#### **10. SUMMARY OF THE STRATEGIC ENVIRONMENTAL ASSESSMENT REPORT**

The Strategic Environmental Assessment (SEA) Report presents the results of the strategic environmental assessment of the Rural Development Programme 2014-2020, which was carried out pursuant to the requirements laid down in Resolution No. 967 of the Government of the Republic of Lithuania of 18 August 2004 on the approval of the Procedure for the strategic assessment of the effects of plans and programmes on the environment (Official Gazette, 2004, No. 130-4650) and in Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment, and taking into account the recommendations provided in the Strategic Environmental Assessment Guide (ISBN 9955-9845-1-1, Vilnius, Lithuania, 2006).

The SEA was undertaken as a parallel process which was coordinated with the preparation of the Rural Development Programme (RDP) and provided its inputs thereto. Also, consultations and exchange of information with relevant public authorities and general public were carried out. Since the Rural Development Programme 2014-2020 has been developed at the national level, information on the SEA was first of all provided to the public by publishing notification of the defined scope in regional and national press (announcements were published in one national and seven regional newspapers on 4-5 July 2013).

A SEA Scoping Report was drafted and submitted to the SEA entities (Ministry of Environment, Ministry of Culture, Ministry of Health, and Service for Protected Areas under the Ministry of Environment) in July 2013. The SEA entities provided their conclusions and proposals on the SEA Scoping Report at the end of July 2013. The SEA Scoping Report was supplemented and revised taking into account these conclusions and proposals and then once again submitted to the SEA entities in September 2013. No additional comments were received from the SEA entities.

Based on the final SEA Scoping Report, a draft Report on the Strategic Environmental Assessment of the RDP was prepared. This draft has been available for the public at the headquarters and on the websites of the entity responsible for the drafting of the Rural Development Programme (Ministry of Agriculture) and the SEA consultant since 15 May 2014. The public was informed about the possibility to submit their proposals for the draft Rural Development Programme 2014-2020, the draft SEA Report and about a public meeting to be held on 16 June 2014 in regional and national press, so there was a month for public access to information.

Consultations with authorities responsible for the protection of the environment, public health, cultural heritage, and protected areas will be started following the public consultation procedures: the SEA Report, the draft Rural Development Programme, and public consultation documents will be submitted to the SEA entities (Ministry of Environment, Ministry of Culture, Ministry of Health, and Service for Protected Areas under the Ministry of Environment). Conclusions and proposals of the SEA entities on the SEA Report and the draft Regional Development Programme will be analysed and taken into account when supplementing and revising the SEA Report. At the end of the SEA process, the public will be informed about the decision on the Rural Development Programme (approval of the Programme) publishing the information in the regional and national press. The assessment identified that the implementation of the Rural Development Programme 2014-2020 will not have any significant effects on the environment of other countries, therefore no transboundary consultations were carried out.

The Report on the Strategic Environmental Assessment of the Rural Development Programme 2014-2020 consists of 10 chapters.

The Introductory Chapter lists the key objectives and phases of the SEA.

Chapter 2 presents the assessment techniques, describes the difficulties encountered during the assessment, and provides the assumptions made for the assessment.

It is stated that the Rural Development Programme 2014-2020, which is currently being drafted, addresses strategic directions for action without relating them to any specific territory or area (the area subject to the impact covers the entire territory of the Republic of Lithuania), so the only suitable strategic environmental assessment method is evaluation in terms of environmental protection and sustainable development aspects (goals).

The assessment in terms of environmental protection and sustainable development aspects (goals) was carried out using the following basic methods: analysis of strategic documents and legislation; analysis of secondary sources of information; analysis of statistical data; expert judgement; preparation of environmental impact tables.

The following assessment components were identified in the initial phase of the assessment: management of groundwater and surface water resources; reduction of air pollution; resource use and waste management; conservation of biodiversity, landscape, Natura 2000 areas and national protected areas; climate change and energy efficiency; management of soil status; management of forest resources; health protection; protection of cultural heritage.

