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Commission recommendations for Romania's 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**

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CONTENTS

1.	COMMISSION RECOMMENDATIONS FOR ROMANIA'S CAP STRATEGIC PLAN	2
1.1	Foster a smart, resilient and diversified agricultural sector ensuring food security	2
1.2	Bolster environmental care and climate action and contribute to the environmental- and climate-related objectives of the Union	3
1.3	Strengthen the socio-economic fabric of rural areas and address societal concerns	4
1.4	Modernising the sector by fostering and sharing of knowledge, innovation and digitalisation, and encouraging their uptake	5
1.5	Recommendations.....	6
2.	ANALYSIS OF AGRICULTURE AND RURAL DEVELOPMENT IN ROMANIA	9
2.1	Support viable farm income and resilience across the EU territory to enhance food security	9
2.2	Enhance market orientation and increase competitiveness including greater focus on research, technology and digitalisation.....	11
2.3	Improve farmers' position in the value chain	12
2.4	Contribute to climate change mitigation and adaptation, as well as sustainable energy.....	13
2.5	Foster sustainable development and efficient management of natural resources such as water, soil and air.....	15
2.6	Contribute to the protection of biodiversity, enhance ecosystem services and preserve habitats and landscapes	17
2.7	Attract young farmers and facilitate business development in rural areas	19
2.8	Promote employment, growth, social inclusion and local development in rural areas, including bio-economy and sustainable forestry	21
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.....	22
2.10	Cross-cutting objective on knowledge, innovation and digitalisation.....	24

1. COMMISSION RECOMMENDATIONS FOR ROMANIA'S CAP STRATEGIC PLAN

In the framework of the structured dialogue for the preparation of the CAP strategic plan, this document contains the recommendations for the CAP strategic plan of Romania. The recommendations are based on analysis of the state of play, the needs and the priorities for agriculture and rural areas in Romania. The recommendations address the specific economic, environmental and social objectives of the future common agricultural policy 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 Romania, in its CAP Strategic Plan, to set explicit national values for the Green Deal targets¹, taking into account its specific situation and these recommendations.

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

Promoting a smart, resilient and diversified agricultural sector with the aim of improving food security is a challenge for Romania due to its highly polarised farm structure. Despite the reduction by one-third of the number of farms in the last 10 years, Romania continues to be the country with the highest number of farms in the EU. However, only a quarter of the farms receive direct payments. The vast majority are subsistence and semi-subsistence farms producing mainly for their own consumption. They are poorly equipped and not market oriented. At the other end of the scale, only a small proportion of farms are large, competitive and market oriented.

Romanian farmers on average earn a relatively low factor income (about one-third of the EU average) with significant differences between farms of different sizes, sectors, weather conditions, type of areas and between different regions. Income increases with the size of the farms. The unit amount of public support per hectare (direct payments and national aids), including payments to areas facing natural constraints (ANC) is higher in the ANC areas and in livestock farms.

While Romania's geographical position and climate favour diverse agricultural production, it is the country's crop production that it is more competitive, accounting for three quarters of agricultural output. In contrast, animal breeding has been on a downward trend in recent years. Romania has a favourable climate for growing protein crops, e.g. soya, for which it is already the third largest producer in the EU in terms of area. Incorporating further protein crops into the crop rotation will create market opportunities as this will improve soil quality and reduce fertiliser use.

Both total factor productivity and labour productivity increased in the most recent period but are still below the EU average. Investments in new innovative technologies including precision farming, should improve the competitiveness of Romanian farms.

Romania's trade balance is negative. It exports mainly raw materials (cereals, oilseeds, live animals) outside the EU and imports higher added-value products, including pork, processed food and beverages, mainly from the other EU Member States.

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

The organisation of producers in cooperatives is lagging behind. The number of recognised producer organisations or producer groups is the lowest in EU, with the result that farmers' access to markets and negotiation power are low.

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

The environmental objectives are particularly relevant but also challenging for Romanian agriculture. This is because Romania has a very low share of organic farming in the total agricultural area and because of its intention to develop the animal breeding sector.

Total greenhouse gas (GHG) and ammonia (NH₃) emissions in agriculture are at a relatively low level, with enteric fermentations contributing more than 50% to GHG emissions, followed by agricultural soils and manure management. Land use, land use change and forestry (LULUCF) is a net carbon sink, with the largest contribution coming from forestland, harvested wood products and croplands. Romania should better promote agricultural practices and investments that have minimising emissions as their final purpose, such as precision farming or on-farm GHG tools to identify emission hotspots and implement effective measures. With Romania planning to develop its livestock sector, it should invest in sustainable livestock and manure management (e.g. health management, feed additives, biogas from manure) to alleviate the expected increase in emissions that would result from increased animal numbers. Training activities and advisory services should play an important role in promoting those practices.

The energy production and consumption in agriculture show a relatively stable trend below the EU average. Romania's capacity to produce energy from agriculture is not being used to its full potential, leaving room for development.

The quality of soil is below the EU average, mainly due to the intensification of agriculture, reduced crop diversification and low interest farmers' interest in measures to improve soil. Measures to be prioritised in this context should include longer and more diverse crop rotations, catch and cover crops, and carbon farming approaches to remunerate carbon sequestration in agriculture.

As yet not all water bodies have good status as defined in the Water Framework Directive (WFD) and agriculture is identified as the second biggest pressure. There are still intensive agriculture areas where nitrate pollution is high and therefore special attention should be paid to those areas. Better integration of water objectives into other policy areas such as agriculture is needed to achieve the requirements of the WFD. Synergies should be optimised with policies, including the CAP. In terms of water availability, Romania is among the countries with medium water resources, their availability being influenced by weather conditions. The quantity of water used in agriculture has fluctuated in recent years and is also dependent on weather conditions.

The frequency of adverse climatic events (droughts, floods, storms) has increased in recent years. This has affected the agricultural productivity and income of Romanian farmers, and has also affected soil quality, with some areas experiencing increasing soil degradation and aridity.

Despite the good status of biodiversity in Romania, (95% of the grassland habitat types present in Romania have favourable conservation status), pressures and threats for biodiversity persist in the Natura 2000 grassland, cropland and forests. The farmland bird

index is in some cases increasing, while in others it is declining. The plains of Romania, where intensive agriculture is predominant, lack linear landscape elements (such as hedges) and fallow elements. More efforts should be made to introduce and conserve landscape features in Romania's plain areas.

Implementing the Nature Directives remains a considerable challenge in Romania. There are problems due to a lack of knowledge and data. Romania has made some progress on preparing Natura 2000 site management plans. Providing adequate resources for their implementation will be important in order to maintain species and habitats of community interest and/or restore them to favourable conservation status across their natural range. Romania should avoid funding investments and farming practices with a negative impact on Natura 2000 sites and beyond; it should also set ambitious GAEC (good agricultural and environmental conditions) requirements on biodiversity and applying fully the statutory management requirements (SMRs) from the Nature Directives

The productivity of Romanian forests is threatened by the increased frequency of devastating events, and of infestations caused by various pathogens. Therefore, developing forest protection systems is a necessity from an adaptation perspective. Result-based incentives for carbon sequestration via afforestation ('carbon farming') would contribute to the maintenance of forest ecosystems for conservation, river basin protection and timber production purposes, while providing other common benefits such as reduced soil erosion, landslide prevention and flood prevention.

The statistics show that the current area under organic farming is well below the EU average. Given the benefits of organic farming in areas such as soil quality and its positive effect on reducing the use of chemical pesticides and the use of inorganic fertilisers, increasing the organic area in Romania would contribute to a more sustainable food production system. To ensure effective growth in the supply of organic farming and maintain its profitability, efforts should be made to stimulate local demand for organic products to balance the increase in supply, while also supplying to export markets.

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

Building a resilient and robust food system requires also special attention to the new societal demands, including reduced use of antimicrobials and pesticides and improved quality of life in rural areas.

Rural areas and the rural population account for a very high percentage in Romania. The specific needs of Romanian rural areas are manifold. The employment rate in rural areas is lower than the national average and EU levels, especially among women. The rural population is ageing, the poverty rate is among the highest in the EU, the living conditions are poorer than in urban areas, while income per capita is below the average EU and national levels. The poor living conditions and lack of economic opportunities have led to a massive exodus, especially of the active population. Making rural areas more attractive and reducing outmigration require investments in basic services and rural infrastructure in rural areas, and support for the creation of new economic opportunities for the rural population (including for the disadvantaged). There must also be careful consideration of 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, pensions, care and decision-making. At the same time, ensuring the protection of agricultural workers, especially the precarious, seasonal and undeclared ones, 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 by the Farm to Fork Strategy.

Romania has one of the lowest share of young farmers in the total number of farm managers. And the share has been decreasing since 2010. The lack of access to land finance and education are the main challenges young farmers are faced with. Farms managed by young farmers, who are more open to new and innovative technologies, are more efficient and competitive. Addressing the generational renewal problem is needed for the transition towards a green and modern agriculture.

Sales of veterinary antimicrobial agents remain low in Romania, but special attention should be paid to inappropriate use of antimicrobial agents in animal husbandry and human healthcare. This is particularly important because Romania is one of the countries with the highest human mortality rates due to antimicrobial resistance.

Although sales of plant protection products remain low in Romania compared with the EU average, farmers should be reoriented towards more sustainable agricultural practices. It is especially necessary to find alternatives to the current dependency on emergency authorisation of plant protection products. Possible solutions in this field include ensuring the implementation of integrated pest management, securing the involvement of research institutes, improving cooperation between farmers and research institutes and agricultural universities, and better use of farm advisory services.

Critical issues have been identified in relation to farm biosecurity, farm registration and animal identification, in view of the presence of the African Swine Fever.

Romania should make an effort to shift towards balanced, healthier, more environmentally sustainable diets as it has a very high burden from non-communicable diseases due to dietary risk factors, such as overweight and obesity. Despite the fact that Romania is one of the poorest countries in the EU, the quantity of food waste is estimated one of the highest.

1.4 Modernising the sector by fostering and sharing of knowledge, innovation and digitalisation, and encouraging their uptake

The agricultural knowledge and innovation system (AKIS¹) in Romania is considered weak and fragmented, resulting in insufficient linkages among its various actors. The shortcomings of the AKIS may limit the ability to transition towards a greener and more digital agriculture, as intended in the Farm to Fork Strategy.

