Management Theory and Studies for Rural Business and Infrastructure Development
eISSN 2345-0355. 2018. Vol. 40. No. 2: 216–231.
Article DOI: https://doi.org/10.15544/mts.2018.21

FACTORS OF EFFECTIVENESS OF EUROPEAN INNOVATION PARTNERSHIP IN AGRICULTURE

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Received 09 04 2018; accepted 22 06 2018

The European Innovation Partnership (EIP) is considered to be a new phenomenon signalling political will, highly relevant issue in contemporary domain of discussions among practitioners and researchers. While practitioners lack experience, researchers make attempts to identify the factors that influence effectiveness of an innovation partnership, explore the indicators and techniques to determine and evaluate its effectiveness. Aim of the study presented in the article is to determine the external and internal factors that influence effectiveness of the European Innovation Partnership by analysing the operating conditions of an operational group of the European Innovation Partnership in Agriculture (EIP-AGRI). Expert evaluation was carried out by experts who have scientific and practical experience: scientists, policy makers, innovators, developing an innovation partnership. The force field analysis has shown that the number of negative factors of EIP effectiveness exceeds the number of positive factors, and the factors analysed and evaluated allow to identify potential negative consequences in a timely manner and provide the opportunity to predict effectiveness of the EIP-based projects.

Keywords: innovation partnership, effectiveness, agriculture, operational group.
JEL Codes: R10, R10, R11, R58.

1. Introduction

Importance of innovations in light of the efforts towards development of sustainable and competitive agriculture has been increasingly put on the agenda of discussions among researchers and practitioners. The challenge of feeding 9 billion people on the planet is predicted in 2050. Hence, there is a period of considerable transformations ahead of the agricultural sector. The goal in food production will be to cut down on the use of resources as much as possible, providing the maximum possible social benefit to farmers and communities at the same time. Implementation of all these changes reasonably implies coordinated and large-scale involvement and participation of stakeholders of the agricultural sector.

These objectives may be addressed by encouraging more active participation between researchers, farmers and other stakeholders of the sector, more rapid transition of achievements in technology from the research level to the farming practice, and more systematic collection of feedback information on actual needs in the farming practice that would call for innovative, research-based solutions. In order to speed up the innovations that would help address the pressing social issues, the European Commission has put forward the idea of the European Innovation Partnerships under the framework of flagship initiative Innovation Union. The European Innovation Partnership is a platform aimed at addressing weaknesses and obstacles in the European research and innovation system that prevent or slow down development of ideas and their bringing to market. At present, there are five ongoing partnerships that have already been initiated, including the European Innovation Partnership in agriculture, including forestry.

In this case, the European Innovation Partnership in agriculture (EIP-AGRI) is considered to be new model for cooperation, expected to bring effective intersectoral and interinstitutional communication into work on the issues of competitiveness and sustainable development of agriculture and forestry, with the ultimate goal being successful solution of the issues of sustainable development of sectors and implementation of innovations.

Implementation of innovations is not new to the Lithuanian farmers' farms – these activities received support under Lithuanian Rural Development Programme for 2007–2013. The EIP implemented in the funding period 2014–2020 is intended to eliminate the weaknesses and obstacles in the European research and innovation system that prevent from or slow down the efforts to address specific issues faced by farmers, implementing innovations that are important for development of competitive agricultural products and their introduction into the market.

Research aim – to identify the external and internal factors of EIP-AGRI effectiveness by analysing the operating conditions of an EIP-AGRI operational group.

Research objectives:

- to analyse the economic-social, innovation conditions that a EIP-AGRI operational group functions under, and the environmental aspects;
- to conduct the force field analysis of external factors of EIP-AGRI effectiveness;
- to summarize the internal factors of EIP-AGRI effectiveness.

There is no uniform definition of partnership effectiveness in research works. Factors of partnership effectiveness are usually the focus of research, while partnership effectiveness is not subject to any definition or consideration (Fotheringham, 2016). Authors of the analysed research works provide different definitions of partnership; however, in general, all definitions of partnership effectiveness may be considered to be related to the following aspects: partnership goals, purpose (target groups), expected outcomes and benefits to the target group, sector, and society. It is also important to account for the resources employed to implement the goals and achieve the outcomes. Effectiveness of EIP-AGRI in this research is viewed as the level of at-

eISSN 2345-0355. 2018. Vol. 40. No. 2: 216–231.
Article DOI: https://doi.org/10.15544/mts.2018.21

tainment of the goals set and outcomes expected by the EIP operational group, in view of the resources employed.