The key difficulties encountered throughout the environmental impact assessment were as follows:

- quantitative assessment of the Programme measures cannot be covered, because the RDP provides for only general directions for support;
- the assessment of the RDP cannot be based on quantitative assessment criteria;
- the only applicable method, namely, the assessment in terms of environmental protection and sustainable development aspects (goals), determines a high level of uncertainty and subjectivity depending on personal opinions, approaches and competences of SEA experts and representatives of the SEA entities;
- there are no possibilities to take into account sensitivity and importance of the area (territory) because the sites of implementing the measures are not known;
- neither quantitative (scale), nor technological or location selection alternatives of the measures can be considered;
- no specific measures to reduce the effects can be analysed.

Chapter 3 provides a short description and context of the Programme and provides links with other plans and programmes. It was found that the implementation of the RDP measures is closely and directly related to the environmental objectives and targets laid down in key strategic documents in respect of the components subject to the assessment. Links have been established between the RDP measures and provisions of 30 national and international strategic documents.

Chapter 4 presents the results of the assessment of the current status of the environmental components subject to the assessment and trends in the status. The environmental status assessment results provided a basis for subsequent evaluation of the likely effects of the Programme measures.

A brief overview of the assessment of the current environmental status and trends in the status is provided below.

### Management of groundwater and surface water resources:

• Agricultural activities have a significant impact on the status of surface water bodies. As a result of agricultural activities, nitrate nitrogen concentrations fail to meet good ecological status or good ecological potential requirements in as many as 223 river water bodies (which account for 28 per cent of all water bodies). Diffuse agricultural pollution is also likely to have significant adverse effects on the status of 34 lakes and 15 reservoirs (14 per cent of all water bodies).

• Agricultural pollution is transported by rivers into the Curonian Lagoon thus affecting its status as well.

# Reduction of air pollution:

• The most relevant impact of agricultural activities on air pollution is ammonia emissions from manure storage facilities and animal houses, as well as emissions arising from spreading organic and mineral fertilisers on fields.

# Resource use and waste management:

- Generation of waste was continuously increasing from 2000 to 2008. The economic crisis led to a significant reduction in waste generation; however, generation has been going up again since 2009 due to the economic recovery.
- The volume of slurry and manure seems to be declining; however, the data shows significant fluctuation, so it is difficult to make firm conclusions.

# Conservation of biodiversity, landscape, Natura 2000 areas and national protected areas:

- The fastest disappearing species in terrestrial ecosystems are species and natural habitats which have narrow ecological specialisation. They are sensitive to changes in agricultural and forestry technologies (intensification of activities or cessation of traditional extensive land use). Changes in the uses of land determine increasing fragmentation of natural habitats and local populations of species, deteriorating conditions for species migration and exchange of genetic information between isolated local populations, so there is a threat to their survival. Endangered species and natural habitats in aquatic ecosystems are mostly affected by water pollution and changes in the hydrologic regime, unsustainable use of natural resources, and disruption of migration routes.
- Rapid changes in economic and social conditions affect protected areas. Most of the problems arise because of the emergence of private ownership of land in protected areas and lack of experience in regulating the activities of private persons.

# Climate change and energy efficiency:

• Total greenhouse gas emissions were continuously increasing until 2008 (beginning of the economic crisis), from 2000 to 2007 they went up by 32.6%.

• The agricultural sector is the second important source (after energy) of greenhouse gas emissions in Lithuania, emitting about 23% of greenhouse gases, including about 55% of methane and 76% of N<sub>2</sub>O. Changes in greenhouse gas emissions generated in agriculture have been relatively insignificant since 2000, direct and indirect N<sub>2</sub>O emissions from agricultural soils have been slightly increasing, however, their relationship with the agricultural gross domestic product has been relatively stable and does not show a rising trend.

# Management of soil status:

• The quality of soil in Lithuania has been deteriorating due to natural processes or those driven by economic activities, increasing anthropogenic physical and chemical pollution of soil. The main issues to be addressed include reduction of soil organic matter, diffuse soil pollution, soil covering, erosion and soil loss on slopes and surface karst areas, and increasing soil acidity.

# Management of forest resources:

- Forest cover in Lithuania was less than 20% after World War II. Since then, forests have been expanding the area of forest land on 1 January 2012 was already 173,000 ha, or 33.3% of the Lithuania's territory. Since 1 January 2003, the forest area increased by 128,000 ha and forest cover by 2.0%.
- Practically all clear-cuts are reforested again, and the total area of forests has been gradually increasing due to additional afforestation. The total area of annually restored and afforested forest exceeds the area of clear-cuts by approximately 13%.

