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# THE IMPORTANCE OF LOCAL INSTITUTIONS IN THE SUPPORT OF INVESTMENT ACTIVITY OF FARMS (THE CASE OF POLAND)

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***Abstract***

*The institutional environment is an essential component of agriculture, an important determinant of performance and the transformation of the sector. Lack of certain institutions, or their weakness is a serious barrier to structural transformation and the modernization of agriculture. A special role in these transformations perform local institutions, which by direct contact with the farmer can effectively interact with the processes taking place in farms. Especially in investing activities associated with significant risk, institutional support is extremely helpful for farmers. The aim of the study is to identify the role of local institutions in the process of investing activities supporting farms in Poland. It was found that the most intense are the relations of farmers with local institutions conducive to the absorption of EU funds. A dominant role in Poland, in this respect, is carried out by public agricultural advisory.*

***Key words:*** *farms, local institutions, investments*

## INTRODUCTION

The process of transformation of agriculture started in 1989 highlighted a number of weaknesses in Poland, which are mainly due to faulty structure of agricultural, socio-professional and technological backwardness compared to Western European countries. The introduction of market principles to the Polish economic system has developed in farmers a need to adapt to the new reality in order to cope with international competition. Another challenge for Polish agriculture was the accession to the European Union and the ensuing need to adapt agricultural production to EU standards. Structural changes since 1989 in the sector of private farms in Poland are considered beneficial but slow [11, 13]. There is a permanent process of concentration, increasing the scale of production and technical progress is being implemented.

An important role in the process of structural change in agriculture is played by investments which determine the strength or weakness of the economy, and in terms of microeconomy they constitute the competitive position of a single economic entity. Due to the nature of agricultural production resulting from its biological nature, diverse market environment, different levels of knowledge and skills, as well as the mentality of farmers, investment activity in agriculture is associated with a high level of risk. For this reason, there are various policy instruments aimed at reducing risk and facilitating and accelerating the process of modernization of agriculture. An important role in supporting the investment activities is served by institutions, especially local institutions - organizations within the meaning of the new institutional economics - working in the immediate vicinity of agriculture, in direct contact with farmers. These organizations allow you to accelerate the process of transformation and development of agriculture, improving access to information and financial resources for the development, implementation of technical progress, engaging in effective market activity, etc.

The aim of the study is to identify the role of local institutions in the process of investing activities supporting farms in Poland.

### Definitional issues

In the literature dealing with the subject there are various definitions of institutions. There is

a considerable literature dealing with the question of how best to define institutions [4]. In institutional economics, there are two main trends - the old and the new institutional economics. The main representatives of the mainstream of the old school (Original/Old Institutional Economics) are T. Veblen, J. Commons, W. Mitchell, G. Myrdal, JK Galbraith. For the new trend (New Institutional Economics) we include inter alia R. Coase, D. North, J. K. Galbraith, C.E. Ayres, O. Williamson, and E. Ostrom. T. Veblen defined the institutions as a well-worn customary ways of regulating life processes of society in regard to the material environment in which society lives [16]. In turn, according to D. North's [9] institutions are the „rules of the game in a society or, more formally, [...] the humanly devised constraints shape human interaction". In the definition of D. North's [9] institutions include both formal rules (law, constitution) and informal constraints such as conventions and standards, which are part of the heritage called „culture". In this definition institutions are seen as permanent rules governing human interaction, and are invented by humans [6].

Within the framework of institutional economics there is no agreement as to identify the organization of institutions. D. North makes a clear distinction between them, while O. Williamson, and J. Stiglitz treat organizations as a form of institution [16]. Institutions are the rules of the game – both formal rules, informal norms and their enforcement characteristics. Together they define the way the game is played. Organizations are the players. Economic organizations are firms, trade unions, cooperatives, etc.; political organizations are political parties, legislatures, regulatory bodies; educational organizations are universities, schools, vocational training centers. [10].

In this article it is assumed that local institutions are formal and informal subjects, directly affecting the functioning of the farms, which are part of the institutional system of agriculture. Local institutions are located in the immediate vicinity of farms, but that does not mean their spatial proximity (although this is not excluded). The spatial proximity is believed to exist due to the local nature of the institution and is being more determined by the freedom in choosing courses of action, than by spatial proximity. For this reason, local institutions include a wide spectrum, from which farmers maintain direct contact [2]. Hence, in principle, the only criterion that allowed the institution to qualify to a group of local institutions was the criterion of direct farmer - institution relationship.

