet.

## **1.2 Bolster environmental care and climate action and contribute to the environmental- and climate-related objectives of the Union**

The challenges and opportunities of developing a sustainable agricultural sector in Cyprus differ from those in many other Member States. Training and guidance, as well as on-farm greenhouse gas emissions (GHG) assessment tools to identify the most appropriate climate measures, are crucially important to increase the environmental and climate ambition of Cyprus' agricultural policy, on top of the full implementation of standards (e.g. protection of landscape features, compliance with the Nitrates Directive and the Water Framework Directive (WFD)).

GHG emissions from agriculture have been increasing gradually since 2014, mainly due to steady growth in the livestock capital cattle supporting *halloumi* cheese production. In particular, methane emissions from enteric fermentation and manure per hectare of utilised agricultural area (UAA) were double the EU average in 2015. Cyprus should focus efforts on measures to decrease methane emissions from livestock farming activities in line with the methane strategy<sup>2</sup>.

Groundwater nitrates pollution has been on the rise since 2004, with 17.5% of the reported station above 50 mg/l for the period 2012-2015. In terms of water status under the (WFD) some water bodies are still failing to achieve good status and agriculture is the most significant pressure. Better integration of water objectives in other policy areas including agriculture, is needed to achieve the requirements of the WFD and synergies should be optimised with policies including the CAP. Cyprus is among those EU countries where water abstraction levels are unsustainable, and where prolonged periods of water scarcity due to global warming is projected to intensify<sup>3</sup>.

Cyprus should further increase the production and use of renewable energy in the agri-food sector exploiting solar and wind energy, as well as agricultural by-products, wastes and residues. Additionally, sustainably managed forests can supply renewable biomass and materials for the bio-economy.

Reversing soil erosion and improving water use efficiency in terms of both quantity and quality are important priorities, as acknowledged by the Cypriot authorities. Prioritising practices that specifically address soil and water challenges, combined with an enhanced conditionality based on agronomic characteristics, will be crucial to the successful green transition of Cypriot agriculture. With a forest area of an 18.7% and due to climate change risks, Cyprus is particularly prone to forest fires and needs to step up its forest fire prevention and afforestation efforts, while also fostering agro-forestry.

As regards biodiversity, data from the latest reporting period for nature legislation indicate that 50% of Cyprus' grassland habitats are in favourable conservation status. Agriculture affects 60% of habitats assessments (second biggest source of pressure) and 47% of species assessments.

## **1.3 Strengthen the socio-economic fabric of rural areas and address societal concerns**

The transition to a sustainable food system involves addressing one of the most important social challenges for EU agriculture, which is common to all Member States generational renewal. In Cyprus, the challenge is even more acute, as the country has one of the lowest shares of young farmers in the EU and still shrinking; the ratio of young managers to elderly in Cyprus is the lowest in the EU. Land-development, construction and the use of residential, commercial, industrial and recreational infrastructure are placing a very heavy demand on the land, making this scarce resource prohibitively expensive for farming, especially in the

lowlands and closer to the urban and suburban centres. Improving farm succession hinges critically on more favourable economic perspectives in rural areas, linked to investments in infrastructure and social services in mountain areas (access to schools, healthcare and weak civil society); this should come from a range of public and private sources.

Such investments should prioritise a clearer shift towards catering to consumer preferences and needs, and focus on quality production. Cyprus should promote healthier, more environmentally sustainable diets, in line with national recommendations. This could help to reduce overweight, obesity and the incidence of non-communicable diseases while improving the overall environmental impact of the food system.

Careful consideration should be given to the specific needs of women in agriculture and rural areas, in order to deliver on gender equality and close the gender gaps in employment, pay and pensions.

Ensuring the protection of agricultural workers, especially those precarious, seasonal and undeclared employment, will play a major role in delivering on the respect of rights enshrined in legislation, which is an essential element of the fair EU food system envisaged in the Farm to Fork Strategy.

Antimicrobial resistance (AMR) linked to the excessive and inappropriate use of antimicrobials in animals and humans should be especially prioritised, as the scale of veterinary antimicrobial agents in Cyprus is the highest among all EU Member States.

The use of pesticides is another issue of particular concern. The evolution of the overall weighted index of pesticides use, Harmonised Risk Indicator I, is on the rise. In order to reverse these trends Cyprus will need to demonstrate a high level of ambition in line with the new Farm to Fork pesticides and antimicrobial targets taking into account their use and the agriculture production of its regions.

Certain animal husbandry practices, such as the taildocking of pigs, are still a routine practice, although this is prohibited by EU legislation. Support for better livestock management practices using all available tools, including CAP policy instruments to support farmers, is recommended to improve animal welfare.

The national food waste prevention programme, (required under the Waste Framework Directive) could tackle the issue of food loss and waste at primary production level and in the early stages of the supply chain.

#### **1.4 Foster and share knowledge, innovation, digitalisation in agriculture and rural areas**

Knowledge and innovation have a key role to play in helping the farmers and rural communities meet the challenges of today and tomorrow. Apart from ‘agriculture’ the agricultural knowledge and innovation system (AKIS) covers related fields such as environment, climate, biodiversity, landscape, food and non-food systems (including processing and distribution chains, consumers and citizens, social aspects etc.). A well-functioning AKIS should respond to the farmers’ growing needs for information, faster innovation and better application of existing knowledge to achieve the CAP objectives.

Addressing the above challenges, enhancing the overall sustainability of Cypriot agriculture and thus contributing to the broader targets of the future orientation of the CAP will involve the rapid smart, digital and green transformation of Cypriot agriculture. The necessary means are available in Cyprus, itself in particular with the Ministry of Agriculture.

The Cypriot agricultural knowledge and innovation system appears fairly well integrated and medium-strong. As the above transformation requires reliance on knowledge creation and exchange, sufficient support for innovation networking (filtering and translating useful information for Cypriot farmers) is key, also to profit from the EU added value of innovative European Innovation Partnership (EIP) Operational Groups results in other Member States. Cyprus should take new actions to enhance knowledge flows and strengthen links between research and practice, including the creation of innovation support services, workshops, demonstrations and platforms for dissemination of information. Attention should also be paid to the improvement and better dissemination of information and to digital capacities, including digital skills and e-infrastructures. Concrete, though not generalised, examples in recent years have demonstrated how this orientation also results in a positive effect with respect to growth and employment in rural areas.

## 1.5 Recommendations

To address the above interconnected economic, environmental/climate and social challenges the Commission considers that the Cypriot CAP strategic plan needs to focus its priorities and concentrate its interventions on the following points, while adequately taking into account the high territorial diversity of the Cypriot agriculture and rural areas:

*Foster a smart, resilient and diversified agricultural sector ensuring food security*

- **Improving the viability of smaller farms and farms located in areas facing natural constraints** through a better targeting and fairer distribution of public support, for example through application of the complementary redistributive income support for sustainability and the reduction of payments and taking into consideration agronomic conditions and differences in physical and economic farm size.
- **Improve farmers' competitiveness**, targeting especially small and medium-sized farms, by supporting efforts to increase value added, including through investments in organic and quality production (e.g. within EU quality schemes) and the development of niche markets.
- **Encouraging greater integration of primary producers**, by: encouraging the recognition of producer organisations (POs) in sectors where they have not yet been recognised; supporting the formation of new POs (especially in livestock farming and the fruit and vegetable sector), and encouraging POs to offer a wider range of services.

*Bolster environmental care and climate action and to contribute to the environmental- and climate-related objectives of the Union*

- **Increasing the sustainable production of renewable energy from agricultural waste and by-products**, solar and wind energy contributing to climate change mitigation by supporting appropriate investments.
- **Contribute to the EU Green Deal target to reduce nutrient losses (nitrogen, phosphorous)**, while increasing soil organic matter and reducing soil erosion, by supporting appropriate land management practices (precise nutrient application, crop rotation, cultivation of specific crops, reduced tillage, agroforestry, low-emission manure storage and application techniques). Similarly, to contribute **to the EU Green Deal target on farm landscape features** by maintaining the presence and conservation of landscape elements and also increasing the share of grasslands. Effective implementation of conditionality will be a first step in achieving these objectives (especially to ensure action in hotspots), as will a wider transition to precision farming and /or other types of interventions.

- **Improving sustainable water use** through an appropriate blend of improved practices; control of water abstractions, investments in alternative water resources for irrigation (e.g. use of recycled waste water), cultivation of less water-intensive drought resistant, crops enhancing thus climate change adaptation measures.
- Climate change mitigation is a key issue. **Reduce GHG emissions, in particular from enteric fermentation and manure, and increase removals of CO<sub>2</sub>**, by: improving feed and manure management and investing in anaerobic digestion, supporting carbon sequestration by the farming and forest sectors; promoting on-farm GHG emissions assessment tools to help lower environmental footprint; supporting investments in afforestation/reforestation and forest protection (from fires, pests and diseases); reducing nitrogen excess.
- **Contributing to the EU Biodiversity strategy targets and especially the new actions of the EU Nature Restoration Plan** by supporting actions that help maintain or restore favourable conservation status for the habitats and species prioritised in the prioritised action framework for CAP funding, in combination with species and habitats types relevant for CAP indicated in the EU Species and Habitats Action Plans.
- **Enhancing multifunctional and sustainable forest management, forest protection and restoration of forests ecosystems** to enhance ecological services and biodiversity, supporting the efforts to reach good condition of habitats and species; preserving stocks and increasing carbon sinks in forests, their soils and harvested wood products, supporting the bioeconomy, and to build resilience to climate change and other threats, particularly by using endemic tree species highly resistant to droughts and pests for afforestation, and by investing in prevention of wildfires.
- **Contributing to the EU Green Deal target on organic farming**, through incentives for the maintenance and conversion to organic farming and promoting agro-ecological and biodiversity- friendly approaches.