Research methodology. Analysis of the economic-social, innovation-related conditions and environmental aspects has been conducted under the methods of analysis of scientific literature and strategic documents, and synthesis. Results of the theoretical background analysis and application of the logical abstraction method have provided the grounds for identification of the factors of EIP-AGRI effectiveness. Methods of information comparison, generalisation and generation of conclusions have been used to identify the internal and external factors of innovation partnership effectiveness. Positive and negative external factors of EIP-AGRI effectiveness have been identified under the method of force field analysis.

The force field theory was developed by Lewin (1945). The theory is usually employed as a method allowing to name, comprehensively discuss and evaluate the factors that influence the situation analysed. During the force field analysis, driving (positive) and restraining (negative) forces/factors are identified. In case changes have been planned, this method helps consider the situation in view of the future effect, by analysing the arguments in favour of and against the changes. Upon identification of the forces that influence the EIP-AGRI effectiveness, they must be attributed with weights in order to identify the strength of the forces. Sums of the driving and restraining forces have been calculated by attributing each force with a score. The maximum amount indicates the plan of changes to choose: either to focus on the forces that drive the changes and continue strengthening them, or to focus maximum attention on addressing the issues, i.e. on elimination of the forces that restrain the changes. Numeric values have been attributed to each factor of the EIP-AGRI effectiveness by the research experts: seven specialists with extensive background as researchers and practitioners. Chronbach's alpha coefficient has been calculated to validate inner consistency of the factors evaluated by the experts.

2. Factors of EIP-AGRI effectiveness

Any economic social phenomenon is influenced by the environment it exists in and specific factors that are characteristic of that phenomenon. Majority of authors tend to distinguish between external and internal factors that influence certain phenomenon. Grouping of factors of EIP-AGRI effectiveness is presented in Fig. 1.

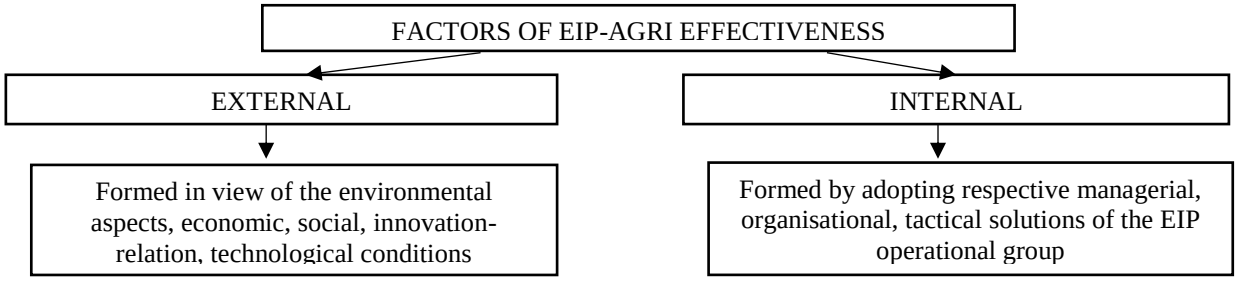

Fig. 1. External and internal factors of EIP-AGRI effectiveness

For identification of the external factors of EIP-AGRI effectiveness in agriculture, *analysis of the economic, innovation-, technology-related conditions and environmental aspects* has been conducted in the context of agriculture and forestry. Agriculture and forestry continue to be one of the most significant areas of the country's economy. In the recent decades, enterprises operating in these sectors have been implementing new technologies, undergoing modernization in order to keep pace with other EU countries in terms of creation of added value and remain competitive on the national and EU level.

Despite the observed average annual growth, there is an urge for more rapid improvement of labour productivity, implementation of innovations and new technologies, improvement of product quality, added value and marketing (National …, 2011).

Innovations and technologies may be expected to see particularly rapid implementation in agriculture in future, including future biofuels, mobile applications, GPS-controlled tractors, precision fertilizer and plant protection spreaders, hybrid tractors, agricultural robots, bioproducts, big data management systems, cloud technologies, geo-enclosures, etc. Farmers operating in crop production are encouraged to implement innovative environmental protection practices in agriculture: to maintain and increase soil fertility; maintain the optimum nutritional balance; apply proper manure storage techniques and its rational application for fertilization; set up safety zones of green areas, meadows, and employ other technical measures for reduction of nutrient leaks and protection of arable lands against erosion and slowing down of water eutrophication; shape attractive landscape and increase biodiversity; develop environmentally friendly crop production; take care of the water leaking from the arable fields; maintain optimum perennial to annual plants ratio in farms; afforest unused land; develop demonstration projects, etc.

