

The ex-ante evaluation and strategic environmental assessment of the Strategic Plan 2023–2027 for Agriculture and Rural Development of Lithuania

Integrated summary

1st July 2022



Under the service contract No 8P-21-7 signed on 25th January 2021 between the Ministry of Agriculture and a group of economic entities consisting of JSC ESTEP Vilnius and the Public Institution Environmental Policy Centre.

The ex-ante evaluation of the Strategic Plan 2023–2027 for Agriculture and Rural Development of Lithuania (hereinafter referred to as the CAP SP or SP) was carried out during the implementation of the service contract No 8P-21-7 signed between the Ministry of Agriculture and a group of economic entities consisting of JSC ESTEP Vilnius and the Public Institution Environmental Policy Centre. The evaluation included an ex-ante evaluation of the CAP SP (hereinafter referred to as the SP ex-ante evaluation) and a strategic environmental assessment (hereinafter referred to as the SEA).

THE PURPOSE AND THE SCOPE OF THE SP EX-ANTE EVALUATION

The purpose and scope of the SP ex-ante evaluation is defined in article 139 of the Strategic Plans Regulation¹ (hereinafter – SPR): member states carry out ex-ante evaluations to improve the quality of the design of their CAP Strategic Plans. The scope of the ex-ante evaluation is defined by the elements indicated in Article 139 (3). The ex-ante evaluation shall assess:

- a) the contribution of the CAP Strategic Plan to achieving the specific objectives set out in Article 6(1) and (2), taking into account national and regional needs and potential for development as well as lessons drawn from implementation of the CAP in previous programming periods;
- b) the internal coherence of the proposed CAP Strategic Plan and its relationship with other relevant instruments;
- c) the consistency of the allocation of budgetary resources with those specific objectives set out in Article 6(1) and (2) that are addressed by the CAP Strategic Plan;
- d) how the expected outputs will contribute to results;
- e) whether the quantified target values for results and milestones are appropriate and realistic, having regard to the support envisaged from the EAGF and EAFRD;
- f) measures planned to reduce the administrative burden on farmers and other beneficiaries;
- g) where relevant, the rationale for the use of financial instruments financed by the EAFRD.

ACTIVITIES, STAGES AND METHODS OF THE SP EX-ANTE EVALUATION

According to the technical specification of the evaluation services and the methodological documents of the European Commission for the SP ex-ante evaluation, the elements of the SP ex-ante evaluation were divided into three parts and ten evaluation activities:

1. Appraisal of the situation analysis, SWOT and needs assessment:
 - 1.1. Appraisal of situation analysis and SWOT;
 - 1.2. Appraisal of needs assessment;
 - 1.3. Appraisal of the process of the SWOT and assessment of needs.
2. Appraisal of the intervention strategy, indicators and allocation of funds:
 - 2.1. Appraisal of the intervention logic and internal coherence of the CAP SP interventions;
 - 2.2. Appraisal of the external coherence of the CAP SP interventions with other relevant instruments;
 - 2.3. Appraisal of the target values of indicators and the links between outputs and results;
 - 2.4. Appraisal of financial plan;
 - 2.5. Appraisal of justification for the use of financial instruments.
3. Appraisal of the monitoring, data collection and implementation system of the SP (this part of the evaluation only covers issues related to the evaluation of administrative burden as the version of the SPR that entered into force on 2nd December 2021 contains fewer elements of the SP ex-ante evaluation than in the EC proposal on SPR of 1st June 2018):
 - 3.1 Assessment of administrative burden related with the implementation of some measures of the 2014-2020 RDP;
 - 3.2 Assessment of measures provided in SP to reduce administrative burden.

¹ Regulation (EU) 2021/2115 of the European Parliament and of the Council of 2 December 2021 establishing rules on support for strategic plans to be drawn up by Member States under the common agricultural policy (CAP Strategic Plans) and financed by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD) and repealing Regulations (EU) No 1305/2013 and (EU) No 1307/2013.

The SP ex-ante evaluation was carried out in stages, by evaluating parts of the SP prepared by the Ministry of Agriculture and submitted for evaluation:

- In the inception phase (February-March 2021), an inception report was prepared and agreed, which defined the activities, scope, questions, methods and preliminary timetable of the evaluation, i.e. deadlines for the submission of the prepared parts of the SP and the relevant evaluation reports.
- In the interim phase (April-December 2021), two interim reports were prepared:
 - a) The first interim report presents the results of an appraisal of the situation analysis, the SWOT and the needs assessment, and assesses the effectiveness of the measures to reduce administrative burden in the implementation of some of the 2014-2020 RDP measures (the report was prepared in July 2021 and revised in December 2021). The version of 21st June 2021 of the situation analysis and SWOT statements was analysed to assess the comprehensiveness, relevance and validity of the situation analysis and SWOT statements. These SWOT statements were revised by the Ministry of Agriculture in the light of the comments of the European Commission and the SP ex-ante evaluators.
 - b) The second interim report provides preliminary results of the evaluation of the intervention strategy, indicators and distribution of funds (the report was prepared in October 2021; it covered some of the SP interventions prepared until 1st October 2021).
- In the final phase (January-May 2022), a final report was prepared covering all parts and activities of the evaluation. In the final report covering intervention strategy, indicators and distribution of funds, the version of the SP draft of 10th January 2022, covering 74 intervention measures, was analysed (the list of evaluated interventions is presented in Annex 2 of the final report).