*Strengthen the socio-economic fabric of rural areas and address societal demands*

- **Encouraging investments in economic and social infrastructure** (schools, healthcare, voluntary activities) in mountain areas. CAP tools must work in synergy with other funds in order to ensure better services in rural areas which benefit all rural residents.
- **Contributing to the EU Green Deal targets on pesticides, strengthening the efforts to decrease the quantities and risks of most hazardous used pesticides and promoting the sustainable use of pesticides**, in particular by ensuring the uptake of integrated pest management.
- **Contributing to the achievement of the EU Green Deal target on antimicrobials** by putting in place sizeable efforts to significantly reduce the use of antimicrobials in farming, considering that the figures indicate sales of antimicrobials above the EU average. Cyprus is encouraged to use all available tools, including instruments under the CAP to support the farmers e.g. by promoting best practices on reduced and prudent use of antimicrobials, together with improved livestock management, biosecurity, infection prevention and control.
- **Improving animal welfare** by supporting improved livestock management practices – including with regard to disease prevention and control – and related knowledge-building.

- **Improving generational renewal in agriculture** by supporting schemes to reduce the entry barriers in the sector, mainly regarding access to land.

*Fostering and sharing of knowledge, innovation and digitalisation in agriculture and rural areas, and encouraging their uptake*

- Investing in the smart, digital and green transition of its farming sector by **strengthening its AKIS**, to enhance the sustainability performance and competitiveness of the agricultural sector and to support Green Deal priority actions on climate change, circular economy, zero-pollution and biodiversity, including farm advice, and interactive innovation. Furthermore, the AKIS should better integrate information, knowledge, advice, innovation and digital skills, by supporting better links between public and private advisors and investing in their training and skills. Advisory services and operational groups should be prepared to respond to the growing information needs of farms regarding economic, environmental as well as social fields. Advisors should be supported to help capture individual grass roots innovative ideas and to develop them by setting up and implementing EIP operational group projects (“innovation support services”).
- **Contributing to the EU Green Deal target on broadband** by substantially increasing fast broadband infrastructure coverage via targeted investments in synergy with other EU funds, while promoting at the same time the development of digital skills in rural areas through appropriate training.



## 2. ANALYSIS OF AGRICULTURE AND RURAL DEVELOPMENT IN CYPRUS

Cyprus agriculture is defined by its structural features, namely small land-parcels, limited participation in collective production and marketing schemes. The small size of Cyprus poses significant difficulties for the clear diversification of areas in urban and rural areas. According to the “urban-rural typology” and in line with the CAP common context indicators Cyprus is considered as an intermediate area<sup>4</sup>.

### 2.1 Support viable farm income and resilience across the EU territory to enhance food security

The main characteristic of the Cypriot agriculture is a dualism, where 80% of the land is accounted for by 20% of agricultural holdings (in area) operating based on economic farming criteria, while a large number of very small farms (56%) are embedded in a framework of multifunctional and semi-subsistence activities with agricultural income as an (unspecified) part of total family income.

In Cyprus, the agricultural income per worker is on average about 61% of the average wage in the whole economy between 2005 and 2018. This share ranges from 52% in 2006 to 79% in 2019, and is above EU-average<sup>5</sup>. The gap between the agricultural income per worker and the average wage in the economy seems to be closing over time due to an increase in agricultural income. Despite the gradual convergence of incomes, agricultural income continues to fall short of the average wage in the economy by around 20%.

As far as the sectoral figures are concerned, the income per worker is above average for granivores, is around average for mixed crops, other field crops and sheep and goat farms, while income per worker is on average lower for farmers with permanent crops (olives, orchards, combined). About 60% of all farms in Cyprus produce olives, (citrus) fruits or has permanent crops combined.

As far as farm size concerned, the income per worker increases with farm size in Cyprus. However, 85% of farmers in Cyprus farm less than 5 hectares.

60.2% of the utilised agricultural area in Cyprus is designated as ANC area (area facing natural or specific constraints, 12.6% is ANC mountain). The agricultural factor income per worker is significantly higher in “other ANC” (beyond EUR 12 000 per worker) and particularly low in ANC mountain areas (52% of income 'not in ANC') between 2004 and 2017. Mountain area has 55% of its farms in the orchard sector. “Other ANC” area is more diversified<sup>6</sup>.

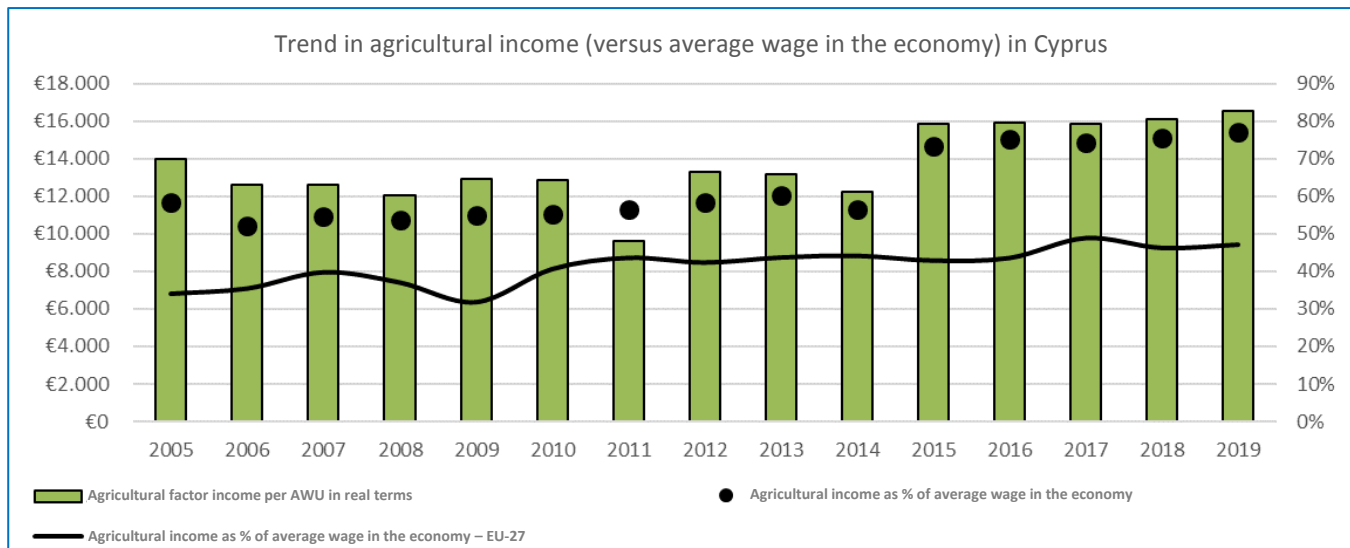
Changes in agricultural income are mainly due to extreme weather events. Markets and input costs are not the most critical factors in the volatility of agricultural income. The volatility of farm incomes results mainly from climatic factors, namely (a) the prolonged drought which has a negative impact on the incomes of all crops, (b) the extreme events that affect tree crops in mountain and semi-mountainous areas as well as horticulture and potatoes in the field.

In 2018, the number of CAP income support beneficiaries was 32 530 in Cyprus. 93.1% of agricultural holdings received income support with an average value of EUR 1 580 per beneficiary.

Direct payments formed 14% of the agricultural factor income in 2017, while payments under Pillar II were on average 15% of the income<sup>7</sup>.

The degree of concentration of direct payments per beneficiary is close to the 80-20% ratio in Cyprus (2017: 78/20). The indicator of the redistribution to smaller farms was 97.9% in average (2015-2017)<sup>5</sup>.

As far as risk management tools are concerned, a new national system for risk management has been created under the National Law 103(I)/2019. The system covers all agricultural crops, for all risks due to adverse weather conditions and / or natural disasters, including the sheep and goat sector. All the direct damages due to climatic phenomena (hail, frost, drought, etc.) are covered, but the system also covers damages resulting from diseases that owe their appearance to adverse climatic phenomena. It covers the risks due to fire and offers the possibility of protecting agricultural production from protected species.



Source: Directorate General for Agriculture and Rural Development. CAP context indicators C.25 Agricultural factor income and CAP context indicator C.26 Agricultural entrepreneurial income. Income based on EUROSTAT [[aact\\_eea04](#)], [[aact\\_ali01](#)] and [[aact\\_eea06](#)], adding back the compensation of employees to the entrepreneurial income and divided by the total number of annual working units. Note: 2019 data estimated. The Average wage in the economy based on EUROSTAT data on thousand hours worked using employees domestic concept [[nama\\_10\\_a10\\_e](#)] and EUROSTAT data on ‘wages and salaries’ [[nama\\_10\\_a10](#)]

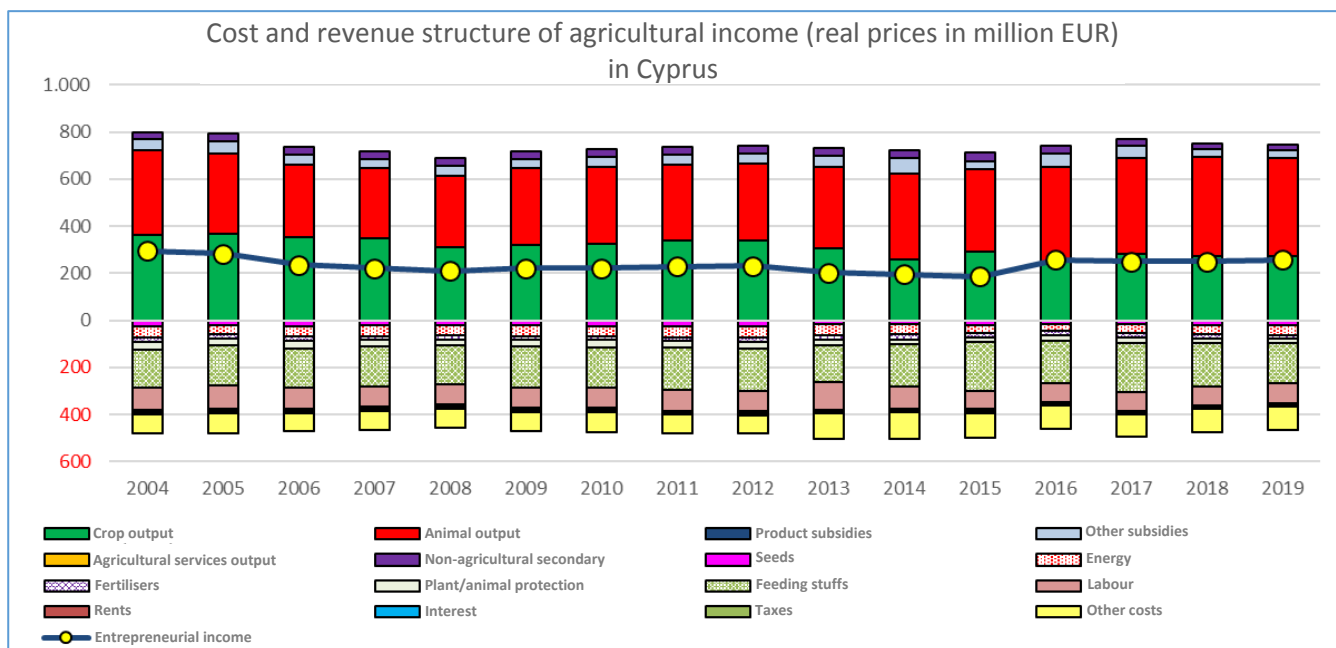
## 2.2 Enhance market orientation and increase competitiveness including greater focus on research, technology and digitalisation