A well-functioning AKIS should deliver knowledge flows between its actors to respond to farmers' growing information needs, speed up innovation and increase valorisation of the existing knowledge. There is the potential to improve farmers' participation in all AKIS actions, in particular in training and the European Innovation Partnership (EIP-AGRI) operational groups and foster the disintegrated advisory services. Links between public and private advisors should be improved, as well as their training and skills. Advisors should be supported to help capture individual grass roots innovative ideas and to develop them by setting up and implementing EIP-AGRI Operational Group projects ('innovation support services'²). A well-functioning AKIS would also help to improve the level of education of managers of agricultural holdings as well as basic digital and software skills, which are well below the EU average.

Cooperation between agricultural research centres, farmers and advisors should be strengthened. This would ensure synergies of research and broader implementation of its results, for instance through networking activities organised by the national CAP network.

The uptake of the planned funding for training, knowledge transfer and advisory services under the rural development programme (RDP) remains limited and the implementation of these measures faces delays. It would be important to open this type of interventions early in the programming period to avoid current shortcomings and increase overall investment in knowledge and innovation. In addition, the setting-up of the EIP-AGRI operational groups promoting innovation in agriculture is at an early stage.

There is a need to step up the competence of all advisory services³ and broaden the offer in terms of advisors and themes. This would serve to upgrade farmers' skills and improve the implementation of innovative solutions. Advisory services would then be better placed to organise innovation support and co-creation of innovative solutions, which address farmers' needs in EIP-AGRI operational groups.

Even though Romania has the highest internet connection speed, coverage and connectivity in rural areas are much lower than in urban ones and in other EU countries.

1.5 Recommendations

To address the above interconnected economic, environmental/climate and social challenges the Commission considers that the Romanian 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 and the generally good biodiversity status of the Romanian agriculture and rural areas:

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

- **Improving the viability of farms with lower incomes, especially smaller farms with higher development potential**, through the promotion of structural adjustment of these farms by a more targeted, fairer and more effective distribution of direct payments, in particular, via the application of the complementary redistributive income support for sustainability and round sum payment for small farmers. The improved distribution of direct payments should take into account the contribution of income support to the development of rural areas.
- **Making farmers' income less vulnerable to external factors, including climate change**, by supporting: sustainable agricultural management practices (no-till, strip-till especially on slopes, crop rotation with forage-legume crops); the use of risk management tools; investments in new technologies; planting of forest and woodland (including agro-forest belts and woody landscape features), especially in plains, as well as information, training and advisory activities, according to the specific demands, on best agricultural practices, varieties used or water savings.
- **Assisting the diversification of agricultural production**, by supporting farmers to move into high-value-added product markets, and raise production of protein crops, with a view to create new value chains and to optimize trade opportunities.

- **Improving farmers' position in the value chain, in particular** by supporting the set-up of producer organisations under the CAP measures.

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

- **Improving nutrient management, as well as soil protection and water management**, by supporting appropriate farming practices, fertilisation techniques (including precision farming), longer and more diverse crop rotations, agro-ecological practices, investments in animal housing and water management systems, that will secure the sustainable water use and reduce the agricultural water footprint, as well as training and advisory services.
- **Contributing to the EU Green Deal target on farm landscape features** by maintaining the presence and conservation of landscape features and promoting the introduction of those elements in the areas where they are lacking, and **improving the conservation status of farm and forest habitats**, by supporting sustainable management practices, fully respecting ecological principles favourable to biodiversity (including wild pollinators) and contributing to the achievement of the specific objectives of nature-related legislation, especially in the Natura 2000 areas. This should be consistent with the needs identified in the Prioritized Action Framework (PAF) and the EU and national Species and Habitats Action Plans.
- **Fostering sustainable forest management and afforestation, enhancing multi-functionality and the role of forests as carbon sink, protecting forests and restoring forests ecosystems** to reach good condition of habitats and species and build resilience to threats such as the impact of the climate change on forests by designing appropriate measures such as result-based payments.
- **Contributing to the EU Green Deal target on organic farming** through appropriate incentives for the maintenance and conversion to organic farming.
- **Keeping low levels of greenhouse gas and ammonia emissions from agriculture** by supporting appropriate farming practices and systems – e.g. precision farming, as well as investments needed to apply them. Such actions are required particularly on livestock farms to decrease emissions from manure and enteric fermentation, in line with the Methane Strategy, through an appropriate blend of interventions (e.g. improving manure management).

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

- **Contributing to the Green Deal target on pesticide risk and use** by supporting reduced use of pesticides and ensuring the full implementation of the Integrated Pest Management by all professional users of pesticides.
- **Contributing to the EU Green Deal target on antimicrobials:** whilst the sales of antimicrobials are below the EU average, Romania should continue to implement measures to reduce their use in farming, for example by integrating targets into concrete and more ambitious CAP actions.

- **Substantially improving the welfare conditions of animals and improving farm biosecurity**, especially in pig farms, by supporting improvements to livestock management practices, investments, training and advisory services.
- **Reducing the economic and social gap between urban and rural areas, reducing poverty in rural areas, with a specific attention to vulnerable groups, and slowing down rural depopulation** by supporting investments in rural infrastructure, services, human capital and non-agricultural activities, primary and secondary processing of agricultural products and social entrepreneurship, which have the potential to create jobs, including within the bio-economy. In doing so, it will be important to ensure synergies with other EU and national funds.
- **Facilitating the setting-up of young farmers and assisting the development of their businesses** by supporting access to finance and land.

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

- **Contributing to the EU Green Deal target on broadband** by supporting connectivity in ways, which complement other sources of funding accompanied by accelerating digital skills in rural areas and agriculture solutions.
- **Investing in a well-functioning AKIS** to upgrade professional skills and support the co-creation of innovative solutions in agriculture by developing life-long vocational learning and training system for farmers, stepping-up the competence of all advisory services and broadening their offer in terms of advisors and themes, structuring inter-linkages among the AKIS components, in particular research, advice, farmers and the CAP network, to enable smooth knowledge exchange and flows. A more integrated AKIS would facilitate the structuring of knowledge exchange processes to strengthen the impact of EU and national research and innovation funding.

2. ANALYSIS OF AGRICULTURE AND RURAL DEVELOPMENT IN ROMANIA

Romania's agriculture maintains a big share of Gross Domestic Production (GDP), although it has declined significantly in recent years (due to the development of the non-agricultural sectors). The structure of the farms continues to remain polarised, with a very large number of small individual holdings (many of which are subsistence) and thousands of large companies, which have had increased technical performance in recent years. A big share of revenues was registered by the large farms specialised in cereals, oilseed and protein crop (COP) of which labour productivity increased due to their endowment with modern machinery (supported by rural development funds). A large proportion of cereal and oilseeds production are exported outside the EU. Meat, vegetables and processed products are imported, mainly from the EU leading to a further increase of the trade deficit in agri-food products. The combination of agriculture on large and intensive farms and subsistence agriculture on small farms results in a relatively good overall situation in terms of GHG emissions, nitrate levels in groundwater and the state of biodiversity.

Although the rural areas in Romania have evolved much in the last two decades in terms of living condition, they are still affected by a high level of poverty and lack of economic opportunities. This influenced the rural population leaving the country for shorter periods (often working in farming in other EU countries) and longer ones. Availability and access to essential services (health, transport, and education) and related infrastructure (roads, water supply, sewerage, and internet) are problematic in many places.

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

Farm income per worker represents around 55% of the average wage in the whole economy (above the EU average). In spite of significant fluctuations (from 40% in 2007 to 76% in 2011), the gap between farm income and the average wage in the economy has been narrowing over time⁴. The share of direct payments and transitional national aids in farm income stood around the EU average in the 2014-2018 period (at about 35% over the period). Support under Pillar II (excluding investment support) only covers an additional 1% of entrepreneurial income (average for the same period)⁵.

Romanian farmers on average earn a relatively low factor income⁶⁷ (about one-third of the EU average) with large differences among farms of different sizes, sectors or type of areas and regions.

Agricultural factor income strongly increases with farm size: it remains very low for small farms (up to 20 hectares⁸), but it is very high (above the EU average) for the biggest farms (above 500 hectares). Income distribution according to the economic farm size follows principally the same pattern. Whereas the unit amount of support (direct payments and transitional national aids) per hectare increases for farms up to 30 hectares (linked with the redistributive payment and coupled support), it decreases beyond this farm size. Similarly, the unit amount of support increases for farms up to EUR 50 000 of standard output and decreases above this size⁹. The crop sectors, i.e. cereal, oilseed and protein crops, wine, orchard-fruit farms, receive unit amounts of public support per hectare (direct payments and national aids) which are lower than the national average. By contrast, the animal sectors (milk, sheep and goats, cattle) benefit from higher unit amounts of public support (mostly linked to coupled direct support per animal)¹⁰.

The unit amount of public support per hectare, including payments to areas facing natural constraints (ANC), was higher in ANC areas, despite the fact that farm income was higher in these areas over the period of 2014-2018. This is linked to the delineation of ANCs (e.g. from 2015 it includes Sud-Est region with farms of bigger size and higher income)¹¹. Significant differences in income exists between regions (e.g. between Bucuresti-Ilfov, dominated by farms of a bigger size and higher income and Sud-Vest-Oltenia, dominated by smaller farms), but there is no clear trend in terms of unit amounts¹².