2. Force field analysis of the external factors of EIP-AGRI effectiveness

Following analysis of the economic-social, technology-, innovation-related conditions and environmental aspects, positive and negative external factors of EIP-AGRI effectiveness have been identified under the force field analysis method.

The identified factors were evaluated by attribution of numeric value under the 10-point scale. 7 experts with extensive background as researchers and practitioners, holding work experience and qualifications directly related to project activities and consulting in agriculture and development of innovation partnership in Europe, participated in evaluation of the factors.

Reliability of results of the expert evaluation should be considered as a quality criterion to be employed for validation of accuracy, stability and sustainability of the factors. Different research works usually refer to internal consistency, which is introduced when a new single indicator – a variable – is to be formed of several variables, in this particular case, by calculating the average scores of the factors driving the innovation partnership in agriculture and forestry.

Inner consistency is referred to as *Cronbach's alpha* coefficient. *Cronbach's al-*

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pha is represented by a figure ranging from 0 to 1. The lowest *Cronbach's alpha* coefficient value required for the factors to be applicable for further research is 0.60. Following the calculations, the *Cronbach's alpha* coefficient has been found to be in line with all the requirements and is greater than 0.60, suggesting that all positive (Fig. 1) and negative (Fig. 2) factors of the EIP-AGRI are applicable for further research.

Table 1. Evaluation of the factors driving EIP-AGRI effectiveness

No.	Factors driving innovation partnership in agriculture and forestry	Avg. estimate*	Cronbach Alpha (α)
1.	Growing cost of agricultural and food products prompts to explore the means for reduction of farm expenses and/or increase of productivity	9.6	0.74
2.	Growing importance of knowledge, implementation of projects to disseminate science and knowledge, promote implementation of innovations	9.2	0.72
3.	High potential of research and educational institutions: research conducted, research projects implemented on the national and international level, experience of the research institutions, accumulated base for testing the scientific knowledge will make it possible to employ scientific achievements and innovations	9.0	0.71
4.	Growing consumer demands for food products of higher quality open new opportunities for implementation of innovations focused on product quality	8.8	0.68
5.	As a result of growing population on the planet, the importance of production of agricultural and food products will increase on the global scale, demand for food products, farm income will grow, leading to opportunities and need for implementation of innovations	8.8	0.69
6.	Need for innovations for establishment of direct links between consumers, processors, and producers	8.6	0.67
7.	Climate change prompts to explore innovative solutions for adaptation of farming to the changing natural conditions	8.4	0.65
8.	Developed consulting network for rural residents and crop producers	8.0	0.70
9.	Agricultural business – one of the key sectors in the country, encouraging to continue the traditions while exploring innovations to adapt to modern times	7.6	0.71
10.	Experience gained in the period 2007–2013 during implementation of the EU-funded farm modernisation, innovation implementation and dissemination projects	7.6	0.71
11.	Actual urge to restrain soil degradation processes by exploring innovative solutions has become evident	7.2	0.70
12.	Organic and environmentally friendly farming related to implementation of innovations is developed	7.0	0.68
13.	Positive attitudes among residents, farmers towards cooperation and partnership are becoming stronger	6.6	0.64
14.	High potential for development of bioenergy	6.6	0.64
15.	Legislative provisions and changing attitude of the society towards environmental protection encourage implementation of innovations in environmental protection	6.6	0.65
16.	Increase in production volumes and profit of the major farms ensures the potential of funding for their investments into innovations	5.4	0.61
	Total	125	–

** According to 10-point scale: 1 point – role of the factor very low, 10 points – role of the factor very high*

Research has shown that factors driving EIP-AGRI effectiveness are largely related to economic trends in Europe. For example, growing cost of agricultural and food products prompts to explore the means for reduction of farm expenses and/or increase of productivity (avg. estimate: 9.2 points), or as a result of growing population on the planet, the importance of production of agricultural and food products will increase on the global scale, demand for food products, farm income will grow, leading to opportunities and need for implementation of innovations (avg. estimate: 8.8 points). Effectiveness of the European innovations is also driven by growing importance of knowledge, implementation of projects to disseminate science and knowledge promote implementation of innovations, research, and dissemination of good practice (avg. estimate: 9.2 points) and high potential of research and educational institutions. Research conducted, research projects implemented on the national and international level, experience of the research institutions, accumulated base for testing the scientific knowledge will make it possible to employ scientific achievements and innovations for more effective implementation of EIP-AGRI projects (avg. estimate: 9.0 point).