## MATERIALS AND METHODS

The study was conducted on farms in the Subcarpathian Province. Choosing the Subcarpathian voivodship for research was dictated by the desire to approach the test problems in the region that is characterized by agriculture with serious structural weakness[1]. It was assumed that the examined farms will meet the following criteria:

– in the years 2004 - 2008 they have made the modernization of workshop production through investments in tangible fixed assets,

– in investing activities they benefited from financial support under the Sectoral Operational Programme (SOP 2004-2006) „*Restructuring and Modernization of the Food Sector and Rural Development 2004-2006*" Measure 1.1 *Investment in agricultural holdings*,

– phase of the life of the investment lasts at least four years (phase investment operation started at the latest in 2008).

The selected region's population of farms that benefited from subsidies in investing activities amounted to 482. The study randomly selected 129 farms. In the selected households, a questionnaire was conducted in 2012 concerning the organization of farms, the results of economic evaluation of the investments, as well as relationships with

[1] For example in the Subcarpathian region the average size of a farm with an area of agricultural land exceeding 1 hectare is 4.3 hectares (9.5 ha in Poland); people employed in agriculture per 100 ha of agricultural land 41.9 (in Poland 15.6).

local farmers and farming environment institutions. The period of analysis covered the years 2004 to 2011.

For the purposes of the analysis, examined farms were divided into three groups, depending on the sum of incurred for the years from 2004 to 2011 capital expenditures based on the number of employment of human labour in fully fit units [2] in a farm. The choice of this ratio resulted from the fact that among the economic factors influencing the processes of modernization of agriculture, a particular importance have factors such as production and their mutual relationships. Due to the rapid growth of labor costs compared to other factors of production [12, 13], it becomes essential to implement labor-saving technology resulting in an increase in capital-labor relations. For this reason, the studied population has been ordered according to the increasing value of the index. Moreover, it seems that a higher level of realized investments, due to the higher risk, require more intensive contacts with local institutions in order to reduce the risk of making a wrong investment decision. Then a quantile $C_{25}$ quantile was determined (value of investment per unit of employment of human labour in fully fit = 60 900.0 PLN/employment) and the quantile of the order of $C_{75}$ (the value of investment per unit of employment of human labour in fully fit = 284 608.7 PLN/employment), thanks to this the following groups of farms were isolated: I group covering 25% of population with the lowest level of investment expenditures per employment, the second group includes 50% of population has to range from 25% to 75% of the value of investment per employment, the third group includes 25% of the population of the highest level of investment expenditure per employment.

[2] to convert all the people working on a farm, a unit of employment of human labour in fully fit was used, meaning one woman aged 18-60 years old and one male aged 18-65 years old. The calculations for the other age groups, the following conversion factors were used: young people aged 15-17 ratio 0.5; women over 60 and men over 65 ratio 0.4. This indicator takes into account both, unpaid and paid labor input. The inclusion of unit of employment of human labour in fully fit in the study and not the total labor input Expressed in AWU (annual work unit = full-time equivalent person) let us draw attention to labor resources and not taking into account the amount of work time. This approach is due to the fact that in parts of the surveyed farms labor resources are not fully utilized.

## RESULTS AND DISCUSSIONS

### Characteristics of the studied farms

Changes that have occurred in the surveyed farms as a result of the investments are presented in Table 1. As a result of investment actions taken the production potential of the surveyed farms significantly increased, and improved relations work/land as well as fixed assets/work. The greatest changes have occurred in farms in Group III, that is in farms, which in 2004 were characterized by greater production potential and made investments with the highest value. This points to the fact that the stronger farms grow stronger, faster and more efficiently reach for aid from the European Union. This trend tends to increase diversity within farms and causes the process of concentration of agricultural production in stronger units. From the point of view of efficiency of production this process is considered favorable, provided that we take into account the need to preserve the principles of sustainable agriculture [3, 7, 8, 15]. The level of capital expenditures made in the surveyed farms is presented in Table 2.