# Health protection:

- One of the reasons determining insufficient enhancement of population's health level is failure to ensure justice of health relations.
- Health inequalities between men and women, urban and rural residents, people with different backgrounds have not been decreasing in Lithuania.
- At the national level, the poverty rate in rural areas is more than two and a half times higher than in urban areas.

# Protection of cultural heritage:

- Cultural heritage has not been sufficiently investigated, revealed and systematically arranged.
- Cultural heritage has not been sufficiently protected.

- Cultural heritage areas are insufficiently adapted for visiting.
- Material cultural property lacks resources for its storage and maintenance.
- Conservation and maintenance of cultural property should become an integral part of national territorial planning and other national programmes.
- There is low public awareness of the landscape as people's living environment, the needs, principles and methods of the protection of natural and cultural heritage objects contained in the landscape.

The likely effects of the implementation of the Rural Development Programme for each environmental component subject to the analysis are assessed in Chapter 5.

The Rural Development Programme gives general strategic directions for the support according to the established measures, without providing for basis for developing specific economic activity projects and territories related to these projects. Accordingly, qualitative assessment was carried out without the use of quantitative criteria.

The likely effects on the environment were classified into four categories – very positive, positive, negative and very negative.

## Management of groundwater and surface water resources

*Very negative* consequences for the status of water resources may be expected from the reconstruction of drainage systems. The upgrading of the drainage systems can increase nitrate transport to water bodies from agricultural areas. Since the drainage systems will be reconstructed in areas of intensive agricultural activity, the level of nitrate contamination is likely to go up in places which are already facing significant pollution. The implementation of the measure may have very significant negative effects on nitrate concentrations in rivers, so it is necessary to provide for supplementary, compensatory water protection measures to reduce the level of the impact.

*Negative effects* on the status of water resources may emerge from the implementation of measures promoting the development of agricultural production. Agricultural intensification and expansion will inevitably involve increased pollution loads. The amounts of biogenic substances, pesticides, and other chemical matters entering water bodies are likely to increase due to more intensive production. However, it is difficult to forecast the extent of the impact on water bodies as it will depend on the supported activity areas and particular features of farms. Since animal husbandry has been identified as one of the priority areas for support, it may be expected that its impact on water bodies will increase. Yet, the volume of animal

husbandry in recent years has been steadily declining and the current share of pollution attributed to animal husbandry in the total balance of pollution is much smaller than that of agricultural pollution, so potential increase in the volume of animal husbandry is not expected to have a significant negative impact on the status of water resources. On the other hand, investment will ensure more modern and less polluting production, which can be regarded as a factor partly counterbalancing the negative impact of the development.

Knowledge transfer, information actions and advisory service can have both *positive and negative* effects. Potential farm development and more intensive production may determine increased pollution. On the other hand, information, advisory, educational activities will ensure farmers' greater awareness of and competence in environmental and organic farming areas. Practical application of gained knowledge will allow reducing the entry of agricultural pollution into water bodies and will create conditions for improving the ecological status of water bodies. It is likely that information and advisory activities will at least partly counterbalance the negative impact of more intensive production.

*Positive and very positive* effects on the status of water resources are expected from most of the agri-environmental measures, promotion of organic farming, WFD-related payments and payments for areas facing natural or other specific constraints. The implementation of these measures will protect water bodies from the generation and leaching of excessive agricultural pollution, promote sustainable agricultural activities, and prevent agricultural intensification. Environmental measures will have an impact on improving the status of water bodies and preventing any possible deterioration in the future.

#### **Reduction** of air pollution

*Negative* effects are forecasted because of more intensive support for the development of animal husbandry which will determine higher ammonia emissions.

*Positive* effects are expected due to support for the development of new products, processes and technology that will enable reduction of ammonia emissions.

#### Resource use and waste management

No *negative* effects of the RDP measures on the use of resources and waste management are expected.

*Positive* effects are envisaged from supporting the production of biofuels from farm waste. The main agricultural problem associated with the use of resources and waste management is management of manure and crop production waste. The Programme provides for granting support for waste recycling, especially its use for the production of biofuels and biogas from agricultural waste. The implementation of these measures will encourage sustainable use of resources, reduce the amount of disposable waste, and have direct positive effects on the reduction of environmental pollution and adverse effects on human health.

