European Climate Initiative EUKI

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

LIETUVOS GAMTOS FONDAS

E L F Estonian Fund for Nature

Legal Analysis

Legal analysis about national legislation and implementation paludiculture in Lithuania

Romualdas Zemeckis

9-17-2018

1. Introduction

This analysis is one of the activities foreseen for the Estonian Nature Fund for the project "Paludiculture in the Baltic States". The purpose of the general analysis is to: 1) verify the current legal and political conditions for the implementation of paludiculture in Lithuania; 2) Propose how the current framework could be improved under the new CAP and its national implementing measures.

The project supported by the European Climate Initiative (EUKI) program. It is a financial instrument of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, strengthening the cross-border dialogue and cooperation between the European Union countries in the field of greenhouse gas emission reductions and promoting exchanges of knowledge and experience.

The project is carried out by Michael Succow Foundation (MSF) (Germany), Greifswald Mire Center (Germany), Lithuanian Fund for Nature, Estonian Fund for Nature, Latvian Lakes and Wetlands Research Center. Political partners: the Ministry of Environment of the Republic of Lithuania, the Ministry of Agriculture of the Republic of Lithuania, the Estonian Ministry of Environment, the Estonian Ministry of Rural Affairs, the Latvian Ministry of Environment and Regional Development.

2. Terminology used and definitions

The term **paludiculture** translated into Lithuanian language as "**pelkininkyste**". This term is quite new in the Lithuanian language and used only by very small number of specialists in the field of environmental protection. The ways and trends of creating Lithuanian terms differ from English, French or German. Sometimes it's enough to translate terms of the original language term (words), but not always. As a result, terms do not always make sense when translating directly from these languages. Therefore, in this paper for the sake of clarity, a brief overview of the meaning of this and other related to paludiculture terms presented and their definitions explained. The basic terms used in agricultural legal acts presented in this study too.

2.1. Definitions in dictionaries:

Mire (pelkė Lith**) -** viscous place with standing water; mire (Dictionary of the Lithuanian language)[1]. Mires in various Lithuanian technical literature defined as continuously wet areas of the earth's surface, where moisture-growing plants grow and peat develops from dead plant material. If the peat layer is thinner than 30 cm, such areas called swollen lands. Mire, this is the area of excess moisture on the land, overgrown with a specific vegetation. In the mires, peat deposits form from the vegetation residues over time. The mires divided into bogs, fens, and transitional ones. Fen mires are mires that feed many soil and / or groundwater minerals. They grow on a specific basis, with high levels of moisture and nutrients adapted to the vegetation. Bog mires - rain-fed mires whose vegetation has adapted to survive in high humidity and low levels of nutrients in water.

Ecological sustainability – (ekologinis tvarumas Lith)- according to the Terminology Bank of Lithuania is ability of natural and anthropogenic ecosystems, their components, materials and energy circuits to return to equilibrium when it is disturbed.

[1] Lietuvių kalbos žodynas(in Lithuanian, dynamic link)

Soil- (dirvožemis Lith) according to Terminology Bank of Lithuania is earth crust above ground bed, which consists of mineral particles, organic matter, water, air and living organisms. This term approved by Minister of Environment. In the draft of Lithuanian Soil Law, the definition of soil is very similar, but their measurement 100 centimeters of top layer is included.

Peatland (durpynas Lith) - the place where peat is located; peat bog (Dictionary of the Lithuanian language)[2]. Unlike mires, peatlands, environmentalists call all areas of land that have a layer of peat that is thicker than 30 cm. However, in the Terminology Bank of the Republic of Lithuania, this term has a "provided" status, which means that the State Language Commission has not yet been approved it yet. In the provided translations, English and German speak about the place where peat drained. The terms "highland peatland", "lowland peatland" and "intermediate peatland" already approved by the State Language Commission, but their definitions refer to the degree of fragmentation of peat, and there is nothing said about the thickness of the peat layer or the water level[3].

Wetland (šlapynė LT) - wet land, which has its own vegetation, is characterized by ongoing processes of mires formation and its boundaries are determined by legislation. By this wording, this term defined and approved by the State Language Commission, placed in Terminology Bank of the Republic of Lithuania. This term in such wording used in the legal acts approved by the Ministry of Agriculture.

Paludiculture -"*Pelkininkystė"* in Lithuanian language dictionary defined as- mire economy, mires investigation (Dictionary of Lithuanian language)[4]. The term "**pelkininkystė**" (Eng Paludiculture), which is currently used in Lithuania by practitioners in the field of nature protection, defined in quite complicated and complex way. It is defined as "a climate-friendly economic exploitation of natural and restored mires involving the production of indigenous mire plants, the maintenance and / or restoration of the hydrological regime typical for mire habitats, the promotion of peat formation, and conservation of wetlands biodiversity to ensure the ecological stability of mires" [5]. This term submitted to the State Language Commission of the Republic of Lithuania and is currently in a "submitted" status in the Terminology Bank of Lithuania[6]. However, is not possible to find documents or other information with such a word "pelkininkystė" in the databases of the Parliament of the Republic of Lithuania, the Government, Ministry of the Environment, Ministry of Agriculture, research and education or other institutions, research papers.

Paludiculture is wet agriculture and forestry on peatlands. Paludiculture combines the reduction of greenhouse gas emissions from drained peatlands through rewetting with continued land use and biomass production under wet conditions [7]. This Paludiculture definition comes from Wikipedia.

Paludiculture *i*s the agricultural or silvicultural use of wet and rewetted peatlands. Paludiculture uses spontaneously grown or cultivated biomass from wet peatlands under

[2] http://www.lkz.lt/Visas.asp?zodis=durpynas&lns=-1&les=-1 (in Lithuanian)
[3] http://terminai.vlkk.lt/pls/tb/tb.view_help?p_sid=1966872&p_page_no=1 (in Lithuanian)
[4] Lietuvių kalbos žodynas (in Lithuanian)
[5] Lietuvos gamtos fondas - Naujienos (in Lithuanian)
[6] Paieškos Terminų banke rezultatai (in Lithuanian)
[7] https://en.wikipedia.org/wiki/Paludiculture (in English)

conditions in which the peat conserved or even newly formed (Wichtmann & Joosten 2007)[8]. Assuming that in paludiculture is stressed economic agricultural and forestry activity in the wet peatlands, it is possible to conclude that Wichtmann and Joosten formulated the clearest definition of paludiculture, which is clear and makes sense in the Lithuanian language. This definition is the most meaningful term also when we are comparing with term used in Europe. For even greater clarity, it is necessary to consider what the "wet" peatland means, how it should be correctly defined in Lithuanian, to be consistent with other terms already in use (eg "wetlands"). However, such linguistic details are interesting, but not the task of this work and its result from the specified wording will not change.

2.2. Definitions used in legal acts:

The term ***Paludiculture*** not used in Lithuanian legal acts. The most related term is ***Wetland*** (šlapynė). The definition and corresponding regulation in legislative context varies according to chosen approach, e.g. wetland in agricultural land regulated by the legal acts issued for agro use, wetlands in forest regulated by the forest law etc. Even criteria what is called wetland varies according to the approach/context. Wetland (Šlapynė) suitable for agri-environmental payments is the agricultural utilized land meets these criteria:

- The soil layer must be peaty, peat layer not less than 5 cm thick, or it might be any other wet or flooded, soil layers, e.g. Alluvial, glitzier etc The dominant vegetation must belong to the wetlands (Eriophorum Vaginatum, reeds, sphagnum etc.)
- Land must be undrained unless was drained earlier, and in 2006 during inventorization or later acknowledged as drained land.
- No trees and bushes allowed, except traditional landscape trees. The site may not be overgrown to the densely that cattle could not access it.
- Ploughed land not allowed.