The evaluation elements and guiding questions (GQ) for SP ex-ante evaluation and are set out in the SPR and the tools prepared by the Thematic Working Group No. 7 of the European Network for Rural Development. The evaluation covers 20 evaluation questions, each with detailed evaluation aspects to be assessed. The evaluation questions and evaluation aspects are set out in chapter 1.2 of the final report. In order to answer these questions, the following data collection and analysis methods were used: desk research (relevant studies and evaluations, European and national strategic documents, etc.), analysis of administrative and statistical data, analysis of data related with the implementation of the 2014-2020 RDP, logic models, comparative analysis, analytical tables, expert judgement, etc.

The evaluation questions were analysed at the level of SP, CAP objectives or SP interventions (measures):

- **At the level of interventions**, links between the output and result indicators, the allocation of financial resources and the justification of unit amounts were assessed.
- **At the level of CAP objectives²**, the comprehensiveness of situation analysis, the evidence base for the SWOT statements and needs as well as intervention logic, internal coherence of interventions; a set of result indicators for each CAP objective, the quantified target values of the result indicators and the adequacy of financial resources to achieve the values of the result indicators were analysed.
- **At the level of SP**, the process of the SWOT and needs assessment was analysed; relevance of the allocation of financial resources (SP financial plan); external coherence of SP interventions with other relevant instruments; the justification for the use of financial instruments and the relevance of measures foreseen in the SP to reduce administrative burden.

SUMMARY CONCLUSIONS AND RECOMMENDATIONS OF THE SP EX-ANTE EVALUATION

Regarding the situation analysis and the SWOT statements (evaluation activity 1.1):

² 9 konkretūs tikslai ir kompleksinis tikslas.

1. One of the main weaknesses of the situation analysis is that in the situation analysis the lessons learned from the previous CAP interventions (direct payments and rural development measures) are poorly reflected, there is a lack of information on the impact of interventions on common impact and context indicators, on the basis of which the situation analysis is carried out and SWOT statements are formulated.
2. The weak reflection of the experiences of previous financing periods may have been caused by several reasons. First, the authors of the situation analysis focused on the analysis of quantitative indicators and were not sufficiently familiar with the results of impact evaluations of the previous interventions. Second, there was a lack of summary information on the impact of the interventions implemented or the impact was never evaluated. Third, RDP evaluation reports usually address a wide range of issues (many of which relate to the implementation of interventions rather than their impact) and the conclusions of impact evaluations are not sufficiently clear, making it difficult to use the results of evaluations in the analysis and preparation of the SP.
3. During the implementation of the CAP SP, we suggest to pay more attention to the impact evaluation and dissemination of evaluation results: to initiate more impact assessments focused on specific interventions rather than the whole SP, to separate implementation evaluations and impact evaluations (to analyse impact separately from administrative issues), to prepare summaries of evaluation results - memos for decision makers, social and economic partners.

Regarding the needs and their justification (evaluation activity 1.2):

4. During the evaluation, the definitions and justification of needs and their links with CAP objectives and SP measures were analysed. The evaluation of the intervention logic at the level of the CAP objectives analysed whether the planned interventions (assigned to the CAP objective) cover all relevant needs of the SP.
5. It was recommended to consolidate some of the needs (45 needs were identified in the SP draft version of 10th January 2022), thus reducing the total number of needs and reflecting their complexity and the links with the different CAP objectives. Some of the needs are defined as measures but not as changes to be achieved or problems to be solved with the implementation of the SP.
6. Some needs (5 out of 45 needs) are linked to several CAP objectives (for example, need a.5 "*Increase access to alternative financial resources for farmers*" is linked to objectives 2, 7 and 8; the need b.3 "*Upgrade existing land drainage systems by converting them to regulated drainage systems*" is linked to objectives 2 and 4; the need g.1 "*Support the setting-up of young farmers*" is linked to objectives 7 and 8), but these needs are defined as measures rather than changes to be achieved or problems to be addressed with funds of the CAP and thus their links to several objectives is in many cases have no value added. Supporting the setting-up of young farmers, upgrading land drainage systems or increasing access to finance is not a target in itself. These measures aim at specific changes in the agricultural sector or in rural areas. It is these changes that are suggested to be emphasized in the definition of the needs and their justification (for example, the need g.1 "*Supporting the setting-up of young farmers*" could be defined as follows: "*To take measures to attract and retain young people (including young farmers) in rural areas aiming at generation renewal (Objective 7), the vitality of rural areas and increased employment in rural areas (Objective 8)*").
7. In many cases, needs are not properly justified because they do not provide quantitative information on the scale of the problems or the change needed which is necessary to achieve to solve the problems identified. In the absence of quantitative information on the problems (size of needs) and the interventions needed, it is difficult to assess whether funds allocated to address the problem is sufficient (satisfies the need). The definitions and justifications of the needs should be more clearly linked to the common context and impact indicators in order to quantify the scale of the problem, the need for interventions (such as area, share of farms to be supported to achieve significant change) and so on.

