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Baltic Sea Region Programme BALTIC COMPASS WP 6 National report - Latvia

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1. Introduction

The purpose of this report is to explore the implementability of agro -environmental targets in Latvia.

Environment protection and preservation are the underlining principles of sustainable development in all territory of Latvia and agriculture is no exception.

Agriculture and environmental protection are closely related spheres. As the operation and existence of farmsteads is directly dependant upon the environment and in turn affect the environment directly, environment protection, maintenance and sustainable action determine all agricultural production processes. Agricultural companies often are family farms, and working on a farmstead is a lifestyle in close connection with nature. Moreover, agriculture requires natural and human resources and it is a long-term business whereby people must plan their activities and investments taking into account the environment. People involved in the agricultural sector cannot act neglectfully or short-sighted toward the environment, as the damages, incorrect usage of resources and/or pollution effects are the issues which the next generations will inevitably suffer from and be forced to pay for.

2. Methodology

Information of this report was obtained and summarized in cooperation with the Ministry of Agriculture and the Ministry of the Environment, as well as with representatives from the institutions under supervision of these ministries directly responsible for policy development, implementation and realisation of the agro-environmental activities and controls. These institutions are following- Rural Support Service, State Plant Protection Service, Latvian Environment Geology and Meteorology Centre and State Environmental Service.

In order to obtain, summarize and analyse the information a lot of public documents were used, telephone interviews and electronic communication done and situation discussed in working groups and meetings. Analysis is based on Latvia agro-environmental policy information. The main sources are approved programmes, government reports, annual reports and the effective normative acts of the Latvian Government.

3. Agro-environmental targets

Key agro-environment targets of Latvia are defined in following policies, measures and programmes:

Codes of Good Agriculture Practice (CGAP) (responsibility of the Ministry of Agriculture, first edition in 1999, updated in 2008) is a comprehensive collection of practical advice, recommendations and legislation covering the main fields of agricultural activity and applicable on a voluntary basis on the whole territory of

Latvia. However, parts of the requirements are obligatory and are embedded in legislation relating to environmentally sensitive areas.

According to the requirements of the Good Agriculture Practice, the following requirements for application of fertilizers have been implemented in Latvia:

- Fertilizer application ban for particular periods;
- Requirements for fertilizer application on soils with slopes;
- Fertilizer application ban on frozen, wet soils or soils covered with snow;
- Requirements for application of fertilizer near water courses;
- Limitations and division of manure nitrogen application;
- Techniques for mineral fertilizers and manure distribution (and evenness);
- Minimum vegetation in autumn and winter periods for the lands used for agricultural production;
- Elaboration of fertilization plans for farms, as well as registration of fertilizer applications (effective particularly in environmentally sensitive areas)

Action programme (responsibility of the Ministry of Agriculture and Ministry of the Environment). According to the Nitrates Directive, in May 2004 the Action programme was approved for particularly environmentally sensitive areas, requiring high demands regarding water and soil protection from the nitrate pollution caused by agricultural processes.

According to State monitoring data 4 of 26 Latvia regions were identified as environmentally sensitive areas. The borders of these environmentally sensitive area historically matches borders of the administrative territories of Riga, Jelgava, Bauska and Dobele districts, except for the border of the administrative territory of Riga city and Jurmala town. After Law on Administrative Territories and Populated Areas was enforced in 2008, frontiers of specific sensitive areas are the frontiers of administrative territory of district of Dobele, Auce, Tērvete, Jelgava, Ozolnieki, Bauska, Vecumnieki, Iecava, Rundāle, Babīte, Mārupe, Olaine, Ķekava, Baldone, Salaspils, Stopiņi, Ropaži, Garkalne, Carnikava, Saulkrasti, Sēja, Ādaži, Inčukalns, Sigulda, Krimulda and Mālpils, except Valle and Kurmene region of Vecumnieki district, Lēdurga region of Krimulda district and frontier of administrative territory of Riga and Jūrmala. The indicated territories are located in the area of basin of the rivers Lielupe, Daugava and Venta. As the result, mentioned territories are subject to stricter requirements in respect of water and soil protection against nitrate pollution caused by agricultural activities.

Environmentally sensitive area occupies 8160.5 km², where 312 072 ha are agricultural area (UAA) (15% of total UAA in Latvia). According to the Ministry of Agriculture, in 2004 the average annual concentration of nitrate nitrogen (N/NO₃) in the rivers running through environmentally sensitive areas was 0.8 – 6.4 mg/l under the critical N/NO₃ concentration (11.3 mg/l). In regions of intensive agriculture within these environmentally sensitive areas highest surface water and ground water

pollution identified was 38 mg/l, which does not exceed the limit of nitrates concentration - 50 mg/l, determined in the Nitrates Directive. However, taking into account the prognosis with gradual transition to more intensive animal husbandry methods, these territories are mentioned as those that might endanger the quality of internal waters and the Riga Gulf water.

In compliance with the normative acts of the Republic of Latvia, the Action programme is not binding to third parties; therefore, requirements of the programme are transposed in the normative acts. Now requirements are mandatory to third parties as well.

The normative acts specify following management measures for the environmentally sensitive areas:

In environmentally sensitive territories (set in line with the Nitrates Directive) any type of manure shall not be spread between 15 November and 15 March.

The storage capacity of manure reservoirs shall enable accumulation of the collected manure in bedding manure reservoirs for at least six months, and seven months for liquid manure and manure water reservoirs. If liquid or solid manure storage capacity is not sufficient, the farmer should contact another person or entity to make a contract for additional storage capacities or manure application outside farm territory.

Manure collection, management and application systems on farms (except the deep barns, where amount of animal is under 20) should be constructed from waterproof material, resistant to the possible damages caused by heavy machinery.

Similarly, manure storage floor and wall constructions shall be made of waterproof material, resistant to the technologies used on farm.

Farmers who apply fertilisers on 20 ha or more and grow vegetables, fruit trees or berries on 3 ha or more, shall prepare and implement fertiliser plans. Plans must be based on soil agrochemical mapping data, not older than 5 years. Fertilization plans must be elaborated and submitted to the State Plant Protection Service every year by May 15. Fertiliser plans must be stored for at least 3 years.