Each land plot registered in the Land Cadaster Register has maps with indication of areas according the land use. The land use could be changed with approval of relevant institutions. According to the order No 3D-37/D1-40, on 2005-01-20 approved by Minister of Environment and Minister of Agriculture the main types of ***Land use-*** agricultural land, forest land, water land, conservation land and land of other uses. For the study and CAP, the most important definitions are related to agriculture.

Agricultural land *(Žemės ūkio paskirties žemė Lith)***-** land plots for specialized horticulture, floriculture, greenhouses, nurseries and other specialized farms, land for amateur gardeners, garden lands for general use, lands for recreational use, other agricultural land plots. Minister of Agriculture has approved for CAP and other purposes using more definitions that are specific:

Agricultural utilized land *(žemės ūkio naudmenos Lith)* - arable land, gardens, meadows, pastures, used or suitable for cultivating agricultural crops.

Arable land -is the area of land used to grow agricultural crops, fallowed and ploughed more than once every five years.

The area of perennial plantation- is the area of non-crop rotation, with the exception of pasture

[8] http://www.succow-stiftung.de/tl_files/pdfs_downloads/Projektinfos/Wichtmann%20et%20al.%202012_Bioenergieforum_Rostock.pdf (in English)

or meadows, including nurseries and areas of short rotation plantations where land been planted for more than five years and yield was harvested repeatedly.

Permanent grassland or meadow- land sown with grass or natural area, which not ploughed of five years, or more, used for grazing, grass or grassland production.

Pasture- land planted with perennial grasses or natural land, including permanent pasture or meadows, for grazing, grass or grass production.

Black fallow- is the area of arable land whose land is cultivated periodically but not used to produce products in the current year.

Green fallow- is an area of arable land, where agricultural crops introduced into the soil in order to improve the soil structure.

Forest land- ecosystem protection forest parcels, recreational forest parcels, protected forest parcels, forest lands.

Conservation land- nature reserves land plots and land plots of cultural heritage objects.

Nature reserves land- land plots for state nature reserves and sanctuaries, state parks or biosphere monitoring (monitoring) territories, natural heritage objects in which economic activities prohibited.

Water land- water bodies for economic activities, recreational water bodies, water bodies protecting ecosystems, water bodies of general use.

Other land – this category not related with the study. It includes construction land, roads, infrastructure, common land used by cities and villages, etc.

3. National strategic documents and their relation to paludiculture

National Strategy of Sustainable Development approved by Lithuanian Seimas on 2003, September 11, No 1160 in SWOT analysis is mentioning exploited peatlands and one of the indicators is restored peatland area. No other direct linkage with peat or mires could be found there[9].

The National Strategy for Climate Change Management Policy for the period 2013-2050 approved by Lithuanian Seimas on November 6, 2012, decree No XI-2375. According to the National Climate Change Management Policy vision, by 2050 Lithuania will ensure the adaptation of its economic sectors to environmental changes. It will be resulting from climate change as well as climate change mitigation, i.e. reduction of greenhouse gas (GHG) emissions, the shift to a low-carbon competitive economy, introduction of eco-innovative technologies, improvement of the efficiency of energy production and use, and the use of renewable energy sources in all sectors of the economy.

[9] National Sustainable Development Strategy (in Lithuanian)

The strategic objective of the Lithuanian Climate Change Mitigation Policy is to achieve that the pace of economic growth of the country is much faster than that of the increase of GHG emissions. The goal for is to reduce GHG emissions so that in 2020 they do not increase by more than 15% compared with 2005 emissions in sectors not involved in the EU emissions trading system (transport, agriculture, waste management, industrial companies engaged in other activities, public sector buildings, households, fisheries, construction, services, etc.). However, Strategy has no linkage with peatland, mires and peat[10]. The special program for climate change and funding approved by the Minister of the Environment for the management of peatlands from this program not foreseen.

The linkage with peatland management could be found in by Lithuanian Government on 2013 April 23. No 366 approved Resolution "Concerning the Approval of the Inter-institutional Action Plan for the Implementation of the National Strategies for Climate Change Management Policy Strategy for 2013-2020". However there only in one place mentioned that exploited peatlands be restored.

Lithuania does not yet have an approved national bioeconomy strategy or program. The National Energy Strategy of Lithuania, which in 2007 January 18 (Resolution No. X-1046) approved by the Seimas of the Republic of Lithuania, mentioned peat extraction in the SWOT analysis and stated that it too little used in energy as one of the local fuels. However, this strategy is no longer in force. On June 26 2012, (Resolution No. XI-2133) the Seimas of the Republic of Lithuania approved the National Energy Independence Strategy. However, peat mires and peatlands in this new Strategy not mentioned at all.

The Seimas (Parliament) on April 16, 2015 by decree No XII-1626 approved National Environmental Strategy. The Strategy only refers to the limited amount of peat resources: according to the data of the Lithuanian Geological Survey under the Ministry of Environment of 2012, 10,6 thousand hectares of peatlands are needed to be rehabilitated. The strategy foresees that peatlands be rehabilitated, rebuilt to the former land use potential, or rebuilt into more valuable ecosystems than would have been due to the extent of the extraction.

4. National legislation related to paludiculture

Lithuania is in the zone of excess moisture, because the amount of precipitation is about 1.48 times the amount of evaporated water, therefore, favourable conditions for conventional agriculture can only be created by drying the land. Land reclamation in Lithuania is very important, as about 90% of all agricultural production grown in drained lands. According to the calculations of Lithuanian Nature Fund, total area of meliorated mires and peatland is 0.44 mio ha. About 36% of all peatlands are used for agriculture, approx. 0,23 mio ha, where arable land covers 0,08 mio ha, and meadows and pastures cover 0,14 mio ha. According to Ministry of Agriculture in Lithuania, too damp and sunken land to be drained is 3.4 mio ha or 85.9% the total agricultural area of agricultural land. At present, the total amount of land drained in the country amounts to 2.98 million ha, mainly drained by drainage - 2.58 mio ha. Of these, 2.50 mio hectares are agricultural land. In the country, 42 %t of high favoured areas have been meliorated, 28 % are moderate, 23 % are disadvantaged, 7% are very low favoured land.

Ground drainage eliminates excess moisture and regulates soil water regime, which stimulates the development of soil microorganisms and root systems, increases the amount of nutrients

[10] Climate change strategy (in Lithuanian)

available in plants, fertilization efficiency and fertility of many soils. On the other hand, it leads to the microbial decomposition of peat layers, high greenhouse gas emissions, outflow of excess nutrients to water bodies, subsidence and ultimately to the loss of fertile lands.

Although the land privatized, the drainage facilities belong to the state. The state of land reclamation system in Lithuania is approaching critical status. According to the experts, Lithuanian farmers would be uncompetitive without drainage; therefore, it is necessary to find a way to solve land reclamation problems more quickly. The current problems of land reclamation have largely come about as part of the development of this system. The land reclamation projects in the Soviet period were large, including drainage systems. In most western European countries, land drainage carried out according to the wishes of the landowners. The drainage systems adapted to the needs of their farms, farm borders.

Some inefficiently drained lands are unproductive. Most often, they abandoned and not used. The condition of the installed drainage facilities is deteriorating, the area overgrown with a swampy vegetation, and others transformed into scrub or forest. There are no precise data on abandoned land in Lithuania. However, according to various calculations, this area in 2010 could reach 0,7 mio ha. In total, it accounted for almost a quarter of the total area of agricultural land in Lithuania. According to the Register Center data, in the year 2018 are almost 68,7 thousand of abandoned agricultural land plots. They cover over 0,041 mio ha and is about 0.72% the total area of the country. The decrease in the area is very fast. Forestland becomes included into the forest cadaster and not anymore treated as agricultural land eligible for GAP payments, but still it could get forest payments.