### Conservation of biodiversity, landscape, Natura 2000 areas and national protected areas

*Negative* effects on biodiversity may be expected from measures supporting farm development. Agricultural intensification may lead to increased use of pesticides and fertilisers, which, in its turn, determines gradual degradation of the communities and populations of wild plants (weeds) and invertebrates. These changes in the agrarian ecosystem have a negative impact on other animals, birds and mammals, through ecological (mostly nutritional) relationships. Adjustment of the agrarian landscape for the development of intensive agricultural activities poses a danger for habitats.

Potential deterioration of the status of water resources due to the reconstruction of drainage systems and agricultural development and intensification will also have negative consequences for biodiversity.

Activities related to potential loss or impairment of soil (i.e. all infrastructure development and construction works) will have an adverse effect on biodiversity and landscape functions.

Knowledge transfer and information actions may have both *positive and negative* effects. Support of the RDP for public education is likely to encourage farmers' environmental awareness, reduce illegal fishing and hunting, industrial pollution (littering), promote more sustainable use of resources, etc. However, there is a likelihood of negative consequences for biodiversity and landscape in case all educational activities are related only to the increase of agricultural production.

Production of biofuels will have *positive* effects by reducing generation of waste and the impact of pollution on biodiversity in sensitive areas.

*Very positive* effects on biodiversity, landscape, Natura 2000 areas and protected areas are expected from all agri-environmental and climate measures, promotion of organic farming and development of forest areas, Natura 2000 payments and payments to areas facing natural or other specific constraints. The implementation of these measures will promote the restoration of landscape elements and conservation of biodiversity, lead to extensive farming and reduced use of fertilisers and pesticides, and will help to preserve the genetic and species diversity of ecosystems and increase their resilience.

#### Climate change and energy efficiency

No *negative* effects of the measures under the RDP on climate change and energy efficiency are expected.

Knowledge transfer and information actions may have both *positive and negative* effects. This measure also covers enhancement of skills of agricultural entities related to the efficient use of fertilisers, animal waste management, climate-friendly crop rotation, etc. This should promote reduction of agricultural greenhouse gas and ammonia emissions. On the other hand, the Programme points out a need to rehabilitate reclamation systems, which is likely to increase the mineralisation of soil organic matter and climate change gas emissions.

Agri-environmental and climate measures, an organic farming programme will have *positive* effects. These measures should reduce nitrous oxide and methane emissions generated by agriculture. Organic farming will protect the soil from degradation and loss of carbon dioxide thus reducing climate change gas emissions.

*Very positive* effects on climate change and energy efficiency are expected from the production of biogas from farm waste and forest development. Planting of vegetation in areas which are not used, reforestation, tending of young stands should strongly enhance the absorption of  $CO_2$  and improve the balance of climate change gases.

#### Management of soil status

*Negative* effects on soil status may be produced by activities related to the promotion of the development and intensity of agriculture. Soil status may be impaired by more intensive fertilisation and use of chemical plant protection agents, unsustainable soil tillage. The implementation of infrastructure development measures is related to potential soil loss or damage.

Knowledge transfer and advisory services may have both *positive and negative* effects. Information, advisory, farm management and other services provided to farmers will enhance production and development of activities. On the other hand, farmers will also get knowledge how to farm sustainably and efficiently, so these activities are likely to contribute to the improvement of the environmental situation.

*Positive* effects on prevention of erosion will be brought about by measures to promote forest development, meanwhile the impact of soil protection and organic farming programmes is deemed to be *very positive*. Liming of soil is also regarded as a positive measure because it will allow restoring soil properties and preventing degradation processes.

### Management of forest resources

No negative effects of the measures under the RDP on forest resources are expected.

*Positive* effects are expected from enhanced provision of information and advisory services to farmers. Investment in the development of forest infrastructure will directly contribute to better management of forest resources.

Investment in the expansion of forest areas and the viability of forests should have a *very positive* impact on forest resources.

#### Health protection

Potential *negative* consequences for public health are related to the likely deterioration of the environmental components due to agricultural intensification and development.