Farmers (in environmentally sensitive areas) must develop field histories, including information in growing methods of particular cultivated plants. Documents must be stored for at least 3 years.

Mineral fertilizers containing nitrogen should not be used for grasslands in period from 15th of September until 15th of March. For other cultivated plants and orchards all kinds of mineral fertilizers should not be applied in period from 1st November to 15th of March.

Restrictions on applying any type of organic and chemical fertilisers (for all country territory):

- a) Fertilisers shall not be applied on frozen, wet and snow-covered soil;
- b) In case of alluvial and flood endangered areas, fertilisers shall be spread only after the end of the potential flood season. In the aforementioned areas chemical fertilisers shall be applied only during the vegetation period of cultivated plants;
- c) On slopes fertilisers shall be spread not closer than 50m from the coastline of a water course or water body, if slope towards the water course or water body exceeds

10 degrees;

d) Fertilisers may be spread on slopes if the field is covered with vegetation or if fertilisers are immediately worked into the soil;

In environmentally sensitive territories:

a) On each farm the annual amount of organic fertilisers used in farmland areas shall not exceed 170 kg nitrogen/ha, which equals 1.7 livestock units per hectare.

b) Set the maximum nitrogen fertiliser norms for different crops:

- Field and pasture grasses 190 (kg/ha)
- Grasslands with a high prevalence of legume 35 (kg/ha)
- Winter wheat 180 (kg/ha)
- Winter barley 150 (kg/ha)
- Winter triticale 140 (kg/ha)
- Winter rye 130 (kg/ha)
- Spring wheat 170 (kg/ha)
- Spring barley 130 (kg/ha)
- Oats 110 (kg/ha)
- Sugar-beet 190 (kg/ha)
- Potato 150 (kg/ha)
- Rape oil production 200 (kg/ha)
- Linseed 60 (kg/ha)
- Legumes 40 (kg/ha)
- Maize 160 (kg/ha)
- Strawberries 120 (kg/ha)
- Fruit trees 130 (kg/ha)
- Carrots 160 (kg/ha)
- Other Vegetables 220 (kg/ha)
- Cultivated grassland 240 (kg/ha)

Maximum levels of nitrogen fertilizer rates may be exceeded if the balance of the field intensity of nitrogen (N) does not exceed 120%.

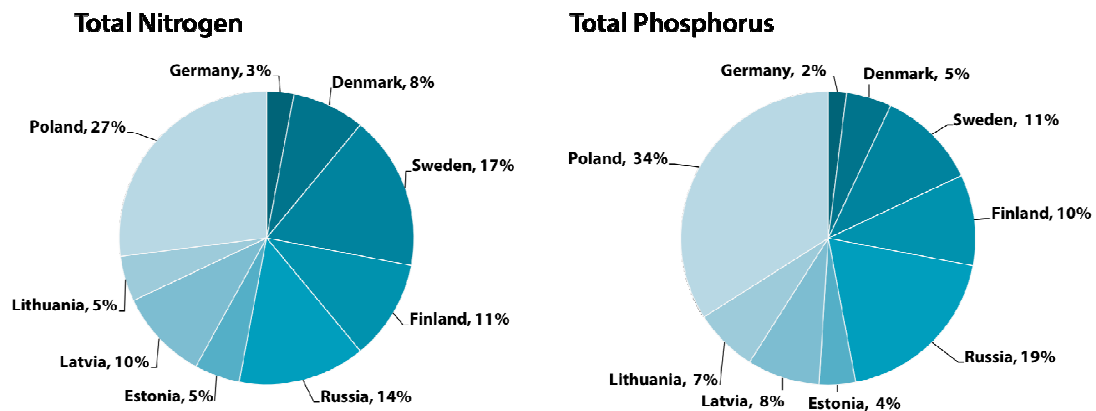
Table 1: Total nitrogen leakage in the environment in 2004-2007 in Latvia (Source: Ministry of Agriculture)

Sources of Nitrogen	Total Nitrogen leakages 2004-2007 (in thousands of tons)
N from agricultural activities	Data not available
N from industry (except for waste-water from the municipal enterprises)	1,46
N with household waste-water	10,54

Nitrogen leakage to the environment is evaluated on the basis of calculations of pollution loads that are performed within the framework of HELCOM PLC reporting requirements.

Average annual proportional input of nitrogen and phosphorus to the Baltic Sea by country according to HELCOM data in 2001-2006 is displayed in the diagram below (Source: HELCOM).

Figure 1: The average annual proportions of total nitrogen (left) and total phosphorous (right) inputs into the Baltic Sea by HELCOM countries in the period 2001-2006 (Source: HELCOM)



The average annual proportions of total nitrogen (left diagram) and total phosphorus (right diagram) inputs into the Baltic Sea by HELCOM countries in the period 2001-2006

Table 2: Agricultural area, number of households, and households with animals dynamic in the environmentally sensitive areas of Latvia in 2003 and 2007 (Source: Ministry of Agriculture)

	2003	2007	Change (+/-) %
Utilized agricultural area	281 187	295 521	+5
Number of households in the environmentally sensitive area	20 106	16 286	-19
Number of households with agricultural animals	11 633	8 661	-26

Table 3: Assessment and comparison of changes in the amount of agricultural animals and nitrogen generated in the particularly environmentally sensitive areas of Latvia in 2003 and 2007 (Source: Ministry of Agriculture)

Amount of organic N generated from manure by animal categories	Number of animals	N tons/year 2003	Number of animals	N tons/year 2007	Change in annual N tons 2003/2007 (+/-) %
Total cattle	50 326	3 047	48 932	3 047	0
Dairy cows	25 850	2 068	24 822	1 986	-4
Pigs	95 710	8 135	91 477	7 776	-4
Poultry	2 252 900	1 926	3 641 900	3 114	+62
Sheep	1 950	19	3 608	35	+85
Goats	2 191	25	2 428	28	+11
Horses	1 298	53	1 533	64	+19
Total		15 274		16 048	+5

Table 4: Number of farms in the environmentally sensitive areas with area of cultivated lands above 20 ha (Source: Ministry of Agriculture)

Region	Number of farms
Bauska region	411
Dobele region	335
Jelgava region	407
Rīga region	165
Total	1318

As Table 4 indicates, in environmentally sensitive areas there are approximately 1300 farms obliged to elaborate fertilizer plans according to regulations; the majority of these farms are small or medium farms/households that are not actively involved in production processes.