The abandoned land could be easily used for paludiculture. However, assuming paludiculture becomes profitable, productive lands also could be used, and water regime could be increased if necessary. According to interviewed specialist from Ministry of Agriculture, is possible to increase water regime if farmer wants it on the farm fields. It done by installing regulated drainage system. Regulated drainage now promoted in Lithuania as instrument to save moisture in the soil in spring and to use if necessary during dry summer.

However, if increasing the water level in the fields of one owner in the upstream basin is not a problem, the same is more complicated if the same drainage systems used and in most cases combined with neighbours, as the drainage systems are large and usually used by several owners of the land. The problem also would be to increase water level on the main drainage channels. In all cases, local government departments are required to inform about possible projects and their permissions granted. In the Register of Legislation, it was possible to find legal acts and to explain their relation to paludiculture in the table below.

Legal act	Relation to paludiculture and comments
Law on Environmental Protection	There has been no mention the words of peatland, peat and mire.
Land Law	The 22nd paragraph states that special conditions must be applied on land, says that wetlands must be used according to the environmental regulation and landscape formation.
Law on Protected Areas	The paragraph 9.2 about reglamentation of activities in the reserves says: it is prohibited to drain unmeliorated sites, change wetlands and other wet areas into other land usages, recultivate exploited peatlands into other land types than wetlands.

	24th paragraph says about activity regulation in Natura 2000 sites. For example: habitats must be protected and maintained in established Natura 2000 sites. Therefore, all habitats listed as 7xxx and 9xxx (active raised bogs, bog woodlands etc.) in Natura 2000 sites should be excluded from the sites suitable for paludiculture. However, if habitat detected, for example it identified during habitat mapping (Ministry of Environment, 2014) it is questionable whether such habitat shall be excluded from the paludiculture, especially low quality, degraded, e.g. 7120 degraded bogs. The law in Lithuania does not set strict requirement to protect and maintain all habitats. Ordinary activity is not prohibited is such places, for example farmer may convert mezophyte meadow into arable land without any question. In other cases, when the activity falls under the competence of Environmental Impact Assessment, (when planned activity is „not ordinary“) such habitats might become a target for conservation. Not existing clear indication whether paludiculture is a subject of extra assessments.
Technical reglement on polder management	This order of the Ministry of agriculture is important because it sets the requirements for polders, where are located potential sites for paludiculture. The paragraph: 40 th says that water level must be lowered down to at least 30 cm to the surface in spring, and to the 50 cm in autumn, which in practice means that it is focused on conventional agriculture practice and not favourable for paludiculture.
The Law of Natural Resources	There has been no mention the words of peatland, peat and mire.
Forest Law	Only in the Ist general part of the Law small mires are mentioned as part of forest land.
Rehabilitation Methodology of Damaged Lands After Mining Minerals	The order signed by Minister of Environment says, that the ecosystem rehabilitation is relevant for the rehabilitation of peatlands. The main means of restoration of the ecosystem of the peatland is the restoration of the hydrological regime. The main condition for the restoration of the ecosystem is the maintenance of a subterranean peat layer at a thickness of not less than 0,5 m in the digested/extracted peatland. Order also saying, that all mined and damaged lands could be converted to agricultural land. However, legislation on the use of peatland for plant cultivation, details on the restoration of their moisture regime, not included. Despite existence of this order, industry is not legally binded to restore former ecosystem because of possibility to choose between different options, e.g. conversion of extracted site

	into the lake. Also, the law does not set any requirement on peat formation, instead it says “that recultivated site must have at least 0,5 meter of peat layer“. If we look for any context of possibility to implement paludiculture, the judgement is that at least this order should be more strict and obliging to restore former peat layers or initiate and support peatforming vegetation. To conclude: this order is not favourable for paludiculture.
Law on Land Reclamation	Land reclamation in Lithuania very often accused of demolishing peatlands and bogs. However, this Law and all its versions do not mention peatlands, peat and mires. In this Law, the land reclamation is defined as "improving the soil with hydro technical, crop engineering, agri-land reclamation and other means to regulate the soil water, heat and air regime, improve the conditions for farming, preserve and increase soil fertility, and form a rational farm land management". Reclaimed land is defined as "a land plot with an installed and functioning drainage system and implemented cultural, agri-land reclamation and other means, which create favourable conditions for the development of agriculture".
Special Conditions of Land Use	It is the one of the main legal act approved by the Lithuanian government. It is stating that mires and springs are protected in a way, that it is not allowed to drain and transform them into agricultural use and waters all types of raised bogs, transitional mires and fens and their surroundings, which are bigger than 0,5 ha and have peat layer of 1 meter.
Law on Special Conditions of Land Use (draft submitted to Parliament in 2017)	Article No 133 is stating that convert mires and springs into arable land or plant with plant plantations prohibited. Also it is forbidden to turn the mires and springs into land occupied by surface water bodies, except in the case of installing artificial non-levelled surface water bodies of land not exceeding 0.1 ha in the land plot

From the current review of the legal acts adopted by the Seimas of the Republic of Lithuania, the Government of the Republic of Lithuania, the Ministries of Agriculture and Environment, can be concluded that the activity of peatlands is mainly regulated by the use and protection of peat contained there.

In most cases, Lithuanian legislation foresees strict water regulation: no change of existing drainage in protected areas, despite any analyses whether such prohibition causes negative impact to the site; draining agricultural land and polders to certain level, but there is possibility to manage individual water level without impact on neighbouring lands. Peat layers normally protected if such land registered as wetland in national cadasters. It prohibited drain them, but also rewetting is questionable. The use of peatlands, after the water regime restored, not foreseen.

5. Common Agricultural Policy (CAP) and development of paludiculture

As paludiculture is agriculture and forestry in currently wet and/or rewetted peatlands, it is also necessary to look for possible support for its development in these sectors. The biggest support for the development of the agricultural sector is from the European Union. Agriculture supported by the Common Agricultural Policy (CAP), which is in the interest of our food, our countryside and our environment. The main objectives of the CAP are:

- protecting farmers from economic changes and stabilizing their incomes;
- climate change mitigation and sustainable management of natural resources;
- fostering the EU's landscape as a whole and ensuring the viability of the rural economy;
- Ensuring and stabilizing food supply chains.

These goals are the same to Lithuania as they are common to all EU Member States and make it much easier to achieve and implement when financial support for agriculture and rural areas is provided centrally, taking into account the most relevant nuances of today. Set 2014-2020 The CAP implements the objectives of the period based on three measures:

- **Income support (pillar I).** Direct payments supported by farms in order to maintain their income level and encourage the promotion of public goods (eg preservation of the countryside).
- **Rural Development Program (Pillar II)**. National (sometimes-regional) development programs are being carried out to meet the specific needs of rural areas and address the challenges they face. Although individual EU countries provide similar support measures in their programs to other countries, they can use them flexibly to address their greatest challenges, taking into account the specific economic, natural and structural conditions of specific areas.
- **Market instruments (Passive Pillar I)**. The European Commission can take steps to remedy a difficult market situation, for example, when demand for agricultural products or raw materials is suddenly reduced due to health risks, as well as because of the temporary drop in supply of agricultural products or raw materials on the market.