Based on the 2017 and 2018 external trade statistics of the Republic of Cyprus a significant increase in the exports of agricultural products and foodstuffs of high value added has been observed. The example of “*haloumi* cheese” is striking. Bearing in mind the significant shift in consumer demand for high added value products, new types of food and new tastes it might be opportune to further diversify from conventional agricultural and foodstuffs to high added value ones, such as Geographical Indications or other quality and national traditional schemes. This is applicable for fresh, frozen or packaged agricultural products, foodstuffs as the demand remained, and even increased substantially under the Covid-19 pandemic not only in the internal market but also in third markets.

Innovation and research are key to improving productivity, sustainability and resilience in food and agriculture. However, the expenditure for agricultural research remained in Cyprus rather low since 1991 while the overall expenditure for research and innovation is increasing steadily. This is creating an important innovation and research gap within Cyprus between sectors and in comparison to the relevant EU average and trends. In recent decades, productivity improvements in the EU have driven considerable growth in agricultural production creating important differences in productivity growth between countries, and by farm type, size and regions. Innovation, research and productivity gaps are important for Cyprus and its lagging behind traditional agriculture and foodstuffs processing is a big challenge. Along the promotion of mechanisation and automation, innovation in the

production methods and products could be considered by exploiting the technological opportunities offered by precision farming and digitalisation.

Based on the available statistics the number of cows (since 2014), has increased significantly in the Republic of Cyprus. Livestock production has also expanded rapidly. Both from an economic and environmental and residues point of view, rationalisation of the sector might be of priority. Feed-efficiency improvements could be considered as a solution to counterbalance the lack of feed availability. The risks from livestock diseases may also have strong internal and external effects given links to competitiveness of the Cypriot economy but as well the food chain and to human health.



Source: Economic accounts for agriculture EUROSTAT [[aact\\_eaa01](#)]

### 2.3 Improve farmers' position in the value chain

The share of agricultural production in the food supply chain for primary producers is below the EU average (20% vs 27%). Dairy (26%), pig meat (12%), vegetables and horticultural products (11%) are the main products produced in Cyprus, followed by poultry (9%) and fruits (9%). Wine, apiculture, floriculture are also significant agricultural sectors.

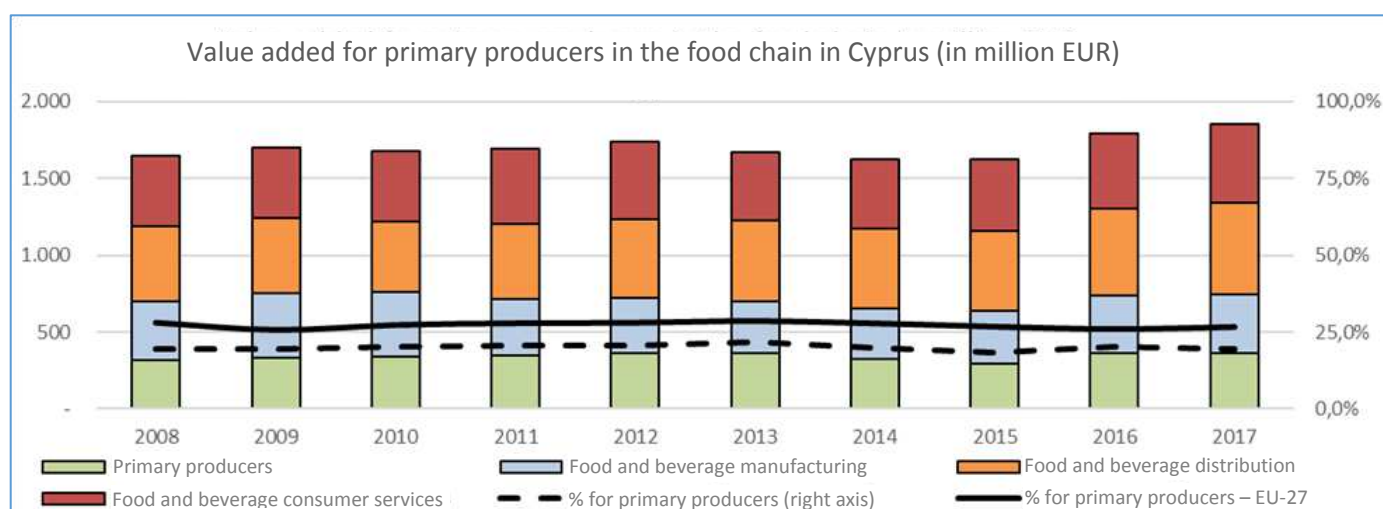
There are eight recognised producer organisations in Cyprus, among which six are specialised in the production of fruit and vegetables and one in beef, veal and cow's milk. Five of the producers organisations of the fruit and vegetables sector are running operational programmes. In addition, there are six producer groups. Five of these are specialised in livestock production and one in cereals. For 2017, the value of marketed production is estimated around 55% on livestock (with a higher concentration in cattle breeding with 75%) and around 25% in crop production (vegetables, fruits and cereals). In the fruit and vegetable sector, the value of marketable production of producer organisations is estimated at around 20%, which is significantly lower than the EU average (49%)<sup>8</sup>. There are no interbranch organisations in Cyprus.

In Cyprus, there are 18 protected quality signs (protected designations of origin, protected geographical indications and traditional specialities guaranteed) among which five are registered for agricultural products and foodstuff other than wine, spirit drinks and aromatised wines)<sup>9</sup>. The quality scheme contribution to the gross production value could become significant and could be considered as a factor capable of influencing the value captured by

the producers themselves. The use of EU quality scheme could be further developed in view of improving the position of farmers in the value chain

Cyprus could facilitate the pooling of farmers through coaching, knowledge and mentoring, innovative activities with a focus on marketing products through cooperation, not only in the meat sector, but also in the fruit and vegetables sector and in other significant sectors. Cyprus could intensify research and development efforts, especially on water saving. Investments on more effective environmental and water saving practices and on organic farming should be favoured through operational programmes. Finally, Cyprus should incentivise the production of quality products (quality schemes) and promote the organic production.

Short supply chains are not developed in Cyprus due to a low level of organisation, predominance of retailers and lack of infrastructure.



Source: European Commission. [CAP indicators – Data explorer](#). CAP Result indicator RPI\_03 Value for primary producers in the food chain.

## 2.4 Contribute to climate change mitigation and adaptation, as well as sustainable energy

Total net GHG emissions from agriculture (including cropland and grassland) amounted to 0.499 MT of CO<sub>2</sub> equivalents in 2018 representing 5%<sup>10</sup> of the total GHG emissions of Cyprus, much lower than the EU-27 average. Emissions from the agricultural sector reached their lowest level in 2013 but have been since gradually increased, mainly due to the increase in livestock numbers related to *halloumi* cheese production. In 2018, the share of methane (CH<sub>4</sub>) emissions from agriculture accounted for 35% of the total national methane emissions while ammonia emissions from agriculture represented more than 96% of the total national ammonia emissions. Livestock and cropland emissions accounted for 76.53% and 23.24% respectively of the total emissions from agriculture. Methane emissions from livestock were mainly due to enteric fermentation of live animals (52%) and from manure management (24%). 86% of ammonia emissions are attributed to livestock management and the rest to soil fertilisation (green manure and chemical fertilisers). Methane and ammonia emissions per hectare of utilised agricultural area (UAA) in Cyprus in 2015 was almost twice the EU-average<sup>11</sup>.