Combined mineral fertilizers containing nitrogen can be applied as a basic fertilizer in environmentally sensitive areas not earlier than directly before sowing or.

Land owners and users in environmentally sensitive areas shall register and document the amounts of obtained, purchased or sold organic/mineral fertilisers and store the registration documents for at least 3 years.

A 10 m protection zone around rivers and watercourses is defined, where fertilisers and plant protection products application is prohibited.

Manure stacks on fields shall be created in places where topography of the field does not contribute to the formation of surface runoff and feedstock leakages. Manure stacks shall be placed no closer than 50 m from water courses and wells used as drinking water sources and no closer than 30 m from drainage ditches and drainage system (well, over ground water collectors).

After application solid manure should be incorporated into the soil within 24 hours, liquid manure and slurry within 12 hours (in environmentally sensitive areas).

In environmentally sensitive areas, in autumn, liquid manure for field fertilizing shall be dug in only together with plant leftovers (stubbles, chopped straw, mass of grassland roots), applying shelling or ploughing methods. During autumn and winter periods the minimum vegetation in the utilized agricultural areas shall be maintained, and at least 50% of utilized agricultural areas of the farm shall be occupied with “green areas”.

Delays detected during the initial phase of action programme implementation

1. Lack of knowledge and resistance of farmers to the implementation of manure management measures and observation of limitations specified regulations.

2. Insufficient financial support to the farms for the investments in manure storages and technologies.
3. Lack of database with describing information about farms in the environmentally sensitive areas.
4. Deficiencies in the assessment and control system of the Action Programme implementation, lack of strict, realistic targets set by Programme.

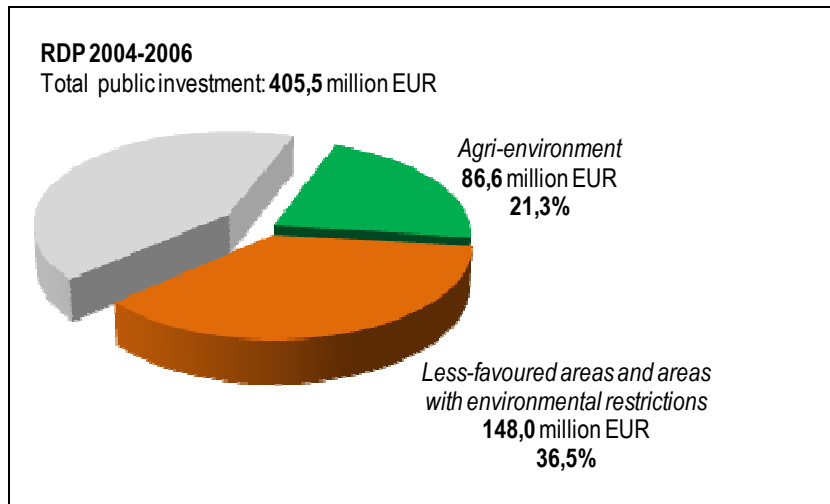
Latvian Rural Development National Strategy Plan 2007-2013 (responsibility of the Ministry of Agriculture). Plan is developed on the basis of the rural economic, social, environmental, and sectorial analyses. The objective of plan is to increase welfare of people living and working in Latvia. Definition of welfare includes economic, social and environmental conditions.

Activity directions and measures are implemented with financing from both financial sources - national support and the European Agricultural Fund for Rural Development (EAFRD). EAFRD contribution is channelled through four Axes:

- Axis 1 - Improving the Competitiveness of Agricultural and Forestry Sector;
- Axis 2 - Improvement of Environment and Rural Landscape;
- Axis 3 - Improvement of Quality of Life in Rural Areas and Promotion of Diversification of Economic Activities;
- Axis 4 - LEADER.

Rural Development Plan 2004-2006 (responsibility of the Ministry of Agriculture) is a document specifying the distribution of EU funding in rural areas. For implementation of agro-environmental measures there where 86.6 million EUR budgeted (see Figure 2 below) for implementing and promoting agricultural methods that preserve and improve biodiversity and reduce environmental pollution. In developing the agro-environmental measures the requirements of the Code of Good Agriculture Practice were applied:

Figure 2: Budgetary breakdown of the RDP 2004 -2006 (Source: Ministry of Agriculture, Rural State Service)



The Agri-environment measures are as follows:

- Sub-measure “Development of organic farming” - The objective of the sub-measure - to increase areas managed by organic farming methods by at least 50% (in 2006 compared to 2003). In the beginning of 2003 the number of such farms was 352 and the farmed areas amounted to 16,900 ha, but in 2006 it has increased to 4,056 farms with an area of 144,631 ha. The increase objective was thus implemented by more than 200%.
- Sub-measure “Preservation of biodiversity in grasslands” – The objective of the sub-measure - to preserve and protect grassland ecosystems that are the richest in species by stimulating the application of environmentally friendly techniques in farming activities and for extensive farming in natural grassland areas in line with the environmental requirements (in accordance with national and international legislation). Receipt of support has promoted the implementation of Good Farming Practice in the territories of grasslands. In the base year of the received support (2004) the area of managed grasslands was 9,419 ha. In 2007 the area increased to 27,651 ha. As a result of the support received the managed areas have increased by 290%. According to the data submitted by Rural State Service (RSS) almost the whole area of biologically valuable grasslands (~95%) late mowing of grasslands is applied. Extensive pasturing is applied to less than 5% of the total area of the declared grasslands.
- Sub-measure “Establishment of buffer belts” – The objective of this sub-measure - to create grassland buffer belts in environmentally vulnerable territories for both surface water sites and fields to reduce run-off of plant nutrients from agricultural lands.

- Sub-measure “Preservation of farm animal genetic resources” - promotes breeding and preservation of significant local origin varieties of farming animals.
- Sub-measure “Restriction of erosion” - provides support to increase the proportion of agriculture areas covered by vegetation, thus promoting mitigation of erosion processes and preservation of plant nutrients in soils.