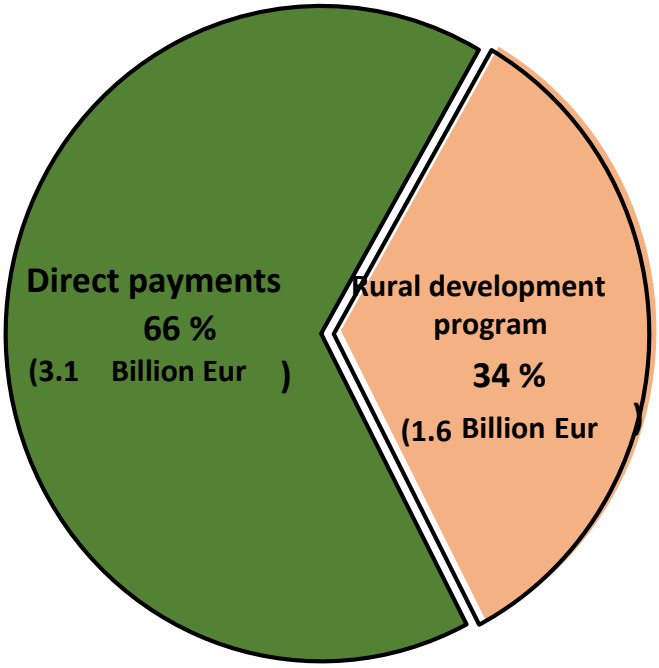
The Lithuanian agricultural sector's activities and policies determined by the common EU agricultural policy and the macroeconomic situation in country. Although two major groups of economic activity entities (family farms and agricultural companies) can be distinguished, the Lithuanian agricultural sector remains rather heterogeneous and split - 40% farms are less than 5 ha. Since 2004, when Lithuania became a member of the EU, the average size of the farm has doubled and currently stands at around 21 ha.

Lithuania also has an aging farming community of 35% farmers are over 65 years old, with the EU average 30% in this case. The Lithuanian agricultural sector is mixed, predominantly crop and livestock farms. In arable farms, the majority of crops consist of cereal grains and nitrogen fixing crops. In the livestock sector, dairying and cattle breeding predominate.

CAP in 2014-2020 planned to invest about 4.7 billion euro in the Lithuanian agricultural sector and in rural areas. Prior to the start of this support period, key policy priorities were identified: job growth, sustainability, modernization, innovation and quality. At the same time, Lithuania

has the opportunity to apply direct payments and rural development programs to its specific national needs (Figure 1).

1 Figure. Distribution of CAP support in 2014–2020



Source: Ministry of Agriculture data

5.1. Direct payment (I pillar)

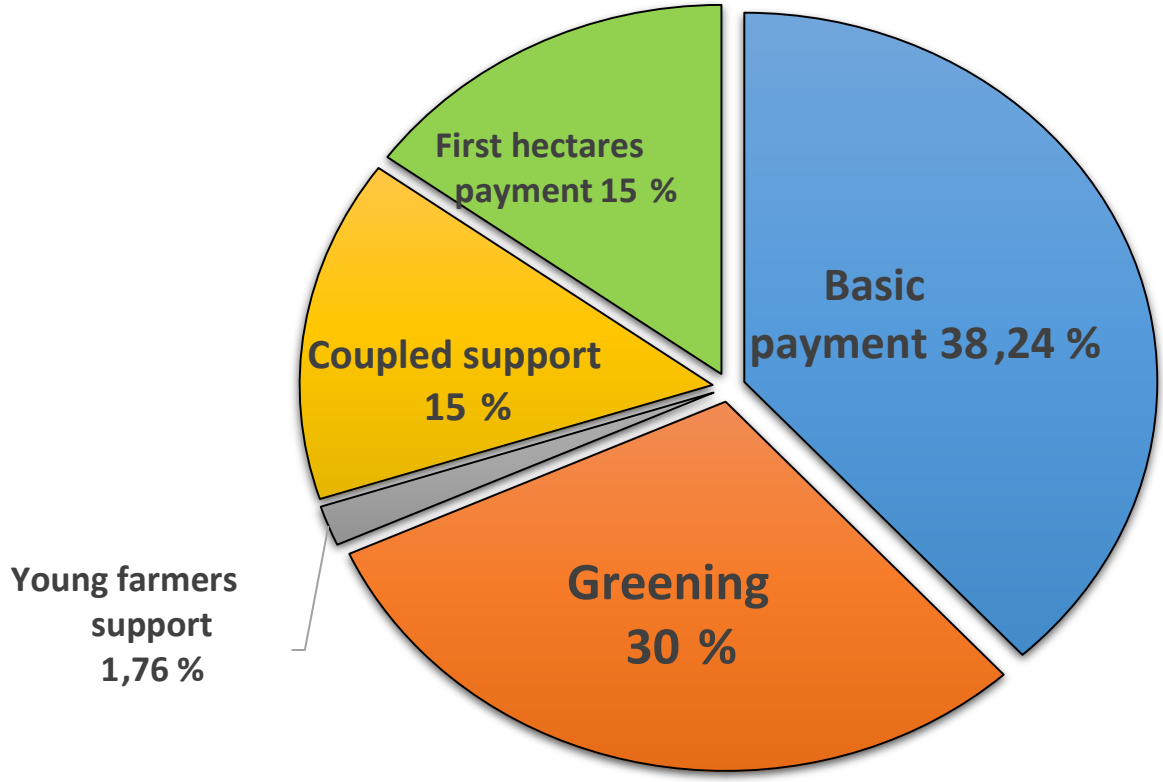
The total budget for direct payments in Lithuania for the period from 2014 to 2020 is over € 3.1 billion. Compared to the previous years 2007-2013 Lithuania has significantly increased the budget for direct payments despite the overall 3.2% budget cut at EU level. These payments are paid only from the EU budget. The Common Agricultural Policy (CAP) Pillar 1 requirements are or can be adapted to develop paludiculture. Higher water level required for paludiculture crops could be increased using regulated drainage systems or similar methods. There are no contradictions to receive direct payment and increasing water levels in arable land or grasslands.

Farmers and other applicants may receive direct payments if they meet the requirements which are listed in the order No 3D-897, Minister of Agriculture of the Republic of Lithuania (December 4, 2015, "On approval of the application for support for agricultural land and other areas and livestock and the rules for administration and control of direct payments in 2016-2020". Basic legislation and their requirements may be adapted for the development of paludiculture in Lithuania. The list of crops, which are supported by direct payments is flexible and depend on national decision if it meets EU requirements.

Direct payment: the amount of aid that is calculated on the basis of the application data and the results of the checks and may be made from the basic direct payment, greening payment, the payment for the young farmer, the payment for the first hectares, the coupled area and / or livestock aid, Direct payment includes:

- Basic direct payment - a payment from the European Union, paid to the applicant for the area declared in accordance with the requirements for the current year under the single area payment scheme.
- First hectare's payment - an additional payment from the European Union for the first (up to 30 ha) of agricultural land declared by the applicant.
- Greening payment - an additional payment from the European Union for a more environmentally friendly agricultural activity, paid for the area for the applicant who meets the requirements for the greening payment.
- Young farmer payment - an additional payment from the European Union, paid for the area declared to the applicant, corresponding to the requirements for the benefit of the young farmer.
- Coupled area support - additional support from the European Union, paid to the applicant declaring the agricultural area of agricultural land for the cultivation of vegetables other than potatoes in closed (heated greenhouses) and open ground, as well as for fruit, berries, protein crops, sugar beet, seed potatoes and cereal cultivation from certified seed.
- Coupled aid for livestock - coupled support for dairy cows, beef cattle and sheep for fattening, dairy breeds, dairy goats.