8. Another important shortcoming of the definition of needs is that they have no clear links with the common results indicators. Although result indicators in many cases reflect only the scale of the intervention but not the change in economic, social or environmental indicators that the intervention is intended to achieve, a clearer link between needs and result indicators would allow a better assessment of the potential contribution of interventions to meeting these needs. Common context and impact indicators are more appropriate for defining change, but no quantitative targets are set for these indicators. Common context and impact indicators were used for SWOT analysis, but not the assessment of needs. Defining target values only for result indicators and a weak link between needs and common context, impact and result indicators limits the quantified comparison of funding for SP interventions and how it fits with needs.

Regarding the intervention strategy – links between the CAP objectives, needs and intervention measures (evaluation activity 2.1):

9. A consistent intervention logic is ensured by clear links between the CAP objectives, well-defined needs, interventions and indicators (at least result indicators, but ideally also context and impact indicators).
10. It was noticed that not all measures in the evaluated version of the SP are linked to the CAP objectives, and in those cases where measures are linked to the CAP objectives, there are gaps in their links with the needs (for example, it is foreseen that the measure is expected to contribute to the needs related with the specific CAP objective, but it is not foreseen that the measure will contribute to that specific CAP objective or vice versa). The evaluation followed the principle that a measure should be linked to a CAP objective only if it contributes to the needs related with that objective and / or result indicators relevant for that objective.
11. It was recommended to review a set of interventions attributed to each CAP objective (by indicating which measures are not closely linked to that objective and which could complement the set of interventions of that objective). All CAP objectives were subjects to such type of recommendations.
12. The interventions foreseen in the CAP SP are quite complex – 49 out of 74 interventions contribute to more than one CAP objective: 29 measures are associated with 2 objectives, 10 measures - with 3 objectives, 6 measures - with 4 objectives and 4 measures - with 5 objectives.

Regarding result indicators and their values (evaluation activity 2.3):

13. There are 44 results indicators in the Annex 1 of the SPR, but in the evaluated version of the draft SP 33 indicators are linked to the SP interventions and 11 indicators are not (R.3, R.13, R.15, R.20, R.21, R.23, R.30, R.37, R.41, R.42 and R.43). The evaluation includes detailed recommendations on linking most of these indicators to the interventions planned in the SP.
14. Following the recommendation of the ex-ante evaluation, only the result indicators R.15 and R.23 would remain unlinked to the interventions planned, as the SP does not foresee interventions for renewable energy (R.15) and sustainable water use (R.23).
15. Out of the 33 indicators linked to the SP interventions, **target values for 3 indicators were not set** (R.25, R.28, and R.35). It is suggested to adjust the SP by indicating the target values for these indicators or explaining why they are not set at this stage.
16. At the level of the CAP objectives recommendations are made for the **wider application of some result indicators**, i.e. it is proposed to link the 33 indicators currently included in the SP to a larger number of SP measures.
17. The evaluation of target values of the output and result indicators shows that the **target values of some indicators lack validity and (or) ambition**, for example output indicator O.31 in measure *KP21sum - Smart Villages*, result indicators R.9, R.33 and R.44.
18. At the level of measures, it was found that the **result indicators were not indicated** in case of 6 SP measures (SP03med1, SP03med4, SP03med5, SP02vyn, KP27Tgo, KP28tap). We suggest adjusting the descriptions of the measures, indicating which result indicators will be used to monitor the implementation of these measures.

19. At the level of the CAP objectives, more suggestions have been made on how to adjust the result indicators of the interventions linked to the respective objectives, in order to allow, with the help of monitoring data, the fullest possible assessment of the results of the measures and their contribution to the different objectives (see chapter 3 of the final report).
20. When linking SP measures and common output and result indicators, we propose to follow the principle "more is better", i.e. apply all relevant indicators at measure level (including horizontal output indicators such as *O.3 Number of beneficiaries of CAP support*).

Regarding the financial plan (evaluation activity 2.4):