### The role of local institutions in the implementation of investments in agriculture

In the process of structural changes occurring in agriculture, institutions play an important role. The importance of institutions in agribusiness is a result of: 1) the biological nature of agricultural production; (2) the need to ensure food security; 3) market failures in agriculture (see [14]); 4) the relationship between agriculture and rural areas. The development of agriculture because of its specificity and listed circumstances require an active role of different institutions. In light of the above, one may extract the following features of an institution: 1) to provide high-quality and healthy food; 2) ensure

appropriate conditions for competition between subjects in agriculture and food market; 3) actions to protect the natural environment, genetic; 4) reduce the negative impact of agriculture on the environment and the welfare of animals; 5) actions for the multifunctional development of rural areas; 6) actions for structural changes in agriculture; 7) contribution to the implementation of technical progress in agriculture and improvement of the quality of human capital.

Table 1. Characteristics of the analyzed farms

| Parameter | Total | | Group of farms | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | I | | II | | III | |
| Year | 2004 | 2011 | 2004 | 2011 | 2004 | 2011 | 2004 | 2011 |
| Agricultural lands [ha] | | | | | | | | |
| – $\bar{x}$ | 36.6 | 52.7 | 18.0 | 23.8 | 36.8 | 43.0 | 60.9 | 101.4 |
| – *coefficient of variation (V)[%]* | 114.4 | 91.4 | 62.1 | 81.3 | 102.0 | 67.6 | 110.5 | 62.0 |
| – *min.* | 2.8 | 5.4 | 2.8 | 5.4 | 2.9 | 8.1 | 12.4 | 25.0 |
| – *max.* | 248.4 | 247.4 | 41.95 | 74.1 | 187.1 | 120.7 | 248.4 | 247.4 |
| Numbers of the workers per100 ha AL | | | | | | | | |
| – $\bar{x}$ | 12.42 | 9.40 | 18.3 | 15.6 | 12.1 | 9.5 | 7.2 | 3.1 |
| – *coefficient of variation (V)[%]* | 84.1 | 91.0 | 67.8 | 66.1 | 83.2 | 77.9 | 71.5 | 61.1 |
| – *min.* | 1.12 | 0.84 | 6.84 | 3.18 | 2.0 | 1.9 | 1.1 | 0.8 |
| – *max.* | 50.14 | 38.0 | 42.6 | 37.8 | 50.1 | 31.4 | 20.0 | 8.0 |
| The value of fixed assets per workers[thous. PLN/worker]* | | | | | | | | |
| – $\bar{x}$ | 144.3 | 306.5 | 117.9 | 149.1 | 134.4 | 257.3 | 190.9 | 563.8 |
| – *coefficient of variation (V)[%]* | 75.2 | 70.8 | 57.3 | 44.6 | 81.3 | 36.9 | 66.7 | 47.7 |
| – *min.* | 12.0 | 63.2 | 36.5 | 63.2 | 24.6 | 113.6 | 12.0 | 279.2 |
| – *max.* | 878.0 | 1348.4 | 295.5 | 303.2 | 878.0 | 587.4 | 517.8 | 1348.8 |

**take into account the vallue of buildings, machinery and technical equipment, transport*
Source: own study

Institutional system includes three essential groups of issues: 1) the standards and principles; 2) organizations; 3) mechanisms (e.g. market, legal). Previous studies indicate that the institutions at the local level are [2]: 1) the local government; 2) the institutions of primary markets, such as. financial, insurance, labor, etc.; 3) organization of economic government and professional government (e.g. chamber of agriculture); 4) professional organizations of agricultural producers (farmers associations, marketing groups); 5) advisory organizations; 6) organizations and private institutions supporting the changes in rural areas and in agriculture.

