Drainage systems and national plans – agro-enviromental production perspective

Ministry of Agriculture
Of Latvia
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Strategic/legal background

At the EU level

Thematic objectives defined in CSF Regulation (No: 4, 5, 6);

CAP objective: The sustainable management of natural resources, and climate action.

Rural development priorities:

- Restoring, preserving and enhancing ecosystems related to agriculture and forestry;
- Promoting resource efficiency and supporting the shift towards a low carbon and climate resilient economy in agriculture, food and forestry sectors.

Strategic/legal background

At national level

National Development Plan

Strategic objective "Sustainable Management of Natural and Cultural Capital"

Goal: To maintain the natural capital as a basis for sustainable economic growth and to promote its sustainable use while minimizing risks caused by nature and human activities to the quality of the environment.

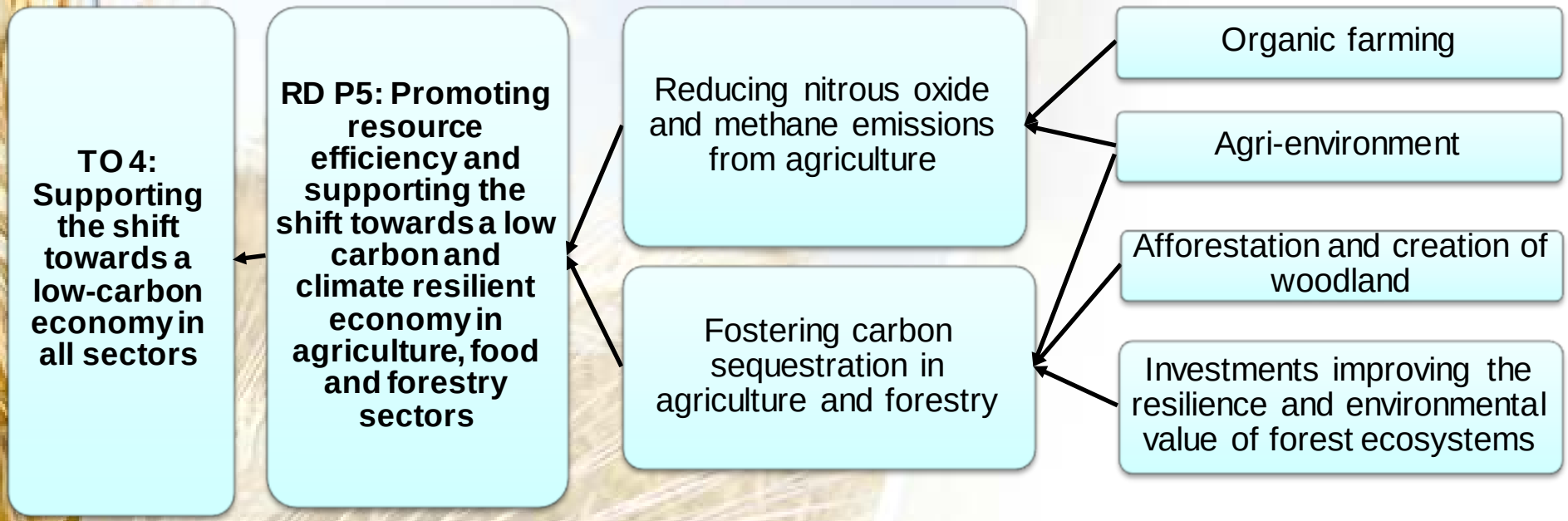
To be taken into consideration

Challenges:

- 25 % of the total contribution from the RDP have to be spent for climate change mitigation and adaptation and land management;
- All of the RD priorities shall contribute to the cross-cutting objectives of innovation, **environment and climate change mitigation and adaptation**.