According to the expert evaluations calculated, the group of negative factors has been observed to have greater effect on EIP-AGRI effectiveness compared to the group of positive factors (Fig. 2).

Table 2. Evaluation of the factors restraining EIP-AGRI effectiveness

No.	Factors restraining innovation partnership in agriculture and forestry	Avg. estimate*	Cronbach Alpha (α)
1.	Lack of actual cooperation between farmers, researchers, consultants in practice	9.2	0.72
2.	Absence of an effective system for implementation and transfer of scientific knowledge, part of the research works are not applied or tested in practice	9.2	0.72
3.	Lack of knowledge and cooperation affects production and sale of agricultural products	9.0	0.71
4.	Weak traditions and experience in cooperation, joining association, societies	8.8	0.70
5.	Insufficient possibilities for small- and mid-sized farms to receive funding for implementation of innovations	8.8	0.70
6.	Considerable functional overlap between different institutions engaged in transfer of knowledge in agricultural and rural development and institutions engaged in dissemination of innovations	8.6	0.69
7.	Insufficient preparedness of the labour market to work with the latest technologies	8.6	0.69
8.	Worsening demographic situation in rural areas, population ageing, shortage of highly qualified specialists	8.4	0.68
9.	The innovation projects conducted are predominated by technological rather than organisational innovations	8.2	0.68
10.	Small farms, fairly small areas of arable land prevent from efficient use of the most advanced technologies	8.0	0.67
11.	Low level of activity of NGOs and associations functioning in rural	7.8	0.66

No.	Factors restraining innovation partnership in agriculture and forestry	Avg. estimate*	Cronbach Alpha (α)
	areas in terms of initiation of innovation projects		
12.	Insufficient farmers' entrepreneurship, vocational training, interest in innovations, their implementation	7.6	0.65
13.	Disparity in investments into agricultural innovations in the regions	7.2	0.63
14.	Low production and processing volume at certain farms (in particular those engaged in livestock production)	7.2	0.63
15.	Increasing prices on fuel, fertilizers, other material and energy resources increase the costs of experimentation with the new technologies	6.4	0.62
16.	The risk of implementation of innovations increases with higher risk of extreme weather phenomena resulting from the climate change	6.0	0.60
	Total	129	-

** According to 10-point scale: 1 point – role of the factor very low, 10 points – role of the factor very high*

The greatest negative impact on the EIP-AGRI comes from lack of actual co-operation between farmers, researchers, consultants in practice (avg. estimate: 9.2 points) and lack of an effective system for implementation and transfer of scientific knowledge. Considerable part of scientific research works in agriculture are not applied or tested in practice (avg. estimate: 9.2 points).

Very strong negative impact of the lack of knowledge and cooperation has also been noticed and has negative impact on production and sale of farm products, weakens cooperation, joining associations, unions, producer cooperatives (avg. estimate: 8.8 points).

Preparedness of small- and mid-sized farms to seek sources of funding for development of innovations in farms, which remains small (avg. estimate: 8.8 points) and insufficient preparedness of the labour market to work with the latest technologies (avg. estimate: 8.6 points) should also be noted.

Positive factors of EIP-AGRI effectiveness may be successfully employed to eliminate the negative factors and avoid negative consequences on time. Nonetheless, EIP-AGRI effectiveness is also influenced by a series of internal factors, which are not determined by common trends in the European economic, social, environmental and political development. Internal factors of EIP-AGRI effectiveness are manageable by various managerial and political measures, and their analysis is therefore highly important for contemporary political decision-makers, researchers and practitioners.

3. Analysis of internal factors of EIP-AGRI effectiveness

The following internal factors of EIP-AGRI effectiveness, determined by managerial, organisational tactical measures and solutions of the specific EIP operational group, could be identified:

- ***Identification of the issue addressed by the EIP operational group***

An actual issue identified is a relative launching pad for establishment of an EIP operational group focused on exploration of solutions to address the problem and implementation of specific actions. Proper identification of an issue, assessment of its

scope and possible solutions are one of the key factors determining effectiveness of an EIP operational group.