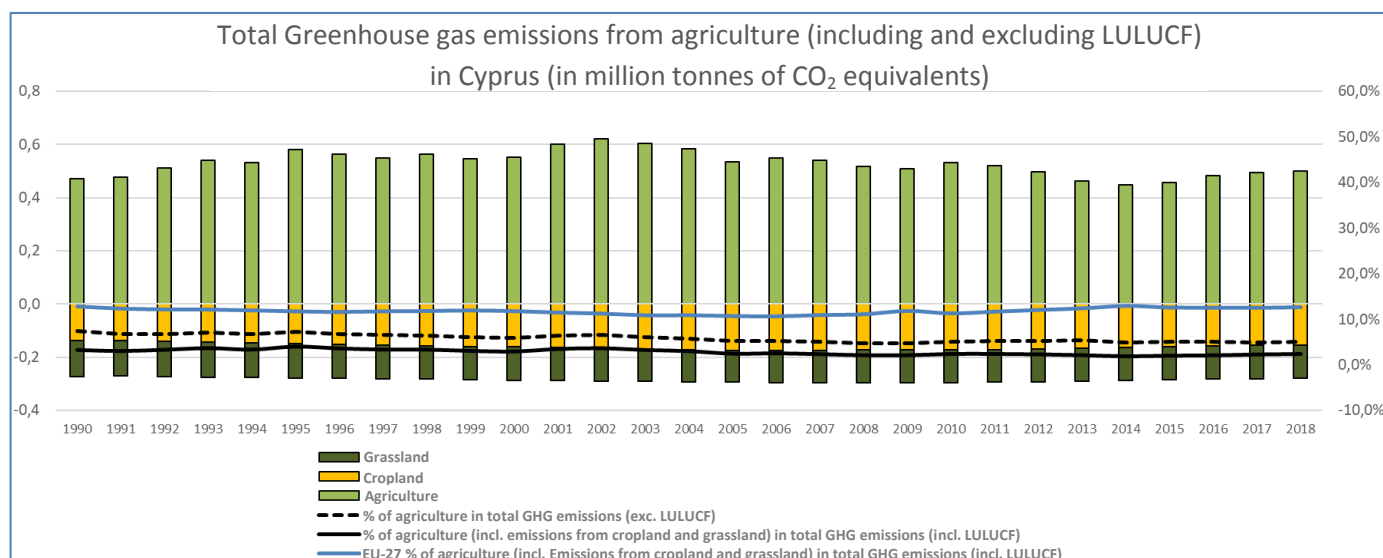
The share of permanent grasslands in the total UAA is 1% (EU average 3.3%).

Production of renewable energy from agriculture decreased (24%) from 15.5KToe in 2012 to 11.7KToe in 2016. During the same period renewable energy production from forestry almost

doubled (from 5 to 9.25 KToe). Agriculture and forestry account for 16.8% of the total energy produced from renewables in Cyprus<sup>12</sup>.

In 2018, the share of energy consumption by agriculture in the final energy consumption was 2.7%, slightly lower than the EU average (3.2%) and up by 0.4 percentage points since 2008<sup>13</sup>. Energy intensity of the Cypriot agriculture and forestry remains higher than the EU average. Energy consumption by the Cypriot agriculture and forestry per ha of UAA and forest (CCI 44), increased between 2012 and 2016 from 143.9 Ktoe, to 151.9 Ktoe<sup>14</sup>. Energy consumption by agriculture per ha of UAA and forestland was more than double the EU average of 70.9 KToe/ha/UAA. Cyprus should further promote energy efficiency in the agri-food and forestry sectors by facilitating the supply and use of renewable sources of energy (e.g., from solar panels, biomass, anaerobic digestion) for the purposes of the bio-economy.

Climatic change has already affected Cyprus during the past thirty years. Average annual precipitation has declined by 9% and average annual temperature has increased by 0.5°C compared to the 1961-1990 period. Projections for the future show that by 2050 precipitation will decrease further by 10-15% and temperature will increase by 1.0-1.5 °C. Low precipitation, high temperatures and extreme weather events (e.g. heat waves, rainstorms and hailstorms), are putting extreme pressure on Cyprus's scarce natural resources, in particular on water, agricultural land, forests and soils and threaten biodiversity of their ecosystems<sup>15</sup>. Prolonged and frequent droughts, irrigation water scarcity, and forest fires are leading to poorer agricultural yields, soil erosion, agricultural land abandonment, desertification and loss of biodiversity. Several measures have been identified in the national adaptation plan for climate change (2017) and in the draft national adaptation plan for agriculture (2019) as adaptive responses to avoid the risks posed by climate change<sup>16</sup>. Emphasis is given to networks of recycled water for agricultural irrigation, precision irrigation, less water consuming/heat resistant and traditional crops and exploitation of renewable energy resources (solar and anaerobic digestion of agricultural, food and livestock waste)<sup>17</sup>.



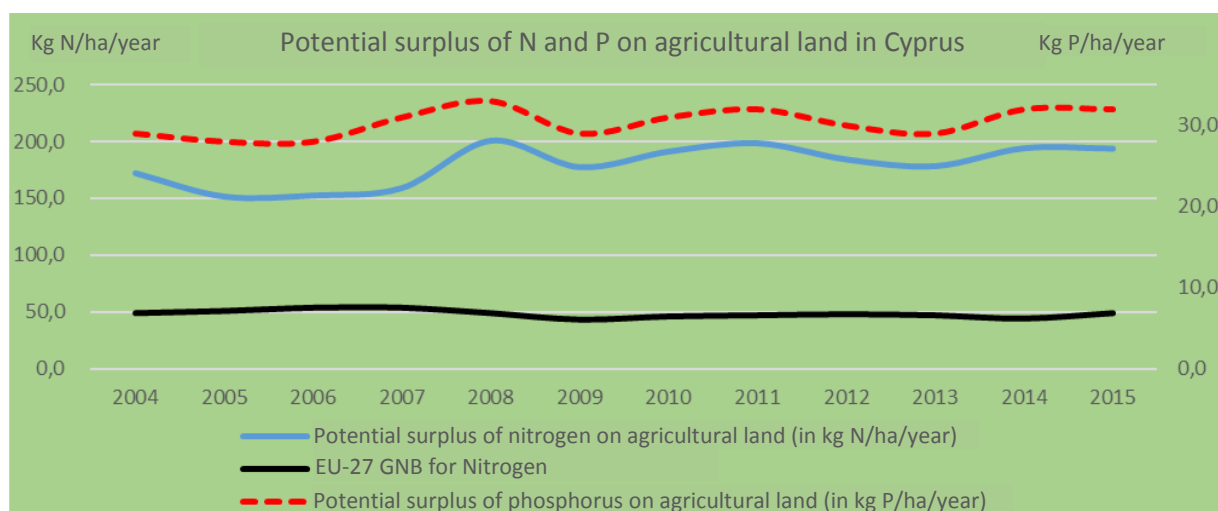
Source: European Environmental Agency. As in EUROSTAT [[env\\_air\\_gge](#)]

## 2.5 Foster sustainable development and efficient management of natural resources such as water, soil and air

In air quality, the total ammonia (NH<sub>3</sub>) emissions in Cyprus was relatively stable between 1995 and 2010, around 6 000 tonnes, after which it steadily decreased to 5 080 tonnes in 2015; similarly there is a downward trend in the EU as of 2013. Cyprus has been found to have low risk of non-compliance with the NH<sub>3</sub> emission reduction commitments for 2020-

2029 (-10% compared to 2005) and 2030 (-20%) as established by the NEC Directive<sup>18</sup>. 97% of the total reported ammonia emissions in Cyprus come from agricultural sources (2018, EEA data viewer<sup>19</sup>), which have slightly decreased over time but with a slight increase again since 2015. According to 2017 data, livestock (4 700 tonnes of NH<sub>3</sub>) contributes more than synthetic Nitrogen-fertilisers (0.2 1000t of NH<sub>3</sub>) in the NH<sub>3</sub> emissions from agriculture in the country. In addition, 9% of the total reported emissions of nitrogen oxides, almost 14% of the total reported emissions of non-methane volatile organic compounds and almost 7% of the total fine particulate matter emissions in Cyprus come from agricultural sources (2018, EEA data viewer).

In soil quality, 7.2% of agricultural areas in Cyprus was in severe risk of soil erosion by water in 2016, equal to the EU-average<sup>20</sup>. The amount of soil organic matter in arable land in Cyprus is one of the lowest in EU; the total organic carbon share is 23 mega tonnes and has remained steady since 2009<sup>21</sup>, while there are no recorded data for the amounts of mean organic carbon. Despite the pressures for higher soil quality, only 1% of agricultural land is under contract to improve soil, a very low amount compared both to the EU average (12%) and the set target in the Rural Development Programme (RDP) 2014-2020 for Cyprus (20.64%)<sup>22</sup>. The crop diversity of farms in Cyprus is rather low; in 2016 the percentage of farms with 2 crops was 8% and with more than 3 crops 2%, while the EU average was 10% and 13% respectively. In the same vein, the share of land subject to crop diversification due to greening<sup>23</sup> in Cyprus decreased from 83% in 2016 to 66% in 2018 (below the EU average of 74%). In the future, these key issues can be addressed in synergy with activities under the Horizon Europe mission on Soil Health.



European Commission. *CAP context indicator C.40 Water quality*. Based on EUROSTAT [[aei\\_pr\\_gnb](#)]<sup>24</sup>

As regards water quality, under the WFD approximately 41% of surface waters are in less than good ecological status and 3% are failing to achieve good chemical status. For groundwater 76% were failing to achieve good quantitative status and 33% are failing to achieve good chemical status<sup>25</sup>. The most significant pressure on surface waters is diffuse agricultural pollution, which also affects groundwater, and the most significant pressure on groundwater is abstraction or flow diversion from agriculture which also affects surface water. Cyprus recorded the highest amount of gross nitrogen balance (GNB) in 2015 (194 kg N/ha/year) well above the EU-27 average (49 kg N/ha/year)<sup>26</sup>. Cyprus is among the four countries (Czech Republic, Cyprus, Latvia and Austria) which showed an increasing trend in GNB when estimated as 3-year averages from 2004 -2015, while in 2017 it ranked first in gross nitrogen balance (194 kg N/ha/year)<sup>2</sup>. However, Cyprus does not transmit data on gross nutrient balances to the Commission and only rough estimations are available. In terms of mineral fertiliser consumption, Cyprus, together with Croatia and Hungary, was estimated, based on balance, to have the highest values (12 kg P per ha) in phosphorus consumption in

2018 (the EU average was 8.6 kg ). The range of increase between 2008 and 2018 is even higher for phosphorus than for nitrogen; in Cyprus the consumption of phosphorus increased by 150%<sup>21</sup>. Regarding nitrates in groundwater, Cyprus had in 2017 one the lowest percentages (33%) in high quality (-35% compared in 2012) and the second highest (29%) in poor quality (+7% compared to 2012).

As far as water quantity is concerned, water abstraction pressure is highly relevant for Cyprus. The Water Exploitation Index plus (2009-2013) is 73.1% for Cyprus, which is far beyond the preliminary European sustainability thresholds (20-40%). According to the assessment of the second river basin management plan (RBMP), 76% of groundwater bodies in Cyprus are failing to achieve good status<sup>27</sup>. Cyprus has registered 24% of surface water bodies subject to pressure, being the third most threatened Member State in the EU<sup>28</sup>.