Table 2.The level of realized investments in examined farms in the years 2004 - 2011

| Parameter | Total | Group of farms | | |
|---|---|---|---|---|
| | | I | II | III |
| Investment outlays[PLN] | | | | |
| – $\bar{x}$ | 515 847 | 101 249 | 413 695 | 1 137 942 |
| – *coefficient of variation (V)[%]* | 96.6 | 44.3 | 60.9 | 47.7 |
| – *min.* | 23 400 | 23 400 | 106 200 | 585 866 |
| – *max.* | 2 850 400 | 238 000 | 1 081 513 | 2 850 400 |
| Investment outlays per worker [PLN/worker] | | | | |
| – $\bar{x}$ | 211 143 | 42 070 | 152 019 | 500 312 |
| – *coefficient of variation (V)[%]* | 96.29 | 29.39 | 40.64 | 39.72 |
| – *min.* | 21 000 | 21 000 | 60 900 | 292 933 |
| – *max.* | 1 108 000 | 60 333 | 284 608 | 1 108 000 |

Source: own study

When analyzing the intensity of the relationship of farmers with local institutions in the realization of investment processes, it can be seen that the greatest significance of the assessed institutions belonged to the Agricultural Advisory Center (AAC) and the Agency for Restructuring and Modernization of Agricultural (ARMA) (Tables 3,4,5,6).

Table 3.Structure of all the farms by the intensity of the relationship with institutions [percentage of farms]

| 1. Institution | 2. TOTAL | | | | | |
|---|---|---|---|---|---|---|
| | ***No relationship*** | ***Permanent relationships*** | ***Once a quarter*** | ***Once per half year*** | ***Once per year*** | ***Less than once per year*** |
| *Agency for Restructuring and Modernisation of Agriculture* | - | 26.4 | 33.3 | 21.7 | 17.8 | 0.8 |
| *Agricultural Advisory Centre* | - | 83.7 | 10.8 | 3.9 | - | 1.6 |
| *Agricultural Chamber* | 35.7 | 5.4 | 3.1 | 10.9 | 5.4 | 39.5 |
| *Bank* | 17.1 | 46.4 | 26.4 | 4.7 | 3.1 | 2.3 |
| *Agricultural Market Agency* | 28.7 | 0.8 | 2.3 | 4.7 | 38.7 | 24.8 |
| *Agricultural Property Agency* | 39.5 | - | 3.1 | 10.1 | 10.9 | 36.4 |
| *Agricultural trade union* | 85.3 | 0.8 | - | - | 2.3 | 11.6 |
| *Agricultural exchange* | 73.6 | 1.6 | 2.3 | 5.4 | 1.6 | 15.5 |
| *Self - government of the Commune* | 8.5 | 35.7 | 42.6 | 12.4 | 0.8 | - |
| *Self - government of the county* | 27.8 | 3.9 | 14.0 | 10.1 | 17.1 | 27.1 |
| *Marshal's Office* | 76.0 | - | 1.6 | 3.1 | 0.8 | 18.5 |
| *Foundations* | 96.1 | 0.8 | - | - | - | 3.1 |
| *Association* | 93.8 | 2.3 | - | 0.8 | - | 3.1 |
| *Trade organisations* | 92.3 | 5.4 | - | - | 2.3 | - |
| *Research and development centers* | 98.4 | - | 1.6 | - | - | - |
| *Agricultural university* | 95.3 | - | 0.8 | - | 3.9 | - |

Source: own study

The intensity of these relationships was high in all analyzed groups of farms. However, in the case of ARMA were most intense in agricultural groups II and III. In households from group I, due to the lower level of capital investments made, these compounds were less intense, usually once a year. The importance of these two institutions stems from the fact that these are organizations that mediate the participation by farmers the EU funds. Agricultural Advisory Centers support farmers with appropriate knowledge and skills to use, inter alia, financial assistance from the European Union. Moreover they provide services in the field of economic consulting, marketing, finance, technology, but also provide training and provide information necessary in the conduction of farms. Services provided by the Agricultural Advisory Centers are free or partially paid what also increases their attractiveness. In turn, the importance of ARMA derives from the fact that it plays the role of the Paying Agency for EU programs implemented under the Common Agricultural Policy (CAP). And because of the use, by the surveyed farms, of the financial assistance of the European Union investing activities, these relations have to be intense.

Table 7 shows the analysis of the structure of farms benefiting in investing activities from various forms of assistance from local institutions. In the case of obtaining funding from the European Union, farmers mainly used the aid of agricultural advisors (91.5% of farmers) and ARMA (41.1% of farmers).