It is important that an issue addressed by an EIP operational group is prompted under the bottom-up principle rather than imposed from the outside: issues addressed by EIP operational groups should be identified at the farms and referred to by the entities engaged in agriculture and forestry. Other partners are allowed to only give advice on the scope of issues, their potential consequences, priority in addressing several issues. Inability of agricultural entities to identify key issues influencing poor competitiveness of farms and faced by specific farm or group of farms has been noticed. After an issue is identified at a certain farm, the scope of relevance of the issue should be determined (i.e. whether the issue is relevant on the national, regional scale or for specialized farms only, as this information is important in determining further steps of the EIP operational group, expected outcomes and, in general, effectiveness of the EIP operational group.

- ***Identification of appropriate methods to address the issue identified by the EIP operational group***

Following identification of an issue, its scope (whether the issue is relevant to individual farms or the entire sector), and potential consequences, the most appropriate methods to address the issue must be identified. Experience of Lithuania and other countries suggests that farmers often view potential methods to address an issue from a very simplified or hands-on perspective. Although the solution may be rather practical, it might also be short-term and bring short-term effect only. On the other hands, research institutions and researchers view an issue from a researcher's perspective, but are incapable of proposing or applying their solution to specific case. Majority of EIP experts agree that the major advantage of exploring the most appropriate solution addressing an issue in an EIP operational group is that the group members: a) have the possibility to share information, knowledge and experience not only vertically in both directions, i.e. between farmers, consultants and researchers, but also horizontally, i.e. between the farmers; b) the bottom-up principle enables the researchers and consultants to learn the essence of a practical issue and apply scientific knowledge under actual conditions; c) sharing information and opinions is a creative dialogue giving rise to new ideas and problem solving methods, which have greater applicability to practice.

Experts agree that it is important to identify any existing achievements, knowledge that may be applied to solving an issue. It is important to note that EIP-AGRI projects are not focused on application of scientific research results under actual conditions to address an actual issue, rather than funding of scientific research.

- ***Credibility of assessment of the required resources and expected results***

Authors of the analysed literature have noted that, when evaluating partnership effectiveness, it is important to assess the required resources that will be necessary to achieve certain goals, i.e. financial, other material and human resource-related goals (competences) (Riggin, 1992; Lasker, 2001; Hoskins, 2005; Provan, 2007).

eISSN 2345-0355. 2018. Vol. 40. No. 2: 216–231.
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The resources required for implementation of a project addressing certain issue planned by an EIP operational group and expected results must be subject to assessment, i.e. project assessment must be performed, when the goal of assessment is to identify the potential results of the planned partnership project, positive and negative consequences for the target group and region, country (Guide..., 2008). The project assessment guidelines emphasize that the data for assessment of the expected results must be based on statistical information, analysis of equivalents, own experience, experience of other farms, other EIP operational groups, scientific research, assumptions based on the facts and eliminating any doubts about credibility of the expected results. It should be noted that credibility of evaluation of the expected results highly depends on the level of knowledge available, research background in particular area. Prior to initiation of any project, it would be appropriate to perform project risk analysis, which may form part of the Feasibility Study. Risk analysis would allow to identify critical factors determining positive and negative deviations from the expected results. It is recommended to refrain from high risk projects in terms of the expected results. For other projects, it is recommended to provide for risk reduction measures.

- ***Partner activity and involvement.*** EIP operational group effectiveness is determined by partner activity and involvement at every operational stage of the group, starting with definition of the issue, ending with dissemination of the results obtained. Integration of partners is interpreted as: 1) the level of involvement (activity); 2) field of involvement (implementation of certain activities, functions) (Kohm, 2000). In a partnership group, each partner is required to contribute with his competences and/or resources, which would be directed towards addressing certain issue (Kohm, 2000; Brinkerhoff, 2002; Ostrower, 2005; Wohlstetter, 2005; Tsasis, 2009; Andrews, Entwistle, 2010; Chen, 2010; La Piana, 2011).