Potential support activities

Thematic objective	Rural development priority	RD Focus area	Rural development support measure



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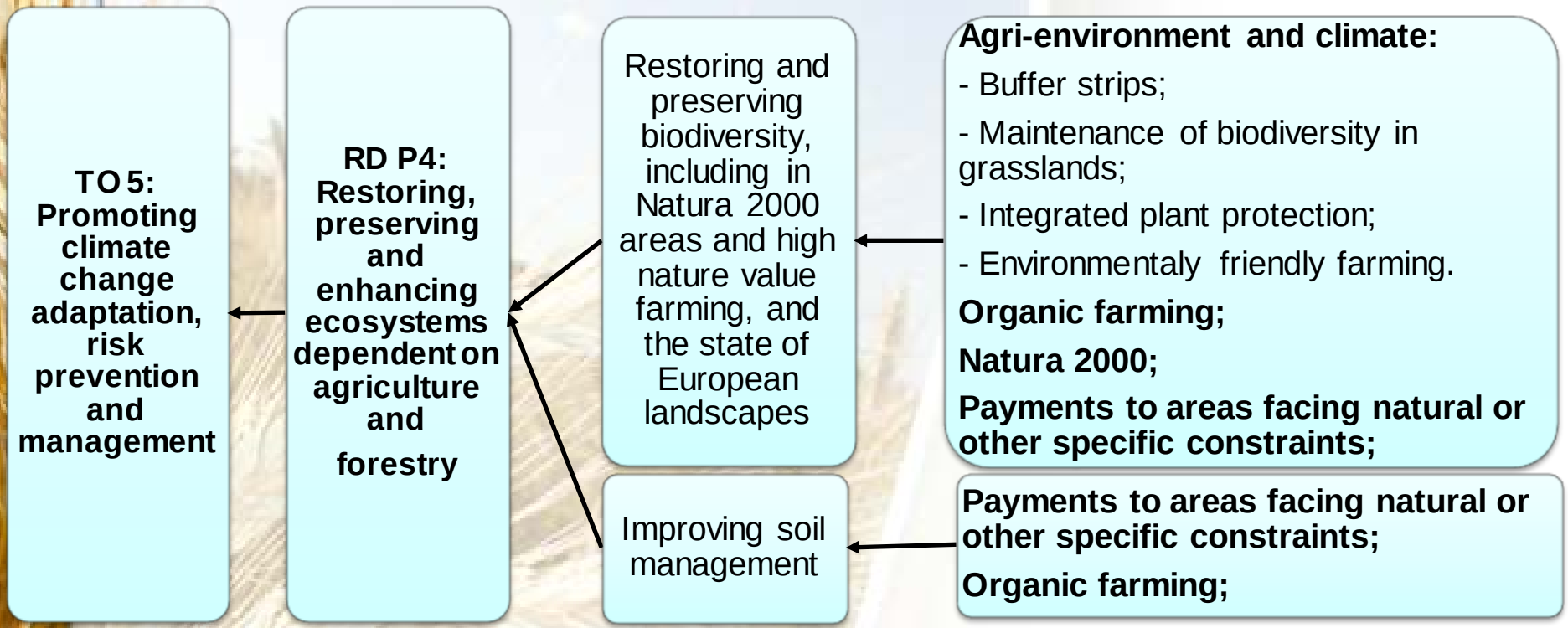


Situation in Latvia

Protection of waters is one of the priorities in Latvia's environmental protection policy.

Water Framework Directive 2000/60/EK (WFD) is the major document, laying down:

water protection and management principles as well as tasks in EU Member States.

In Latvia, requirements of the Water Framework Directive are incorporated into **Water Management Law** and in respective Regulations of the Cabinet of Ministers.

Environment quality objectives laid down in accordance with the Water Management Law:

1) To prevent deterioration of surface water objects and to protect them, improving water quality, and if necessary, carrying out rehabilitation in order to achieve good condition of surface waters in all the surface water objects;

2) To protect and improve water quality in all majorly altered water objects and in artificial water objects in order to achieve good ecological potential and chemical quality of surface waters;

3) To prevent or limit run-off of polluting substances into underground water and to prevent deterioration of all the underground water objects;

Environment quality objectives laid down in accordance with the Water Management Law (II):

4) To protect underground water objects, to improve or restore water condition in them, as well as ensure a balance between water intake and restoration of water resources in order to achieve a good condition of underground water in all the underground water objects;

5) To prevent concentration of polluting substances caused by human activities, from increasing in underground waters or to achieve a gradual reduction of pollution.