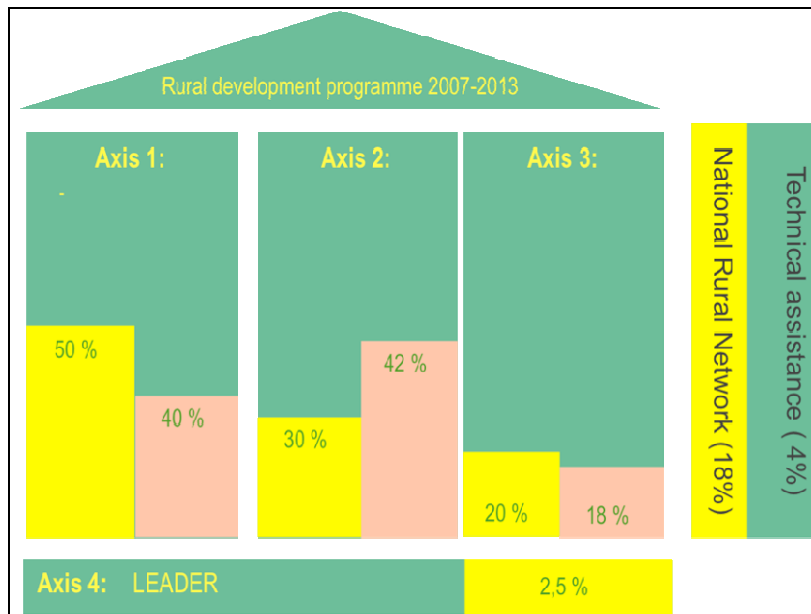
Other RDP measures promoting changes in agricultural activities and indirectly also in the environment:

- Measure: Compliance with standards - promotes construction of manure storage facilities on farms located in nitrate vulnerable territories or which have received a permit for category A polluting activities. Within the framework of this measure, also purchase of milking and milk cooling equipment was supported, thus facilitating the development of farms producing cow and goat milk. Support under the measure facilitated the achievement of the EU standards in agricultural holdings in the field of environmental protection, human, animal and plant protection and animal welfare.
- Measure: Technical assistance - funding was mostly used to hire the required rural development consultants, to assist farmers to observe the requirements in force and ensure successful development of households.

According to the EU, farmers who made commitments in 2004–2006 may be transferred to the agro-environment sub-measures under the new RDP in connection with the 2008 application process. This will not impose any repayment obligation. Farmers may also maintain their original commitments as long as they are valid under the conditions of the Rural Development Plan for Latvia 2004-2006. The agri-environment support payment commitments, made during the programming period 2004–2006, will continue throughout the programming period 2007–2013.

Rural Development Programme for 2007-2013 (responsibility of the Ministry of Agriculture). Initially 30% of funding of the Programme, but later distributing funding up to 42% of the European Agricultural Fund for Rural Development (EAFRD), funding will be used on the Axis 2 measures (see the image below), to ensure balanced and successive policy continuity, and a gradual transition from income support to activity support. Almost a half of this Axis funding is used on the "Agri-environment payments" measure, supporting the application of environment-friendly farming methods in the management of agricultural land, and thus promoting the attainment of the EU-level objectives in the area of improving the biodiversity and water quality as well as climate change mitigation. The remaining part is used on the measure "Payments to farmers in areas with handicaps, other than mountain areas" promoting the use of agricultural land preserving an open rural landscape.

Figure 3: Breakdown of the new RDP 2007-2013 finances (Source: Ministry of Agriculture, Rural State Service)



RDP 2007–2013 Measures of Axis 2:

- Measure: Payments to farmers in areas with handicaps, other than mountain areas - promoting the use of agricultural land preserving an open rural landscape.
- Measure: NATURA 2000 payments and Payments linked to Directive 2000/60/ECC
- Measure: Agri-environment payments
 - Submeasure: Development of organic farming
 - Submeasure: Introducing and Promoting Integrated Horticulture
 - Submeasure: Maintaining Biodiversity in Grasslands
 - Submeasure: Stubble field in winter period
- Measure: First Afforestation of Non- Agricultural land
- Measure: NATURA 2000 Payments (to Forest Owners)
- Measure: Restoring Forestry Potential and Introducing Prevention Actions

Figure 4: RDP 2007-2013 measures of Axis 2: financial indicators (Source: Ministry of Agriculture, Rural State Service)

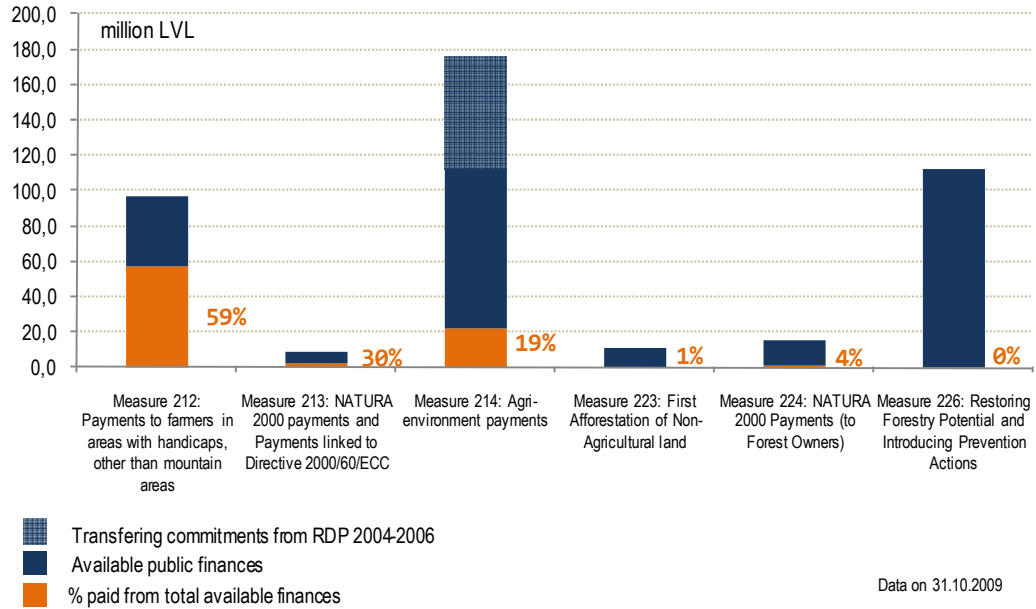


Figure 5: NATURA 2000 payments and Payments linked to Directive 2000/60/ECC (Source: Ministry of Agriculture, Rural State Service)