Authors of the analysed literature have pointed at the issue of only formal participation of partners in partnership activities, with no actual functions, which negatively affects effectiveness of the partnership. On one hand, this is the issue of inactivity of partners; on the other hand, an important role at this point is played by the coordinators of the EIP cooperation activities. It is important that partners have access to the same information related to activities of the EIP group, are constantly updated on group actions, have the possibility to make decisions (Lasker, 2001; Gadja, 2004; Guo, 2005; Hoskins, 2005; Provan, 2007; La Piana, 2011). To achieve partnership effectiveness, EIP operational group members must have regular contact, hold EIP operational group meetings at least every 3 months in order to share information, experience, discuss, and make joint decisions on EIP-AGRI activities.

- ***Adequate allocation of functions to partners.*** According to the authors who have analysed partnership effectiveness, formation of partnership should start with identification, learning, description of the partnership goals, operational strategy, required resources, and expected results. It is important that every partner clearly understands his role in the general context. Every partner of an EIP operational group

should be allocated with certain functions and respective boundaries of responsibilities. The functions must be allocated by common agreement, in view of the partners' competences, experience. (Gajda, 2004; Ostrower 2005; Wohlstetter, 2005; Hoskins, 2005; Provan, 2007; Tsasis, 2009; Chen, 2010). The EIP-AGRI initiatives is executed by joint venture agreement, which is usually limited to allocation of functions, responsibilities, rights and duties between partners, without defining any details on the general goals and operational strategy of the partnership group.

- ***Partnership as a brokerage.*** According to the common definition, a broker is an intermediary who has the duty to represent his client. Innovation broker may be an independent person/entity or organisation promoting/initiating cooperation, formation of partnerships, and bottom-up development of innovative ideas. Innovation brokers also seek to increase awareness of the potential authors of an innovative solution and stakeholders on the possibilities offered by the EU support schemes and other public and private funding sources for implementation of projects, help find/mobilise partners and disseminate good practice. An innovation broker must act independently, be ready to encourage discussion rather than impose own position, be aware of the most recent issues in agricultural sector, and be ready to become a member of the EIP operational group, as may be needed, upon approval of the project and manage the project implemented by the EIP operational group. Innovation brokers may only act as members of EIP operational groups, i.e. innovation brokers and their activity are not funded directly, but they may be remunerated for the services in mobilisation of various players into EIP operational groups and assurance of functioning of these activity groups. Innovation brokerage may be performed by consultation or research institutions, stronger association of crop producers, NGOs or individual employees at the institutions/organisations mentioned above (EIP modelis..., 2013).

Innovation broker's functions: a) helps identify an issue, clarifies the project idea; b) forms the project team; c) searches for appropriate partners; d) searches for potential sources of funding, prepares the required documents; e) coordinates project activities; f) coordinates dissemination of the project.

In the case of EIP-AGRI, the intermediary's role may be performed by one of the partners whose functions covers representation of farmers starting with identification of the issue, selection of the methods for addressing the issue, application of the methods to practice, ending with identification of the expected results and dissemination of the results. It is important that the intermediary ensures bottom-up identification of the needs and issues, i.e. that actual issues are identified, and there is an actual need to address them.

- ***Identification/allocation of leadership in a partnership.*** Leadership in an EIP operational group should be linked to coordination of the EIP operation, while retaining equal possibilities for the EIP operational group members to participate in activities of the EIP operational group and influence decisions related to group operations. Coordination and leadership of cooperation, when coordinators/leaders motivate other partners, has positive influence on partnership effectiveness. (Alexander, 2001; Lasker, 2001; Wohlstetter, 2005). In other words, successful EIP operation also

eISSN 2345-0355. 2018. Vol. 40. No. 2: 216–231.
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depends on the operation coordinator chosen, which means that the coordinator must be chosen responsibly and by joint agreement between the partners. Leaders must ensure coordination of activities, efficient management of resources and allocation of human resources (competences) (Lasker, 2001; Chen, 2010).

- ***Shared approach of EIP operational group members towards EIP group operation, its objectives.*** Operation of an EIP operational group must be directed. Shared understanding and acknowledgement of the issue addressed, perception of the common goals, expected results of the EIP operational group as a common benefit, without any personal benefit sought, between members of the EIP operational group have positive influence on the EIP operational group operation.

Authors of the analysed literature have noted that it is important to maintain balance between partners' expectations. For this purpose, it is important to discuss a lot, address the issue of balancing out different expectations non-hierarchically, which is possible by allocation of responsibilities (Provan, 2007; Acar, 2008).