The aforementioned assessment of the second RBMP has also shown that the most significant pressure was abstraction or flow diversion for agriculture affecting 71% of waters. Water scarcity problems are being aggravated by increased irrigation: the share of irrigation in total water abstraction increased from 66.6% in 2012 to 76.8% in 2017<sup>29</sup>. 21% of the total agricultural area was irrigated in 2016, while the EU average was 6.5%. In view of this situation, it is evident that achieving a sustainable water management in Cyprus requires significant efforts to reduce agricultural water consumption. Improving water efficiency is one of the necessary measures. However, having 9% of agricultural land under contracts to improve water management in 2018, Cyprus remained below the EU average (12%), but achieved the set target in the RDP 2014-2020. Moreover, according to the Commission's assessment of the second RBMP, it cannot be assessed for how many of the current water abstractions a permit is in place. Cyprus estimates that there is around 10 000 of unauthorised (active) wells whilst other sources consider the number even higher. In addition, the water abstractions (old water rights) in place before the national law of 2010 are not required to have a metering system, which makes it difficult to estimate water extraction and there are indications that the inspection system checks only a fraction of the water abstractions. Although the Commission already had recommended in its assessment of the first RBMP to 'consider switching to less water-intensive agricultural products, which can often provide a better economic return', little progress has been made in implementing this recommendation.

## **2.6 Contribute to the protection of biodiversity, enhance ecosystem services and preserve habitats and landscapes**

The farmland bird index in Cyprus fluctuated considerably between the years, reaching a level of 104 in 2017<sup>30</sup>.

Regarding biodiversity, according to the latest reporting period of Nature legislation, Cyprus has 50% of grassland habitats type in favourable conservation status. Agriculture affects 60% of habitats assessments (second pressure) and 47% of species assessment.

Due to farm input intensity in 2017, 61.4% of total utilised agricultural area was managed by farms with low input intensity per ha; 25.8% of total UAA was managed by farms with medium input intensity and the smallest ratio (12.9% of total UAA) was managed by farms with high input intensity<sup>31</sup>. Cyprus has a high level of arable land covered during the winter months<sup>32</sup> and reports a high level of conservation tillage in tillable land<sup>33</sup>.

In 2016, 6.1% of agricultural area (including natural grassland) is under Natura 2000. In order to protect the environment and biodiversity, the Cyprus Government has allocated a budget of EUR 10 million for projects in the area of Natura 2000 Network. These projects aim at protecting and restoring biodiversity (habitats and species of the Natura 2000 network), as well as evaluating and promoting ecosystem services through green infrastructures<sup>34</sup>. In the

future, a total area of 1.4 million hectares is planned to be covered by compensation payments for agriculture in Natura 2000 areas (M12.1). This equates as much as 56% of agricultural area in Cyprus<sup>35</sup>.

Demands on land arising from development, construction and use of residential, commercial, industrial and recreational infrastructure in Cyprus continues to put pressure on habitats, especially birds.

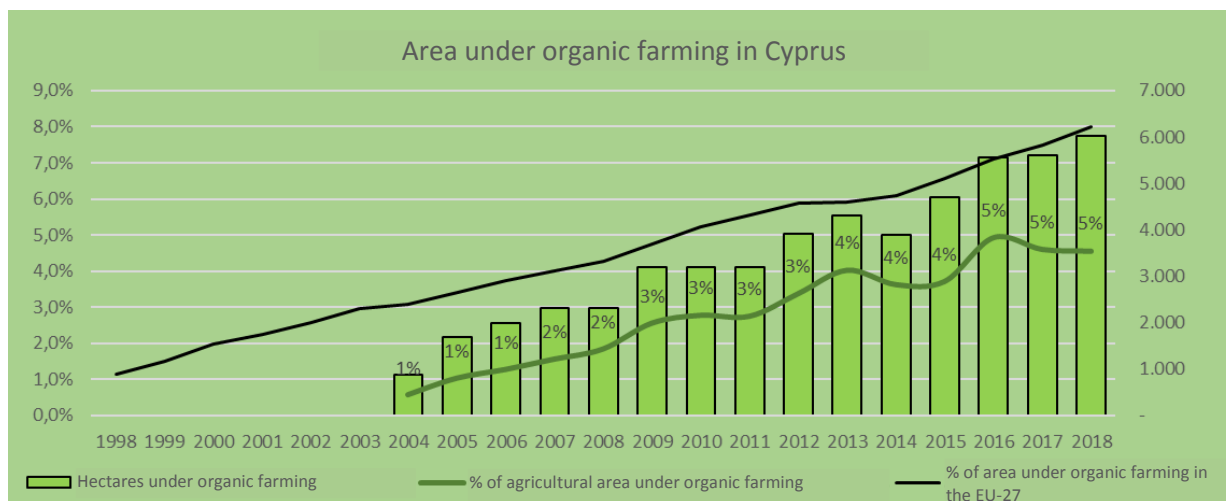
There is considerable variation across Member States in the area of farmland planned to be converted and maintained according to the requirements under the organic farming regulation. This varies from less than 1% to more than 10% in some Member States, with most in Cyprus, just over 25%. It is therefore evident that the actual impacts on biodiversity will also vary accordingly.

A total of 28 countries account for 72% of the forest area in Europe. Forest area in Cyprus was reported at 18.7% of total land area. While the forest and other wooded area are stable, the total growing stock (the amount of standing trees) is increasing.

At country level, the estimates for standing and lying deadwood range between 5 and 15 m<sup>3</sup>/ha for most countries in Europe. Cyprus reported very low average amount below 2 m<sup>3</sup>/ha<sup>36</sup> and this can be seen as part of the forest fire risk mitigation efforts.

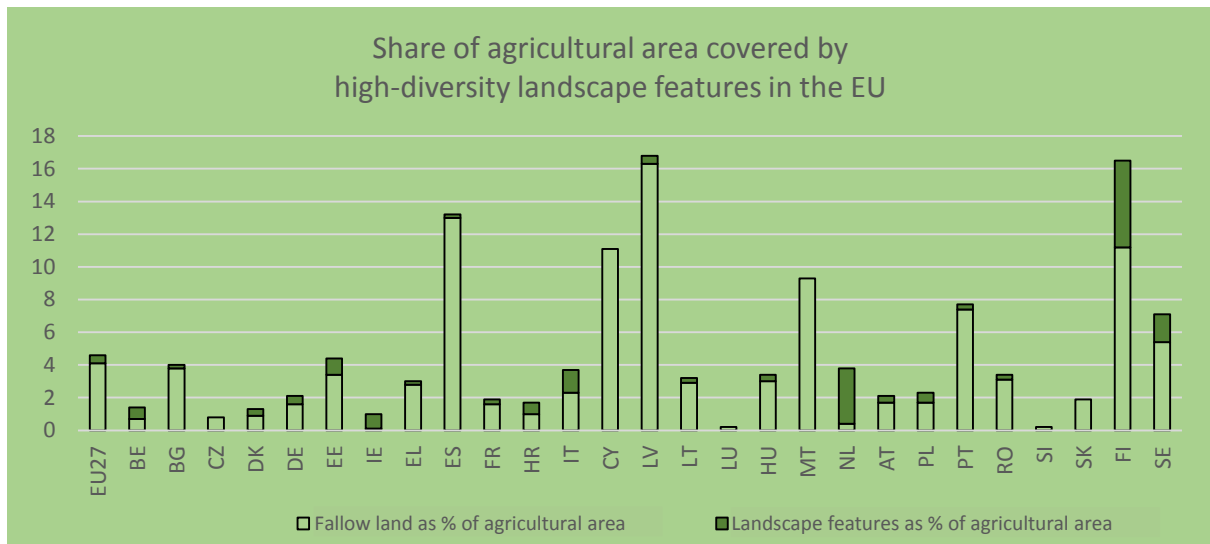
The total area under organic farming remains rather stable in Cyprus between 2016 and 2019 but remains small (5 % of Cyprus total UAA) when compared to the EU-27 average (8%)<sup>37</sup>.

Organic areas and producers have an upward trend from 2012 but there is no clear upwards trend in the area under to conversion to organic farming, so the future development is not ensured.



Source: European Commission. CAP context indicator C.19 Agricultural area under organic farming. Based on EUROSTAT [[org\\_cropar\\_h1](#)] and [[org\\_cropar](#)]





Source: Directorate General for Agriculture and Rural Development. Based on EUROSTAT for land laying fallow and Joint Research Center based on LUCAS survey for estimation of landscape elements.

\* Linear elements considered here: Grass margins, shrub margins, single trees bushes, lines of trees, hedges and ditches. This estimation is to be taken with caution because of methodological caveats.

## 2.7 Attract young farmers and facilitate business development in rural areas

Cyprus has the lowest share of young farmers in the total number of farm managers in the EU in 2016 (1.3%). A fact that contrasts with the highest share of young people in the population of any EU state: 23.6% of the Cypriot population is under 30 years of age<sup>38,39</sup>.

Similar to the EU-trend, the share of young farmers decreased between 2010 and 2016 in Cyprus. The ratio of young managers to elderly also decreased in Cyprus, and it is the lowest in the EU. In Cyprus, for every farmer younger than 35 years, there were 34 farmers older than 65.

The average economic farm size in Cyprus is the highest in the age classes of 25 to 44 years old. The average farm managed by young farmers is bigger in comparison to all other age groups. They also report the largest growth in standard output overtime. The average standard of farm leaders in the 25-34 age group in 2007 was EUR 30 000, while in 2016 it amounted to EUR 50 000. Similarly, the average standard output of farm managers in the 35-44 age group in 2007 was ± EUR 21 000 and in 2016 ± EUR 46 000. The average standard output of heads of agricultural holdings over 65 years of age remains below EUR 10 000 throughout the reference period 2007-2016.