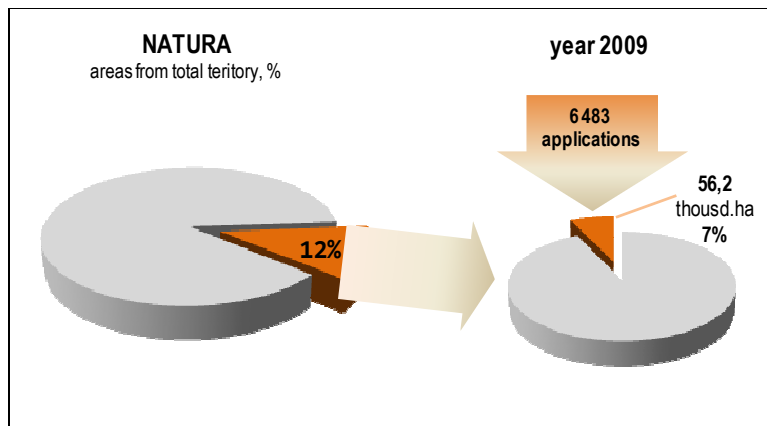


Figure 6: Agri-environment payments for Development of organic farming (Source: Ministry of Agriculture, Rural State Service)

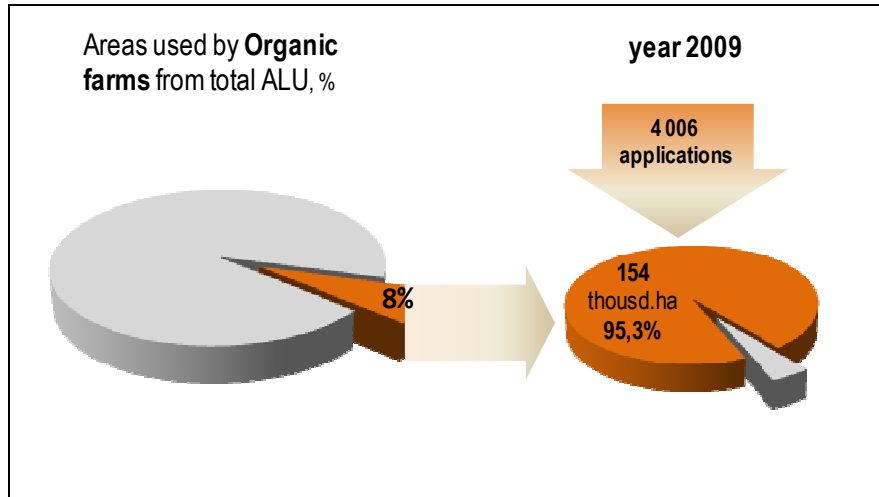


Figure 7: Agri-environment payments for Maintaining biodiversity in grasslands (Source: Ministry of Agriculture, Rural State Service)

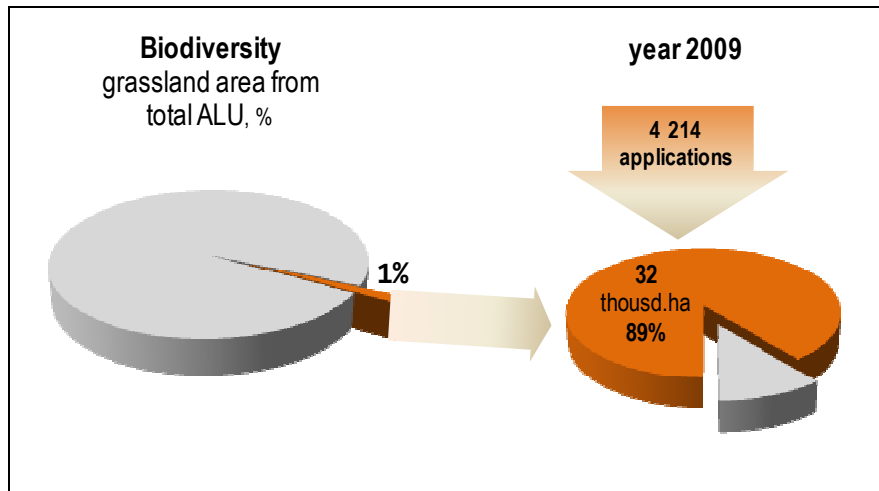
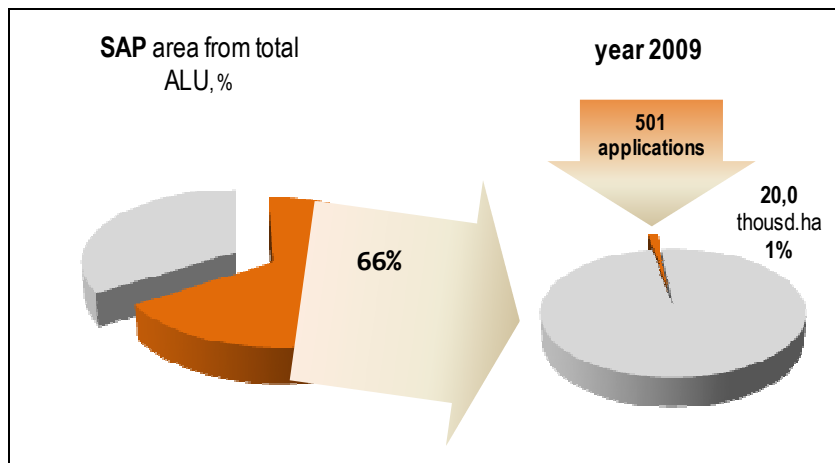


Figure 8: Agri-environment payments for Stubble field in winter period (Source: Ministry of Agriculture, Rural State Service)



Environment policy guidelines for 2009-2012 (responsibility of the Ministry of the Environment). Until the end of 2008 the principles and objectives of the environment policy were determined by the National environment policy plan for 2004-2008. In developing the environment policy plan the objectives and tasks posed in the previous plan and their implementation were taken into account.

