ESTABLISHING AGRI-PRODUCER GROUPS AS A WAY TO STREGTHEN COMPETITIVE POSITION OF FARMERS

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Introduction

After 1990 economic conditions in Poland have undergone many changes. Before 1990 food and agri-policy were subject to Command Economy. System of contractation secured markets for the producers and provided the latter with goods of limited accessibility.

When the economic system transformation began, the mechanism of free-market economy became driving power for economic processes and verified efficiency of management. Consequently it occurred that individual farms were too weak to face and meet requirements of market economy. Introduction of free market mechanism resulted in a kind of chain reaction: first it appeared that both quantity and quality of agri-production had to be adjusted to demand in the market, which caused "market shock" among agri-producers, who – so far - had not been used to acting in unlimited markets, operating without fixed prices. Moreover, decreasing chances to sell products, in case of their surplus, were caused by limited abilities of the State to intervene in the market, because of the State's insufficient budget. In that situation responsibility for results of production decisions was entirely transferred onto managers of farms.

1. Crisis of agri-cooperatives in Poland after 1990

Downfall of agri-cooperatives strongly influenced the situation of agri-producers during transition. In the former system of Command Economy cooperatives had a very strong position, as the system defined for them sources and conditions of purchasing goods and commodities. It guaranteed low costs credits and defined limits of basic costs such as: salaries, rents and transportation fees. On the other hand the system defined the level of sale prices and limits of margins. In the past, basic fields of activities of agri-cooperatives included (Dyka 1998):

- dominant position in the sector of trade and services for individual farms (purchase, supply of means of production, production services)
- dominant position (or even monopoly) in the sector of consumption goods supply for households in villages and small towns,
- developing food processing and food industry,
- actions aimed at organising collective agri-production (until 1956 there were even different forms of compulsion),
- credits for individual agri-enterprises and farms.

In case of agri-cooperatives the range of activities was very wide. Those cooperatives, however, were not typical enterprises capable of taking risk and using marketing tools. That is why they found it difficult to continue their activities in free-market economy and all social and economic changes resulted in a considerable decrease in the range of their activities.

Crisis of agri-cooperatives made its appearance at the beginning of the 1990s, when the share of cooperatives in retail and catering sectors decreased six-fold, while in purchase of agri-products it decreased five-fold, in agri- and food processing sector five-fold.

The fact that agri-cooperatives could not get adapted to free-market rules was the obvious reason for such changes. Employees and members of cooperatives lacked knowledge about free-economy rules and abilities to compete with newly established private enterprises. Moreover, at the beginning of the 1990s new companies enjoyed preferential terms of acting

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in the market, which made the cooperative crisis even worse. All these caused the competitive position of Polish farmers to weaken. However, there are more other factors within the farms themselves, that make their position weaker. These are:

- a great number of small farms that produce and sell small batches in the market,
- seasonal character of offers, resulting from the lack of storage basis; in such case constant demand for agri-products causes either scarcity or surplus in the market, which leads to fluctuations in prices of agri-products and increases economic risk taken by an individual farmer,
- variety of quantity offers and diversification of separate batches,
- anonymity of suppliers makes creating groups of regular purchasers difficult,
- agri-producers do not advertise their products,
- the negotiation position of Polish farmers is very weak when they face wholesale purchasers of their products,
- because of lack of differentiation in market offers, e.g. there are no brands, agri-products are too homogeneous,
- sale concentrates in one distribution channel, which makes the producer dependent on one customer only.

2. Functions of agri-producer groups

The present condition of Polish agriculture proves that return to the methods of group farming is a necessity. Individual producers are economically too weak to act in the market as strong actors meeting requirements of their customers in the field of quality, quantity and marketing. That is why the picture of somewhat deformed cooperative existing in the previous system has to disappear from the memory of its members. It must be so, because in the past rules of cooperative democracy: members' right to decide about the cooperative or the rule of apolitical cooperative were not always respected.

One must also restore the confidence of farmers and other entities in cooperative form of managing. Over the last years we can observe changes in the mentality of framers, in respect of mutual management. At present Polish farmers are convinced that because of their income and Polish agrarian situation it is necessary to organize producer groups to meet demands of the market and to become its active actors. That is why all ideas and forms of strengthening competitive position of farmers are of such great importance. The dynamic process of establishing agri-producer groups that takes place in Poland proves it. The idea to improve distribution systems by integrating distribution channels with a predominant role of agri-producers wins a lot of economic benefits. The main ones are (Karasiewicz 2001):

- lessening disproportions in negotiations between the agri-producer and primary wholesale,
- enabling farmers to enter next stages of market system,
- increasing the share that agri-producers hold in the final price of agri-products,
- facilitating development of other primary wholesale entities (wholesale markets, commodity markets).