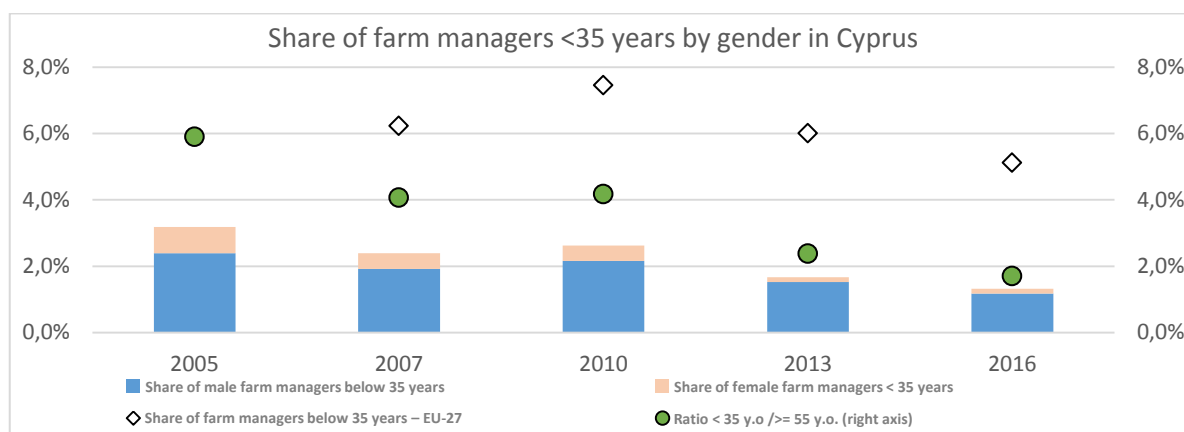
Access to land is difficult due to limited availability and competition from development and residential users. Lowland areas are characterised by abandonment and conversion into urban agglomerations increasing rental prices for land and creating difficulties in access to land for young farmers.

Livestock farming exceeds 60% (63% in 2017) of the total gross production value. Most of these businesses are family owned, making entry for young people outside of the family more difficult.

Cyprus dedicated EUR 370 000 to the young farmer payment in 2016 or 0.71% of the envelope for direct payments. The percentage of the national direct payment envelope earmarked for the young farmer payment changed on a yearly basis in Cyprus. For 2019 and 2020, Cyprus earmarked 1.35%<sup>40</sup>.

Under the rural development programme 2014-2020, 270 applications for support for young farmers have been submitted, and 193 of them have been approved. The measure is expected to contribute to an increase of 22% of farmers under the age of 35 by increasing the share of farmers under the age of 35 from 1.3% to 1.6%. Cyprus also earmarked 2.8% of the rural development budget for business development plans for young farmers<sup>41</sup>.

Improving the agricultural knowledge and innovation system could also attract young people with innovative ideas to farming.



Source: EUROSTAT. [[ef m farmang](#)]

## 2.8 Promote employment, growth, social inclusion and local development in rural areas, including bio-economy and sustainable forestry

Cyprus is among those Member States for which data specifically for rural areas are available only for one of the two definitions commonly used by Commission services for data collection and analysis. Therefore, the section below presents a mix of national averages, considering that Cyprus is among the smaller Member States in terms of overall surface, and data for its rural areas.

The Cypriot economy is characterised by the predominance of the tertiary sector in terms of employment and income generation. The tertiary sector represents 86.8% of total gross value added (GVA), the secondary 11.1% and the primary 2.1%<sup>42</sup>. Almost 80% of the farms in Cyprus are small farms (<EUR 8 000 standard output). The employment rate in rural areas in Cyprus decreased between 2008 and 2019 from 69.5% to 68.1%. The rate of male labour force ranged from 80.2% in 2008 to 74.7% in 2019. The respective rates for the female labour force for 2008 and 2019 are 59% and 61.6% (15-64 years old). In 2018, a gender gap of about 17.6% and 30% existed between employment in males and females in upper/post-secondary education and tertiary education respectively.

Unemployment is slightly higher in rural areas, in particular in mountain areas, where job opportunities are scarce. Unemployment rate for rural areas ranged from 4.6% (2008) to 7.2% (2019) compared to 3.7% in 2008 and 7% in 2019 in urban areas<sup>43</sup>. Opportunities for working remotely, promoting private and better-targeted investments and diversification of activities, which remain under-exploited (e.g. by local action groups (LAGs)) would be key in keeping people and families in these areas rather than moving to the cities. More innovative and networking approaches within Cyprus and the internal market may be followed under LEADER by targeting rural areas, semi-mountainous areas and mountainous ones rather than peri-urban and/or coastal. A shift from conventional products to quality schemes or organic might be also considered in order to create added value and higher revenues. Currently Cyprus is running four LAGs: (i) Larnakas-Ammohostou, (ii) Lemessou, (iii) Pafou and (iv) Mountain Troodos, covering 51% of the territory under effective control of the Cyprus

government. They cover mainly rural areas facing development constraints in the mountain and semi-mountainous parts of the country.

There are no rural areas defined in Cyprus for this indicator, hence no data is shown for the gross domestic product (GDP) per capita in rural regions. GDP per capita in terms of purchasing power standards (PPS) follows a downward trend from 2010 to 2014 and a slight increase from 2015 to 2017 at the intermediate regions. Mean and medium income decreased in rural areas from 2010 (EUR 16 466) to 2019.

Rural tourism seems to have less importance in Cyprus. Share of available bed places in rural areas is around 45% of the national total<sup>44</sup>.

The rural poverty rate in Cyprus in 2017 is 29.5%; it is above the EU average of 24.4% and higher than the total poverty rate (27.7%). The poverty rate slightly declined compared to the year 2015 (-2.7%)<sup>45</sup>.

## **2.9 Improve the response of EU agriculture to societal demands on food and health, including safe, nutritious and sustainable food, as well as animal welfare**

The evaluation of the implementation of the Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides (SUD) showed that while the vast majority of pesticide users, distributors and advisors are trained and certified, there is no functioning system in place for pesticide application equipment testing. While it is obligatory for farmers to follow the principles of integrated pest management, in practice there are no checks to verify its implementation. As regards the trends in harmonised risk indicator (HRI<sup>46</sup>) Cyprus is over the EU average from 2013 until 2018 with an exemption in the year 2016. Moreover, pesticides use per hectare in Cyprus is the highest in the EU. In 2018, Cyprus used 9 kg/ha, compared to 2.3 kg/ha in the EU. This is attributed to the high pest pressure from insects and the very intensive potato production system (two to three crops per year) in some areas.<sup>47</sup>

The EU report of EFSA on pesticide residues in food provides an overview of the official control activities on pesticide residues carried out in the European Union (EU) Member States. According to 2018 report Cyprus had the second highest percentage (9.4%) in the EU of the samples analysed with quantified residues over the maximum residue levels (Pesticide residues resulting from the use of plant protection products)<sup>48</sup>.

The results of the water-monitoring programme in order to identify the actions necessary to improve water quality were not fully used. Measures for the protection of watercourses and aquatic organisms need to be strengthened, making full use of water monitoring data available, and these shall be effectively verified by official controls.

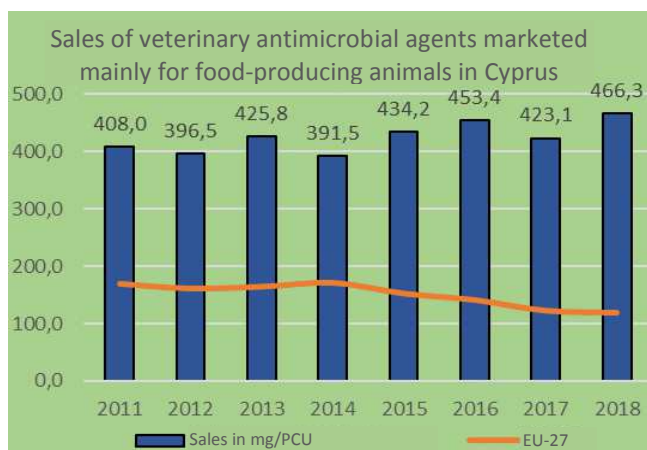
On antimicrobial resistance (AMR) according to the most recent European Surveillance of Veterinary Antimicrobial Consumption (ESVAC)<sup>49</sup>, sales of veterinary antimicrobials in Cyprus (expressed in milligrams (mg) per population correction unit (PCU)) is the highest in the EU, almost four times the EU average. It increased from 2011 to 2018 (from 408 mg/PCU to 466.3 mg/PCU), with the average in EU-27 ranging from 170.2 mg/PCU in 2011 to 118,3 mg/PCU in 2018. It is worth noting that the proportion of goats in Cyprus is relatively high compared to other countries participating in the ESVAC and that this may have a significant effect on the magnitude of PCU for Cyprus since living goats are not included in the PCU calculation for the ESVAC. However, the ESVAC report still mentions that if goats had been included in the PCU, the total annual sales would only have been approximately 11 % lower in 2018, which would still correspond to very high values. The Green Deal target at EU level

is a 50% reduction in overall EU sales of antimicrobials by 2030, to which a significant contribution from Cyprus is expected.

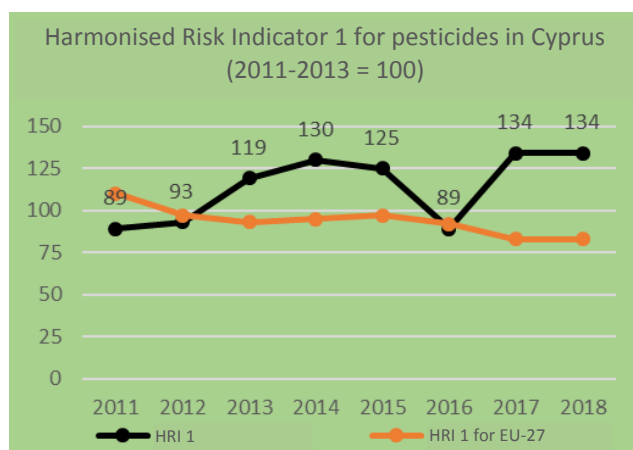
As regards animal welfare, tail docking of pigs is a routine practice, although this is prohibited as a routine measure by EU rules. The percentage of pigs reared with intact tails has barely changed since 2016 and conditions on farm must improve if the number of tail-docked pigs is to start to decrease<sup>50</sup>.