Monitoring

- Monitoring of Latvia's surface water quality was carried out by the **Latvian Center of Environment Geology and Meteorology**.
- Monitoring was carried out at 48 monitoring stations (28 on rivers and 201 on lakes) covering all the river basin areas identified in Latvia. **Hydrological monitoring of surface waters** was carried out at 69 stations by making such hydrological observations as
- water level, temperature, flow measurement,
- determination of the condition of water object, etc.

WFD is targeted to achieve a good chemical and ecologic condition in all surface waters until 2015

In general, the best provisional ecologic quality of surface water in 2010 summer/autumn season was:

The Venta river basin area where 62% of the monitored water objects had a high or good provisional ecologic quality.

The Daugava river basin area where 50% of water objects had a hig or good provisional ecologic quality,

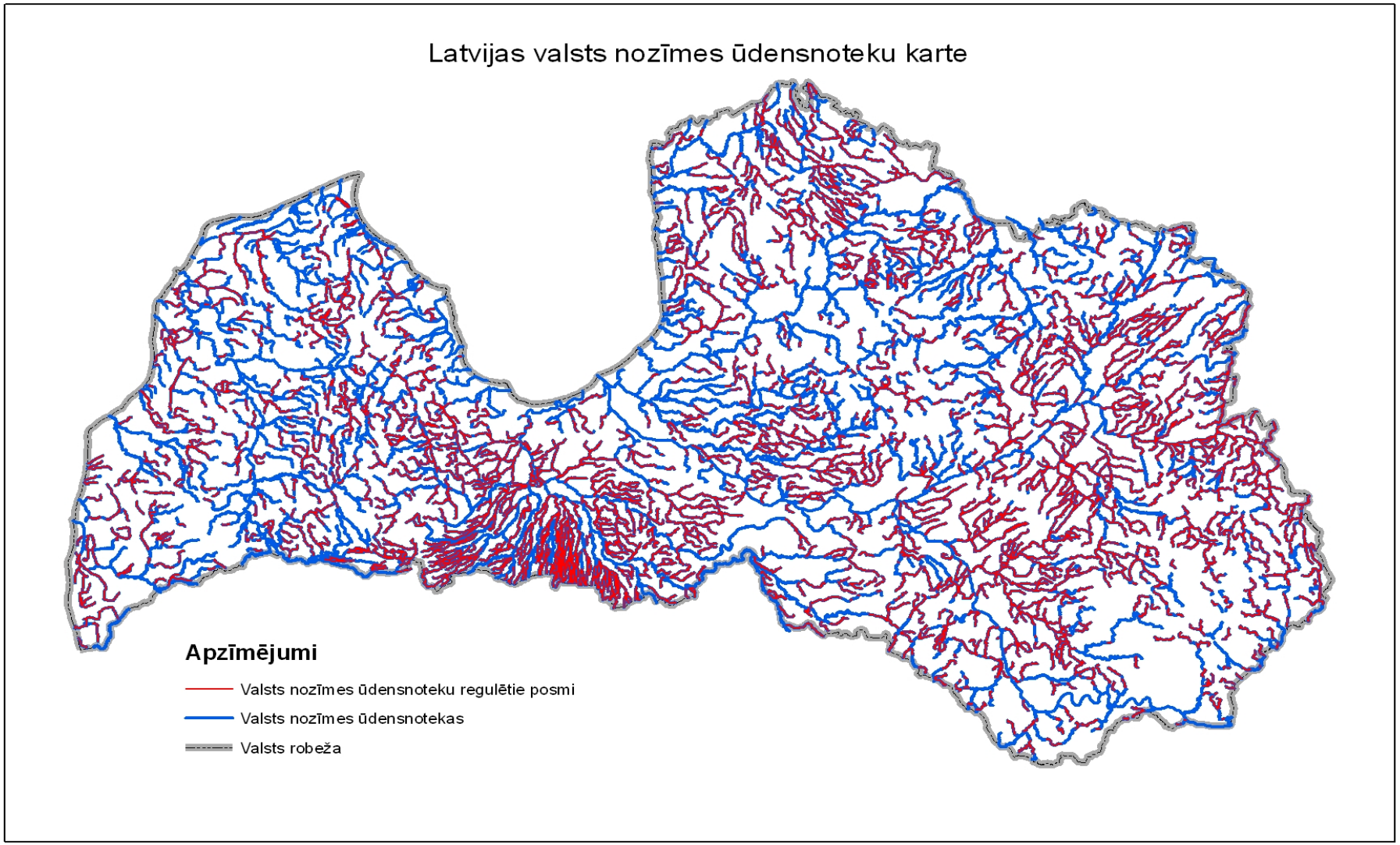
The Gauja river basin area – 43%,

The Lielupe river basin area – 38%.

Climate change consequences :

- An annual average temperature is increasing in water basins, the process of overgrowing in rivers is increasing. Coloring of water is getting more intense in rivers and lakes – water becomes darker, saturation with oxygen is reducing. Chemical content of water is changing.
- •Blue-green alga is developing in water basins.
- •Warm-water fish species are emerging further in the north.
- •An earlier spawning of Salmonidae species is observed. At the same time, the young salmons are migrating to the sea at an earlier age. Before, the young salmon migrated to the sea at the age of two years, now one year old fingerlings are migrating, which are not mature enough, and consequently their death rate is increasing in the sea.
- •An annual average water cumulative flow in rivers will reduce although the amount of precipitations will increase. It is associated with a higher average air temperature and more intense evaporation..

