Abstract
The paper determines the essence of productivity and post-productivity, as well as changes in the correlation of these two paradigms in the development of the Lithuania’s countryside. The Lithuanian model of agriculture with its correspondence to the European model is discussed. The authors suggest the techniques of forming the regional micromodels, necessary for forecasting the countryside development prospects. They also determine the correlation of these micromodels with the multifunctionality of agriculture, differences in nonagrarian orientation of rural areas and the correlation between the production of private and public goods and services. The prospects of developing the separate micromodels in various regions of Lithuania are investigated.

Key words: productivist countryside, post-productivist countryside, multifunctional agriculture, nonagrarian orientation, model of agriculture.

Introduction
The progress of science and technologies has formed the intensive, marketable agriculture and over-supply of goods and raw materials to the consumers. The productivist agriculture successfully solved the problem of food supply to the population of the Western Europe, but such farming also had some detrimental effects: it increased the pollution of soil, water and air, and the public goods and other rural amenities began to decline. In the ninth decade of the XX century the concept of economic growth was criticized because of the obvious disadvantages, the proposal was made to use the sustainable development concept instead, and the post-productivist farming paradigm replaced the productivist one.

Research object is the transformation of the activities in Lithuanian rural areas. Aim of the research is to formulate the system of micro-models of Lithuanian rural areas, based on combined approach of the paradigms of productivist and post-productivist countryside activities. Research tasks are: 1) to investigate and reveal the essence of productivist and post-productivist countryside and the reasons of transformation; 2) to identify the transformation tendencies of countryside in Lithuania; 3) to determine the micro-models of multifunctional activity in the countryside peculiar to Lithuanian situation and their regional distribution.

Research methods
The scientists from the Western Europe N. Argent, T. Fitzpatrick, B. Ilber, P. Lowe, T. K. Mardsen, J. Murdock, K. Ronningen, N. Walford, G.A. Wilson, etc. widely explored the concept of multi-functionality of agriculture in the context of two
development paradigms – productivism and post-productivism. The research in this field has been just started in Lithuania and other countries of Eastern Europe alike.

Based on the data of the census and inventory of agriculture in Lithuania, other statistical material and the pilot studies the authors fulfilled in the smallest rural administrative unit, the most important factors that influence the de-agrarization of agriculture, the regularities and trends of productivism and post-productivism in rural areas have been analyzed. The determination of the micro-models of multifunctional activities in the countryside peculiar to Lithuanian situation is based on logical and functional relationship between countryside resources and the outcomes of the multifunctional activities of the rural areas. The results of the functioning of the rural activities model are discussed in accordance with the types of the goods and services of multifunctional agriculture and others rural activities on the basis of the concepts rivalry and excludability.

Results

Paradigm of Productivist and Post-productivist Countryside. Productivist countryside is the traditional paradigm of activities of rural agents, based on neo-liberal doctrine of economics, that makes the economic growth an absolute, when the greater output is primarily reached by technical means, intensification of agriculture. (Wilson, 2001; Burton, 2004). Fitzpatrick (2003) defines the productivism as the fetish of production output increase that allows ample quantitative consumption.

Productivist agriculture successfully solved the problem of food supply in the West European countries, but it also revealed the disadvantages of the intensive productivist countryside: the pollution of soil, water and air increased, the public goods declined. Such industrial (fordist) agricultural production in the developed countries reached its apogee in the nineth decade of the XX century. Then the economic growth concept was criticized because of the revealed disadvantages and the sustainable development concept was proposed instead. This coincided with the creation of post-industrial society. Post-productivism in agriculture and rural development starts when the most important factor of agricultural production concentration – the vector of intensification loses its speed or even the direction (the tendencies of de-centralization, extensification, diversification, etc. reveal, increases the portion of non-productive activities, de-agrarization of the rural areas appears). According to Ilbery et al. (1998) this is related with the transformation of paradigm of economic growth into paradigm of sustainable development. With all these changes in mind Rønningen (1999) identifies the further land use development in rural Western countries as divided into three directions: 1) the best agricultural areas may undergo further agricultural development; 2) regions with the most attractive countryside will develop tourism and small-scale niche production strategies; 3) the third category of areas that are under populated will increasingly be marginalized and even abandoned.