- ***Coordination and planning of EIP operational group activities.*** Coordination and consistent planning of EIP operational group activities is directly related to effective achievement of the goals set by the EIP operational group (Lasker, 2001; Gadja, 2004; Guo, 2005; Hoskins, 2005; Provan, 2007; La Piana, 2011). According to authors of the analysed literature, planning influences partnership effectiveness positively in two directions: 1) planning of the structure of partnership, i.e. allocation of functions, responsibilities between partners (as already mentioned above); 2) planning of the partnership operation, i.e. planning of specific activities, steps, stages.

Cooperation and other activities of an EIP operational group planned in advance, coordination of their dates with partners will ensure higher level of partners' activity, enable them to prepare for the meetings more substantially, which may lead to greater effectiveness of the activities. It would be reasonable to plan and develop a schedule of cooperation and other activities in advance and coordinate the dates with the partners.

- ***Monitoring of EIP operational group activities.*** It is important to know how successful the efforts towards the objectives and goals set are at any stage of operation. Effectiveness of functioning of an EIP operational group is ensured by monitoring of activities involving regular self-assessment of the progress according to the plans. Monitoring of EIP operational group activities helps: a) identify any emerging issues in cooperation and performance of other activities, analyse their causes, eliminate them; b) provide for corrective measures in relation to activities, as may be necessary, adapt to changing circumstances; c) limit the number of errors; d) save on the resources.

A list of indicators for the expected project results and time limits for implementation of project activities must be developed and checked regularly (2–4 times a year) by self-assessment in order to identify whether the actual progress of EIP operational group operation is in line with the planned progress. Plans must be corrected,

operation strategy must be amended as may be necessary. The list of indicators for monitoring must cover self-assessment of whether the activities are timely and the goals have been achieved.

- ***Dissemination of EIP operational group activities.*** One of the common goals of EIP-AGRI is to bring together various experiences and knowledge for common activity and disseminate them. EIP-AGRI operation is directed towards exploration of innovative solutions to address specific issues. The same or similar issues are faced by other farms as well, and dissemination of EIP operational group activities is important. Publicity is important at every stage of operation in order to help other farms apply the knowledge starting with identification of the issue all the way to implementation of the solutions to it. The more farms make use of the results of operation of the partnership group, the more effective is the EIP operation, which is highly dependent on active activities intended to communicate the EIP operation. Developing the strategy for dissemination of EIP group operation and monitoring of its implementation would be reasonable.

Harmsworth, Turpin, Rees and Pell (2001) conducted a study aimed at developing a set of hands-on guidelines on development of an effective dissemination strategy covering the issues from understanding the essence behind dissemination to self-assessment of effectiveness of dissemination. Dissemination methods are proposed depending on the project stage and expected goals behind dissemination.

Website of the European Commission also provides detailed methods of project dissemination and guidelines on their application. It should be noted that majority of the measures recommended by the European Commission, such as articles in newspapers, project website, preparation and handing out of flyers, organisation of meetings, workshops, conferences, have been planned for dissemination of EIP-AGRI projects in Lithuania. It is important to take note of the recommendations on the measures that are the most efficient for specific stages.

- ***Participation of EIP operational group in EIP-AGRI network.*** Participation in activities of a network of separate partner groups strengthens connections with other partner groups, accessibility of information, possibilities to make use of other groups' experiences, establish social links (Gulati, 1998; Wohlstetter, 2005; Girgis, 2007; Chen, 2010; Turrini, 2010).

EIP-AGRI network covers EIP operational groups across different countries, thematic networks, focus groups. By addressing specific agricultural issues, operational groups accumulate experience, which may be applied to addressing the same or similar issues faced in other countries, regions. EIP operational group must disseminate information about its operation, projects, their results in the EIP-AGRI network and has the possibility to adopt the practices of other operational groups. An EIP-AGRI network is a platform to share experience related to the model of partnership itself, prerequisites of its effective operation, emerging issues, and respective solutions. It would be reasonable for each EIP operational group to become actively involved into EIP-AGRI network in order to communicate information about its ongoing projects and apply best practice of other EIP operational groups to own opera-

eISSN 2345-0355. 2018. Vol. 40. No. 2: 216–231.
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tions. In general, external factors of EIP-AGRI effectiveness may be asserted to be uncontrollable, while internal factors – controllable, which means that it is very important to adopt appropriate solutions pertaining to EIP operational group, which would positively influence effectiveness of its operations.