2 Figure. Distribution of direct payments envelope in Lithuania according to the different support schemes, 2016

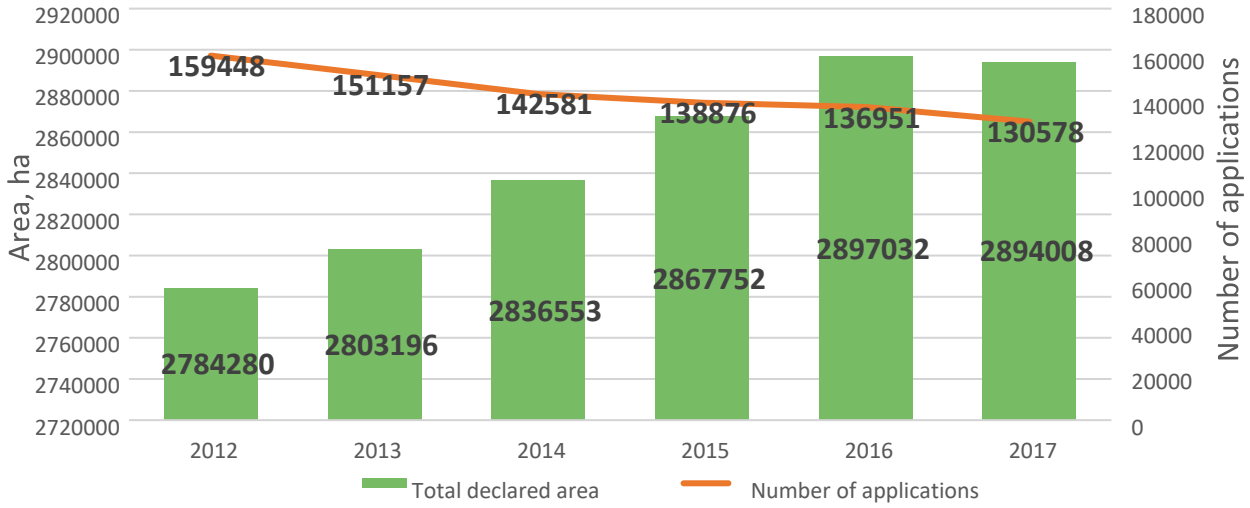


Source: Ministry of Agriculture data

If the evidence provided by the applicants accepted as eligible, these entities are eligible for direct payments. In 2016, most of the direct payments consisted of the basic payment (Figure 2).

The number of submitted applications is constantly decreasing. Lithuanian agriculture is undergoing a process of growing farms, in which the old traditions replaced by modern professional farms, which have more opportunities to compete and stay on the market (Figure 3).

3 Figure. Number of applications and declared area 2012–2017



Source: Ministry of Agriculture

The linkage with paludiculture have: basic direct payment, greening payment, coupled area support.

5.1.1. Basic payment

The basic direct payment is a payment from the EU funds paid to the applicant for the area declared in the current year, which meets the requirements for the grant. The basic payment in Lithuania been paid since 2004. The purpose of this payment is to ensure the basic income of farmers engaged in agricultural activities. In Lithuania, decision made to allocate 38.24% of the total direct payments amount. This payment is very important, since only applicants who meet its requirements can claim for other payments. The planned payment in 2018 is 64 euro per hectare. Its legal regulation and importance for the development of paludiculture presented below.

Legal basis	Order No 3D-897, Minister of Agriculture of the Republic of Lithuania (December 4, 2015, "On approval of the application for support for agricultural land and other areas and livestock and the rules for administration and control of direct payments in 2016-2020" [11].
Key requirements	• Applicants must comply with Good Agricultural and Environmental Condition requirements. • Agricultural land specified in the classification must be cultivated and maintained. In the current year, flowering plants must be grown at least until their flowering starts.

[11] https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/0d1758609d2611e591078486468c1c39/fxgGckDVJx (in Lithuanian)Grasslan

	• The declared agricultural areas must be planted with agricultural crops, (including meadows) or kept fallow. If the agricultural crops in the declared area are not cultivated at all (there is no agricultural activity), support for such areas is not granted; • Areas of arable land must be cultivated periodically prior to harvesting so that they do not contain any weedy agricultural crops (so that weeds do not dominate arable land or if the agricultural crops are not completely destroyed); • Meadows (which are defined as grasslands, on which grasses (an inexhaustive list of plants has been presented) are grown) must be moved at least once a year, not later than August 1 of the current year (inclusive).
Impacts	All applicants who meet the requirements of the "Support for agricultural land and other areas and livestock and the rules for administering and controlling direct payments in 2016-2020" may receive direct payments. Payments paid independently of the origin of the soil, composition, moisture and water levels, and the intensity of farming.
Gaps	However, in order to be engaged in paludiculture and to grow plants which are specific to mires, applicants will be faced with an obstacle to the cultivation of agricultural crops (including meadows) declared on the farmland. If the agricultural crops in the declared area are not cultivated at all (there is no agricultural activity), support for such areas not granted. Current list of agricultural crops includes mostly “traditional” crops, with paludiculture crops such as sphagnum, reeds are not listed
Perspectives	There is a need for economic justification regarding the suitability of plants that could grow in peatlands and mires. In the classification of agricultural land and other areas, it is necessary to record the crops that are suitable for growing there. Now in the classifier only cranberries recorded. Then there would be a legal basis for applicants to receive direct payments for them. The classifier as well as the list for agricultural crops could be changed (unless contrary to EU rules).

5.1.2. Greening

Greening is one of the direct payment schemes, which accounts for up to 30% of total direct payments amount. Greening scheme intended to be environmentally friendly. Consequently, each individual requirement for a greening serves a different purpose for an environmentally friendly agricultural activity. The greening requirements and their relation to paludiculture presented below.

Legal basis	Order No 3D-897, Minister of Agriculture of the Republic of Lithuania (December 4, 2015, "On approval of the application for support for agricultural land and other areas and livestock and the rules for administration and control of direct payments in 2016-2020".[12]

[12] https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/0d1758609d2611e591078486468c1c39/fxgGckDVJx (in Lithuanian)

Key requirements	Applicants who wish to qualify for a greening payment must comply with three main requirements for the greening: • maintain the existing perennial meadows and pasture areas (the meadows are not used in rotation for five or more years). • diversify crops. Applicants who declare over 10 hectares of arable land, depending on the size of the farmer's holding, must have 2 or 3 different crops. The diversification of crops is intended to improve the overall quality of the soil; • Exclude Ecological Focus Areas (EFA). Applicants who declaring more than 15 hectares of arable land, in order to achieve the objective of biodiversity conservation must declare at least 5% part of this land declare as EFA. Applicants are best succeeding to implement the requirement for diversification of crops, which does not cause them additional difficulties, as farms, irrespective of their specification, often cultivate more than one crop, the situation is good due to the fact that the least violations are recorded.
Impacts	Greening requirements encourage compliance with the requirements of agricultural and agricultural practices that are good for the climate and the environment, have a positive effect on the conservation of soil organic matter by encouraging extensive farming. These requirements have a positive effect on the conservation of perennial grasslands. According to the declaration on 2017, the area of perennial grasslands in Lithuania is 728.3 thousand ha. In Lithuania, the area of perennial grassland is not decreasing. Although the requirement for maintenance of perennial meadows and pasture is not in line with some of the usual farming practices, the ratio of perennial grasslands to the total agricultural land in Lithuania is very favourable to farmers as it is lower than the EU average. The choice of applicants for 2015-17 to implement EFA by productive elements, i.e. declaring the areas where nitrogen fixing plants are grown or the fallow (potentially productive area) is explained, since in this way, the applicants also have the opportunity to realize the production produced. In most cases, they also apply for the coupled support for the production of protein crops (in the case of the production of nitrogen-bearing plants).
Gaps	In the case of the perennial pastures or meadows, which are part of Natura 2000- they are not allowed be renewed. They cannot be ploughed and sowed with grasses, and there cannot be non-agricultural activities. If the applicant becames engaged in non-agricultural activities in these areas, the Agency informing the applicant that he is required to restore the permanent grassland at the same place by the date of the next year's application. The EFA requirement currently dominated by productive elements of the EFA-nitrogen-containing plants and fallow. Such elements and plants are not suitable for paludiculture.

Prospects	Greening rules could be changed by the initiative of EU or Lithuania. For promoting paludiculture is possibility to link it with implementation of greening requirements in the farm. For this is necessary to indicate and recommend such plants, which could be profitable to grow in the excessive moisture conditions.