Environment policy guidelines for 2009–2012 have been prepared and will be used in order to develop the basis for preservation and restoration of environmental quality, as well as for sustainable usage of natural resources, at the same time limiting the influence of harmful environmental factors on human health.

Water Framework Directive specifies that water protection measures have to be planned and implemented and their fulfilment, efficiency and usefulness must be controlled not by administrative areas but within the borders of river basins. Latvia has determined four regions of river basins: Daugava, Gauja, Venta and Lielupe.

The water bodies management plans for the river basins of Daugava, Venta, Lielupe and Gauja are developed and have been discussed publicly, including the objectives for environmental quality. The action programmes for the achievement of these objectives are developed. Measures specified in the programmes shall be commenced not later than 2012 in order to achieve the objectives proposed for the respective river basins by 2015, at least in those water bodies where there are no risks detected and it would be possible to achieve the quality objectives posed, and where the achievement of such objectives would not require unreasonably high costs.

Other planning documents:

- The main objectives of the programme ‘Production and usage of biofuel in Latvia for 2003-2010’ (responsibility of the Ministry of Agriculture) are to ensure the necessary materials for production of biofuel using the agricultural areas of Latvia, promotion of biofuel production in Latvia, and usage of biofuel in Latvia.
- The long-term objective of the Climate change reduction programme for 2005-2010 (responsibility of the Ministry of Environment) is to promote the reduction of global climate change caused by the activities of humans; implementing measures related to coordinated reduction of emissions of greenhouse gases, with the assistance of elastic methods provided in the Kyoto Protocol; attracting investments for projects for reduction of emissions of greenhouse gases; and, supporting other economically reasonable international cooperation for the reduction of emissions of greenhouse gases.
- The main objectives of the Renewable energy resources management guidelines for 2006-2013 (responsibility of the Ministry of the Environment) are to increase the total proportion of renewable energy resources, promote the sufficiency of the Latvian energy supply, and ensure the investments in renewable energy resources for reduction of emissions of greenhouse gases.
- Development of production and application of biogas programme for 2007-2011 (responsibility of the Ministry of the Environment) provides for the production of biogas as the material of renewable energy, as well as the usage of biogas in Latvia. It is planned to find solutions for the biodegradable waste materials processing problems, reduction of water, soil and air pollution. Development of biogas projects are to be promoted by the Ministry of Agriculture, Ministry of Environment and the Ministry of Economics. For the production of energy from biomass in the planning period of 2007-2013, support is accessible from the European Agricultural Fund for Rural Development.
- The objective of the Energy Development Guidelines for 2007-2016 (responsibility of the Ministry of Economics) is to develop a strategy for functioning of safe and resources efficient energy supply system that ensures efficient use of energy, improvement of life quality, economic growth and improved environment quality in Latvia.
- The objective of the Land Policy Guidelines for 2008-2014 (responsibility of the Ministry of Regional Development and Local Government) is to ensure the sustainable usage of land as a unique natural resource.
- Guidelines of Sustainable Development of Latvia (responsibility of the Ministry of Regional Development and Local Government) specify the directions of sustainable development, including, water protection, reduction of climate changes and protection of ozone layer, use of natural resources, preservation of biodiversity and waste management. These guidelines will become ineffective after approving the new state long-term development

planning document „Latvian Sustainable Development Strategy” that by now is being prepared. Latvian Sustainable Development Strategy will become the main state planning instrument having the power of the law. All the strategic planning and development documents in near and distant future will be developed in accordance with the tendencies and priorities specified in this strategy.

Implementing agencies:

The main state institutions working with environment issues are the Ministry of Agriculture and the Ministry of the Environment, as well as several institutions under supervision of these ministries. The role of the Ministry of Regional Development and Local Government has grown recently, due to the responsibility to develop land use policy. In accordance with the Instruction of Cabinet of Ministers since beginning of year 2011, Ministry of Environmental Protection and Regional Development is developed due to merging of Ministry of Regional Development and Local Government and Ministry of the Environment.

The Ministry of Agriculture is the leading state institution for agriculture and forestry sectors in Latvia. The functions of the Ministry of Agriculture are to develop agricultural and forestry policy and to coordinate policy implementation, to promote sustainable management of land and forest resources and ensure preservation of biodiversity, as well as preservation of the rural environment. The Ministry of Agriculture is involved also in the development and implementation of rural development policy.

Institutions under supervision of the Ministry of Agriculture:

- Rural Support Service (RSS) (<http://www.lad.gov.lv>) is responsible for implementation of a unified state and European Union (EU) support policy in the sectors of agriculture, forestry, fisheries and rural development; it supervises compliance of the sector with the laws and regulations and fulfils other functions connected with agriculture and implementation of rural support policy. In the framework of competence, the Rural Support Service administers the EU and state support for rural areas, agriculture, forestry and fisheries, including functions as:
 - To receive and evaluate project applications;
 - Decide on allocation or rejection of projects co-financing;
 - Controls, including Cross compliance and Good agricultural and environmental condition – Cross compliance controls 1% from all farms or ~900 farms. Common RSS controls - 6,5% from all farms (~4400). Control of farms takes place every year.
 - Keeping records of the granted financing and controlling the use of finances.

During the period 2007-2013 the Rural Support Service shall administer three EU funds - European Fisheries Fund with the total amount of financing 164

million Euros; European Agricultural Fund for Rural Development with the total amount of financing 1363 million EUR; and, European Agricultural Guarantee Fund with total amount of direct payments of 1012 million EUR.

- State Plant Protection Service (<http://www.vaad.gov.lv>) performs official control and surveillance in the field of free movement of plant protection products, fertilizers, plants and plant products, plant varieties, seed and planting material, as well as collaborates with international organizations and provides for the exchange of information with other countries on issues of plant protection, plant quarantine, movement of seeds and variety protection rights.

State Plant Protection Service supervises and controls the fertilizer plans of the farms from environmentally sensitive areas, as well as ensures accounting and maintains a database on the farms in the environmentally sensitive areas. Moreover State Plant Protection Service controls if fertiliser norms and spreading time is followed. Control takes place every year.

- One of the functions of the Food and Veterinary Service (<http://www.pvd.gov.lv>) is food chain control. Although this institution is not directly involved in addressing environment issues, its function is to ensure that only quality and unpolluted food reaches the market. Inspections can serve as indicator to detect environmental problems.