Almost all RDP measures will have a *positive*, although indirect, impact on public health. The implementation of measures promoting investment and farm and business development will play a major role addressing rural demographic, unemployment, poverty reduction, social exclusion problems. Since there is a direct link between the economic welfare and health indicators, the increasing living standard of rural population will have a positive impact on health indicators. Preconditions will be created for the provision of more social and health services to rural population.

### Protection of cultural heritage

No negative effects of the RDP measures on the protection of cultural heritage are expected.

Knowledge transfer and information actions, support for farm and business development, improvement of rural infrastructure will have *positive* effects on the preservation of rural cultural heritage.

Investments related to the preservation, restoration and renovation of villages, rural landscapes and cultural and natural heritage in areas of high nature value will have a *very positive* impact on the development of the national heritage. The implementation of LEADER and cooperation measures will help to increase the attractiveness of life in rural areas, to foster traditional crafts based on folk customs. The spiritual heritage of rural culture will be fostered by promoting community activities and cooperation.

Chapter 6 describes the environmental context of the Rural Development Programme, indicating how environmental objectives are integrated in the document which is currently

being drafted. It is concluded that the environmental objectives laid down in international, EU and national legislation have been successfully integrated into the Programme.

Chapter 7 provides information on the alternatives considered and their comparison. The strategic environmental assessment involved an analysis of the "zero alternative", providing a general comparison between the expected implementation of the Programme (i.e. effects on the environment if the Programme is implemented) and the "zero alternative" (i.e. effects on the environment if the Programme is not implemented).

The main conclusions on potential environmental status development trends without implementing the RDP measures are described below.

### 1. Knowledge transfer and information actions

The latest knowledge and information would not be widely and easily available, so education of farmers, especially in the environmental area, may be insufficient. Important additional preconditions for environmental improvement would not be created without knowledge transfer and information actions.

### 2. Advisory services, farm management and farm relief services

Conditions would not be created for widespread dissemination of environmental knowledge, incentives for farmers to enhance their environmental knowledge and apply environmental measures would be going down.

### 3. Quality schemes for agricultural and foodstuffs

It would be difficult for manufacturers of exclusive products to anchor in the market without support for high-quality products. Safe and high quality food would be less available for consumers.

### 4. Investments in physical assets

Agriculture would most probably still be developing, however, with less intensity and sustainability and perhaps in another direction. Without additional support, the development of the livestock sector would most likely be insignificant or zero. There would be no conditions for balanced and sustainable production, so activities would continue producing adverse effects on the environment, the status of the environment would change or deteriorate, compared to the current status.

### 5. Farm and business development

The demographic situation of rural population would worsen, unemployment and the gap between the rural and urban population would remain high. Significant social exclusion would hinder achieving the planned public health indicators. The number of small farmers would be going down, the farm structure would change. The growth of large commercial farms engaged in intensive production would produce negative consequences for the environment.

## 6. Basic services and village renewal in rural areas

Limited availability of services and poor infrastructure would remain in rural areas. Poorer living conditions would reduce the attractiveness of rural areas as compared to urban ones and would not encourage people to stay in villages.

## 7. Investments in forest area development and improvement of the viability of forests

Forest area development would be slower, there would be a lack of resources for improving the viability of forests.

## 8. Setting up of producer groups and organisations

There would be fewer opportunities for new jobs and for the reduction of poverty and social exclusion.

### 9. Agri-environment - climate payments

The efficiency of the protection of biodiversity and landscape would likely to go down. The implementation of mandatory environmental requirements alone would not allow achieving environmental goals. Further agricultural development would determine decline in the status of the environment if a wider scope of environmental measures is not ensured.

### **10. Organic farming**

The number of organic farms would not be increasing; environmental status would not improve in case of prevalence of ordinary farming practices.

### 11. Natura 2000 and WFD payments

Farmers would not observe additional environmental requirements which reduce the intensity of their activity and income at the same time, so it would be difficult to implement biodiversity and habitat protection targets.

### 12. Payments to areas facing natural or other specific constrains

Very large differences in agricultural intensity could arise in the country. If activity is transferred to and intensified in more favourable farming areas, even more serious environmental problems would be created.

#### **13.** Cooperation

Favourable business and living conditions ensuring growth of household income, social welfare, and reduction of the gap between rural and urban depopulation would not be created.

#### 14. Risk management

Farmers would be obliged to assume responsibility for the management of risks associated with their business.