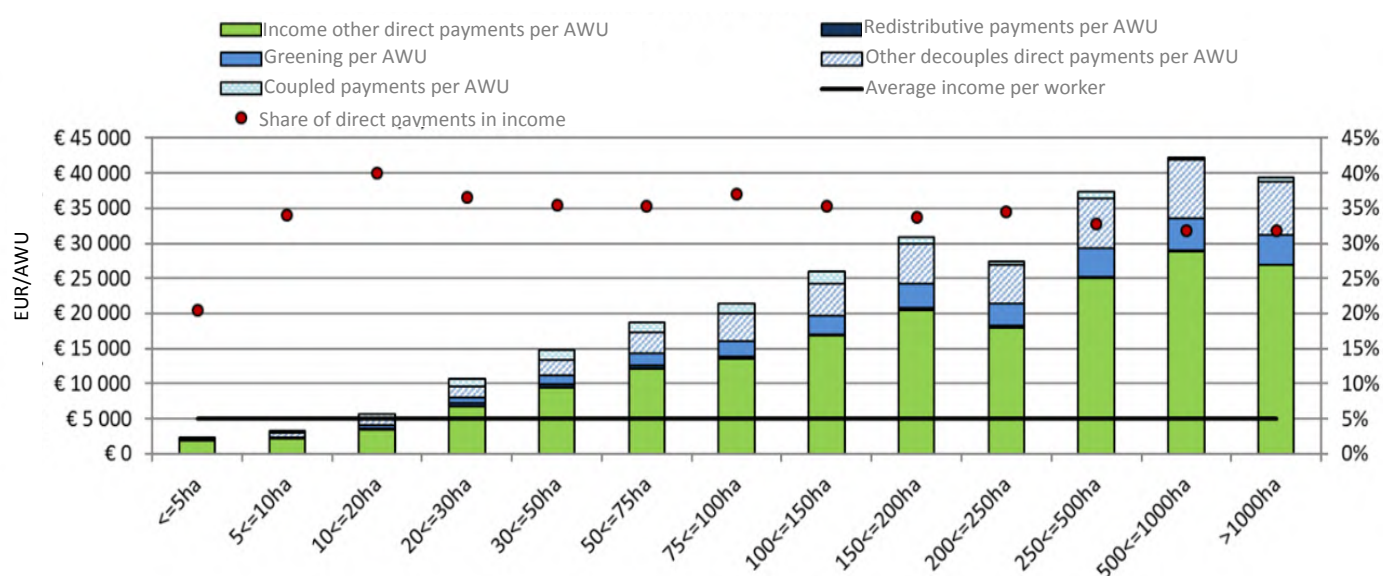
Overall smaller farms receive less support (farms below the national average size receive 93-96% of direct payment per hectare in 2015-2017)¹³. Moreover, 20% of the largest farms receive in proportion to their land area more direct payments, (84% of direct payments and 82% of land)¹⁴.

Cereals, oilseed and protein crop farms have the highest dependency on income support (direct payments, rural development area-related measures and some national aids) compared to the less dependent wine, horticulture and orchard-fruit farms¹⁵.

Romania is dominated by very small farms and only about a quarter of all farms in the country benefits from direct payments. Farms with direct payments occupy around 80% of Romania's utilized agricultural area¹⁶. However, even among direct payment beneficiaries, a significant share of farms has a very low economic size and the majority of them are semi-subsistence farms¹⁷.

Farm incomes fluctuate strongly, *inter alia* due to climatic risks. These fluctuations concern in particular COP and granivore farms¹⁸. Romania planned EUR 43 million for the risk management measure (support for insurance premia) under the 2014-2020 RDP. However, the measure has been underused due to problems such as lack of insurance packages, especially for the drought, the heterogeneity of farms, insufficient awareness of insurance possibilities and bureaucracy.

Income and direct payments by worker by physical size in Romania (hectares of UAA)



Source: DG AGRI¹⁹

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

The Romanian agricultural sector is undergoing structural changes. The total number of farms declined between 2005 and 2016 by 31%, from about 4.3 to 3.4 million farms. Although Romania accounted for about one third of the EU's farms, they only generate 3.3% of the EU's standard output²⁰. The average farm size increased from 3.3 to 4 hectares in the same period, which is well below the EU average of 15 hectares. More than 3 million farms have less than 5 hectares. At the other end of the spectrum, 12 310 farms have more than 100 hectares, with an average size of 485 hectares. These large farms occupy almost 50% of the agricultural land in Romania. This makes the farming structure in Romania highly polarised²¹.

Between 2005 and 2016, the number of livestock units (LU) decreased by 27% from 6.6 million LU to 4.8 million LU, and the turnover of animal production decreased even more (38%) in the same period. These trends were particularly noticeable in the dairy cows and pigs sectors. In contrast, the number of sheep and goats increased over the same period. This explains the stronger decrease in turnover of animal production. Meat consumption is increasing²², especially of pork, while the Romanian pork production is declining. As a result, Romania is importing more pork.

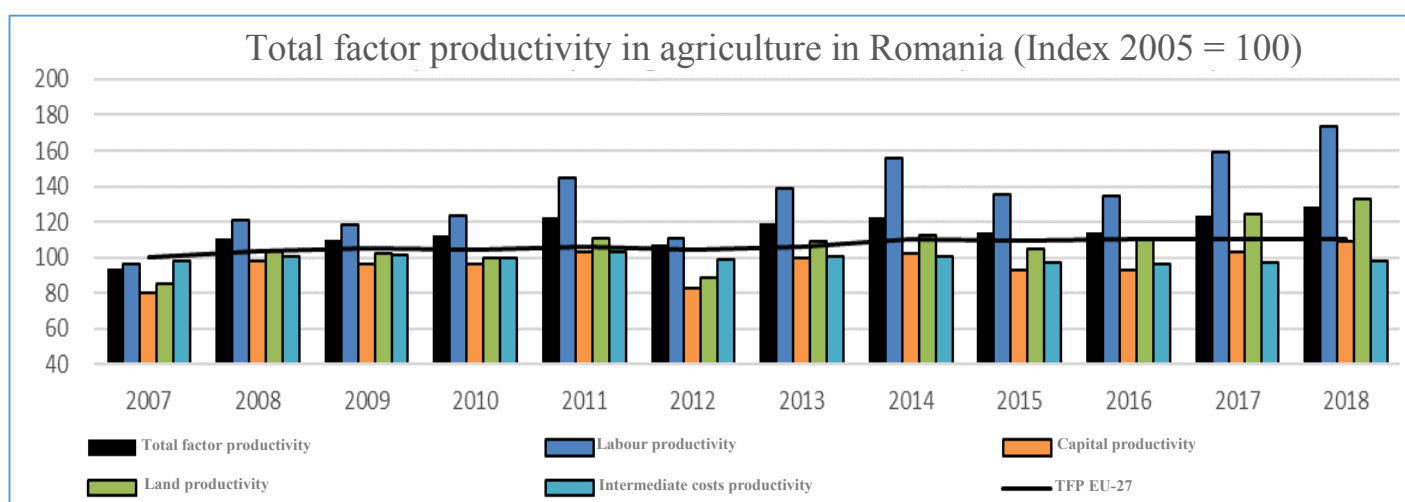
Romania is predominantly an arable country, with 75% of the output coming from the crop sector. It is the fourth largest arable crop producer in the EU. It is together with France the main producer of maize, the largest producer of sunflower seed and among the top three producers of soya in terms of area.

Romania has a favourable climate for growing protein crops, and can play an important role in reducing the EU's dependency on imported soya. Besides the market opportunities, incorporating protein crops in the crop rotation will improve soil quality, due to the long roots and reduce the fertiliser use, as protein crops are nitrogen-fixing.

Romania's trade balance turned from a EUR 0.5 billion surplus in 2015 to a deficit of EUR 1.1 billion in 2018. On the export side, Romania relies on commodities (maize, oilseeds) which are exported at world prices. Romania is a net importer of higher value-added products, including pork, processed food and beverages, mainly from the other EU Member States. Agri-food exports account for about 10% of Romanian exports²³.

The total factor productivity (TFP) has been increasing in Romania, relying on all its components. Labour productivity has increased mainly due to the outflow of labour (-42% between 2005 and 2017)²⁴. The low productivity is influenced by the small size of the farms but also by the low integration of digital technologies.

Romania has a quite high number of organic producers. However, the number of organic operators has been declining, while the EU market for organic products has been growing. As organic consumption is still limited in Romania, the organic sector is mainly export driven. The value of the organic market in Romania is still small. It is expected that the demand for organics will grow over time. Therefore, local production and the development of an internal market of organic products should play a more significant role in the next 10 years.



Source: EUROSTAT and DG AGRI²⁵

2.3 Improve farmers' position in the value chain

The agricultural sector in Romania is very important for the country's economy and employment. The share of the value added of the food chain captured by the primary producers was relatively steady between 2008 and 2017, ranging from 60% in 2008 to 61% in 2017, with peaks in 2011 and 2013 of 66% (a much higher level than the average of 27% in the EU in 2017)²⁶. The value of the output of the agricultural industry rose strongly in Romania in 2018 (+8.0%) to a new high of EUR 18.6 billion, with more than two thirds of this total value coming from the crop sector). The most important sectors in terms of production value in Romania in 2018 were: cereals, vegetables, horticultural plants, and industrial crops, generating 26.3%, 13.1% and 9.1% of agricultural output respectively²⁷. As a result, the income per worker is above average in the case of specialist cereals-oilseeds-protein crops farms and other field crops and granivores, while the income per worker in mixed and horticulture farms is on average lower. In general, the income per worker increases with farm size, but is on average lower and less stable than wages in other sectors.

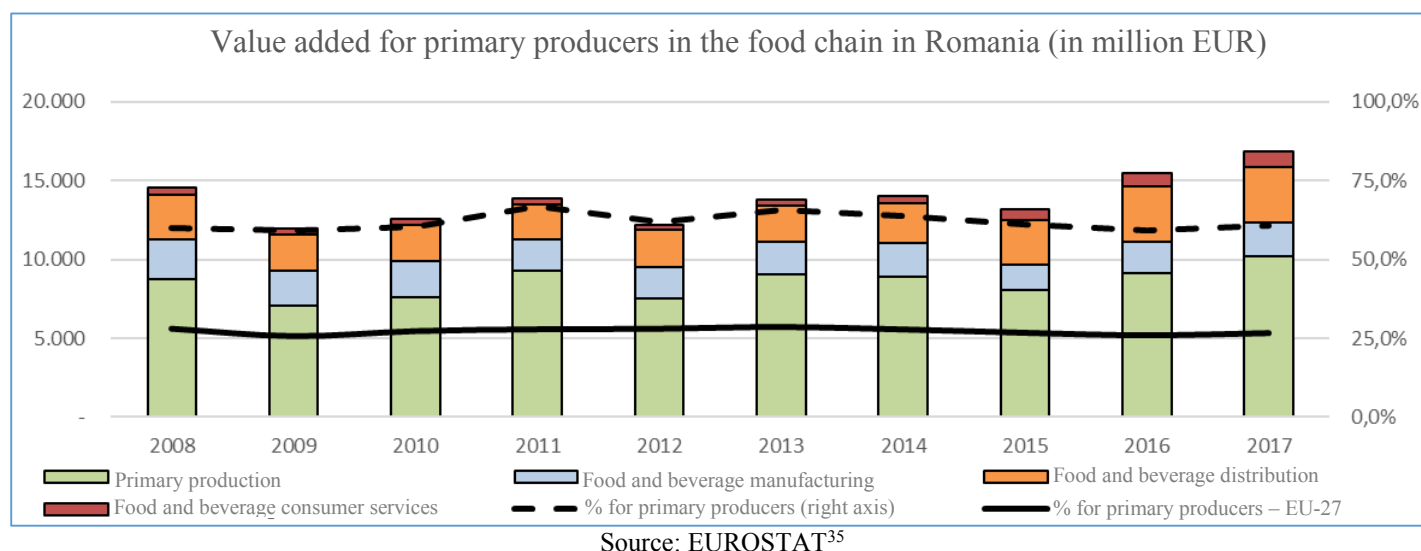
Most of the Romanian farms are family farms, where the vast majority of regular labour consists of family members (99.3%). Additionally, the majority of farms in Romania are very small, producing less than EUR 8 000 of standard output (94.6%)²⁸. These holdings are typically subsistence and semi-subsistence farms. They manage 30% of the agricultural area. However, they are poorly technically equipped and are not market oriented. They are not involved in cooperative activities, which could assist them in integrating better to markets' demands. The remaining 70% of the agricultural area is managed by medium and large farms, which have a clear competitive potential. However, they only account for 7% of the agricultural holdings²⁹. It is also difficult for farmers to access credit and insurance, particularly for the small ones.