Cyprus scores one of the lowest proportions of fruit consumption in EU where 14.9% of the population consumes fruits only one to three times per week. It is a medium performer as regards the consumption of vegetables with 17.2% of the population consuming vegetables one to three times per week<sup>51</sup>. A significant part of the Cypriot population is overweight or obese, which is above the EU27 average<sup>52</sup>. Efforts should focus on shifting towards healthy sustainable diets, in line with national recommendations in order to contribute to reducing overweight and obesity rates while simultaneously improving the overall environmental impact of the food system. This includes moving to a more plant based diet with less red meat and more fruits and vegetables, whole grains, legumes, nuts and seeds.

Concerning food loss and waste in agriculture and food processing no data is yet available. The National Waste Prevention Programme (2015-2021)<sup>53</sup> should give more attention to food loss and waste occurring at the primary production level and the early stages of the supply chain.



Source: European Medicines Agency, European Surveillance of Veterinary Antimicrobial consumption (ESVAC). *Sales of veterinary antimicrobial agents in 31 countries in 2018 – trends from 2010 to 2018 Tenth ESVAC Report.* [EMA/24309/2020](https://www.ema.europa.eu/en/press-room/2020/09/wcms_589430.htm)



Source: European Commission. *Harmonised Risk Indicator for pesticides (HRI1), by group of active substance.* As in EUROSTAT [\[aei hri\]](https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&code=sdg_12_6_2_1)

## 2.10 Cross-cutting objective on knowledge, innovation and digitalisation

The establishment and operation of the agricultural knowledge and innovation system (AKIS) in Cyprus is defined by the structural features (small land-parcels, strong human resources, large number of employees), as well as the culture of Cypriot farmers (unwillingness to pay for agricultural advice, crop restructuring, lack of cooperation, limited participation in collective production and marketing schemes). In terms of diversity of European AKISs, the Cypriot system appears to be rather integrated and medium in strength (financing)<sup>54</sup>. Cyprus has a substantial component of its AKIS within a single organisation (MANRE, the Ministry of Agriculture, Natural Resources and Environment). The agriculture division of MANRE undertakes activities in research through the agricultural research institute (ARI) as well as in

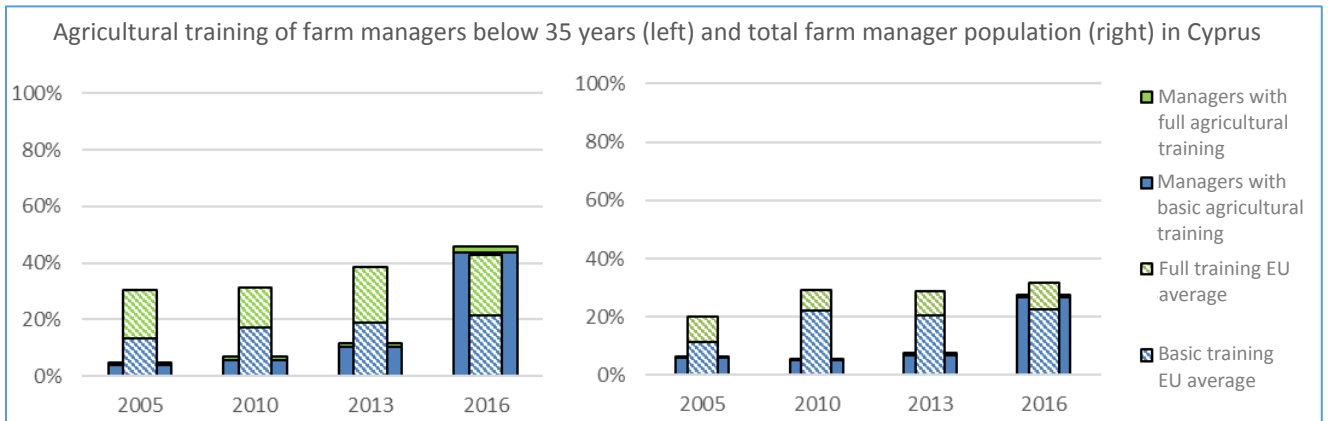
extension and farmers' education/training (Agricultural Extension Section of the Department of Agriculture). Currently, the extension service employs 120 people (extension officers and technicians) of whom 63% are university graduates. In addition, Cyprus has retained a strong, largely publicly funded advisory service, free of charge for farmers<sup>55</sup>.

In Cyprus, 28% of the total farm managers attained basic or full agricultural training in 2016. This share was 5.7% in 2010. Compared to the EU, the share of farmers that attained full agricultural training is lower in Cyprus<sup>56</sup>.

The links between research-innovation and the economy are particularly weak in Cyprus<sup>57</sup>. Cyprus can further improve its research and innovation system to support productivity growth and the required digital and environmental transition in a post-pandemic scenario. However, recent measures such as the creation of a new department for research and innovation, the appointment of a new Deputy Ministry for Research, Innovation and Digital Policy as well as the new National Strategy for Research and Innovation 2019-2023, which sets a higher research and innovation intensity target of 1.5% of GDP by 2023 (up from the current 0.56%), are promising steps<sup>58</sup>. It remains to be seen how this will translate into enhanced knowledge flows within the AKIS and reach farmers. It is also important to assess if and how this research will be targeting farmers' needs as well as societal challenges related to farming, such as those related to the Green Deal, environment and climate change.

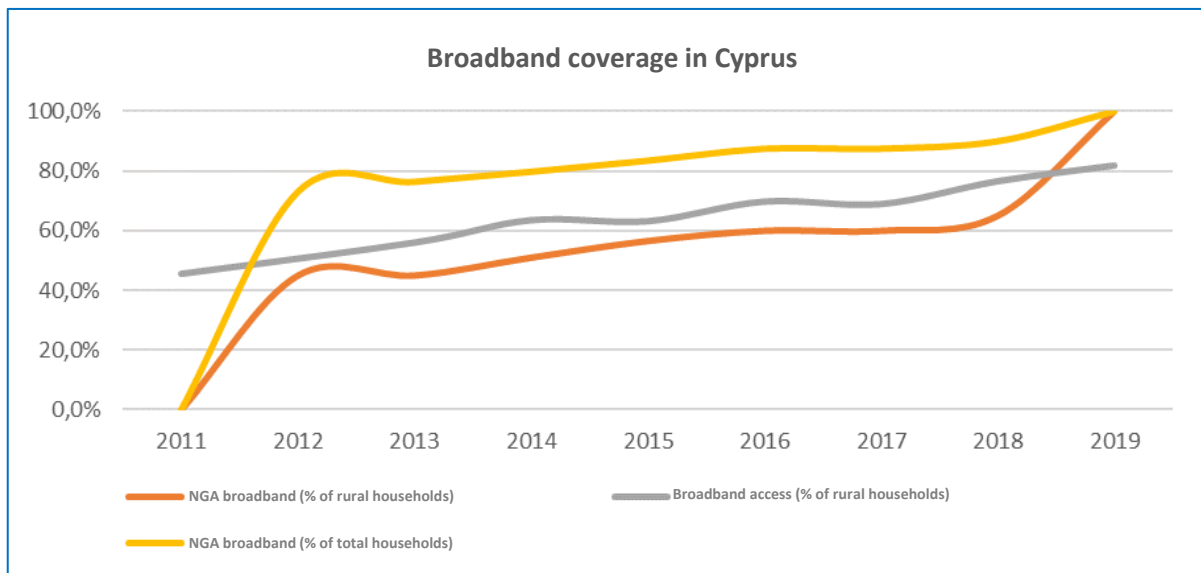
Under the programming period 2014-2020, Cyprus programmed 2% of their total rural development envelope (EAFRD + national contribution) under knowledge transfer and information actions, advisory services, farm management and farm relief services and co-operation and the European Innovation Partnership (EIP-Agri). This is well below the EU average of 3.6%. In addition, the Cypriot National Rural Network has the smallest allocated budget for its activities, accounting for EUR 1 million and demonstrates, according to the second interim evaluation of the 2014-2020 rural development programme, a limited activity in promoting cooperation for the production and uptake of innovation in agricultural production and food. The Cypriot rural development programme aimed at making available 2 800 training places for increasing knowledge and skills of agricultural entrepreneurs and foresters and at launching 40 cooperation projects, mainly by establishing operational groups and pilot projects developing innovative products, practices and technologies under the EIP, or cooperation projects for the development of short-supply chains and local markets<sup>59</sup>. However, Cyprus has not officially submitted funding requests for any operational groups<sup>60</sup> having thus failed so far to achieve the set target for 2020<sup>61</sup>. In addition, The EIP-AGRI database records in relation to Cyprus only one project in 2015-2016, funded by the ERASMUS programme<sup>62</sup>. The future national CAP network can play a much bigger role in promoting synergies between the CAP and European Research Area (ERA) opportunities and thus to keep in close touch with the Horizon Europe National Contact Points. By collecting information, for instance through knowledge platforms, the CAP network will facilitate the implementation of relevant research and innovation results.

Cyprus' performance in digitalisation is weak; it ranks in the low end in the Commission's digital economy and society index (DESI) 2020<sup>63</sup>. Only 45% of Cypriots between 16 and 74 years have at least basic digital skills and ICT specialists still represent a lower proportion of the workforce compared to the EU average (2.7% vs 3.9%), hampering the potential of the digital economy. There is a low level of online interaction between public authorities and citizens, with only 51% of Cypriots interacting online. The level of e-commerce (i.e. SMEs selling online, e-commerce turnover and online cross-border sales) is improving (31.8 in 2019 against 29.4 in 2018) but it is still below the EU average of 40.1 (out of 100). Investing in the digital economy is essential for bolstering productivity and boosting the economic recovery after the crisis. A positive step for Cyprus is its leadership in coverage of next generation access (NGA) technologies<sup>64</sup>.