21. The total amount of funds for rural development measures decreases by almost 55%, but due to the shorter SP implementation period the average annual amount for rural development interventions decreases less significantly – about 20% (from EUR 312 million per year to EUR 250 million per year).
22. The overall amount for direct payments decreases by 31%, but due to the shorter SP implementation period the average annual amount for direct payments increases by 25% (from EUR 482.8 million per year to EUR 602.5 million per year).
23. The total amount for sectoral interventions increases by 168%, and the average annual amount increases by 202% (from EUR 726 thousand per year to EUR 2.2 million per year). When assessing the change in the financing of sectoral interventions, it is important to take into account that in 2014-2022 support for fruit and vegetable producer organizations started only in 2021.
24. The SP lacks information on how the budget of individual measures has been determined. The unit amounts in some measures are presented without an explanation on how they were calculated. The SP also does not explain how the overall funding intensity is determined at the level of each measure. It would be useful to have this information in the SP. More detailed recommendations are provided at the level of the measures assessed.
25. The allocation of funding for some measures was determined by the minimum ring-fencing requirements for direct payments and rural development interventions set out in Articles 92, 93, 95, 97 and 98 of the SPR. According to the information provided in Table 6.1 of the SP, in some cases Lithuania plans to allocate more funding than the minimum requirements of the SPR.
26. We positively evaluate the fact that in 2023-2027 the LEADER initiative would receive more funding than the minimum amount set in the SPR (5% of rural development funding). Because of the new measure *KP21sum - Smart Villages* for which it is planned to allocate EUR 15 million (together with national funds), average annual funding for local initiatives in 2023-2027 will be higher than in 2014-2020 (including the transition period).
27. We also welcome the fact that more funding is planned for the support of young farmers than indicated in Annex XII of the SPR (Annex XII of the SPR stipulates that EUR 90 368 015 must be allocated to young farmers in 2023-2027, and Lithuania plans to allocate EUR 142 579 625).
28. In discussions with the social and economic partners, it would be useful to provide detailed information on which 2014-2020 RDP measures and areas of activity will be continued (with minor or major changes) in 2023-2027, and which measures will be abandoned and why. This would provide useful information on the continuity of measures, compromises and policy decisions that need to be made in the preparation of the SP and in order to balance the needs and priorities of different stakeholders.
29. Overall, the evaluation shows that a significant number of rural development measures related to the social aspects of the CAP have been abandoned (rural development, quality of life, services and infrastructure in rural areas, creation and development of non-agricultural businesses). In the SP, as well as in discussions with the social partners, more attention should be paid for justifying and explaining these decisions.

Regarding the external coherence of SP interventions (evaluation activity 2.2):

30. The activities of the planned SP interventions that contribute to the implementation of the EU policy goals set out in the EU Farm to Fork Strategy and in the EU Biodiversity Strategy 2030 are

presented in section 2.3.3 of the SP. Although the SP does not identify specific indicators related to these strategies, linking result indicators to quantitative EU 2030 targets would be useful to assess the ambition and quantitative contribution of the SP to the EU's 2030 targets.

31. When describing the coordination, demarcation and complementarities between the EAFRD and other Union funds active in rural areas, information is provided about the links between the SP measures and measures financed by the Recovery and Resilience Facility, the Modernization Fund and national Climate Change Programme. The needs of rural areas are also being met by the investments planned for 2021-2027 under the investment programme of the EU funds (i.e., the investments of the European Regional Development Fund, the European Social Fund+, the Cohesion Fund and the Just Transition Fund), the Programme of the Lithuanian fisheries sector for 2021-2027 (European Maritime, Fisheries and Aquaculture Fund), possible synergies between rural development measures and projects under the EU Programme for Environment and Climate Action LIFE and the EU Framework Programme for Research and Innovation "Horizon Europe". It is recommended to supplement section 4.5 of the SP with an overview on how EAFRD measures are compatible with the activities to be financed by these funds.
32. Part 4.5 of the SP lacks information on the planned process of coordinating the interventions of different EU funds, what coordination and demarcation mechanisms will be used to coordinate activities funded from different sources, manage the risk of double funding, identify and filling in the funding gaps.

Regarding the use of financial instruments (evaluation activity 2.5):

33. The SP intends to allocate 5.2% of CAP funds (EUR 65 million) in the form of financial instruments. The decision to extend the use of financial instruments in terms of both interventions and funding amounts is welcomed. The justification provided in the SP on the use of financial instruments is clear and based on analysis, market failures and financing needs.
34. Because of the declining EU funding and in the light of the SWOT analysis as well as the ex-ante evaluation of financial instruments, it is recommended to consider the possibility to further extend the use of financial instruments and provide SP support for the measure *KP12vld - Investments in large farms* only in the form of soft loans or, in case the grant and the soft loan are foreseen for this target group, soft loan shall be granted only to finance working capital.

Regarding measures to reduce administrative burden (evaluation activities 3.1 and 3.2):

35. In order to assess the effectiveness of the measures to reduce the administrative burden (hereinafter referred to as AB) implemented in 2014-2020, an assessment of the AB for applicants and beneficiaries of the three 2014-2020 RDP measures/activity areas was carried out: activity area 4.1 "Investments in Agricultural Holdings", measure 11 "Organic Farming" and activity area 16.3 "Support for Cooperation of Small Economic Entities". Following a survey of beneficiaries, the administrative burden was assessed in terms of time and financial costs.
36. The evaluation results show that beneficiaries experience the highest AB at the application stage. It takes time for applicants to familiarize with the application form and to prepare documents to be submitted with the application. In case of investment measures, the additional AB arises from the preparation of the business plan, so the simplified form of the business plan is considered as a relevant improvement. Beneficiaries consider procurement to be the most complex and problematic obligation.
37. In the light of the evaluation results, areas and possible simplifications were identified that would help to reduce the AB for the beneficiaries in 2023-2027. One of the key suggestions is to make the method of simplified cost option more widely available. This simplification would facilitate the procurement process, which is considered by beneficiaries to be one of the most complex obligations. Reducing duplication of information in payment claims and final project implementation reports by digitizing the preparation of these documents (transfer of relevant information from payment claims to the final project implementation report form, thus filling it in partially) would also help to reduce AB. The development of the functionalities of the NMA

AGRO application and the improvement of the ŽŪMIS system would also contribute to the reduction of AB (see chapter 5 of the final report for more details).