In Romania, there are 24 recognised associations of or producer organisations (APOs/POs)³⁰, all of which are in the fruit and vegetable sector. Additionally, there are 17 producer groups (PGs) in Romania, meaning temporary organisational structures that work towards the establishment of a PO³¹. The majority of recognised POs are not under the status of a cooperative and they have less members than in most other EU countries³². Compared to the rest of the EU, the number of cooperatives in the country is low and only one of the total 68 cooperatives in Romania is recognised as a PO. This is also

reflected in the relative economic importance of the recognised POs/APOs, which represents only 1%, versus the EU average of 38%³³. Eight inter-branch organisations have been recognised and contribute to the vertical cooperation in the chain. Potential also lies in the development of EU quality schemes as a tool to strengthen cooperation among producers, increase their bargaining position in the value chain and therefore obtain a bigger share from the added value.

The Commission's Farm to Fork Strategy calls for a more plant-based diet and better animal welfare. Farmers in Romania can further expand fruit & vegetables production, and focus on quality including livestock production, with a lower environmental and climate footprint and much greater animal welfare than the EU average.

The increase in the value added of the agricultural production is high in the vegetable, wine and meat processing sectors, where exports are growing, while only average in the other sectors. The RDP further increased the participation of primary producers in short supply chains, as well as their competitiveness resulting from reduced costs and increased revenues.³⁴ In terms of unfair trading practices (UTPs), Romania has put efforts to tackle these through its national UTPs legislation in order to strengthen the position of farmers in the food supply chain.



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

In 2018, agricultural GHG emissions (including cropland and grassland) amounted to 17.5 million tonnes of CO₂ equivalent, representing 3.9% of the total EU average GHG emissions from agriculture. The total emissions of GHG from agriculture decreased between 1990 and 2018 by 44.3% (-29.3% in EU-27), whereas the ammonia emissions decreased by 4%³⁶ over the same period mostly due to the reduction of livestock, but also thanks to the investments in new technologies. Nevertheless, the share of agriculture in the total net emissions increased from 17% in 2009 to 19% in 2017, compared with 10% of the total GHG emissions at the EU level (reflecting the relative importance of the agricultural sector for the economy and the efforts undertaken in the other parts of the economy). In 2016, the emission of methane (CH₄) and nitrous oxide (N₂O) per hectare of utilised agricultural area stood at 1.29 kilotons CO₂ equivalent /1000 ha, being among the lowest in the EU-27³⁷.

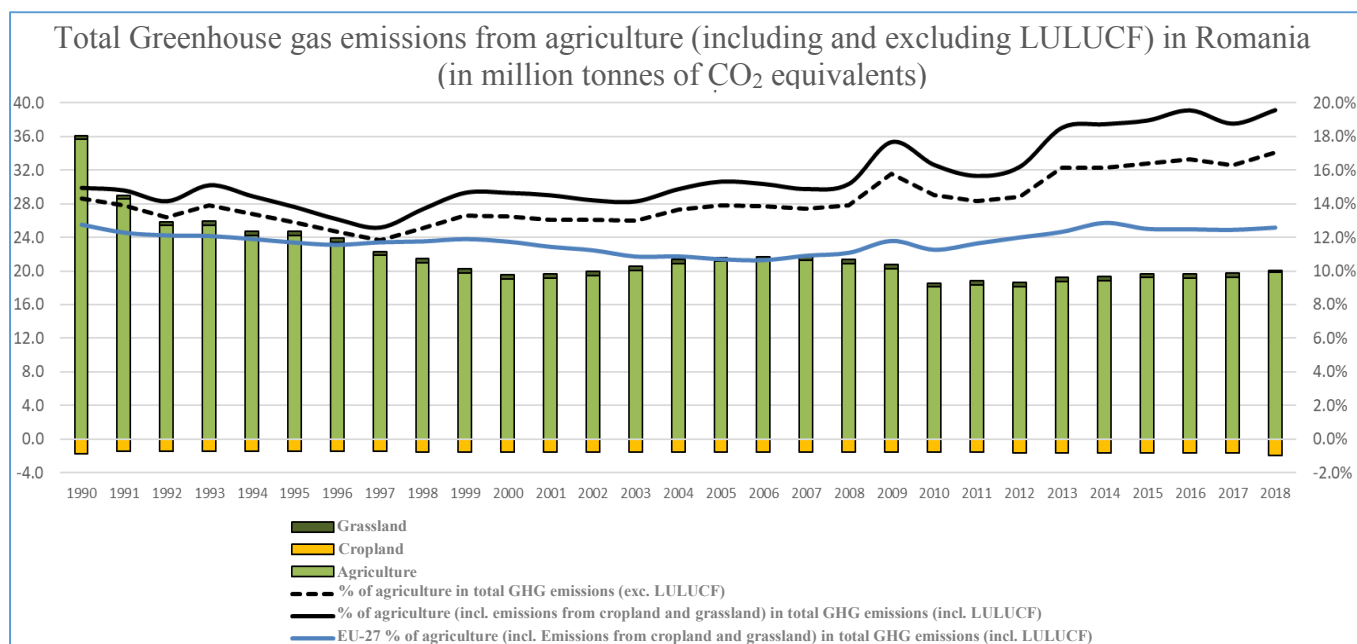
In 2018, the main source of agricultural GHG emissions was the enteric fermentation accounting for 54.6%, compared to an EU average of 43.8%, followed by agricultural soils (with 32.7, lower than the EU average of 38.4%) and by manure management (13.7%) which is close to the EU average³⁸ (14.2%).

Between 1990 and 2018, the sink of CO₂ from LULUCF increased by 29.3%. The forestland, harvested wood products and croplands were the main contributors. The sink role of the forestland decreased between 1990 and 2018 by 14%, showing a big drop in 2018³⁹. Grassland, wetlands and settlements are the main sources of emissions due to their intensive cultivation. The priority should be given to preserve stocks, the increase of the carbon sinks in forests, their soils and harvested wood products and a more appropriate management of agricultural peatland for the protection of the carbon stock. Rewetting the agricultural land in Romania has a significant potential for reducing GHG emissions.

Romania shows a relatively stable trend in the production of renewable energy (RE) from agriculture and forestry per hectare in the last years (below EU average). The total production of renewable energy from agriculture and forestry reached 3 632⁴⁰ kToe in 2018, representing 61% of the total Romanian RE production (a higher proportion than in the EU), forestry being the sector which contributes with more than 50% of the Romanian RE production. However, the Romanian contribution to the EU-27 RE production is relatively low (3%). Romania is 0.1 percentage point away from its national 2020 objective⁴¹ regarding the share of RE in gross energy final consumption.

As regards the direct use of energy in agriculture, forestry and food, it has been relatively constant in the last years (at around 1000 kToe). In 2018, the total energy directly used in agriculture, forestry and food was 1098 kToe, representing 4.7% of the total Romanian final energy consumption. Romania has a very low share in total EU-27 energy consumption (2% in 2018). The direct energy use per ha in agriculture and forestry was 27.9 kg of oil equivalent, one of the lowest in EU-27⁴².

In Romania, the average air temperature increased in the last 10 years by around +1°C. As of 1991, each decade was warmer than the previous one⁴³. The frequency of adverse climatic events (droughts, floods, storms) has also increased in the last years, affecting the agricultural productivity and income of the Romanian farmers. In particular, frequent and prolonged drought affected about 25% of the arable land in 2019. With an increasing trend towards more frequent and intense drought, there is likely to be increasing soil aridity, which when combined with hot winds, will increase the risk of wind erosion and soil degradation, particularly in the south, south-east and east of Romania.