5.1.3. Coupled support

This is an additional support to applicants paid for declared areas in the selected crop production sector in Lithuania and / or for animals in the livestock sector. For this support scheme, 13% of the total amount of direct payments in Lithuania allocated. This proportion may be increased by 2 percentage points, with at least 2% of the total amount of direct payments to support protein crops. In order to support the production as much as possible, Lithuania used this option to allocate these additional 2% to protein crops, therefore, overall, 15% of total direct payments were allocated to tied aid.

From 2017, the coupled support scheme has been supplemented by three new types of support in the crop sector: support for cereal areas sown with certified seed, seed aid and sugar beet support. Total 2017 the coupled support is EUR 70,06 million. Preliminary average projected payments in 2018 by individual support schemes:
• Protein crops - 47 Eur per hectare
• Outdoor vegetables - 334 Eur per ha
• Closed ground vegetables - 38 Eur per ha
• Fruits and berries - 247 Eur per hectare
• Dairy cows - 98 Eur per hectare
• Dairy breed bulls - 74 Eur per hectare
• Meat cattle - 124 EUR per ha
• For beef sheep - 12 Eur per hectare
• Dairy goats - 22 Eur per hectare
• Certified cereal seed - EUR 17 per ha
• Sugar beet - 127 Eur per hectare
• Potato seed - 212 Eur per hectare

This support provided to all eligible applicants, and presently is not relevant to paludiculture. In the rules are no linkage with regulating or even closing drainage systems and increasing water levels in arable land or grasslands. In future is a possibility to include in the list plants or animals eating grasses, which are suitable for paludiculture.

5.1.4. Cross-compliance: meeting Good Agricultural Environmental Condition (GAEC) standards

All direct aids to farmers are paid in compliance with strict standards relating to the environment, food safety, plant and animal welfare, and the general requirement for farmers to maintain their land under productive and good agricultural conditions. This is called cross-compliance support. Failure to comply with these rules may lead to suspension of support and penalizing the farmer. For paludiculture, these GAEC requirements are important; their analysis is presented below.

Legal basis	Order No 3D-932, Minister of Agriculture of the Republic of Lithuania (December 5, 2014), "On approval rules valid from 2015 on meeting Good Agricultural Environmental Conditions on agricultural land [13].
Key requirements	For implementation 4 GAEC standard of the "Minimum Soil Coverage" - 4 GAEC requirement - Arable land must be planted with agricultural crops or black fallow. Black fallow (except black fallow of land parcel protection in ecological farms) before 1 November of each year must be sown or planted with agricultural crops;
Impacts	Since arable land must be planted agricultural crops, which are listed in classificatory, presently it is limiting factor to grow specific crops suitable for paludiculture.
Gaps	Presently in Lithuania not fully used EU 6 GAEC requirement. These is possibility to include maintaining organic matter in the soil.
Perspectives	Presently implementation of GAEC 6: “Maintenance of soil organic matter level through appropriate practices including ban on burning arable stubbles, except for plant health reasons” in Lithuania is interpreted stressing burning. Rule is saying: “Agricultural crops and their stubbles, grass in pasture or meadows, as well as perennial grassland or meadows, cannot be burned, except for the cases specified in the Environmental Protection Requirements for the burning of dry grass, reeds, straw and wild and horticultural waste, approved by the Minister of Environment of the Republic of Lithuania on September 1, 1999, by order No 269 "On environmental requirements for the burning of dry grass, reeds, straw, agricultural and horticultural waste". This requirement can be reworded in conjunction with the preservation of organic matter in soil, which is important for preserving peatlands and developing paludiculture.

Direct payments to Lithuanian farmers are one of the smallest in the EU. Direct payments to EU countries calculated using the same methodology - based on the agricultural productivity of the countries in 2000-2002, the number of animals held and the like. Starting in 2014, the gradual introduction of direct payments between EU Member States has begun, with reduced benefits for the largest beneficiary countries and increased for the least-favoured countries. The result of this alignment is that in 2019, a level of 75% of EU direct payments will be reached in Lithuania - 196 Eur / ha. This level is the same as in Latvia and Estonia. However, as the area declared declines, the per-hectare payment decreases accordingly.

It can be concluded, that there are important conditions and requirements to be followed for basic and greening payments from direct payments to paludiculture. These requirements can be adjusted, if arguments are presented. Compliance with cross-compliance requirements should also be reviewed and adapted, including compliance with GAEC requirements.

[13] https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/7ae407807cca11e49386e711974443ff/mdNoQrOyTC (in Lithuanian)

5.2 Rural Development Programme (CAP 2nd pillar)

European Commission, February 13, 2015 by Decision No C (2015) 842 approved the Lithuanian Rural Development Program for 2014-2020. The last amendment was approved by EC Decision No. C (2018) 3841) [14]. The program plans to finance 1,9777,838,291.9 euros for all measures. Most of this amount will be received from the EU budget -1 613 088 240.0 euro, representing 81.56% of the total public support. Lithuania additionally contributes 15 or 25% of the national budget to the implementation of individual measures. It amounts to an additional 364 750 051.9 euro during the programming period. How financial resources are distributed according to individual measures is presented in Table 1.

Table No 1. Lithuanian Rural Development Programme 2014–2020 financial plan

Code of the Measure	Measure	Total public support	
		Euro	%
1	Knowledge transfer and information activities	18 995 816,5	0,96%
2	Advisory services, farm management and farmers replacement services	4 588 235,3	0,23%
3	Agriculture and food products quality systems	4 224 705,9	0,21%
4	Investments in tangible assets	608 537 508,2	30,77%
6	Farm and business development	238 721 981,2	12,07%
7	Main services or renewal of villages in countryside	76 110 777,6	3,85%
8	Investments in the development of forest areas and the improvement of forest viability	115 383 679,0	5,83%
9	Establishment of producer groups and organisations	1 788 829,4	0,09%
10	Agri-Environment and Climate	139 999 142,7	7,08%
11	Organic farming	150 784 677,3	7,62%
12	Natura 2000 payments and payments related to the General Water Framework Directive	19 047 581,3	0,96%
13	Benefits for areas with natural or other specific constraints	287 036 066,7	14,51%
15	Forest ecological and climatic services and preservation of forests (continued commitments)	1 274 332,0	0,06%
16	Cooperation	22 218 728,2	1,12%
17	Risk management	17 460 284,7	0,88%
19	LEADER programme	113 865 052,2	5,76%
20	Technical assistance	67 439 446,6	3,41%
21	Early retirement (Continued obligations)	90 361 447,1	4,57%

[14] https://zum.lrv.lt/lt/veiklos-sritys/kaimo-pletra/lietuvos-kaimo-pletros-2014-2020-m-programa/programa-2 (in Lithuanian)

	Total	**1 977 838 291,9**	**100,00%**

Source: Ministry of Agriculture information

Applicants may qualify for these measures if they meet their requirements. The measures currently in force have a direct link with paludiculture development: Measure 10 – "Agri-environment and climate", and Measure 12- "Natura 2000 payments and payments under the General Water Framework Directive".

5.2.1. Agri-environment and climate

Out of the 13 activities, which are in measure No 10 - "Agri-environment and climate", with paludiculture development mostly related are fallowing:

- Extensive wetland management - 208 Eur per ha;
- "Conservation of endangered Aquatic Warbler habitats in wetlands" -160 Eur per hectare;

The activities of "Extensive wetlands management" and "Conserving habitats of endangered Aquatic Warbler habitats in wetlands" of this measure protect the wetlands, which in most cases are in peatlands. Below is a more detailed analysis of requirements.