Table 4. Structure of the farms from the Ist Group by the intensity of the relationship with institutions [percentage of farms]

| Institution | I-st Group of Farms | | | | | |
|---|---|---|---|---|---|---|
| | ***No relationship*** | ***Permanent relationships*** | ***Once a quarter*** | ***Once per half year*** | ***Once per year*** | ***Less than once per year*** |
| *Agency for Restructuring and Modernisation of Agriculture* | - | 6.2 | 25.0 | 40.6 | 28.1 | - |
| *Agricultural Advisory Centre* | - | 81.2 | 6.2 | 12.5 | - | - |
| *Agricultural Chamber* | 43.7 | - | - | 3.1 | 53.1 | - |
| *Bank* | 28.1 | 37.5 | 15.6 | 6.2 | 3.1 | 9.4 |
| *Agricultural Market Agency* | 12.5 | - | - | - | 68.7 | 18.7 |
| *Agricultural Property Agency* | 43.7 | - | - | 6.2 | 6.2 | 43.7 |
| *Agricultural trade union* | 78.1 | 3.1 | - | - | - | 18.7 |
| *Agricultural exchange* | 53.1 | | - | 12.5 | - | 34.4 |
| *Self - government of the commune* | 12.5 | 31.2 | 46.87 | 9.4 | - | - |
| *Self - government of the county* | 31.2 | - | 3.12 | 15.6 | 28.1 | 21.9 |
| *Marshal's Office* | 75.0 | - | - | - | - | 25.0 |
| *Foundations* | 93.7 | - | - | - | - | 6.2 |
| *Association* | 93.7 | - | - | - | - | 6.2 |
| *Trade organisations* | 90.6 | - | - | - | 9.4 | - |
| *Research and development centers* | 100.0 | - | - | - | - | - |
| *Agricultural university* | 100.0 | - | - | - | - | - |

Source: own study

And in the third group of farms some importance had the private advising and banks. These data indicate that in Poland the farmers bestow public agricultural advisory great confidence. It results from the fact that the Agricultural Advisory Centers (AAC) in Poland relatively quickly adapted their advisory offer to the needs and expectations of customers in connection with the Polish accession to the European Union [5]. What is more, AAC had great importance in preparing business plans and loan applications implemented in the surveyed farms investments. Noteworthy is the help of banks in preparing loan applications. Banks also occupied an important place in the close institutional environment, of which 82.9% of farmers (Table 3, 4, 5, 6) maintained relationships with varying degrees of intensity. At the same time the intensity of the relationship of farmers with banks increased with the increase in the level of investments made. Also, banks' involvement in assisting in the preparation of loan applications was greatest in the group of households with the greatest investment. It may indicate that credit constraints affect mostly smaller farms [1]. Less interest of commercial banks in financing investment in smaller farms may result from a greater level of risk associated with financing investments in small farms and large transaction costs incurred by the bank in relation to the value of the loan.

A significant role in the modernization of agriculture is played by the institutions responsible for the penetration and adaptation of technical progress. The studies show that in this case, also an important role play AAC. Besides the role of AAC in the case of adaptation to technical progress, the role of companies supplying means of production can be noted, but mainly in larger farms (Table 7).

The institution with which farmers maintained closer ties was also the municipal government (Table 3, 4, 5, 6).

Table 5. Structure of the farms from the II-nd Group by the intensity of the relationship with institutions [percentage of farms]