38. The aim of reducing administrative burden is not clearly reflected in the design of SP interventions, and the information provided by SP on actions to reduce administrative burden (such as the IACS control and penalty system) is not sufficiently detailed. Much of the more detailed information was found by the evaluators on the websites of the National Paying Agency or the Agricultural Information and Rural Business Centre. A large part of the recommendations are suggestions to supplement the SP with more detailed information (for more details, see chapter 6.6 of the final report).

PURPOSE AND SCOPE OF THE SEA

The strategic environmental assessment (SEA) of the Strategic plan 2023–2027 for Agriculture and Rural Development of Lithuania (SP) was carried out in accordance with the Description of the Procedure for Strategic Environmental Assessment of Plans and Programmes approved by the Government of the Republic of Lithuania Resolution No. 1467 of 23 December 2014.

The assessment focused on the environmental and climate considerations addressed in the SP, namely, whether the implementation of the SP can have a negative impact on the environment and climate, whether it creates conditions for improving the state of the environment and contributes to the strategic environment and climate goals. It was also aimed to integrate the SEA into the planning process and to improve the SP in terms of environment, climate and sustainable development.

SEA ACTIVITIES, STAGES AND METHODS

Within the SEA framework, a SEA scoping document was prepared and provided to the authorities, and the public was informed about the start of the SEA through an announcement in a national newspaper and on the website of the Ministry of Agriculture of the Republic of Lithuania. The comments of the authorities on the scoping document were taken into account in the preparation of the final SEA report.

The final draft of the SEA report was submitted to the authorities and the public for consultations, an announcement in a national newspaper and on the website of the Ministry of Agriculture of the Republic of Lithuania informed about a public SP and SEA report presentation event and invited comments and suggestions for improving the documents. On 6 June 2022, the final draft of the report was presented at a public event. The final SEA report was prepared taking into account the comments received from the authorities.

The SEA addressed the likely significant effects of the SP on:

- biodiversity (including fauna and flora) as well as for the protected areas and the European Ecological Network Natura 2000 areas,
- human health,
- soil,
- water,
- climate,
- air,
- cultural heritage,
- landscape,
- natural resources and material assets.

Having in mind that the SP is a strategic planning document of the highest – national – level, assessment of the likely effects of the SP implementation was performed in relation to the goals set in international and national strategic documents in the field of environment and climate.

All potentially significant effects of SP interventions were characterised having regard to the magnitude and spatial extent of effects; the probability, duration, frequency and reversibility of effects; the cumulative, synergetic and transboundary nature of effects.

An expert assessment was used to describe the effects of the planned SP interventions. As the reasonable alternative to the SP the situation if the funding was continued under the support programmes of the previous CAP 2014-2020 period was evaluated.

GENERAL CONCLUSIONS AND RECOMMENDATIONS OF THE SEA

The assessment has demonstrated that SP will contribute to the achievement of the national and international environmental, climate and sustainable development goals. However, despite of improvements in environmental architecture and increasing coverage of agri-environmental measures compared to the previous CAP 2014-2020 support programme, SEA indicates a number of significant negative aspects of SP implementation, as well as insufficiency of safeguards and measures for achieving the strategic goals in the fields of biodiversity, landscape protection, climate mitigation, air pollution reduction, and water protection.

Effects on biodiversity, protected and Natura 2000 areas

- a) Eight standards of good agricultural and environmental conditions of land (GAEC standards) and 34 SP interventions will affect biodiversity; however, significant positive consequences are related only to two GAEC standards (GAEC8 and GAEC9). Maintenance and restoration of grasslands and wetlands (including the natural habitats found therein), conversion of eroded land into grassland, maintenance of landscape elements, and similar targeted interventions will have a significant positive impact on biodiversity.
- b) Taking into account the experience of the previous funding period, it is predicted that GAEC1 standard, which remains essentially unchanged, will lead to a further decreasing trend of permanent grassland. The requirements of GAEC2 standard, which create conditions for the drainage and ploughing of some peatlands, do not ensure sufficient protection therefore, which leads to negative impacts for biodiversity.
- c) The activity "Maintenance of natural grassland, wetland and habitats of EC importance in grasslands and wetlands" under the intervention "Comprehensive grassland maintenance scheme" is planned for a very small area – 10,341 ha. This is only about 12 percent of all mapped habitats of EC importance, the maintenance of which is linked to agricultural activities. The protection and maintenance of these areas in good condition are of priority importance in Lithuania, but the planned scale of implementation is insufficient.
- d) Interventions that support intensive farming across the whole area of agricultural land (e.g., basic direct payments) will have significant negative effects on the biodiversity. Another example – the intervention "Areas less favourable for farming", which will be implemented in naturally sensitive areas and will cover about 17.1 percent of agricultural land, but will promote environmentally unfavourable agricultural practices (such as arable farming causing significant soil erosion on unproductive land).
- e) The interventions with positive effects on biodiversity are planned to be implemented only on 13.6 percent of the agricultural land, meanwhile the extent of the interventions with negative effects will be much higher.
- f) The experience and lessons learned from the previous funding period were taken into account when planning the SP interventions. In order to increase the activity of applicants, many eco-schemes provide for a greater variety of activities, a shorter commitment period, and larger amounts of payments. In addition, many SP interventions are planned to be implemented by using thematic layers of GIS maps and preserving some specific protected species and habitats on the location sites of these values. However, in general, there is a lack of detailed specification of the application of some environmentally friendly interventions according to appropriate areas.