The surplus of productivist effects in agricultural sector stimulate to transfer the activities into other productivist sectors (forestry, handcrafts), or post-productivist sectors. The latter tendency changes the dominant rural function, and the employees
from the production sphere move to the sphere of services, the farmlands in many places become the area to satisfy recreational and other needs by modern society.

Post-productivist countryside is newly formed activity paradigm of rural entities based on the rural as country infrastructure, land as the territory for the formation of consumption space, when the decreased production of conventional food products and raw materials has been changed by commercialized and non-commercialized public goods. As stated by Ward (1993) the first phenomena of post-productivism in Europe became obvious after the first crude oil crisis in the world (about 1973) and became especially strong in the middle of the ninth decade. Some authors (Argent 2002; Gray and Lawrence 2001) distinguish productivism from post-productivism not only as the mode of agricultural system but as the opinion of the country government to agriculture and the promotion of the rural activities in general. According to Walford (2003) the protectionism and subsidies are to blame for the overproduction in the EU and this was the reason why post-productivist development of agriculture became so important.

The post-productivism is not only the reaction onto productivism, but new tendencies as well and new content: new goals, methods, structure, and thinking. Consumers are paying new attention to quality food offered by the countryside and to the quality of life. In post-productivism the aim is to get satisfaction from the whole process of product or service consumption. Thus the benefit of multifunctional activities in rural areas can be best disclosed by coordinating productivist and post-productivist activities, thus both these phenomena do not reject each other but rationally supplement each other.

Transformation Tendencies of Lithuanian Rural Areas. At the beginning of the XX century Lithuanian rural areas were completely agrarian. All the agricultural land despite of its quality was used for the agricultural production. Almost all the inhabitants of rural areas were occupied in farming and their number constantly increased. At that time the extensive agriculture began to intensify. Thus de-agrarization of Lithuanian countryside, that started in 1940 the peculiarity of which was the reduction of land use and the minimization of the number of people working in agriculture as well as the less production intensity, lasted until 1965. From 1965 to 1990 the further de-agrarization of the countryside occurred, but at the same time agricultural production was intensified. This is the time of countryside de-agrarization (often even de-ruralization) and unbalanced productivism.

After 1990 the processes began in Lithuanian countryside the vectors of which are directed in opposite directions: a) the further intensification of agriculture and production modernization proceeded like ongoing development; b) further de-agrarization run that was compensated by increasing the area of farming land and the number of labour force that was uncompensated in lots of other places, thus chaotic (non-systemic) post-productivism was formed; c) declining production activities (primarily in agriculture) were changed by infrastructural activities, the former agricultural land were turned into consumption space, where the production of commodity output was increasingly changed by provision of non-commodity output; this was the beginning of formation of systemic post-productivist countryside.
As the activities of productivist and post-productivist rural areas not only supplement each other but compete with each other, it is very important properly identify this process, estimate and control it (both with the help of political means of the state and by stimulating the public activity and personal expression). For this purpose the ideal process picture (model) should be formed and the trends of the transformation of activities should be predicted.

*Lithuanian Agricultural Model.* Agricultural model (macro-model) is the agricultural system with common specific features that was formed in the separate country or the group of countries, similar in historical development and genetic commonalities, with analogous and comparable level of economic and technical development, with the specific structure of elements, original viewpoint into the ratio of economic development and the development of environment protection, social and ethnologic concerns, and analogous concept of the state support of rural activities. According to this definition of the agricultural macro-model Lithuanian agricultural system corresponds to European agricultural model.