Source: European Commission. CAP context indicator C.24 Agricultural training of farm managers. Based on EUROSTAT [[ef\\_mp\\_training](#)]

Broadband coverage and digital skills remain lower than the EU.



Source: European Commission. Digital Economy and Society Index. DESI individual indicators – 1b1 Fast BB (NGA) coverage [[desi\\_1b1\\_fbbc](#)]

- <sup>1</sup> European Commission. *Commission Staff Working Document – Impact Assessment Report for a communication on Agricultural Product Quality Policy*. SWE(2009) 670.
- <sup>2</sup> European Commission, *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on an EU strategy to reduce methane emissions*, [COM\(2020\) 663](#)
- <sup>3</sup> European Commission. *Analysis of climate change impacts on EU agriculture by 2050*, 2020
- <sup>4</sup> Please note that there are different ways to define “rural areas”. The text above is based on the so-called “urban-rural typology” in line with the CAP common context indicators. However, according to the definition based on the “degree of urbanisation typology”, in Cyprus 57,1% of the territory are rural areas and 18,7% of the population lives in rural areas. Source: Eurostat.
- <sup>5</sup> European Commission. *CAP impact indicator I.01 Agricultural entrepreneurial income*. Based on EUROSTAT [[aact\\_eaa04](#)], [[aact\\_ali01](#)] and [[aact\\_eaa06](#)].
- <sup>6</sup> European Commission *Distribution of direct payments and income –background analysis Ares(2019)6244107 - 09/10/2019*
- <sup>7</sup> European Commission - *Analytical factsheet for Cyprus: version September 2019*, [https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/by\\_country/documents/analytical\\_factsheet\\_cy.pdf](https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/by_country/documents/analytical_factsheet_cy.pdf)
- <sup>8</sup> European Commission - *2018 Annual Reports in the fruit and vegetables sector* (2018)
- <sup>9</sup> European Commission - *Study on economic value of EU quality schemes, geographical indications (GIs) and traditional specialities guaranteed (TSGs) Final Report* (2019)
- <sup>10</sup> EU Green House Gas Data Viewer, European Environment Agency
- <sup>11</sup> EUROSTAT [[env\\_air\\_gge](#)]
- <sup>12</sup> CCI 43, analysis in the 2018 AIR mid-term evaluation report.
- <sup>13</sup> EUROSTAT [[nrg\\_bal\\_s](#)]
- <sup>14</sup> Kilo tonnes of oil equivalent
- <sup>15</sup> Cyprus Government, Ministry of Agriculture, Rural Development and Environment, Department of Environment *The Cyprus Climate Change Risk Assessment Report*, 2016
- <sup>16</sup> CYPADAPT *Development of a national strategy for adaptation to climate change adverse impacts in Cyprus* LIFE10 ENV/CY/000723
- <sup>17</sup> 2019, Climate ADAPT, Cyprus Profile
- <sup>18</sup> European Environmental Agency (EEA). *National Emission Ceilings Directive emissions data viewer 1990-2018*, <https://www.eea.europa.eu/data-and-maps/data/national-emission-ceilings-nec-directive-inventory-17>
- <sup>19</sup> European Environmental Agency (EEA). *National Emission Ceilings Directive emissions data viewer 1990-2018*
- <sup>20</sup> European Commission. *CAP context indicator C.42 Soil erosion by water*. Original source: Joint Research Center, [https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/by\\_country/documents/analytical\\_factsheet\\_cy.pdf](https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/by_country/documents/analytical_factsheet_cy.pdf)
- <sup>21</sup> European Commission. *CAP context indicator C.41 Soil organic matter in arable land*. Joint Research Center (JRC) based on LUCAS Land Use Survey 2015, [https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/farming/documents/cap-context-indicators-table\\_2019\\_en.pdf](https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/farming/documents/cap-context-indicators-table_2019_en.pdf)
- <sup>22</sup> European Commission Factsheet on 2014-2020 Rural Development Programme for Cyprus
- <sup>23</sup> European Commission, DG Agriculture and Rural Development analysis based on Member States’ notifications pursuant to Regulation (EU) No 1307/2013
- <sup>24</sup> EUROSTAT [[aei\\_pr\\_gnb](#)]
- <sup>25</sup> European Commission. *Commission Staff Working Document – Second River Basin Management Plans - Member State: Cyprus*. SWD(2019) 34.
- <sup>26</sup> European Commission. *CAP context indicator C.40 Water quality*. Based on EUROSTAT [[aei\\_pr\\_gnb](#)] and European Environmental Agency as in Waterbase – Water Quality, CSI020, based on data reported to EIONET
- <sup>27</sup> European Commission. *Commission Staff Working Document – Second River Basin Management Plans - Member State: Cyprus*. SWD(2019) 34.
- <sup>28</sup> Evaluation of the Impact of the CAP on Water 2019, p. 151
- <sup>29</sup> CAP context indicator C.39, [https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/farming/documents/cap-context-indicators-table\\_2019\\_en.pdf](https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/farming/documents/cap-context-indicators-table_2019_en.pdf)
- <sup>30</sup> European Commission. *CAP context indicator C.35 Farmland birds index (FBI)*. As in EUROSTAT [[env\\_bio2](#)], original source: EBCC, BirdLife, RSPB and CSO
- <sup>31</sup> European Commission. *CAP context indicator C.34 Natura 2000 areas*. Based on NATURA 2000 Barometer and European Environmental Agency, Corine Land Cover 2018
- <sup>32</sup> European Commission. *CAP context indicator C.42 Soil erosion by water*. Original source: Joint Research Center

- 
- 33 EUROSTAT. [[ef\\_mp\\_prac](#)]
- 34 European Commission: Europe 2020, *Cyprus National Reform Programme 2019*
- 35 European Commission: *Evaluation of the impact of the CAP on habitats, landscapes, biodiversity* Final Report, 2019
- 36 FAO, *State of Europe's Forests*, 2015
- 37 European Commission. *CAP context indicator C.19 Agricultural area under organic farming*. Based on EUROSTAT [[org\\_cropar\\_h1](#)] and [[org\\_cropar](#)]
- 38 European Commission. *CAP context indicator C.23 Age structure of farm managers*. Based on EUROSTAT [[ef\\_m\\_farmang](#)]
- 39 EUROSTAT [[ef\\_m\\_farmang](#)]
- 40 Directorate General for Agriculture and Rural Development own calculations based on CATS (Clearance of Accounts Trailing System) data
- 41 Directorate General for Agriculture and Rural Development, *Annual Implementation Report of Rural Development Programmes*, 2018.
- 42 European Commission. *CAP context indicator C.11 Structure of the employment*. Based on EUROSTAT [[nama\\_10r\\_3empers](#)]
- 43 European Commission. *CAP context indicator C.05 Employment rate*. Based on EUROSTAT [[lfst\\_r\\_ergau](#)]
- 44 European Commission. *CAP context indicator C.30 Tourism infrastructure*. Based on EUROSTAT [[tour\\_cap\\_nuts2d](#)]
- 45 European Commission. *CAP context indicator C.09 Poverty rate*. Based on EUROSTAT [[ilc\\_peps11](#)]
- 46 Eurostat [[aei\\_hri](#)]
- 47 European Commission. *Audit carried out in Cyprus from 05 March 2019 to 13 March 2019 in order to evaluate the implementation of measures to achieve the sustainable use of pesticides*. Final report 2019-6918 [https://ec.europa.eu/food/audits-analysis/audit\\_reports/details.cfm?rep\\_id=4203](https://ec.europa.eu/food/audits-analysis/audit_reports/details.cfm?rep_id=4203)
- 48 European Food Safety Authority; *The 2018 European Union report on pesticide residues in food*
- 49 European Medicines Agency, *European Surveillance of Veterinary Antimicrobial consumption (ESVAC). Sales of veterinary antimicrobial agents in 31 countries in 2018 – trends from 2010 to 2018 Tenth ESVAC Report*. [EMA/24309/2020](#).
- 50 Letter Commissioner Kyriakides to Cyprus (Ares(2020)2643693 - 20/05/2020)
- 51 Eurostat [[hlth\\_ehis\\_fv1e](#)]
- 52 EUROSTAT [[SDG\\_02\\_10](#)]
- 53 [The National Waste Prevention Programme \(2015-2021\)](#)
- 54 EU SCAR AKIS (2019), *Preparing for Future AKIS in Europe*. Brussels, European Commission
- 55 Koutsouris, A. (2014): *AKIS and advisory services in Cyprus. Report for the AKIS inventory (WP3) of the PRO AKIS project*. [www.proakis.eu/publicationsandevents/pubs](http://www.proakis.eu/publicationsandevents/pubs),
- 56 EUROSTAT [[ef\\_mp\\_training](#)]
- 57 European Commission. *Commission Staff Working Document – Country Report Cyprus 2019 Including an In-Depth Review on the prevention and correction of macroeconomic imbalances*. SWD(2019) 1012 final.
- 58 COUNCIL RECOMMENDATION on the 2020 National Reform Programme of Cyprus and delivering a Council opinion on the 2020 Stability Programme of Cyprus, 2020/C 282/13
- 59 Factsheet on 2014 - 2020 Rural Development Programme for Cyprus
- 60 European Commission, shared fund management common system (SFC). Operational Group data\_Updated. 25 August 2020.
- 61 Factsheet on 2014 - 2020 Rural Development Programme for Cyprus, p. 2, 2020 08 28 EIP coop projects\_targets.
- 62 European Commission, EIP-AGRI NARA: *Training on Agriculture and postharvest fruit and vegetables through sustainable best practices*, 2016
- 63 European Commission. *Digital Economy and Society Index*. DESI individual indicators – 1b1 Fast BB (NGA) coverage [[desi\\_1b1\\_fbbc](#)]
- 64 Digital Economy and Society Index (DESI)