- g) The definition of an active farmer provided in the SP needs to be revised, as it does not include entities such as directorates of protected areas, state forestry enterprise, and non-governmental organizations. All these entities currently play an important role in maintaining the good condition of the agricultural landscape, habitats and species (especially protected species and habitats of EC importance), but due to the narrowed definition of an active farmer, they will not be able to apply for support, which is likely to lead to the degradation of the aforementioned natural values.
- h) Another problem in the SP concerns the basic direct payments which cannot be paid in a number of wetlands and habitats of EC importance covered with trees and shrubs, the maintenance of which is directly related to the implementation of extensive agricultural activities. It is proposed to expand the definition of permanent grassland and pasture as well as the classification methodology for the control plots of land.
- i) Summing up, the SP interventions and the extent of their implementation will have a positive, yet insufficient impact on the achieving of the strategic goals of biodiversity protection. Thus, there will be no significant breakthrough in stopping the loss of biological diversity of the agricultural landscape in Lithuania in the coming SP implementation period.

Effects on human health

- a) More than 40 SP interventions will be linked to strengthening public health and well-being and reducing social exclusion. These are interventions that improve the quality of the entire environment (air, water, soil, climate), enhance farmers' abilities, knowledge and cooperation, and promote food product quality systems and short supply chains.
- b) Interventions that improve the status of water bodies will positively affect human health and well-being, since there will be more suitable conditions for swimming and fishing, and the risk of health effects will decrease.
- c) Interventions related to the modernisation of farms and possibly reduced use of mineral fertilizers could lead to a reduction in air pollution, which in turn should also have a positive impact on human health and well-being.
- d) Human health and well-being is likely to be positively, although indirectly, affected by the implementation of climate change mitigation measures. SP interventions related to adaptation, resilience to climate change and its impacts will reduce potential production losses and social exclusion.
- e) Compared to the support period of 2014-2020, the increasing area of organic farms and the implementation of other measures to improve the condition of the soil should lead to a bigger market for healthier food.
- f) SP interventions should contribute to building infrastructure in the countryside, reducing the lack of services (including education), improving a weakly diversified economy, reducing the risk of low income, greater poverty and social exclusion, creating a stronger, brighter, more cooperative and more modern community.

Effects on soil

- a) There are nine GAEC standards and 26 eco-schemes, rural development and coupled support interventions that are related to soil protection.
- b) The interventions of the SP eco-schemes aimed at increasing the areas of grassland, ensuring crop rotation, promoting the cultivation of cover crops and under-sowings, the development of organic farming will have direct positive effects on the implementation of the national soil fertility preservation goal due to the increased organic carbon content in soil, reduced fertilization and the need for plant protection measures – reduction of pollution with chemical substances.
- c) The areas of many follow-up interventions will increase in this support period of 2023-2027 (for example, the areas of support for cover crops and extensive wetland management will approximately double). New interventions relevant to improving soil conditions, such as support for application of no-tillage technologies, are also planned. Due to the high potential of

increasing organic carbon (in the areas where the measure is implemented, this would be equivalent to about 200 kt/year) and the significant (40-80 percent) erosion reduction, no-tillage should become one of the most important means of improving the soil condition. The increase in the number and area of intervention measures contributing to the improvement of the soil condition should lead to positive shifts in achieving the goal of preserving soil fertility.

- d) GAEC standards are not ambitious enough to ensure greater positive effects. For example, GAEC5 intended for the protection of cultivated slopes focuses only on slopes steeper than 12 percent ($\sim 7^\circ$), i.e. a very small part of erosion sensitive areas. The GAEC1 requirement for maintaining grassland areas is national, so it is likely that grassland areas will decrease in soil sensitive areas, and soil organic matter will be lost in already degraded soils. Compared to the current situation, GAEC6 fails to ensure the increase of the soil cover in the period most sensitive to pollution and erosion. The permission provided in GAEC2 to repair and reconstruct the existing drainage systems gives rise to a risk of wetland drainage and loss of organic carbon.