The discussion of the functioning of the agricultural system of the separate country and estimating the perspectives of development does not allow orienting to exclusive macro-model as it outlines only the most common peculiarities of agricultural system, but does not evaluate the variety of the country regions. For this reason the general model of agriculture of the country has to be described in detail, highlighting its modifications – *regional micro-models of rural activity*, where the specifics not only of agriculture, but of all rural activities has been estimated.

*Micro-model Concept of Rural Activities in Lithuania.* Micro-model is based on logical and functional relationship between countryside resources and the results of the multi-functional activities of the rural areas. That can be expressed in general form:

\[ Q_i = f(X_j) \]  

with:  
- \(Q_i\) – results of the multi-functional activity of the rural areas;  
- \(X_j\) – countryside resources.

The rural resources in the micro-model are divided into the following big groups: land, capital, demographic, landscape, biota and ethno-cultural resources. Some resource groups can be easily expressed by physical and/or units of standard of value, but the other resource groups are discussed only conceptually as yet. The ways of their expression, especially of their summing up with other heterogeneous resources will have to be created in the future.

The results of the functioning of the rural activities model are discussed in accordance with the types of the goods and services of multifunctional agriculture and others rural activities on the basis of the concepts rivalry and excludability. Types of such goods are: private goods, public goods and public bads (negative effects of the functioning agriculture and of others rural activities).

The following regional micro-model of multi-functional activity of Lithuanian rural areas was formulated:
\[Q_1 + Q_2 - Q_3 = f \left( X_1; X_2; X_3; X_4; X_5; X_6 \right) \quad (2)\]

with: \(Q_1\) – private goods; \(Q_2\) – public goods; \(Q_3\) – public bads; \(X_1\) – land resources; \(X_2\) – demographic resources; \(X_3\) – capital; \(X_4\) – landscape resources; \(X_5\) – biota resources; \(X_6\) – ethno-cultural resources.

**System of Micro-models of Rural Multi-functional Activities in Lithuania.** After estimating the structure of activities in rural areas and their regional differences, the transformation trends of rural resources and outcomes of production, the micro-models of rural multi-functional activities in Lithuanian situation can be distinguished:

1. **Productivist, agricultural, intensive.** Most of labour force of the locality and the greatest part of the land are occupied with the production of private goods. The physical capital increases. The landscape becomes more industrialized, biota declines. The tangible resources of ethno-culture and the living ethno-cultural tradition change ambivalently.

2. **Productivist, agricultural, extensive.** It is the variant of the first model that is more moderate in the value of inputs and outputs. The labour force minimizes owing to the technology advancement and machinery development, the physical capital change is ambivalent, the resources of landscape and biota regenerate, the pollution decreases.

3. **Productivist, de-agrarized, compensated.** It is formed in the rural areas where the greatest part of the farmland was non-agricultural activities (forests, waters, etc.) or the economic value of the soils was rather small. Thus beside the extensive agriculture significant land areas are devoted to forestry, alternative activity to agriculture, national and regional parks, etc. When the commodity production was reduced the ability to create public goods in this sector also decreased. Thus other subject groups occupied in productivist activities overtake this function, the foresters in the first place. In the structure of private goods the production part from non-agricultural activities increases. The scope of public damage minimizes.

4. **Productivist, de-agrarized, non-compensated.** This is degradation of the rural area. The increasing part of the agricultural land is neither used for agricultural production nor is transformed into other purposes. These are mostly the territories with insignificant productive efficiency and plain landscape. Some part of the inhabitants abandons the territory while the rest will continue their activity in small survival farms. The capital gain of all forms reduces. The cultural landscape deteriorates. The impact of a man on the production of environmental goods minimizes and the ethno-cultural goods decline.