4. Conclusions

1. Analysis of the economic, technology-, innovation-related conditions in the context of agriculture has suggested that, in light of the changing economic, technological and environmental conditions, farmers need new knowledge and abilities to be able to address specific farming issues related to reduction of product cost, increase of farm productivity, farm management, climate change and adaptation to it, and implementation of environmental measures. Owners of small- and mid-sized farms, in particular, lack experience in dealing with the above issues, which calls for development of cooperation between farmers, research institutions, consultants, strengthening of the connections between them, conduct more targeted research, which will have positive influence on implementation of innovative solutions and novelties in agriculture.

2. External factors, which have favourable influence of innovation partnership in agriculture and are related to the circumstances encouraging to explore for methods of reduction of farm costs and/or increase productivity, improvement of financial situation of larger farms, building of the scientific knowledge base, technological progress, growing consumer needs, environmental requirements, and other circumstances, have been identified. External factors restraining innovation partnership in agriculture are linked to worsening demographic situation in rural areas, lack of qualified specialists, limited possibilities to receive funding for small-sized farms, growing fuel and other costs, lack of dissemination of innovations, farmers' insufficient entrepreneurship, inactivity of NGOs, rising farming risk, and other circumstances.

3. Analysis of the internal factors that influence EIP-AGRI partnership effectiveness has suggested that appropriate identification of the issue to be addressed by the EIP operational group, and allocation of functions and leadership between partners have the greatest influence at the stage of planning of activities, while at the stage of implementation of activities, the greatest influence may be asserted to come from partners' active engagement and involvement. It should be noted that the role of intermediaries (brokers) is highly significant at all stages of implementation of a project.

4. Analysis of environmental aspects and economic, innovation-, technology-related conditions under which a group of innovation partnership in agriculture functions has been conducted, external and internal factors influencing EIP-AGRI effectiveness have been identified, creating the scientific basis for development of the model for evaluation of EIP-AGRI effectiveness. Further research may be continued in order to identify the indicators for evaluation of EIP-AGRI effectiveness, including

selection of methods for their assessment, identification of indicator weights, and performance of empirical studies to evaluate effectiveness of specific EIP operational groups.

Acknowledgement. The article is based on the results of the project "Innovation Partnership in Agriculture" Application No. 13, 24th March, 2016. The project was carried out in accordance with the measures funded by the Agriculture, Food and Fisheries Research and Development Program for the period of 2015–2020. Lithuania.

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VEIKSNIAI, DARANTYS ĮTAKĄ EUROPOS INOVACIJŲ PARTNERYSTEI ŽEMĖS ŪKYJE

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Pateikta 2018 04 09; priimta 2018 06 22

Santrauka

Europos inovacijų partnerystė yra naujas politinis valios reiškinys, itin aktualus šių dienų praktinių ir mokslinių diskusijų erdvėje. Praktikai stokoja patirties, o mokslininkai bando prognozuoti inovacijų partnerystės efektyvumą sąlygojančius veiksnius, ieško rodiklių ir metodikų, kaip nustatyti ir įvertinti šios partnerystės efektyvumą. Straipsnyje pateikiamo tyrimo tikslas – išanalizavus aplinką, kurioje veikia Europos inovacijų partnerystės žemės ūkyje grupė, nustatyti išorinius ir vidinius Europos inovacijų partnerystės efektyvumui turinčius įtakos veiksnius. Straipsnyje pateikti Europos inovacijų partnerystės efektyvumui teigiamą ir neigiamą įtaką darantys veiksniai. Veiksnių ekspertinį vertinimą atliko ilgametę mokslinę ir praktinę patirtį turintys ekspertai: mokslininkai, politikos formuotojai, inovatoriai, vystantys inovacijų partnerystę. Jėgų lauko analizės metu buvo nustatyta, kad Europos inovacijų partnerystės efektyvumui neigiamos įtakos turinčių veiksnių yra daugiau nei teigiamos. Taigi išanalizuoti ir įvertinti veiksniai leidžia laiku identifikuoti galimas neigiamas pasekmes ir suteikia galimybę prognozuoti Europos Inovacijų partneryste grįstų projektų efektyvumą.

Reikšminiai žodžiai: inovacijų partnerystė, efektyvumas, žemės ūkis, veiklos grupė.
JEL kodai: R10, R10, R11, R58.