#### **15. LEADER**

Rural areas would remain less attractive and favourable for living than cities due to poorer infrastructure, lower business and employment opportunities, and less services available for the population. This would prevent the reduction of rural poverty and social exclusion.

Chapter 8 provides information on the measures that could be applied to prevent, reduce or offset significant adverse effects on the environment as a result of the implementation of the Rural Development Programme.

It was found that negative effects on water resources are likely due to agricultural intensification and development, so in order to avoid or compensate for adverse consequences not only implementation of the minimum environmental requirements should be ensured, but also promotion of additional environmental measures directing these measures to problematic basins.

Ambient air quality may be undermined by ammonia emissions from animal waste, so measures should be envisaged to ensure proper management of waste generated on animal farms. The negative impacts on the conservation of biodiversity, landscape, Natura 2000 areas and national protected areas identified during the assessment are mainly related to the intensification and development of agricultural production and the resulting likelihood of increased environmental pollution. Therefore, sustainable and environmentally friendly production should be promoted in order to reduce the negative consequences. All infrastructure development facilities provided for under the RDP should be tailored to the specific area, taking into account local circumstances and sensitivity of the area to planned activities. The implementation of development projects for these facilities should ensure

preservation of important and characteristic features of the landscape; if the implementation is expected to damage such features, plans specifying how the affected areas will be restored should be drawn up (i.e. actions provided for in the Law of the Republic of Lithuania on Environmental Protection).

Expanding agricultural production will inevitably involve certain consequences for the soil. In order to minimise the negative impact on the soil, compliance with mandatory environmental requirements should be ensured. Also, additional soil protection/status improvement measures should be implemented in problematic areas (e.g. areas strongly affected by erosion) in addition to the mandatory requirements. Expanding infrastructure requires assessment of the impact of specific facilities on the environment. If necessary, soil remediation should be envisaged.

Negative consequences for public health are related to potential environmental degradation, which is likely due to the development of agriculture and intensification of production. In order to avoid a negative impact on public health, measures are required to protect the condition of air, water and soil.

No negative consequences for resource use and waste management, climate change and energy efficiency, management of forest resources and protection of cultural heritage due to the implementation of the measures under the RDP are forecasted, so no impact mitigation measures have been provided for in respect of these components.

Chapter 9 lists potentially applicable measures for monitoring environmental effects. The monitoring measures were identified for each measure/activity area of the Rural Development Programme. A table on the monitoring measures was prepared and included in the SEA Report containing information on the key monitoring indicators and public institutions that would be able to provide information required for evaluating these indicators.

About 40 monitoring indicators (measures) were identified: the number of farmers who have gained knowledge of agri-environment, organic farming, environmental requirements; the number of environmental innovations introduced in agriculture; the number of farmers who have received environmental advisory services; cases of the introduction of good agri-environmental standards, climate and environmentally friendly agricultural practices; the level of employment in rural areas; financial indicators of rural households; share of water bodies at good status (with particular attention paid to the status by nitrate nitrogen concentrations); the area of contaminated/damaged soil; the quality of groundwater and shallow groundwater; the

amount of biogas produced from agricultural waste; the use of waste generated in the primary agricultural production process for biofuels; structural changes in the landscape, the degree of landscape polarisation; the amount of installed biogas production equipment; reduction of atmospheric ammonia emissions; changes in the farmers' age structure (the share of young farmers in the total number of farmers); the use of biomass, especially residual biomass, for energy production; the number of population with improved living conditions; the number of renovated buildings and structures; the area of lost/damaged soil; the area of newly planted forest; the area reforested after fires and natural disasters; restoration of the ecological and recreational functions of forests; the area of agricultural land where farmers undertake to restrict agricultural activities and implement additional environmental measures; increase in the number of aquatic warbler individuals; increase in the number of individuals of Lithuanian old animal and poultry species; the land area where organic farming is practiced; the share of organic farms in the total farm structure; the area of agricultural land where agricultural activities are limited because of the implementation of Directives 92/43/EEC and 2009/147/EC; the area of agricultural land where extensive agriculture is practiced due to natural or other specific constraints; the number of population who will be using the results of the measure; the number of acquired new manure and slurry spreading equipment (manure drills).

Chapter 10 contains the present Summary.