„Extensive management of wetlands"

Legal basis	Order No 3D-254 Minister of Agriculture Lithuanian Republic approved on April 3, 2015 "On Approval of the Implementing Rules for the Program of the Lithuanian Rural Development 2014-2020" Agri-environment and Climate[15].
Key requirements	Applicants and / or beneficiaries undertake: • perform activities only on wetlands which are approved by the Ministry of Environment or its authorized institution. Information on these areas is published in the Applications Receptions Information System. • not installing new drainage systems or watering and irrigation systems; • not to use mineral and organic fertilizers (except grazing animals), plant protection products; • Each year mow or graze livestock in accordance with these requirements (the applicant is free to decide whether to graze or mow) • start mowing no earlier than July 15; • grazing livestock in the grazing period at a rate no greater than 1 animal unit / hectare in the declared area; • to keep grazing animals from May 1 until October 30; • grass residues which are left after grazing should be mowed. Remove mowed grass and grass residues until March 1 of the following year.
Impacts	The measure is not very popular among farmers. According NPA recent data (2018.08), during 2014-2018 paid to applicants 23 734 753 euro, which is

[15] https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/c18db4d0dd7111e48533ed4be8ca86a2/LrNejdcPPV (in Lithuanian)

	only 17 % of the finances allocated in Lithuanian RDP to the measure for the period 2014-2020. In the Measure is planned objective to cover 74 000 hectares. At the end of 2016 for specific meadows management action was on 5 967 ha. Requirements are good for implementing activities beneficial to the environment and climate, promoting extensive farming, prohibiting ploughing. These requirements have positive effect on preserving organic matter in the soils and areas with perennial grasses.
Gaps	It is prohibited to install irrigation systems, which may be required during a dry season for plants; significantly restricting the choice of soil preparation methods for plants, (no ploughing is possible). If necessary, it is not possible to fertilize or use plant protection products, whatever they are (also of organic origin). The requirements aimed at conservation, not economic activity, which makes it difficult to find plants that grow naturally in wetlands and have an economic value. It is even more difficult to find such plants whose production would be more profitable for applicants than the current payment.
Perspectives	The rules could be changed at the initiative of the EU or Lithuania. Technological and economic justification should be used to encourage paludiculture development. The requirements of this wetland measure could be revised and more linked to paludiculture development needs.

5.2.2. Conservation of endangered Aquatic Warbler habitats in wetlands

Legal basis	Order No 3D-254 Minister of Agriculture Lithuanian Republic approved on April 3, 2015 "On Approval of the Implementing Rules for the Program of the Lithuanian Rural Development 2014-2020" [16]
Key requirements	Applicants and / or beneficiaries undertake: • perform activities on wetlands where existing habitats of endangered Aquatic Warbler. Information on these areas published in the Applications Receptions Information System. • not installing new drainage systems; • not to use plant protection products, mineral and organic fertilizers (except grazing animals), not to lime soils; • mow 50 percent of the area declared in this activity each year (to complete the whole area within 2 years); • start mowing no earlier than 1 August; • to clean cut grass (for example, to crush, squash, stack, etc.) until October 1, and latest to remove until March 1 of the following year; • do not release mowed or crushed grass; • comply with grazing requirements (if grazing):

[16] https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/c18db4d0dd7111e48533ed4be8ca86a2/LrNejdcPPV (in Lithuanian)

	• keep livestock and grazing at an average rate of 0.3 animal units / ha and at an average intensity of 1 animal units / ha under the declared area of the Measure; • grazing can be done throughout the area of the declared activity; • grazing to be complete until 15 October.
Impacts	Requirements are good for implementing activities beneficial to the environment and climate, promoting extensive farming, prohibiting ploughing. These requirements protecting habitats of Aquatic Warbler, have positive effect on preserving organic matter in the soils and areas with perennial grasses.
Gaps	The requirements significantly restricting the choice of soil preparation methods for plants (no ploughing is possible). If necessary, it is not possible to fertilize or use plant protection products, whatever they are (also of organic origin). The requirements aimed at conservation, not economic activity, which makes it difficult to find plants that grow naturally in wetlands and have an economic value. It is even more difficult to find such plants whose production would be more profitable for applicants than the current payment.
Perspectives	The rules could be changed at the initiative of the EU or Lithuania. Technological and economic justification should be used to encourage paludiculture development. The requirements of this wetland measure could be revised and more linked to paludiculture development needs.

The payment for the "Protecting endangered Aquatic Warbler habitats in the natural and semi-natural meadows" is 291 Eur / ha, the requirements are similar to those in wetlands, therefore, is no need to discuss them in more detail.

Farmers, who have agricultural lands in the area where Aquatic Warbler lives, could use support from RDP measure No 4 “Investments in tangible assets” activity „Preserving habitats of Aquatic Warbler”. Its priority – to restore, protect and improve ecosystems related with agriculture. Area of the Measure – to implement general objectives of environment protection which are related with preserving biodiversity and balanced ecosystems functioning, while preserving Aquatic Warbler habitats. The objectives related with wetlands:

- preserve the landscape;
- manage natural and semi-natural meadows and extensively used wetlands;
- to facilitate the survival of these particularly rare birds in natural and semi-natural meadows and in extensive wetlands.

Supported activities:

- shrub removal and cleaning works;
- mowing and cutting grass, reed management works;
- cut shrubs and cut grass, reed removal work.

Amount of support: the maximum grant per applicant is EUR 85,000. This amount does not include the purchase / import value added tax (VAT). Funded 100% of all eligible costs. Applicants whose fields support this bird's life could be used to develop wetlands, if the requirements for these activities are reviewed and linked to the development of paludiculture.

5.2.3. Natura 2000 payments and payments related to the General Water Framework Directive

The integrated objective of Natura 2000 payments and payments under the General Water Framework Directive expected to conserve the environment, mitigate and adapt to climate change, to preserve the genetic and species diversity of meadow and forest ecosystems, increase their resilience and ensure the continuity of ecological processes. The measure supports activities related to ensuring the good conservation status of biodiversity by identifying and adapting economic activity opportunities and farming methods in such a way that it does not endanger the habitats of different species and habitats, and with the growing public needs for a clean and healthy environment:

- Support under the "Support for Natura 2000 on agricultural land" is granted annually for each hectare of agricultural land located on the Natura 2000 site in order to compensate the beneficiaries in these areas for the purposes of Directives 92/43 / EEC and 2009/147 / Additional costs and lost income incurred in implementing the mandatory requirements;
- Support under the "Support for Natura 2000 forests" area is granted each year for each hectare of forest covered by Natura 2000 or other naturally valuable area in order to compensate beneficiaries in these areas for the purposes of Directives 92/43 / EEC and 2009/147 / EC, additional costs and lost revenue incurred in implementing the mandatory requirements.

Legal basis	The order No 3D-246, approved by Minister of Agriculture of the Republic of Lithuania on April 1, 2015 "On the Approval of the Implementing Rules for the Program for the Implementation of the Rural Development Program for the period 2014-2020 with the Natura 2000 and the Water Framework Directive" [17].
Key requirements	In the area of activity "Support for Natura 2000 agricultural land ": • the grass in the meadows must be mowed at least once a year from the 15th of June of the current year to 30 October (inclusive); • in the meadow fields, as well as orchards and berry gardens in which meadows between rows are kept, there should be no weeds which are dominating main plants; • from 1 January of the current year until 31 July, no agricultural production (i.e., sowing, cultivation and harvesting) for the production of the current year is carried out in black fallow. Black fallow should be periodically cultivated in such a way that it does not have mature weeds that have reached the stage of flowering. In green fallow, no agricultural production is made for the production of the current year, i.e. y, grazing livestock, mowing grass or growing other than herbaceous plants (Annex III, Chapter V of the Agricultural Land and Other Area Classification in Chapter III of the DP Regulation and the code for the declaration of the GAP). Crops grown in green fallow must be applied to the soil by 15 September of the current year (the crushing of green mass and the incorporation

[17] https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/f92e1ed0d98311e4b6acbc7f0d87c3ec/WDmywhfRks (in Lithuanian)

	into the soil are not considered agricultural production). It is prohibited to remove the yields these crops before incorporation them into the soil. • the intervals between rows in the orchards and berry gardens (except those covered with grass) to be periodically cultivated (mechanically or chemically) in such a way as to destroy weeds. The areas between rows in the orchards and berry gardens containing the meadow shall be mowed at least 1 time a year from June 15 to August 1 of the current year. Dead trees, shrubs and their residues are removed from orchards and berry gardens if their area is declared; • In the territory of Nemunas delta flooded meadows, which is classified as areas with specific barriers (Lumpenai, Stoniškės, Kintai and Rusnės subdivisions), remove grass rolls from the fields until October 1; • Areas of the agricultural crops on the arable land to periodically cultivate, that there are no weeds in agricultural crops or when the weedy crops are degraded and / or extinct.
Impacts	The requirements of the measure contribute to the conservation of the environment, as well as wet peatlands where is possible for farmers to be engaged in paludiculture.
Gaps	The measure focused on passive preservation. There may be a problem with the timing of harvesting. The effect of the measure presently to paludiculture is neutral.
Perspectives	With specific crops suitable for paludiculture terms and other requirements can be reviewed.