| Institution | II-nd Group of Farms | | | | | |
|---|---|---|---|---|---|---|
| | ***No relationship*** | ***Permanent relationships*** | ***Once a quarter*** | ***Once per half year*** | ***Once per year*** | ***Less than once per year*** |
| *Agency for Restructuring and Modernisation of Agriculture* | - | 29.2 | 35.4 | 18.5 | 15.4 | 1.5 |
| *Agricultural Advisory Centre* | - | 86.2 | 10.8 | 1.5 | 1.5 | |
| *Agricultural Chamber* | 35.4 | 1.5 | 4.6 | 15.4 | 6.2 | 36.9 |
| *Bank* | 18.5 | 43.1 | 30.8 | 3.1 | 4.6 | - |
| *Agricultural Market Agency* | 35.4 | - | 1.5 | 4.6 | 32.3 | 26.2 |
| *Agricultural Property Agency* | 46.2 | - | - | 4.6 | 10.8 | 38.5 |
| *Agricultural trade union* | 95.4 | - | - | - | 3.1 | 1.5 |
| *Agricultural exchange* | 83.1 | - | 4.6 | 3.1 | 3.1 | 6.2 |
| *Self - government of the commune* | 10.8 | 36.9 | 35.4 | 15.4 | 1.5 | - |
| *Self - government of the county* | 30.8 | 4.6 | 10.8 | 7.7 | 16.9 | 29.2 |
| *Marshal's Office* | 73.9 | - | 3.1 | - | - | 23.1 |
| *Foundations* | 100.0 | - | - | - | - | - |
| *Association* | 93.9 | 4.6 | - | 1.5 | - | - |
| *Trade organisations* | 96.9 | 3.1 | - | - | - | - |
| *Research and development centers* | 96.9 | - | 3.1 | - | - | - |
| *Agricultural university* | 96.9 | - | - | - | 3.1 | - |

Source: own study

Probably due to the fact that these relationships concerned basic administrative matters, but also the office of the municipality could be a source of knowledge about the EU funds. Moreover, a part of the investment, especially construction investments required obtaining proper documentation from the municipal office.

An interesting measure of activity in establishing relationships with institutional environment may be „non-compulsory" contacts that have no direct relation to the financial benefits [2], but rather the benefits that may occur in the long term. This concerns the relationships with associations, professional organizations, R & D institutes and agricultural universities, etc. Results show (Table 3, 4, 5, 6) that such contacts are maintained by a small group of farms and rather by holdings of greater production potential.

The effectiveness of influence of institutions on modernization of agricultural holdings may result from barriers, the source of the barriers may be imbedded in institution as well as farms. The questioned respondents pointed out the most important barriers to be barriers that are connected to the institution, as the high cost of using services (mainly for commercial services) and limited access to institutions (especially long distance, which they can determine the level of usage cost even from the non-commercial services ) and no offers of cooperation (Table 8). However, a noteworthy fact, is that information about the offer of assistance from institutions reached the farmers and a small percentage of farmers pointed to the poor quality of the

offer. In the assessment of these two barriers most responses were in households with the lowest level of investments. Also, in farms from group I there were least indications of lack of barriers in cooperation with institutions.

Table 6. Structure of the farms from the III-rd Group by the intensity of the relationship with institutions [percentage of farms]

| Institution | III-rd Group of Farms | | | | | |
|---|---|---|---|---|---|---|
| | ***No relationship*** | ***Permanent relationships*** | ***Once a quarter*** | ***Once per half year*** | ***Once per year*** | ***Less than once per year*** |
| *Agency for Restructuring and Modernisation of Agriculture* | - | 40.6 | 37.5 | 9.4 | 12.5 | - |
| *Agricultural Advisory Centre* | - | 81.2 | 15.6 | - | - | 3.1 |
| *Agricultural Chamber* | 25.0 | 18.7 | 3.1 | 9.4 | 9.4 | 34.4 |
| *Bank* | 9.4 | 62.5 | 21.9 | 6.2 | - | - |
| *Agricultural Market Agency* | 21.9 | 3.1 | 6.2 | 9.4 | 31.2 | 28.1 |
| *Agricultural Property Agency* | 18.7 | - | 12.5 | 25.0 | 15.6 | 28.1 |
| *Agricultural trade union* | 71.9 | - | - | - | 3.1 | 25.0 |
| *Agricultural exchange* | 71.9 | 6.2 | - | 3.1 | - | 18.7 |
| *Self - government of the commune* | 3.1 | 40.6 | 53.1 | 3.1 | - | - |
| *Self - government of the county* | 15.6 | 6.2 | 31.2 | 12.5 | 6.2 | 28.1 |
| *Marshal's Office* | 78.1 | - | - | 12.5 | 3.1 | 6.2 |
| *Foundations* | 90.6 | 3.1 | - | - | - | 6.2 |
| *Association* | 93.7 | - | - | - | - | 6.2 |
| *Trade organisations* | 84.4 | 15.6 | - | - | - | - |
| *Research and development centers* | 100.0 | - | - | - | - | - |
| *Agricultural university* | 87.5 | - | 3.1 | - | 9.4 | - |

Source: own study

These data indicate a high level of competence and skills of farmers in dealing with the institutional environment. However, for a significant percentage from Group I the barriers occur. Households from the first group were characterized by significantly lower production potential (Table 1), and therefore not all institutions, especially private, are interested in cooperation. In turn, the offer of cooperation from the public part of institutions can not fully address the needs of this group.