Source: European Environmental Agency⁴⁴

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

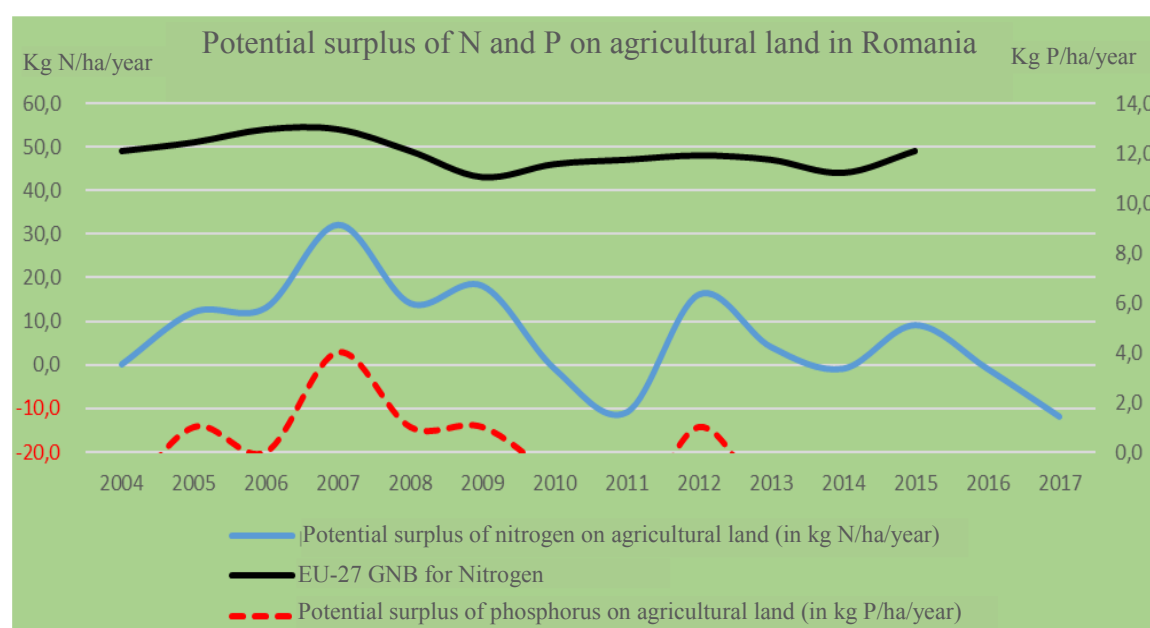
As regards air quality, the total ammonia emissions in Romania are rather stable since 2010 (at around 150 000 tonnes)⁴⁵, whereas there is a downward trend in the EU as of 2013. Romania is considered at high risk of non-compliance with their National Emission Reduction Commitments Directive (NECD) emission reductions for ammonia: -13% by 2020 and -25% by 2030 and beyond⁴⁶, as compared with the 2005 levels. The vast majority (89%) of the total reported ammonia emissions in Romania come from agricultural sources (2018⁴⁷), and they have slightly decreased over time. According to 2018 data, the livestock sector (68.8%) contributes more than crops (31.2%) to the agricultural NH₃ emissions. In addition, 13% of the total reported emissions of nitrogen oxides, 14% of the total reported emissions of non-methane volatile organic compounds and 1% of the total fine particulate matter emissions in Romania come from the agricultural sources⁴⁸.

Concerning soil, the total agricultural area affected by severe water erosion in Romania stands at 9.1%, as indicated by data of 2016, which is above the EU average of 6.6%⁴⁹. A similar pattern can be found when looking at specific types of land cover; 2016 data indicate that 10.1% of arable and permanent crop areas are at a moderate and severe risk of soil erosion by water, whereas this risk is lower for permanent meadows and pasture (5.6%). The rates of wind erosion are among the highest in the Eastern part of the country. The level of total organic matter in arable land (865 Megatonnes in 2015) is also below the EU average (11 845 Megatonnes in 2015)⁵⁰. The mean soil organic carbon (SOC) content in arable soils in Romania is much lower than the EU mean (20.1 g/kg vs. 43.1 g/kg). As regards the type of cultivated crops and other management practices that can contribute to soil protection, 60% of arable land was subject to crop diversification requirements in 2018 (vs. 77% in the EU), a stable pattern since 2015, while only 2% of the agricultural land was under Rural Development contracts to improve soil⁵¹. In 2016, 86% of tillable area⁵² was tilled conventionally, and 33% of arable land⁵³ was left without soil cover during the winter months. The impact of soil improving measures may

be increased by research, innovation and demonstration activities available under the forthcoming Horizon Europe Mission on soil health.

In terms of water quality under the WFD all surface water bodies are in good or moderate ecological status and 2% of surface water bodies are of poor chemical status. All groundwater bodies are in good quantitative status and 10.5% fail to achieve good chemical status. Diffuse agricultural pollution was the second most significant pressure on water bodies. Nutrient and organic pollution has the highest impacts on surface water and chemical pollution has the highest impact on groundwater. Nitrate was the top pollutant causing failure of good chemical status. The evolution of the potential surplus of nitrogen and phosphorus on agricultural land in Romania follows a downward trend (2017: -12 kg N/ha and -5 kg P/ha) despite some annual fluctuations and in general remains below the EU average (4 years average: 46.5 kg N/ha and 0.5 kg P/ha)⁵⁴. In 2012, 83% of the water from ground water stations in Romania was of high quality and 7% of poor quality, even though there is an increasing trend in the number of stations under poor quality. Under the 2014-2020 RDP, 11.9% of agricultural land in the country was under contracts to improve water management in 2016⁵⁵. Information concerning water abstraction from agriculture in Romania shows a fluctuating trend, stabilising in recent years around lower values than in the past.

The share of irrigable areas in Romania has increased since 2010 reaching 1.9% of the total utilised agricultural area in 2016. Similarly, there is an increase in the volume of water used for agriculture for irrigation purposes (2012: 371 million m³, 2017: 440 million m³)⁵⁶. However, reliable data for water use in agriculture is very difficult to obtain since many farmers use water from streams, wells and ponds. In spite of the beneficial effects on water quantity and quality of some of Romania's implementation choices (e.g. choice of Ecological Focus Areas, Voluntary Coupled Support-protein crops, Environmentally Sensitive Permanent Grassland), the lack of appropriate training and advisory services to farmers seems to have hampered a better management and efficiency of water use.



Source: EUROSTAT⁵⁷

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

Romania is one of the richest EU Member State regarding biological diversity (5 out of 9 bio-geographical areas at EU-28 level being in Romania)⁵⁸.

In 2018, 23% of the Romanian territory was under Natura 2000, (higher than EU average), 16% out of which under Natura 2000's Special Protection Areas (SPAs) and 17% under Natura 2000's Sites of Community Importance (SCIs). 39% of forest area and 12% of utilised agricultural area are under Natura 2000⁵⁹. Romania has not finalised the elaboration and approval of the Natura 2000 Management Plans, but made progress in this direction, as slightly less than 50% of the plans were approved as of 2019. The Natura 2000 measure was not programmed under the 2014-2020 RDP but support for the protection of some species and habitats was available under other measures (agri-environment, ANC, forestry climate and organic farming). Some packages target exclusively Natura 2000 areas. Further work is needed to complete the Natura 2000 designation process and to put in place clearly defined conservation objectives, necessary conservation measures for the sites, provide adequate resources for their implementation in order to maintain and restore species and habitats of community interest to a favourable conservation status across their natural range.

Apart from an important area of the Romanian territory being under Natura 2000, an important part of its territory (3.1 million ha) is under a System of natural areas functionally protected. Two objectives are included in the list of the UNESCO World Heritage (Danube Delta and several locations of Ancient and Primeval Beech Forests)⁶⁰.

The farmland bird index for Romania decreased between 2010 and 2015, from 100 to 97. Out of 20 monitored species, eight declined, nine had an uncertain trend, two could not be assessed and one increased⁶¹.

In Romania, 32% of the utilised agricultural area is a permanent grassland. According to the reporting on the conservation status and trends of species and habitats under the EU Habitats Directive (2013-2018), 94.6% of the Romanian grassland habitat types have a favourable conservation status, while the remaining 5.4% have a declining conservation status.

In 2012, 36% of the agricultural land is classified as High Nature Value (HNV) farmland areas⁶². After an initial drop in 2015, the percentage of agricultural land under management contracts supporting biodiversity and/or landscapes has increased ever since, reaching 5% of total utilised agricultural area in 2018⁶³. All area under commitments is located in mountain and hilly areas.

The pressures and threats for habitats in Romania are related to land use change, agricultural intensification, excessive use of pesticides and fertilisation, grassland conversion to arable land, intensive grazing, continuous urbanisation, industrial or commercial areas, disposal of household/recreational facility waste, erosion or species composition.

Between 2010 and 2017, utilised agricultural area managed by farms with high input intensity per hectare increased constantly, reaching 52.3% of the utilised agricultural area (higher than the EU average -36.3%). In the same time, the utilised agricultural area

managed by farms with low input intensity per hectare decreased from 33.3% to 16.1%. In 2016, 37.9% of the utilised agricultural area was used for extensive grazing⁶⁴.

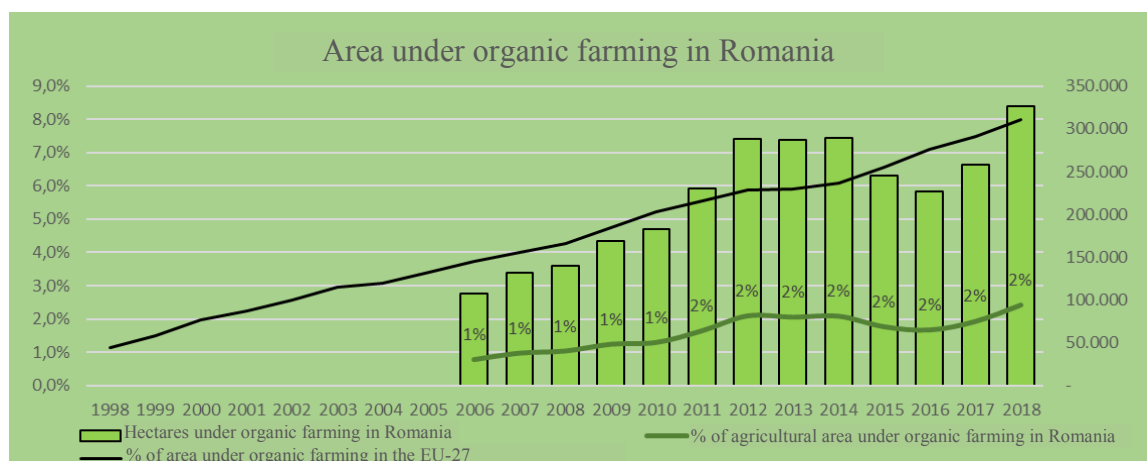
In Romania, only 3.4% of the utilised agricultural area is covered by fallow land and linear elements, below the EU average (4.6%)⁶⁵. The southern regions, where large crop farms are located and where intensive agriculture is practiced are very poor in linear elements, being one of the poorest areas in linear elements in the EU.

In July 2019, the European Commission sent a letter of formal notice to Romania for its failure to ensure adequate protection for habitats and species of EU interest by designating nature protection areas. In July 2020, the Commission sent another letter of formal notice for not designating Special Areas of Conservation and for persistently failing to set site-specific detailed conservation objectives and measures. The measures for improving the conservation status of habitats are insufficiently promoted, the agricultural policies and areas management plans can be improved through collaboration with farmers. The management structures for management conservation have insufficient capacity, while the incentives for farmers do not ensure their engagement in managing their agricultural lands in a biodiversity-friendly manner.