Effects on the status of water resources

- a) GAEC standards relevant to water status protection (determining the requirements for maintaining permanent grassland, establishing buffer strips along water courses, protecting soil in the most sensitive period, and those for minimal crop rotation) will prevent further deterioration of the status of water bodies. As a result of the additional requirement set by GAEC1 to create a minimum 3 m wide grass buffers along the reclamation ditches, reduced nutrient leaching into water bodies can be expected; however, in the target basins of water bodies at risk the grassland areas may continue to decrease, which will contribute to the increased pollution risk.
- b) 13 eco-scheme interventions will have positive effects on the status of water bodies. Their implementation will reduce fertilization demands and, respectively, nutrient leaching into water bodies. The largest positive effects will be brought about by removing arable land from crop production and converting it into grassland, but the coverage of such measures will be very small (about 4 percent of the total arable land area). Also, positive impacts on the status of water bodies will be generated by the increasing areas of cover crops and under-sowings as well as the expansion of organic farming.
- c) Coupled support to protein cropping can also contribute to improving the status of water bodies on condition of proper utilization of the protein crop benefits and reduction of fertilization with mineral fertilizers. However, growing of protein crops is also associated with the risk of nitrogen leaching.
- d) Eight rural development measures will also contribute to the reduction of water pollution; the most significant direct effects will be brought about by the investments in controlled drainage, sustainable investments in agricultural holdings, and support for continued obligations of organic farming.
- e) The actual SP contribution to the achievement of water protection goals will greatly depend on the number of measures implemented in the basins of water bodies at risk where pollution reduction is required, and on the awareness and competences of farmers in selecting and properly implementing the eco-scheme measures.
- f) Taking into account the expected coverage of SP measures and their effectiveness in reducing nutrient pollution, it can be predicted that SP interventions may reduce agricultural nitrogen pollution loads by up to 25 percent. Such reduction will be significantly lower than what is needed to achieve environmental objectives (especially in the most affected river basins where nitrogen pollution loads need to be reduced by 60-70 percent).
- g) When forecasting expected changes in water bodies' status, it is important to consider the fact that they will be greatly influenced by external factors, such as the prices of mineral fertilizers and the demand for agricultural products. Intensive crop production may continue to have negative impacts on the status of water bodies. On the other hand, the rising fertilizer prices may result in decreased intensity of crop production and the increased attractiveness of fertilizer reducing measures in the basins of water bodies at risk (for example, cover crops, protein crops, under-sowings), thus a higher reduction of water pollution may be achieved.

Effects on the climate

- a) Most climate-related SP interventions are focused on the enhancing carbon sequestration; hence, the biggest impact of the SP will be related to the GHG balance of the LULUCF sector. At least 18 SP interventions will affect carbon sequestration. These interventions will work both passively, preventing the increase of emissions, and actively, increasing carbon storage in soil and forest biomass.
- b) The greatest positive impact on soil carbon sequestration is expected due to the expansion of no-till practices and organic farming. The support provided by the SP for the conversion of arable peatlands into grasslands can also make a relatively significant contribution to reducing emissions, since drained organic soils are one of the main sources of emissions from the LULUCF sector.
- c) Taking into account the relatively small area of afforestation measures (making up 4 percent of the demand set in the National Energy and Climate Plan), the SP potential to contribute to GHG sequestration in forest biomass is regarded to be small.
- d) The preliminary assessment shows that the annual LULUCF sector GHG absorption can increase by about 30 percent as a result of SP interventions.
- e) The reconstruction and repair of the drainage system permitted under GAEC2 standard as well as missing restrictions on land ploughing can have negative consequences for the GHG balance of the LULUCF sector.
- f) The use of mineral fertilizers is the most important source of GHG emissions in the agricultural sector. Expansion of organic farming will be one of the most important factors that will reduce the use of mineral fertilizers, and at the same time sector GHG emissions. Support to the cultivation of protein crops has considerable potential to reduce the use of mineral fertilizers as well, but the impact of this intervention will depend on the competences of farmers and their ability to use the benefits provided by protein crops. In total, 11 SP interventions can potentially contribute to reducing the use of mineral fertilizers. The overall SP contribution in reducing GHG emissions related to the use of mineral fertilizers can be about 15-20 percent; however, the use of mineral fertilizers will also be greatly influenced by external factors, such as the prices of fertilizers and agricultural products.
- g) SP investments in sustainable manure and slurry management solutions will contribute to further reduction of emissions from the livestock sector. As a result of SP interventions, emissions related to manure management can be reduced by 0.5 percent.
- h) Preliminary calculations show that the SP will facilitate reduction of agricultural GHG emissions by about 4 percent. This is significantly less than the strategic goal of 18.6 percent.
- i) The SP will also contribute to increasing the resilience of farms to climate changes and will reduce the risk of possible production losses.

Effects on the air quality

- a) Reducing the use of mineral fertilizers in crop production and applying manure and/or slurry management solutions that mitigate environmental air pollution and odours in livestock production will reduce NH₃ and NO_x emissions. One GAEC standard and 10 interventions should directly contribute to the prevention of the increase in NH₃ and NO_x emissions in the crop sector. The amount of NH₃ emitted can be reduced by approximately 200 t/year due to the fertilization restrictions set in the eco-scheme measures.
- b) Support for sustainable investments in agricultural holdings will enable the introduction of advanced manure/slurry management technologies and will reduce NH₃ and NO_x emissions from the livestock sector.
- c) Investments in innovative agricultural machinery and technological solutions should reduce PM_{2.5} emissions. Due to the minimum use of agricultural machinery, support for non-arable farming is especially important – the amount of PM_{2.5} emitted in these supported areas can be reduced by 50-85 percent. Support for sustainable investments in agricultural holdings should also directly contribute to the reduction of the amount of PM_{2.5} emitted by the livestock sector

- this will enable the implementation of manure and/or slurry management solutions that reduce environmental air pollution.
- d) 14 interventions prohibiting, limiting or reducing the need for the use of plant protection products will have a direct impact on reducing the amount of volatile organic compounds (VOC) emissions.
- e) Indirectly, negative effects on the air will also be reduced by five advisory and educational interventions.
- f) Considering the fact that pollutants move with the air and ignore national borders, the effects of any measures to reduce air pollution will also be transboundary.