Functions of the Ministry of the Environment include development of environment protection policy and to organize and coordinate implementation of environment protection policy.

Institutions under supervision of the Ministry of the Environment:

- Latvian Environment, Geology and Meteorology Centre
(<http://www.lvgma.gov.lv>)

Main objectives of the centre:

- collect and process environmental information;
- carry out environmental monitoring and inform the society on the environmental situation;
- ensure the geologic supervision of earth entrails' resources and rational use of the earth entrails;
- realize the State policies in the spheres of geology, meteorology, climatology, hydrology, air quality, and cross-border air pollution influence.

Latvian Environment, Geology and Meteorology Centre is also responsible for the control of particularly environmentally sensitive areas.

- Environment State Bureau (<http://www.vidm.gov.lv/ivnvb>) the key objective of which is to prevent or reduce unfavourable impact on the environment caused by physical or legal entities. According to the normative acts, the Bureau performs environmental impact assessments.

- State Environmental Service (SES) (<http://www.vvd.gov.lv>) the key objective of which is to perform state control of environment protection and usage of natural resources in the territory of Latvia, continental shelf and the economic zone of the Republic of Latvia in the Baltic Sea. The Service controls fulfilment of requirements included in the normative acts on the extraction and usage of natural resources, nature protection, emission of polluting substances in the environment, management of the hazardous and household waste, management of disposed packaging, operations with chemical substances and chemical products.

SES is responsible for control of implementation requirements of A, B and C pollution category, manure storage and fertilizing time.

As sustainable and correct management of territories is not the responsibility of only one ministry, communication and cooperation are of great importance. Joint ministerial (interdisciplinary) advisory boards are a significant part of the communication process, especially the Advisory board of agriculture and environment protection and the Coordination board of management measures of particularly environmentally sensitive areas.

In order to balance the agricultural and environmental protection measures in agriculture, the Ministry of Agriculture, in cooperation with the Ministry of the Environment have established an Advisory board on agriculture and environment protection. One of the objectives of the Board is “to promote rational usage of land resources, natural resources and preservation of rural environment, development of environment friendly agriculture development and implementation of environmental requirements in agricultural companies”.

Activities of the Coordination board of management measures of particularly environmentally sensitive areas are ensured by the Ministry of the Environment. The Board proposes suggestions for state institutions to develop state policy in order to prevent nitrates pollution caused by agricultural operations. The Board consists of the leading specialists from the Ministry of Agriculture and Ministry of the Environment, representatives of the institutions under the supervision of the respective ministries, representatives of agricultural research institutions, consulting services, farmers’ and environmental non-government organizations. Additional experts are invited in the process of seeking solutions for problematic issues.

Cooperation between institutions is carried out also through control mechanisms, for example, checking the observance of cross-compliance requirements on the farms receiving area payments in accordance with The Common Policy of Agriculture.

The coordinating institution of the control system is the Rural Support Service. The Rural Support Service controls the fulfilment of the requirements in the environment sphere and observance of good agricultural and environmental conditions. However, fulfilment of the requirements can be controlled by the following competent control institutions:

- Food and Veterinary Service controls the fulfilment of requirements in the spheres of society, animal and plant health protection on identification and registration of animals, and animal welfare.
- State Plant Protection Service controls the fulfilment of requirements in the spheres of society, animal and plant health protection and in the sphere of environment on fertilizer plans of the cultivated plants in the particularly environmentally sensitive areas;
- State Forest Service controls the fulfilment of requirements in the sphere of environment on forest areas.

5. Implementability issues:

According to the annual progress report (data from about 2007) on the fulfilment of Rural Development Plan Agri-environment measures, regarding the “Agri-environment” sub-measures, the following number of applicants applied:

- Development of biological agriculture – 4075 applicants have undertaken liabilities;
- Maintenance of biodiversity in the grasslands - 3663 applicants have undertaken liabilities;
- Installation of buffer areas – 271 applicants have undertaken liabilities (sub-measure relates only to the environmentally sensitive areas);
- Limitation of erosion – 8041 applicants have undertaken liabilities. By now new liabilities are not approved for this measure as in future it is not planned to implement such a measure. Implementation of a new support measure is now being considered as an alternative – cultivation of catch crops. This measure would promote cultivation of catch crops that would improve the positive effect of crop rotation on the cultivated crops and would decrease the losses of nutritive elements from agricultural land, as the catch crops are cultivated at the end of summer/autumn – the period of time when intensified leaching takes place. Support for the implementation of such a measure would be necessary for rural municipalities considered as seaside territories with higher risk of leaching of nutritive elements. In the current economic situation, however, there is no opportunity to find the necessary funding.

258 applicants had applied for the support measure of the Rural development plan “Achieving the standard” measure “Construction of manure storage facilities in the particularly environmentally sensitive areas” by 16 May 2006, when the measure was closed. By now the measure has been closed due to shortage of financing, although investments of such an extent necessary for construction of manure storage facilities cannot be implemented in the current conditions.

In the period 2005 to 2009 agrochemical studies of soils has been performed for 271.9 thousand ha, or 15% of Latvia’s total 1.8 million ha of arable land.

In 2009 the Rural Support Service had 1701 clients in the particularly environmentally sensitive areas, where the development of fertilizer plans is mandatory, but in fact the State Plant Protection Service received only 362 applications, or 21% of all farms.

Detected problems in the fertilizer plans development process:

- Lack of information on the methodology for plants elaboration. Farmers are currently allowed to prepare the plans using freely chosen methodologies – which can be methodologies of consulting, chemicals traders or any other methodologies, however, such methodologies must be justified.
- Lack of understanding on the benefits provided by fertilizer plans to the farmers. Often fertilizer plans are considered as document for the control institutions thus the real situation on the farm can differ from described in the plan.
- In the conditions of economic downturn the controlling bodies lack financial resources to perform controlling activities at necessary level, consequently preparation of fertilizer plans is not considered a priority by many landowners.