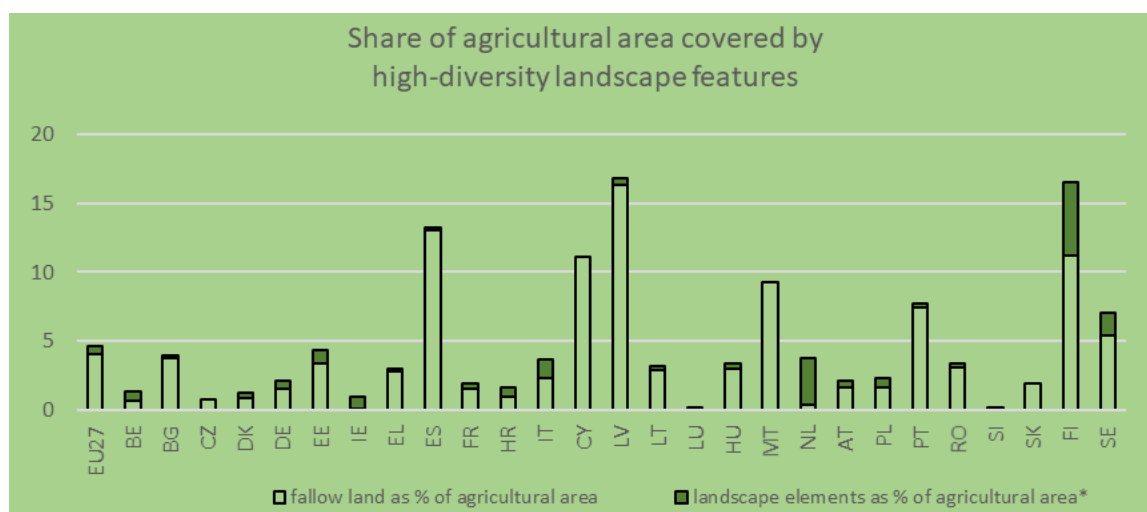
The Prioritized Action Framework (PAF) indicates that measures are needed to promote agricultural policies targeted at biodiversity conservation, to implement effective agri-environment packages, where there are no incompatibilities between proposed conservation measures and existing agri-environment packages and through the implementation of Natura 2000 payments within protected areas in which conservation measures imposed by management plans become compulsory, to preserve the category of use for grasslands and meadows, to reduce pesticide use, to promote extensive agriculture and to control invasive species and problematic native species. Measures are listed for grassland, cropland and forests and for governance, administrative capacity and training.

In 2020, the forest area covered 30% of the Romanian territory, below the EU average (39.8%)⁶⁶ and it is concentrated in the mountain and hilly area (only 7% of the forest is in plain area)⁶⁷. In 2020, the European Commission opened infringement proceedings against the Romanian government calling on it to combat illegal logging and better protect forests in its Natura 2000 sites.

The area under organic farming in Romania has started to increase after some years of declining trend. It increased from 1.7% of utilised agricultural area in 2016 to 2.4% in 2018, mostly due to EARDP support under the 2014-2020 RDP⁶⁸. The area under conversion as share of utilised agricultural area is also showing a positive trend⁶⁹. Romania is still far below the EU average of 8% of utilised agricultural area under organic farming, and can contribute substantially to the Commission's Farm to Fork target since the country has the fifth largest utilised agricultural area in EU-27⁷⁰.



Source: EUROSTAT⁷¹



Source: DG AGRI⁷²

* 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

Romania has one of the lowest share of young farmers (below 35 years old) in the total number of farm managers (3.1% versus the EU average of 5.1% in 2016). Moreover, this share has been decreasing (both at Romanian and EU level) since 2010. The ratio of young managers to elderly has also been decreasing. The ratio of young female managers to young male managers is about one to three in 2016⁷³. Among the farmers with over 50 hectares of land, the share of young farmers is 5.1%.

Young farmers in Romania are better educated compared to the other farmer age groups. However, the share of young farm managers with basic or full agricultural training (only a few percent) was much lower in Romania, compared to the EU average (over 40%) in 2016. About 90% of Romanian young farmers have only practical agricultural experience⁷⁴. This may be linked to the decreasing number of agricultural upper secondary education facilities in the country⁷⁵.

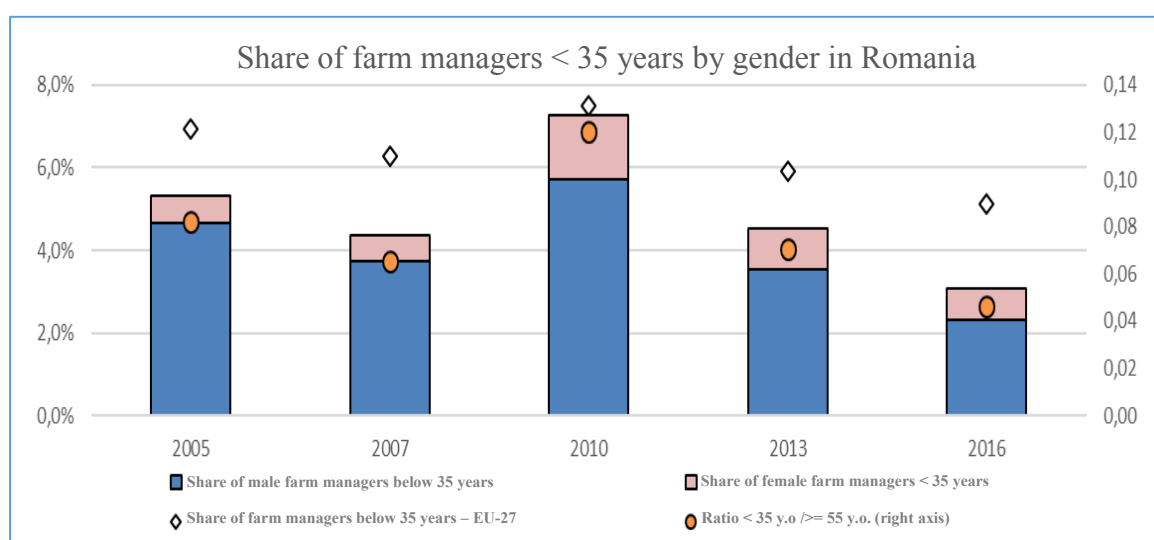
Young farmers manage farms of bigger size (mostly in economic, but not necessary in physical terms), generate higher standard output per farm (which is growing at a higher rate than in other age groups of farmers) and have on average higher factor income compared to the other age groups of farmers⁷⁶. However, the majority of young farmers (below 35 years old) still manage very small farm holdings: more than 80% of their farms are semi-subsistence farms⁷⁷.

The main challenges that the young farmers face in Romania seem to be the access to land (recently, land prices have been rapidly increasing), access to finance (young farmers have a high rate of bank loan rejection due to the too high investment risks, the lack of mutual trust, farmers' financial literacy and collateral⁷⁸) and access to education (limited supply)⁷⁹. Significant depopulation of rural areas (especially in mountainous areas) is yet another general concern in view of future vitality of rural areas⁸⁰. It is often linked to the less favourable working and living conditions (lack of access to the basic business needs) and lower farm incomes in these regions.

The share of farmers benefiting from the supplementary Young farmer payment (YFP) scheme under Pillar I strongly increased between 2015-2018 (second highest increase in the EU) and stood at around 6% in 2018 (against the EU average of 7.5%). However, Romania spent less than 1% of the direct payments envelope on YFP in 2018 (maximum allowed was 2%), which was still significantly below the EU average (1.3%)⁸¹. This low spending was mainly linked to the decrease in the average size of YFP beneficiaries and the YFP design (payment calculation, hectare limit).

Young farmers in Romania are actively participating in investment support under the 2014-2020 RDP. However, funds allocated for this support are insufficient to cover young farmers' investment needs.

In 2016, some 35 000 businesses were created in rural areas⁸². Despite the increase of small and medium enterprises (SMEs) in rural areas, their number is still very low compared to urban areas (reasons being low quality of life, high inequality, lack of basic infrastructures: roads, fast broadband connection, etc.).



Source: EUROSTAT⁸³

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

More than two-thirds of the Romanian territory is considered rural⁸⁴ and 53% of the population lived in rural areas in 2019. While decreasing, rural territories and rural population in Romania are among the highest in the EU. In 2019, the rural population decreased by more than 12% compared to 2010⁸⁵. Rural areas are characterised by depopulation, poverty and an ageing population. In the period 2010-2019, only the category of rural population over 64 years grew (by 9.4%) whereas the other two categories (<15 years and 15-64 years) decreased by 13% and 18% respectively⁸⁶ (slightly higher for women for the category 15-64 years⁸⁷). While in 2010, the net rural migration was around -10 000 inhabitants, this figure reached more than -60 000 inhabitants⁸⁸ in 2018, thus reflecting the depopulation trend of rural areas.

The unemployment rate in Romania has decreased by 44% since 2010, to reach 3.9% in 2019 (well below EU average of 6.7%). The unemployment rate in rural areas followed the same trend but the decrease was not so pronounced (-24%) reaching 4.6% in 2019 due to economic development and the massive migration process, especially among the active people. The unemployment rate in rural areas for the youth (15-24 years) is of a great concern: it is three times higher than the overall unemployment rate in rural areas. It is also higher than the EU average (13.4%)⁸⁹.

The employment rate in Romania was 70.9% in 2019, below EU average at 73.9%. The employment rate in rural areas in Romania (69.4%) is slightly lower than the average rate in Romania and below the EU average (73.8%). From the gender perspective, the male employment rate is higher by more than 20 percentage points than the women employment rate, making women more vulnerable⁹⁰. Agriculture, forestry and fishery remain the main activities in rural areas in terms of labour force (43% of the employed rural population) followed by processing industry (17%) and commerce (10%)⁹¹.