5.2.4. Support for agricultural water management

For Lithuanian agriculture to be competitive new investments into machinery and technologies are necessary, together with knowledge transfer, advisory and information which is mainly targeted to increase production levels and productivity. Together with these new investments well-functioning drainage systems and dry land is important. In that respect could be said that all direct payments and RDP investment measures in one or another way supporting investments are working against rewetting peatlands and developing paludiculture there.

According the opinion of Land Reclamation and Hidromelioration Engineers Association, advanced, competitive farming in the absence of drainage systems would be impossible. There is no doubt that technology in wetlands will use more fuel and therefore more polluting air. Subsequently, farmers be tempted to use more fertilizers to get the same harvest due to shorter vegetation periods.

After reviewing the implementation of the measure 4 "Investment in tangible assets" action "Support for agricultural water management", it can be argued that supported activities are more actively working against the development of paludiculture.

Legal basis	The order No 3D-578 approved by Minister of Agriculture of the Republic of Lithuania on July 17, 2015 "On the Implementation of the activities of the Lithuanian Rural Development Program 2014-2020 "Investments in Tangible Assets activity "Support for Agricultural Water Management " implementation rules“ [18].
Key requirements	The following activities are supported by the measure; • Renovation of the field drainage engineering infrastructure (including redesigning and rebuilding of systems to function as regulated systems); • Adaptation of outdoor drainage systems to their environmental requirements; • Reconstruction and installation of local roads of local significance and liming of arable land according to the project.
Impacts	The measure encourages the renovation of the field's drainage engineering infrastructure. As a result, excessive moisture is removed and yields of traditional agricultural crops are increasing. This intensifies farming and increases profitability of the farms. For this activity each year from the measure is allocated about 10-25 million euro, the intensity is up to 80%. Applicants could be local governments, associations or groups. Value of one project is up to 300, 000 euro. According to the calculations and opinion of Land Reclamation and Hidromelioration Engineers Association the total area of meliorated land is about 3 million hectares. About 250, 000 hectares are in bad or very bad shape. Each year this area is increasing by 10%. For maintenance, repairing and restoration is necessary to receive state support at least 50 million euro.
Gaps	The measure in practice is oriented towards economic activity and profit in agriculture. Drainage destroys wet peatlands, and works against the development of paludiculture. However, not many applicants know about regulated drainage advantages and that present action is financing installing regulated drain systems, which could be used also for paludiculture.
Perspectives	The rules can be changed at the initiative of the EU or Lithuania. Process of changes in the approved measure is complicated and time consuming because, all changes needs to be approved by EU. Technological and economic justification should be used to reformulate or abandon this measure and to encourage the development of paludiculture in wetlands. According to the new/changed requirements of this measure, it can be linked to paludiculture. This requires very important technological solutions and economic arguments for the abandonment of normal economic activity and the transition to profitable farming in the peatland fields with excessive moisture levels. Farmers should be aware and know what is regulated drainage and how it could be used to increase water levels when it is needed. Presently Aleksandras Stulginskis University and Agricultural Advisory Service is

[18] https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/890171602f1511e583cd9eafb0746d51/hwWZafucnq (in Lithuanian)

	implementing a project which is promoting advantages of regulated drains and this knowledge could be used for development and promotion paludiculture.

5.2.5. Other RDP measures

Measure 4 "Investments in tangible assets " of the Lithuanian Rural Development Program for the period 2014-2020, intended for investments, which allow for the purchase of various equipment or construction works, can be used for various purposes. If the rules currently do not include specific equipment required for paludiculture, then the rules can be reviewed and supplemented. Presently is no reason to examine specific actions supported by this measure in detail.

Measure 8 is for forestry: "Investments in forest area development and improvement of forest viability". There are 5 activities in it:
• "Forest introduction ";
• "Prevention and compensation of forest damage";
• "Investments to enhance the resilience and environmental value of forest ecosystems";
• "Investments in forestry technologies".
However, they do not mention peatlands, swamps or wetlands, so we can say that there is currently no connection with paludiculture development.

6. Perspectives

When communicating with representatives of the Ministry of Agriculture, National Paying Agency, National Land Service, farmers' representatives have the impression that at present knowledge about paludiculture and its development opportunities are marginal. Farmers are interested in the market for potential paludiculture production and technical possibilities to grow profitably plants on wet peatland. Information about the potential paludiculture production is not available, and therefore there is no specific opinion.

The attitudes and position of specialists who in the MoA or other institutions are involved in revising or preparing new CAP measures towards paludiculture are positive. In particular, they are interested in paludiculture as an alternative to maintain old drainage systems – or better; give new use to them for water level regulation. However, knowledge is lacking how to do in practice. This year, structure MoA was changed. After the reform, only one specialist is left and he is just coordinating one RDP action about water management. The rest in July are gone.

7. Conclusions, recommendations

In conclusion, it can be said that:

1. Assuming that paludiculture is agriculture and forestry in wet peatlands, that is why support for developing paludiculture is necessary to look in these sectors.
2. The use of peatlands and wetlands for economic reasons is most important for agricultural sector development.
3. It is very important to understand paludiculture as integral part and activity of agriculture. The result of paludiculture development should be competitive production, which is in high demand on local and international markets.

4. The present legal acts do not acknowledge that drainage destroys peat. Paludiculture could became alternative to restoration of drainage systems if the wet peatlands farming would become profitable;
5. The biggest support for agriculture today and in the future is going to be according Common Agricultural Policy (CAP).
6. The most important conditions and requirements to receive direct payments (CAP pillar I) are these for the basic and greening payments.
7. The requirements to receive direct payments could be corrected. This would include the listing of paludiculture crops as agricultural crops in the respective document;
8. Review deadlines during which agricultural activity needs to be carried out, to allow an exception for winter harvesting of reed and if necessary other suitable for paludiculture crops.
9. Also should be corrected cross-compliance rules (GAEC).
10. The technological and economic justification of economic activity is very important for the development of paludiculture by farmers and for revising present and designing new CAP policy and measures;
11. Possible support for paludiculture (as in conventional agriculture or forestry) must be a catalyst, not an objective, targeted to profitable production and avoid to build support as for compensatory measures
12. Environmental measures in agriculture are aimed at conservation, and the biomass of cultivated grasses which has to be artificially removed from field, (outside the ecological cycle) becames a source of pollution;
13. In order for paludiculture to be recognized and become one of the priorities of the agricultural strategy in Lithuania and EU, information and training for the policy makers, public servants, researchers, advisers, farming community should be provided. It is necessary to develop and agree on measures that:

- have technological justifications and economic assessments;
- be focused on the implementation of specific and measurable goals;
- encourage the development of high-value paludiculture production;
- provide the public with benefits (to create public goods);
- to ensure rational use of natural resources and taxpayers' money.