National importance drainage map



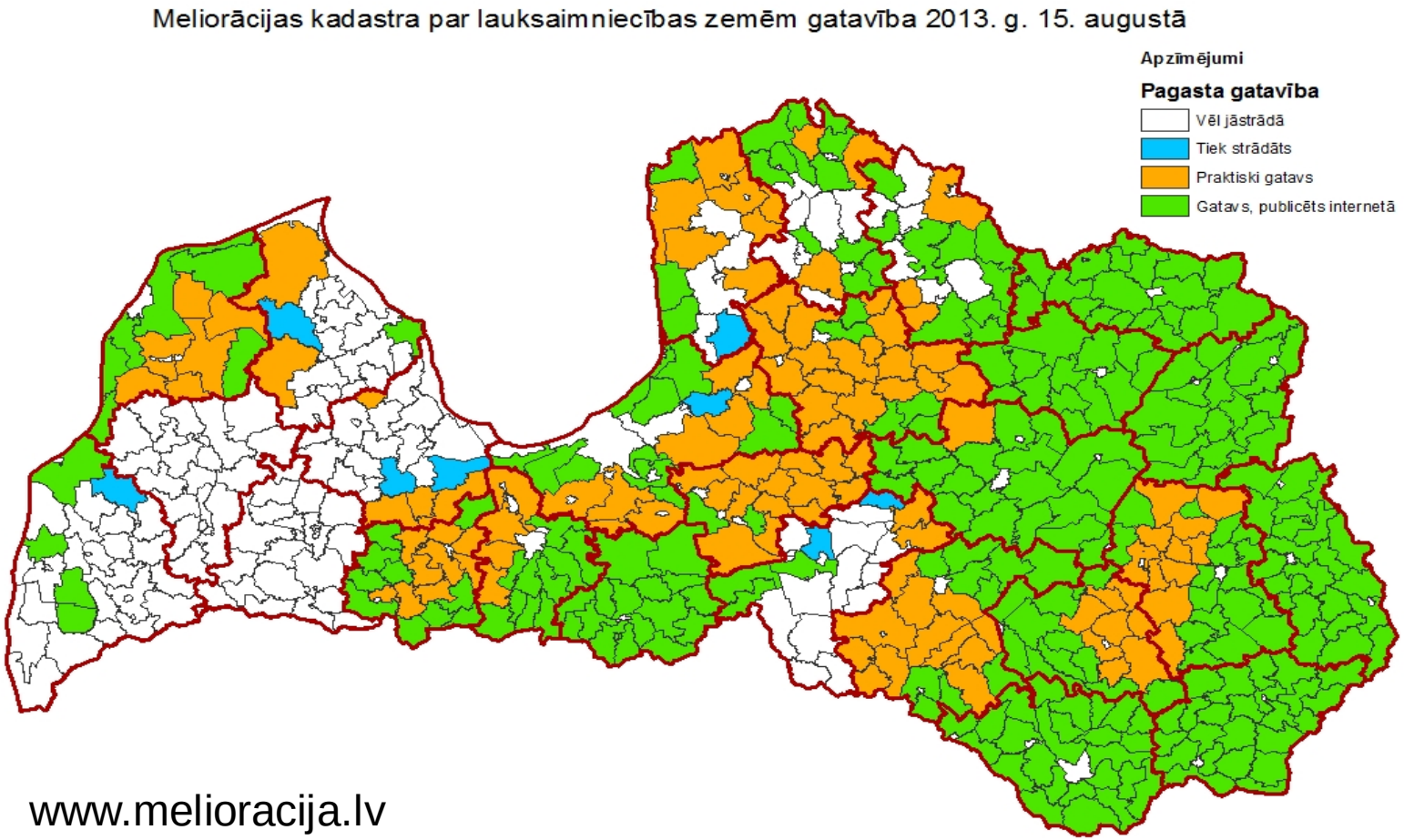
Drainage systems in Latvia

In Latvia, amelioration covers about 1,6 million ha of agricultural land, including 53 polders with the total area of 50 thousand ha to regulate water regime of flood plains.

Latvia is rich in forests, but about half of forests area suffers from excessive moisture.

Amelioration covers more than 0,5 million ha of forest land. Mainly by means of open ditch network about 50% of forest land area has been drained.

Drainage cadastre of agriculture lands readiness



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Renovation of water drain

According to estimates made by amelioration experts, reconstruction or renovation of water drain must be carried out once in 7 – 10 years, thus ensuring a maximum water flow in spring and autumn periods as well as draining unexpectedly large volumes of precipitation water.

Financing from EAFRD – new opportunities

- The measure «Investments into material assets» of the draft Program contains an activity «Infrastructure linked to the development of agriculture and forestry» under which the support will be provided for reconstruction and renovation of amelioration systems.

- The planned total financing will amount to LVL 61 million
- It's planned to give an increase intensity (+10%) if person will create segmentation ponds.

Possibly from EAFRD - segmentation ponds

Segmentation ponds

Segmentation ponds are made as the widening and deepening of a ditch bed. They serve mainly for sedimentation of coarse and suspended particles.

It is useful to establish such segmentation ponds on main draining ditches that are channeled to natural water basins un water flows upon carrying out reconstruction of amelioration system.

Specialists

- Proportion of certified specialists in hydrotechnical amelioration construction area, in respect of age, is close to the critical limit – 43% are in the age above 62 years.
  - 36% from 51 to 61 years
  - 18% from 41 to 50 years
  - 3% below 40 years.
- Young people are less interested in acquisition of this profession
- The necessity for improvement, further education or vocational retraining program
- Education of farmers and self-government representatives on amelioration systems and their maintenance.

To be taken in consideration

- Excessive precipitations cannot be absorbed and evaporated thus natural wetlands are developing;
- Insufficient basic knowledge and research is necessary on soils and climate;
- Insufficient financing for the development of controlled draining systems;
- Limited resources (financing and labor) for inventory and mapping.

To be taken into consideration II

- there is no information on an actual situation with amelioration systems in the country;
- if the situation is not changed urgently, only a small part of inherited amelioration systems will be functioning in future;
- to establish amelioration systems anew, covering the present area – we will never afford it;
- professional ameliorators are currently like an endangered species;
- protected plants prevent a good quality agricultural land from its using for intended goal, on previously regulated amelioration systems;
- **farmers are currently loosing up to 30% of yields due to not functioning amelioration systems!**

Thank you for your atention!

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