6. Synthesis of issues:

In development of various planning and measures implementation documents by ministries it is ensured that the objectives of the prepared programmes and actions do not duplicate. The EU requirements do not permit the overlapping of support measures nor reception of support for already supported measures. However, there have been cases when implementing support mechanisms have lacked logical sequence and communication between involved institutions was problematic. For example, in the establishment and development of biogas plants the reception of support for the establishment of biogas production units from one institution was not well coordinated to the distribution of energy quotas by another institution. As a result there was situation where receiving support for the establishment of energy production units, the energy quota was not ensured.

7. Selection of issues:

Tasks to be posed for further and more detailed assessment with persons who are interested into process are the following:

- Comparison of requirements for the environmentally sensitive areas and other areas (for example, fertilization norms, requirements of fertilization) and their commensurability between the member states.
- Comparison and analysis of environmental controls and inspections (frequency, necessary documentation, sanctions and their commensurability) to be performed in the member states;

- Activities and support mechanisms and timely assessment of potential environment risks.

8. Conclusions:

More than a half (55%) of the Latvian waters that flow through the territory of Latvia and flow into the Gulf of Riga or directly to the Baltic Sea form outside the state borders, and Latvia can only relatively affect water quality protection, pollution control, monitoring and provision of information to Latvia or to other countries. Our country can be characterized with the greatest impact of the cross-border territories and risks in the eco region of the Baltic Sea in relation to the quality of surface water and ground water. Full and general improvement of water quality in rivers with dominating cross-border impact in the Gulf of Riga cannot be achieved without direct involvement of third countries (Belarus and Russia) in the protection activities, and overall implementation of HELCOM strategies.

The action plan for the Baltic Sea developed by HELCOM has been approved by the Cabinet of Ministers of the Republic of Latvia and by the Ministry of the Environment, whose task is to ensure that the objectives and actions of this Plan are included in the Environment Policy Guidelines. Other involved ministries – the Ministry of Foreign Affairs, the Ministry of Agriculture, the Ministry of Transport, the Ministry of Regional Development and Local Government and the Ministry of Economics – who are advised to take into account the Plan and develop ministry level planning documents and normative acts unless the international treaties which are mandatory to the Republic of Latvia lay down different provisions.

Differences in historical criteria for financing distribution between the member states of the EU does not provide equivalent opportunities between all EU countries. If additional measures are observed a situation can occur where local producers are not able to compete in the single EU market, which is why environment measures must be balanced between the member states.

Changes in the operations and data collection processes of the existing monitoring systems and a lack of funding have not ensured full movement towards the achievement of the long-term objectives.

Water quality of the Latvian seashore and the Gulf of Riga shows persistent slight improvement tendencies due to a significant decrease in the concentration of nitrogen, and successful actions in the sphere of waste-water purification, and implementation of good agricultural practice principles through constructing manure storage facilities and limiting the usage of fertilization materials. At the same time the concentration of phosphorus has increased due to the fact that economic activity has become greater in the forestry rather than the agriculture sector, and the forestry sector promotes the development of blue-green algae which assimilates summer atmosphere nitrogen. However, many actions necessary for sustainable preservation of the environment cannot be implemented fully by implementing actions only in several sectors, and must rather involve a set of long-term actions.

Agriculture is a significant source of water pollution with nitrates, but not the only source; the greatest pollution is caused by public waste-water that flows into rivers and lakes, especially in populated areas with old waste-water purification plants.

Pollution from individual sources causes significant load on the surface water and ground water in all the largest river basins in Latvia. Due to individual pollution sources there is a risk that by the end of 2015 (as it is provided by the Water Management Law and Water Directive) good water quality will not be ensured in 54 river bodies and 33 lake bodies. With public waste-water in surface water bodies receive a lot of production waste-water. From the total amount of waste-water drained in the state, 60% is from the leaking of public waste-water from cities and polluted areas. Companies that operate waste-water treatment plants have difficulties in observing the effective normative acts on the emission of water in the environment, as the production companies transfer water with high concentrations of pollution. The largest load of organic substances and biogenic elements (nitrogen and phosphorus) is caused by agricultural product processing companies, port operations and industrial companies.

One of the topical issues in Latvian agriculture is acidification of soils, which hampers plant ability to use the existing nutritive elements operatively. According to studies made by the State limited company 'Agrochemical research centre' around 20% of these soils have acidity higher than $\text{pHKCl} < 5,6$, whereby normal farming can be done only after liming of these soils. In total, optimisation of soil acidity shall be done in approximately 1 million ha.

In Latvia approximately 90% of the land suffers from extra moisture and approximately 60% from all agricultural land is drained, including moisture regulation polders. Most of the drainage system is built 20-30 years ago and need massive investments to recover. According to the Ministry of Agriculture estimates 2/3 of state drainage systems need recovery. There is no approved information about private sector areas where drainage system recovery is necessary. As a result, lack of soil moisture control interfere to effectively and properly manage the land, resulting in reduction of soil fertility and increase in soil degradation risks by promoting land bogging. On the other hand, decreased water flow also reduces surface water pollution from agriculture activities. However, to ensure balanced regional development, the issues should be solved complexly with involvement of all stakeholders in promoting sustainable development through introduction of new technologies to reduce potential environmental pollution.

Structural changes continue in the rural areas of Latvia, having tendency to increase. The number of small farms is decreasing. However, the proportion of small farms is still significant, which hamper the realisation of environmental activities and the investigation of the current situation.

Similarly with other EU member states, agriculture employs mainly older people. In Latvia this explains the low development initiative. New technologies are used insufficiently and ineffectively, for example, use of renewable resources in the production of bioenergy can be higher. New technologies would decrease the potential damage to the environment during the production process in future.

Rural population often lack the opportunity to express opinion to the decision-making institutions. Sometimes it is difficult or even impossible to follow the requirements of the normative acts which apply to farmers. In Latvia households can demand or check information from 16 various institutions. It must be taken into account that the majority of agricultural companies are family households where it is required that the head of the family and his/her spouse both know and meet the requirements of regulations, laws, regulations of the Cabinet of Ministers, as well as a number of additional requirements, which, moreover, are changing all the time. Consequently farmers unable to follow the vast amount of requirements make mistakes, for which they have to pay and the environment suffers. The consequences of the lack of knowledge can be large and long-term. Increasing awareness of farmers and reasonable and planned fulfilment of environment protection requirements in rural households would ensure positive impacts on the environment in the long run, and within the widest sense of the matter.

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