Effects on the cultural heritage

No SP interventions directly related to the protection of cultural heritage have been planned; however, certain positive effects can be expected through the LEADER program, which will provide opportunities for local activity groups to implement cultural and natural heritage management projects.

Effects on the landscape

- a) Two GAEC standards (GAEC8 and GAEC9) and five eco-scheme interventions can have positive consequences for landscape protection goals by helping to maintain and preserve the existing and to create new landscape elements. Many other interventions will have an indirect, negligible impact on the intended landscape protection goals, or their positive impact will depend heavily on the attractiveness of the interventions to traditional landscape-conservation activities in agriculture.
- b) There are certain gaps in the SP that will prevent the achievement of strategic landscape protection goals. For example, according to GAEC1 and GAEC2 standards, it is allowed to reduce permanent grassland areas which are particularly important for maintaining the landscape mosaic and geo-ecological potential.
- c) The biggest negative effects on the state of the landscape may arise from basic direct payments and support for farming in areas less favourable for farming. These interventions, depending on the market conditions, lead to an increase in the intensity of economic activity and the development of grain crops, which is usually implemented at the expense of permanent grasslands. Support for farming in less favourable areas is provided in naturally sensitive landscape areas.
- d) Notwithstanding the gaps, in general this SP is significantly more focused on maintaining and restoring the landscape in good condition than the plan of the previous funding period. A number of new or supplemented interventions for the maintenance and restoration of the existing landscape elements or structural parts of its habitats have been planned. However, the positive effects on landscapes are likely to be outweighed by the effects of much more widespread interventions with negative impacts and therefore the state of the landscape will continue to deteriorate, although at a slower rate than in the previous support period.

Effects on the natural resources and their use

- a) SP investments in bio-economy businesses and agricultural holdings can directly and significantly contribute to the achieving of circular economy goals and to the increased efficiency of energy consumption. More accurate assessment of the potential impact of SP interventions is not possible at this stage of planning, since the nature of the projects that can contribute to the goal and the scope of their implementation are not yet known; however, considering the rather large funding provided for these measures (EUR 50 and 253 million, respectively), a fairly significant contribution of these measures to achieving the strategic objectives of the sustainable use of natural resources can be expected.
- b) The SP support for the development of short supply chains will reduce the carbon footprint of agricultural production and will also have a direct positive impact on the sustainable use of resources.

- c) The SP support for afforestation and sustainable forest management will contribute to achieving the strategic goal of increasing the forest cover; however, due to low volumes of afforestation, the support contribution will be very small. As a result of SP interventions, the area of forests is expected to increase by only 0.16 percent, while the strategic goal of increasing the forest cover in Lithuania is 1.3 percent. In order to achieve greater effectiveness of interventions, it is necessary to apply the principle of regionalisation, according to which interventions would be better targeted by increasing the forest cover where it is lacking the most and not encouraging the development of forests in regions dominated by wooded landscapes.
- d) The interventions for consulting and training of farmers supported by the SP will increase the competences and environmental awareness of farmers and will indirectly contribute to more sustainable management of natural resources.

In order to avoid the negative effects of agricultural activities, to compensate them and better contribute to the achievement of strategic environment and climate goals, it is recommended:

- to review and amend the GAEC standards (GAEC1, GAEC2, GAEC4, GAEC5, GAEC6, GAEC7, GAEC8, GAEC9) to ensure a higher level of environmental protection;
- to review, clarify and amend the design, requirements and eligibility conditions of some environment-related SP interventions to ensure their greater effectiveness (proposals have been developed for 13 interventions, nine of which are eco-scheme interventions);
- to consider additional interventions for wetland management;
- to review the definition of an active farmer.

The SEA shows that the environmental effects of the SP will largely depend on the needs of the applicants and their initiative to implement environmentally friendly solutions, the spatial distribution of the measures, external factors (such as production demand, fertilizer prices, etc.), so it is impossible to predict all the effects at the present stage. For proper management and control of the SP effects, continuous monitoring of environmental parameters and analysis of the SP impacts is required, based on the results of which relevant adjustments of the SP could be done if necessary. A very important factor in order to reduce the environmental impact will be the competences and awareness of farmers, therefore, during the entire period of support, they must be actively educated and consulted, and the dissemination of information must be ensured.

The effects of many SP interventions will be felt only during their implementation. This means that termination of environmental interventions upon the end of the support period is likely to have a negative impact on the environment, thus it will be necessary to ensure the continuity of the implementation of the measures.