In our study, farmers voiced their opinions about the importance of particular institutions in the process of modernization of agricultural holdings (Table 9).

In the opinion of farmers, nowadays, the most important role in the process of modernization of agricultural holdings play AAC and ARMA. In the future, farmers would see the need to increase involvement of banks, municipal offices, chambers of agriculture and agri-food industry in the process of modernization of agriculture.

## CONCLUSIONS

The study allows us to formulate the following statements, in nature of a summary: (a)the most intense relations are the relations of farmers with local institutions conducive to the absorption of EU funds to assist in the financing of investment activity. A dominant role in Poland in this respect is carried out by the public agricultural advisory.

(b)major barriers in cooperation with the institutional environment is the high cost of using the services and limited access to local organizations. At the same time the differences in the level of barriers between the analyzed groups of farms have been highlighted. The smallest percentage of farms in which there were no barriers in access to local organizations occurred in the group of households with the lowest level of investments, and also the smallest production potential. This may be a result of not adjusting an offer of cooperation to the needs of the „small" farms.

(c)the level of the relationship of farmers from group I and farmers from group II and III with financial institutions-banks is relatively lower. What results from banks lower interest in financing 'small' farms. This situation requires new institutional arrangements that will allow this group of farmers to access external sources of financing development activities as well as current.

(d)institutional environment transfers agricultural progress and new innovative solutions relatively poorly which is evidenced by the poor relations of farmers in scientific research institutions.

Table 7. The percentage of farms using different forms of aid of institutions in the modernization process [percentage of farms]

| Form of aid | Institutions | Total | Group of farms | | |
|---|---|---|---|---|---|
| | | | I | II | III |
| *Aid in getting EU funds* | – *Agricultural Advisory Centre* | 91.5 | 93.7 | 90.8 | 90.6 |
| | – *Agency for Restructuring and Modernisation of Agriculture* | 41.1 | 28.1 | 47.7 | 40.6 |
| | – *Bank* | 1.6 | - | - | 6.3 |
| | – *Private consultancy* | 4.6 | | 3.1 | 12.5 |
| *Consulting, training* | – *Agricultural Advisory Centre* | 78.3 | 81.3 | 75.4 | 81.3 |
| | – *Private consultancy* | 1.6 | - | 3.1 | - |
| | – *Enterprises providing agricultural input materials* | 10.6 | - | - | 25.0 |
| | – *Agricultural Chamber* | 2.3 | - | - | 9.4 |
| | – *Trade organisations* | 1.6 | - | 9.2 | 6.3 |
| *Aid in the preparation of business plans* | – *Agricultural Advisory Centre* | 86.0 | 84.4 | 86.1 | 87.5 |
| | – *Bank* | 3.9 | - | 6.1 | 6.3 |
| | – *Private consultancy* | 4.7 | - | 6.1 | 3.1 |
| *Aid in the preparation of the loan application* | – *Agricultural Advisory Centre* | 47.3 | 40.6 | 52.3 | 43.8 |
| | – *Bank* | 23.3 | 12.5 | 23.1 | 34.4 |
| | – *Private consultancy* | 3.1 | 6.3 | 3.1 | - |
| *Access to market information for innovation* | – *Agricultural Advisory Centre* | 38.0 | 40.6 | 36.9 | 40.6 |
| | – *TV, Internet* | 10.9 | 9.4 | 10.9 | 9.4 |
| | – *Agricultural Chamber* | 1.6 | - | 1.6 | 6.3 |
| *Implement new technologies* | – *Agricultural Advisory Centre* | 47.3 | 59.4 | 46.2 | 37.5 |
| | – *Enterprises providing agricultural input materials* | 2.3 | - | 1.5 | 6.3 |
| | – *Research institutes* | 0.8 | - | - | 3.1 |
| | – *TV, Internet* | 0.8 | - | 1.5 | - |
| *Implement of new products and services* | – *Agricultural Advisory Centre* | 11.6 | 15.6 | 6.2 | 18.8 |
| | – *TV, Internet* | 1.6 | - | 3.1 | - |