The increase in productivity of the agricultural sector and the migration process led to a reduction of the population working in agriculture from 30.4% in 2010 to 22.2% in 2017. In 2016, 44.9% of the agricultural labour force was women, and 34% of the farm managers were women, which was above the EU average of 28%⁹². Apart the full time workers, day-labourers are used in agriculture. Between 2011 and 2016, the number of day-labourers increased from 170.5 thousand to 803.6 thousand persons. Their share in the total labour force expanded from 1.2% in 2011 to 6.7% in 2016. 80% of day-labour is performed in agriculture (including vineries, orchards and animal husbandry), forestry and fisheries. This sector typically employs persons with lower levels of education, who at times combine seasonal work abroad with casual work in Romania.⁹³

Even if the national poverty rate, as well as the poverty rate in rural areas decreased since 2010 by 7% and 22% respectively, their values remain higher than the EU average. In 2018, the rural poverty rate in Romania was around 46%, much above the EU average poverty rate in rural areas (24%). Rural areas in Romania have also a higher poverty rate than the average of the country (33%)⁹⁴. The most vulnerable persons in rural areas are the elderly, single parents, disabled and minorities (especially Roma)⁹⁵.

The GDP per capita in Romania has been constantly increasing in the last years but is still below the EU average (66.8% in 2018). As regards rural regions, the GDP per capita is even lower (57.2% of the EU average GDP per capita in 2018). Even if the gap

between the GDP per capita in rural regions in Romania versus the national average decreased between 2012 and 2018 by 11 percentage points, there is still a high gap⁹⁶.

The Gross Value Added (GVA) almost doubled between 2010 and 2019 reaching EUR 202 billion in 2019. The GVA in rural areas followed the same trend, but the increase was limited to 24% over the period 2010–2016, reaching EUR 56 billion⁹⁷.

In terms of tourism, the total number of bed places in Romania increased between 2012 and 2018 by 22% in all types of areas. The biggest relative increase was registered in rural areas (+41% between 2012 and 2018). The majority of bed places are located in intermediate areas⁹⁸.

The quality of life in rural areas is much lower than in urban areas.: Road infrastructure is poor (with only 19% of rural roads being modernised⁹⁹); housing conditions are bad (with 50% of rural households having bathrooms inside and 47% of rural households having toilets inside¹⁰⁰) and basic services level is low (only 7% of nurseries and kinder gardens are located in rural areas¹⁰¹). The area covered by Local Development Strategies (LDSs) has increased under the current programming period compared to the previous one, covering 92% of the eligible area and 86% of the eligible population. The total budget allocated for Leader is around EUR 636 million. 31% of the projects financed under Leader are investments in improvement and development of rural infrastructure and services, followed by investments in non-agricultural activities.

The forest area has increased since 2010 by 1%, reaching 6.9 million ha in 2020, covering 30% of the total area¹⁰². Over the same time, the volume of growing stock has increased from 1377 million m³ over bark to 2354 million m³ over bark¹⁰³ and the harvested timber has increased by 15% reaching 19.46 million m³.¹⁰⁴ In 2017, 400 000 ha of broadleaves forests were affected by defoliating insects and 2% of the forests were affected by phenomenon of early drying due to adverse climatic events such as: increase of the temperature, successive and long-term droughts, early frosts, acid and short and heavy rains¹⁰⁵. In 2018, 0.6% of the total employment was in the forestry sector (the number of persons employed in the sector has increased by 22% since 2010). Even if labour productivity in the forestry sector has increased by 11% since 2012 reaching EUR 23 806 /AWU in 2018, it remains much below than the EU average (44%)¹⁰⁶.

After a big drop (22%) in 2009, turn-over in the bio-economy increased between 2010 and 2015 by 26% reaching EUR 37 billion. Agriculture and food contributes with more than 70%¹⁰⁷. In 2017, 2.4 million people were employed in the bio-economy sector. The value added per person employed in the bio-economy sector is very low at EUR 5 000 compared with the EU average of EUR 35 000¹⁰⁸.

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.

With increasing wealth, consumer demand in Romania has been evolving. Demand for meat (animal protein) and fruit and vegetables increased substantially in 2018 compared to 2014 (by 30.6 kg/inhabitant for fruit and fruit products, by 16 kg/inhabitant for meat and meat products¹⁰⁹) and decreased for cereals (4.6 kg/capita for cereals in the last 4 years) and potatoes (5.3 kg/capita over the period considered). The share of food consumption in household expenditure has decreased in recent years, from 43.4% in

2014 to 37.0% in 2018, but remains very high, compared to the other EU countries and is marked by large differences between urban and rural areas.

Romania has a very high burden from non-communicable diseases due to dietary risk factors expressed as Disability Adjusted Life Year (DALYs) per 100 000 population attributable to diet¹¹⁰. This DALY's value is influenced by a number of dietary factors. Romania has been the Member State with the poorest record regarding fruit and vegetable consumption¹¹¹. While the estimated average prevalence of overweight among adults in the EU is around 52%, including 14.9% being obese¹¹², the equivalent rates reported in Romania currently stand at 62.9% for overweight, and 10.4%¹¹³ for obesity. Efforts should focus on shifting towards healthy sustainable diets, in line with the national recommendations, in order to contribute to reducing the very high rates of overweight, obesity and the incidence of non-communicable diseases, while simultaneously improving the overall environmental impact of the food system. This would include more plant-based diets, with less red meat and more fruits and vegetables, whole grains, legumes, nuts and seeds. Romanian consumers appear to attach a lot of importance to quality¹¹⁴ and labels, and relatively less importance to the origin.

Sales of antimicrobial agents expressed as mg per population correction unit (PCU) have decreased since 2015, reaching 82.7 mg/PCU in 2018, and remain below the EU average of 118.3 mg/PCU. Further efforts are needed to maintain this downward trend and contribute to the overall EU target of 50% reduction in the sales of antimicrobials for farmed animals and in aquaculture by 2030. The most widely used highest priority critically important antimicrobials in animals in Romania are polymyxins and fluoroquinolones. Most antimicrobials in Romania are used in the sheep/goat and cattle industry, followed by poultry and pigs¹¹⁵.

In 2018, the sale of plant protection products (PPPs) totalled 11 107 tonnes¹¹⁶, a decrease in relation to 2017. While there are obvious variations in the use of PPPs, pesticide sales have remained largely stable since 2011 and are largely below the EU average¹¹⁷. Herbicides and fungicides are the most important category of PPPs sales, but insecticide sales have been expanding most rapidly in recent years.

Considering the withdrawal of PPPs from the EU market is one of the sources of a lower use of plant protection products in the Member States, the fact that Romania tends to grant emergency authorizations, may be seen as an obstacle for a more pronounced decrease of PPP use. These decisions and the lack of control on the implementation of Integrated Pest Management have slowed down the reorientation of farmers towards better agricultural and phytosanitary practices.

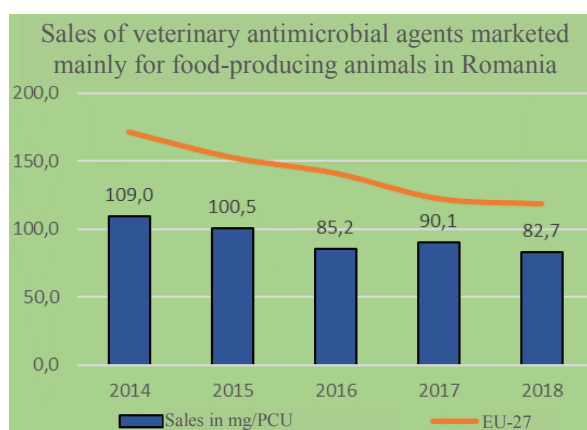
The Commission's assessment of the Romanian National Action Plan (NAP) and DG SANTE audit findings show that the overall situation regarding the sustainable use of pesticides is negative and raises concerns as to the compliance of national legislation with EU rules and its implementation. The identified issues are of particular significance, given the scale of the arable farming in Romania.

Food waste in Romania is a major problem. The main sources are: consumers (50%), producers/processors (44%) and the retail sector (6%)¹¹⁸. Statistics indicate 5 million tonnes of food waste each year, accounting for between a third and half of the total quantity of food intended for human consumption produced in one year, i.e. about 250 kg/inhabitant¹¹⁹ (above the EU average of 179 kg/ inhabitant). While food waste after the farm gate is well addressed in the recently adopted waste legislation, not enough

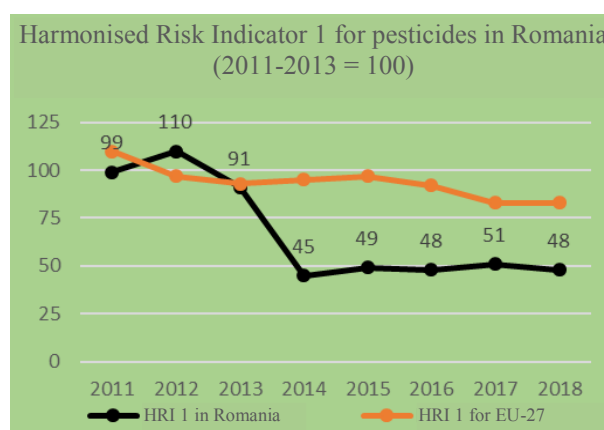
attention is given to food loss and waste occurring at the primary production level and the early stages of the supply chain. The issue could be tackled through the implementation of the national food waste prevention programme required by Article 29(2a) of the Waste Framework Directive 2008/98/EC.

Romania has a number of issues regarding the respect of the legal framework for animal welfare. For instance, the tail docking of pigs is a routine practice and the percentage of pigs reared with intact tails has barely changed since 2016. Conditions on farm must improve if the number of tail-docked pigs is to start to decrease. Romania programmed almost EUR 1 billion for animal welfare measure for pigs and poultry under the 2014-2020 RDP.

Biosecurity is a major challenge, considering that Romania is among the countries affected by African Swine Fever (ASF) where farms with low biosecurity and poor controls pose higher risk for animal disease infections and spread. Therefore, strong action is needed to establish, revise and upgrade biosecurity, registration of farms, identification and movements of animals, especially on pig farms.



Source: DG AGRI after ESVAC, Tenth ESVAC Report (2020)¹²⁰



Source: EUROSTAT [aei_hri]¹²¹

2.10 Cross-cutting objective on knowledge, innovation and digitalisation

The AKIS in Romania is weak and fragmented. There is no coherent policy targeting the development and functioning of the AKIS, which results in its subsystems being largely under the influence of sectoral policies and linkages among the various actors being rather weak. For instance, agricultural higher education institutions remain separate from the agricultural research institutes. Furthermore, there is little co-operation with agricultural consultancies providing direct training to farmers. Some limited investments have been undertaken in recent years to improve the effective functioning of the agricultural knowledge system.