5. **Post-productivist, unbalanced.** This rural model is a little bit similar to the fourth one but from the latter differs in that the post-productivist attributes start to appear in the de-agrarized space. The rural territory is being much more widely used as the space of the consumption, where the service providing is more important than the one-sidedly production of marketable goods. The depopulation of the territory occurs and new residents change those who moved out. The capital is ambivalent, the agricultural lands decline, non-agricultural activities prevail.
6. *Post-productivist, balanced.* The countryside as the post-productivist space will appear in those places where the private and public gain from the post-productivist activities of people will exceed the productivist gain of the activities. This can be implemented in the territories of the valuable and attractive landscape. That will help the formation of the constant flows of the short-run and long-run tourism, the dislocation of the residential houses and infrastructural objects, the provision of different rural amenities. Thus the land value will be determined by its relations with the valuable landscape elements, primarily the water frame. Obvious is the gain of the capital related with the service sphere. The impact on the landscape is ambivalent: its forms will become richer. There will be more attempts to protect and enrich the biota. The trouble will be also taken to protect, regenerate, and exploit or to newly use the tangible heritage and the lively tradition. Many of the objects for provision of public goods are privatized and commercialized. The new forms of suppression of authentic, natural and ethno-cultural heritage by eclectic means will appear, and invasion of kitsch will increase.

Taken together the previous analysis and conclusions enabled to distinguish the micro-models of multi-functional activities in different Lithuanian rural areas.

**Table 1**

<table>
<thead>
<tr>
<th>Micro-models of functional activities</th>
<th>Natural administrative territories (micro-regions)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Western Lithuania</td>
<td>(1) 10</td>
</tr>
<tr>
<td></td>
<td>Transitional Western region</td>
<td>(1) 10</td>
</tr>
<tr>
<td></td>
<td>Middle zone of Lithuania</td>
<td>(1) 60</td>
</tr>
<tr>
<td></td>
<td>Transitional Eastern region</td>
<td>(1) 10</td>
</tr>
<tr>
<td></td>
<td>Eastern and South-Eastern Lithuania</td>
<td>(1) 0</td>
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Source: own research.

Productivist, agricultural intensive micro-model of rural activities prevails in the middle zone of Lithuania. Post-productivist activities will develop by using the economic and cultural heritage (e.g., numerous estates). For the East and South-East zone of Lithuania the productivist, de-agrarized, uncompensated micro-model is the most peculiar, which transforms into post-productivist unbalanced micro-model that should be changed in the future by the post-productivist balanced model, that practices niche production, rich landscape, natural and ethno-cultural heritage. There
is no peculiar micro-model in others zones of Lithuania. Here the combinations of various micro-models can be seen.

From the point of view of sustainability the micro-models 1, 2, 3 and 6 can be regarded as rational ones, the ratio of which according to our investigations in separate micro-regions will greatly vary in the future.

Conclusions

1. Productivist countryside – the traditional activity of the rural entities based on the intensification of agricultural production, traditional food products and fiber, the increase of the income from this business that can be achieved by centralization, intensification and specialization of production. Post-productivist countryside is the newly formed activity paradigm of the rural agents, based on perception of rural areas as consumption spaces, formation of the countryside as the country infrastructure, where land use has production, ecological, social and aesthetic functions. Post-productivism does not deny productivism as such, but supplement it, increase the possibilities of the agents of various rural areas to maximize their income and the public benefit.

2. The type of Lithuanian agricultural system corresponds to the model of European agriculture, but with the development of the rural system in mind the regional particularity should be respected. The general model of the agricultural system should be elaborated designing the regional micro-models of rural activities.

3. After the estimation of the structure of activities of Lithuanian rural areas and their regional distinctions, the trends of resource (land, capital, demographic, landscape, biota and ethno-cultural) and outcome (ratio between private goods, public goods and public bads) transformations, we determined the peculiar micro-models of the following rural multi-functional activities: 1) productivist, agricultural, intensive (the most significant to the Middle zone of Lithuania); 2) productivist, agricultural, extensive; 3) productivist, de-agrarized, compensated; 4) productivist, de-agrarized, uncompensated (the most significant to the Eastern zone of Lithuania); 5) post-productivist, unbalanced; 6) post-productivist, balanced. The micro-models 1, 2, 3 and 6 should be further developed in the future and are the most important from the point of view of sustainability.

References


221