*Source: own study*

Table 8. Barriers impending the cooperation between farms and institutions [percentage of farms]

| Barriers of cooperation with institutions | Total | Group of farms | | |
|---|---|---|---|---|
| | | I | II | III |
| *The high cost of services* | 24.0 | 25.0 | 23.1 | 25.0 |
| *Lack of offer cooperation* | 17.8 | 25.0 | 16.9 | 12.5 |
| *Difficult access to institutions* | 18.6 | 28.1 | 18.4 | 9.4 |
| *Lack of person's first contact with a farmer* | 2.3 | 6.3 | | 3.1 |
| *Insufficient information about the offer on the part of institution* | 7.8 | 12.5 | 7.7 | 3.1 |
| *Low quality of the institution offer* | 7.0 | 18.8 | 3.1 | 3.1 |
| *Failure the offer to the needs of farm* | 14.7 | 21.9 | 6.2 | 25.0 |
| *Lack of incentives in establishing cooperation with the institution* | 14.0 | 9.4 | 12.3 | 21.9 |
| *Lack of experience in cooperation with the institutions* | 9.3 | 12.5 | 12.3 | |
| *Lack of barriers* | 27.1 | 9.4 | 35.4 | 28.1 |

*Source: own study*

Table 9. The importance of institutions in the modernization process of agriculture in the opinion of farmers*

| Institution | Total | | | | Group of farms | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | I | | | | II | | | | III | | | |
| | Currently | | It should be | | Currently | | It should be | | Currently | | It should be | | Currently | | It should be | |
| | *evaluation* | | | | *evaluation* | | | | *evaluation* | | | | *evaluation* | | | |
| | $\bar{x}$ | *V* | $\bar{x}$ | *V* | $\bar{x}$ | *V* | $\bar{x}$ | *V* | $\bar{x}$ | *V* | $\bar{x}$ | *V* | $\bar{x}$ | *V* | $\bar{x}$ | *V* |
| *Agency for Restructuring and Modernisation of Agriculture* | 4.0 | 21.0 | 4.7 | 13.3 | 3.9 | 66.0 | 4.7 | 48.3 | 3.9 | 87.9 | 4.6 | 72.7 | 4.2 | 88.4 | 4.8 | 50.8 |
| *Agricultural Advisory Centre* | 4.5 | 13.7 | 4.8 | 8.0 | 4.5 | 50.7 | 4.7 | 45.7 | 4.4 | 68.5 | 4.8 | 39.1 | 4.6 | 56.0 | 4.9 | 24.6 |
| *Commune* | 2.9 | 34.9 | 4.2 | 21.9 | 3.1 | 75.9 | 4.3 | 58.1 | 2.9 | 100.3 | 4.1 | 91.8 | 2.8 | 119.4 | 4.2 | 99.7 |
| *Agri-food industry* | 2.3 | 44.0 | 3.9 | 33.8 | 1.9 | 86.4 | 3.3 | 154.3 | 2.3 | 88.3 | 3.9 | 118.7 | 2.7 | 114.3 | 4.2 | 123.6 |
| *Bank* | 3.3 | 27.2 | 4.4 | 16.1 | 3.2 | 75.1 | 4.3 | 48.3 | 3.4 | 101.0 | 4.4 | 69.8 | 3.3 | 86.5 | 4.4 | 90.7 |
| *Agricultural Chamber* | 2.2 | 42.7 | 4.0 | 29.2 | 2.0 | 75.6 | 3.7 | 137.0 | 2.2 | 95.3 | 3.9 | 130.9 | 2.3 | 104.9 | 4.5 | 57.6 |
| *Trade organisations* | 2.0 | 50.3 | 3.3 | 49.2 | 2.2 | 83.4 | 2.8 | 160.8 | 1.9 | 102.0 | 3.4 | 175.4 | 2.1 | 101.7 | 3.6 | 155.1 |

* scale of evaluation: from 1 – not import ant to 5 – very important
*Source: own study*

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