Consultancy and vocational training to farmers is predominantly provided by the public consultancy network operating at the county level and by the agricultural consultancy centres operating at the level of rural municipalities. These bodies provide vocational training, as well as support and technical assistance for accessing EU funding, managerial consultancy, information and refresher courses. However, access to these services is fragmented and participation in training is low¹²². Private agricultural consultancy mainly deals with drawing up financial applications for EU funding. In the

case of large-scale projects, private consultants can help rural entrepreneur/farmer with their expertise throughout the project period.

Agricultural education consists of agricultural higher education, high-school level and vocational training. Over recent years, the number of graduates of agricultural schools has declined, which results in the overall low level of education of the managers of agricultural holdings, e.g. only 0.4% of farm managers have full agricultural training, while the overwhelming majority has only practical experience¹²³. The development of a life-long vocational training system is at an early stage.

Agricultural research is mostly carried out by the public research institutes under the umbrella of the Academy for Agricultural and Forestry Science. If the number of public research institutions remained relatively constant in the last 10 years, the number of private companies active in agricultural research declined by more than 50%¹²⁴. The budget allocated by Romania for research and development (R&D) decreased in the last 10 years by 35%¹²⁵. The budget for agricultural research followed the same trend, but the decrease was by only 6%. The Romanian R&D sector as a whole lacks investments and the country spends one of the lowest scientific budgets in EU on agricultural research (EUR 1.1 /inhabitant, compared with EUR 6.4 EU-27¹²⁶). Research focuses on the development and evaluation of agricultural technologies, provision of instruments and methods, which would improve a proper management of the agricultural sector and evaluation of the effectiveness of agricultural practices and agricultural policy. However, there is a lack of co-operation between agricultural research centres and agricultural stakeholders to implement research results.

Romania ranks 26th out of 27 EU Member States in the 2020 Digital Economy and Society Index (DESI)¹²⁷. Despite the fact that Romania has the highest speed internet connection, the coverage is lower than the EU average. 70% of rural households had access to internet in 2019, an increase by 275%, compared with 2010, but still under the EU average (80%). 78% of connected household use fixed broadband connectivity and 64% use mobile broadband connectivity¹²⁸. Only 52% of rural households have a computer compared with 76% in urban area¹²⁹. 49% of the Romanian households have an ultrafast (> 100 Mbps) broadband connection, while on the other hand, one-fifth of the Romanians have never used the internet. Within the EU, Romania has the least public internet services and use of internet services. For example, only 11% of the Romanians use internet banking. The connectivity in rural areas is lagging behind the national average as only 39% of the rural households are connected to the fixed internet. The 4G coverage in Romania is 85%, below the EU average of 95%. The preparation for 5G is in line with the other EU countries. Basic digital and software skills in Romania are among the lowest in the EU¹³⁰.

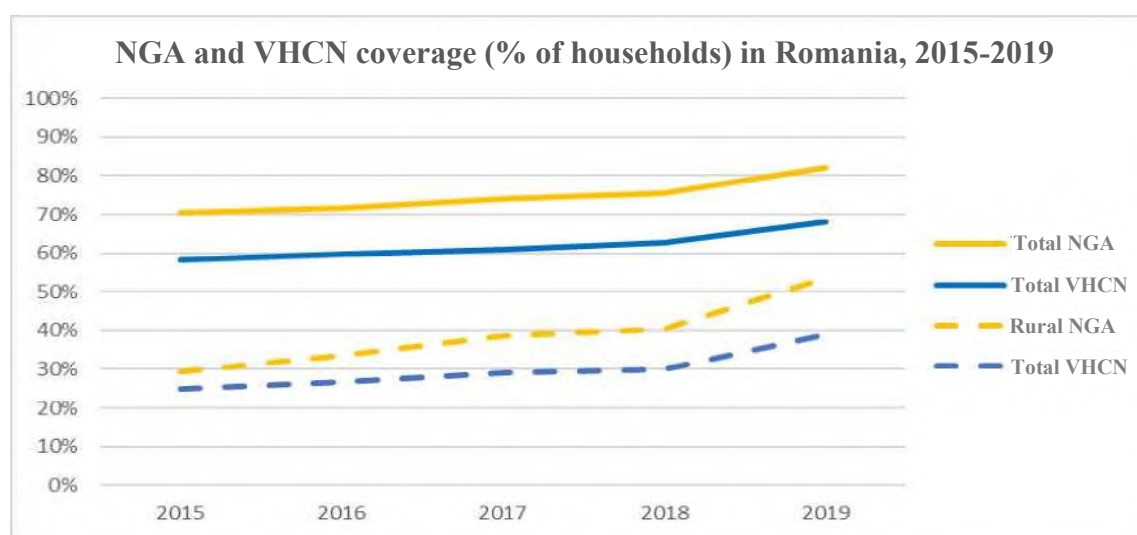
There is no official data, but according to an expert in digital farming, 50% of the farmers use GPS direction systems and yields measurement, whilst only 10% use equipment for precision farming¹³¹. Productivity gains could be realised by a higher uptake of digital solutions and investing in digital skills. It would create opportunities for crop farming and animal farming.

Romania has not yet opted for the use of satellite-based means to monitor CAP implementation but is currently part of EU projects dealing with the uptake of new technologies for the modernisation of CAP administrations, CAP controls and interactions with farmers.

Spending for training, knowledge transfer and advisory services under the 2014-2020 RDP is low. In the 2014-2020 programming period, Romania programmed 1.2% of the rural development funding for knowledge transfer and information actions, advisory services, farm management, farm relief services and cooperation-EIP, which is significantly below the EU average of 3.6%. It aims to support training activities for 96 000 persons, advisory services for over 48 000 farmers and owners of micro and small enterprises in rural areas and stimulation of innovation and co-operation. The implementation of these measures are running late, mostly due to the delays in selection of the providers and changes of the implementation mechanisms.

The set-up of the EIP-AGRI Operational Groups promoting innovation in agriculture is at an early stage. The first Operational Groups (OG) in Romania were established only in 2019¹³². 24 OG submitted an eligible project to be financed under the 2014-2020 RDP. The value of the projects proposed is EUR 8.5 million. However, the implementation of the projects has not yet started.

The National Rural Network has organised some activities connecting research actors such as universities and partners of Horizon 2020 projects with farmers, advisors and rural businesses. This experience can be the basis for the future national CAP network to intensify such actions and play a key role in promoting synergies between the CAP and European Research Area (ERA). The best way to do so is to stay in close touch with the Horizon Europe National Contact Point and to intensify the spreading of the information on the EIP-AGRI website. Moreover, by collecting and disseminating information, the CAP can finance interventions that help to make use of up-to-date scientific information for agricultural practices, for instance through the CAP network, its knowledge platforms and knowledge reservoirs, as well as by setting up advisory back-offices where the latest knowledge and innovation is collected and shared with the field advisors and the farmers.



Source: DESI Report¹³³

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- ² Innovation support services are a new obligation in Art 13(4)
- ³ Art 13(2) (new obligation) requests that advisors are integrated within the AKIS system (not in a separate advisory system, but serving or making use of all other knowledge and innovation interventions too). Their advice should cover economic, environmental and social dimensions and that should deliver up-to-date technological and scientific information developed by research and innovation. All this will need to be organised with dedicated AKIS interventions in the CAP plans (training of advisors, knowledge exchange with researchers, innovation support for EIP Operational Group projects, organising or involvement in on-farm demonstration, making use of advisory mobility budgets to go and learn abroad and spread new knowledge in the country/region, etc. Therefore, training and new skills will be essential for the future advisor.
- ⁴ European Commission. *CAP context indicator C.26 Agricultural entrepreneurial income*. Income based on EUROSTAT [aact_eaa04], [aact_ali01] and [aact_eaa06], 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 [nama_10_a10_e] thousand hours worked using employees domestic concept and [nama_10_a10], item wages and salaries. DG AGRI, based on ESTAT data
- ⁵ Directorate General for Agriculture and Rural Development own calculations based on FADN data (up to 2018).
- ⁶ Farm factor income is calculated as a value of agricultural production minus variable input costs (fertilisers, pesticides, feed, etc.) minus depreciation minus total taxes (on products and production) plus total subsidies (on products and production)
- ⁷ Farm factor income per worker in FADN is Farm Net Value Added per Annual Working Units (FNVA/AWU)
- ⁸ Directorate General for Agriculture and Rural Development own calculations based on FADN data (up to 2018). Figures may not be fully accurate due FADN encompassing farms above certain economic size only (in case of Romania it includes farms from EUR 2000 in economic size, which is only about 15% of all farms)
- ⁹ Farm Accountancy Data Network. *FADN Standard reports*. [YEAR.COUNTRY.SIZ6](#) and own calculations (up to 2018) DG AGRI, based on FADN data
- ¹⁰ Farm Accountancy Data Network. *FADN Standard reports*. [YEAR.COUNTRY.TF14](#) and own calculations (up to 2018)
- ¹¹ Farm Accountancy Data Network. *FADN Standard reports*. [YEAR.COUNTRY.ANC3](#) and own calculations (up to 2018)
- ¹² Farm Accountancy Data Network. *FADN Standard reports*. [YEAR.COUNTRY.REGION](#) and own calculations (up to 2018)
- ¹³ Update on 80/20 based on claim year 2018: note on the distribution of direct payments: Directorate General for Agriculture and Rural Development own calculations based on FADN (Farm Accountancy Data Network) data (up to 2018) and CATS (Clearance of Accounts Trailing System) data (up to 2018)
- ¹⁴ Background analysis by MS on income and targeting of DP: Directorate General for Agriculture and Rural Development own calculations based on FADN (Farm Accountancy Data Network) data (2015) and CATS (Clearance of Accounts Trailing System) data (up to 2017)
- ¹⁵ Directorate General for Agriculture and Rural Development own calculations based on FADN data (up to 2018)
- ¹⁶ Directorate General for Agriculture and Rural Development own calculations based on ESTAT data (up to 2016) and CATS (Clearance of Accounts Trailing System) data (up to 2018)
- ¹⁷ Farms whose household consumes more than 50% of the final production. Based on ESTAT, 2016.
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- ²² FAO, New Food Balances, <http://www.fao.org/faostat/en/#data/FBS>
- ²³ Directorate General for Agriculture and Rural Development based on [COMEXT](#)

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