All aforementioned benefits can be gained thanks to functions fulfilled in the agri-market by agri-producers. The functions include:

- planning and adjusting production to demand, especially regarding quality and quantity of supplied agri-products,
- concentrating supply of agri-products, which enables to strengthen farmers' position during negotiations with representatives of next stages of the distribution channel,
- making bigger batches of agri-products,
- implementing quality standards, resulting in higher quality of agri-products,
- creating and promoting proper brands,
- active selling i.e. searching for new ways of sale both in the country and abroad,

- participation of capital in establishing new primary market entities e.g.: wholesale markets and commodity markets,
- a bigger range of provided logistic services connected with storage and transportation of agri-products,
- improving quality and value of agri-products (packaging),
- promoting new production technologies and methods of cultivation, which contribute to increase in efficiency of management and which are environmentally friendly,
- implementing preliminary processing of agri-products (eg. mills, abattoirs, processing plants owned by agri-producers),
- concentrating demand for means of production such as farming machines, fodders, seeds, fertilizers; it will enable agri-producers to negotiate better purchase terms,
- credit and insurance services for members.

3. Legal regulations concerning agri-producer groups in Poland

The law governing the establishment and conduct of producer groups in Poland is titled *Law of the 15th of September, 2000, on agri-producer groups and their unions* (Journal of Laws of October 20, 2000, No 88, item 983).

The law did not implement any new organisational or legal form (agri-producer group or producer group). It only defined conditions that must be fulfilled if cooperating farmers want to apply for subsidies from public finances. The phrase "agri-producer group" used in the law, relates to any organisation whose target is to bring to the market all products made by their members. However such organization must be a legal entity. Polish law allows several forms of legal entities, eg.: cooperatives, associations and companies.

According to the law, groups can be set up by producers – physical persons running their own farms (in accordance with regulations on agricultural tax) and physical persons running farms in the field of special kinds of agri-production (art. 2). Additionally members must be producers of one specified agri-product or of a group of agri-products. The list of such products is enclosed with an amendment to the *Decree of the Minister of Agriculture and Rural Development of the 4th of July, 2003 on the list of products and groups of products which can be made by producer groups, minimal annual volume of commodity production and minimal number of members in producer groups*. This is a domestic law, so groups established by its force may not be considered producer groups on the European Union level. As of the 31st of January, 2004, there were 65 producer groups registered in the lists of voivods. They can be divided into the following categories: fruit – 4, vegetables – 3, fruit and vegetables – 11, potatoes – 1, sugar beets – 1, cereals – 17, tobacco - 7, hop – 2, eggs – 4, milk – 3, cattle – 1, sheep – 1, pigs – 7. At that moment 30 other groups were being registered.

If registered in the lists of voivods, the groups can get financial support. Since the 1st of May, 2004 it is given to applicants within the PROW Program (Plan of Rural Areas Development).

Law of the 19th of December, 2003 on the organization and conduct of the fruit and vegetable market, hop market, tobacco market and dried fodder market (Journal of Laws No 223, item 2221), has been binding since May 1, 2004. Producer organisations established in Poland in accordance to this law are at same time recognised in the European Union. Such organisation can get financial support on the same terms as other members of the EU. However there are only two such recognized groups in Poland.

3. Advantages rising from group cooperation in the light of empirical research results

Empirical research carried out in groups of agri-producers enabled to define the main advantages that farmers gained from cooperation. The research was carried out in 62 groups representing different types of production: fruit and vegetable – 29 groups, pig - 18 groups, milk – 8 groups, cereals – 4 groups, other – 3 groups. When we carried out the research only few of those groups were registered in the lists of voivods for the law of 2000 had been binding for a too short time then. Within the research both the leaders and members of each group were interviewed. As a result there are 62 interviews with leaders and 279 interviews with group members, in all.

4.1. **Changes in farm area that took place after farmers accessed the group**

Counteracting dispersion of farms and concentration of supply are two conditions determining strengthening the competitive position of Polish agri-producers. Concentration of supply is the main aim of setting up producer groups, which are an example of functional integration i.e. joined efforts of many producers who would not be able to concentrate a proper amount of goods of the same quality if they worked individually.

Area of farms increased after accessing the group in 56% of surveyed households (156 households). The area of arable lands did not decrease in any of them. Other 44% of farms did not take any actions aimed at enlarging their area. On average farm area increased by 15% after accessing the group. In 2001 the average area of a surveyed farm equalled 21,3 ha, while before the access it equalled 18,53 ha. Area of farms producing different kinds of products changed in a different way (Figure 1).

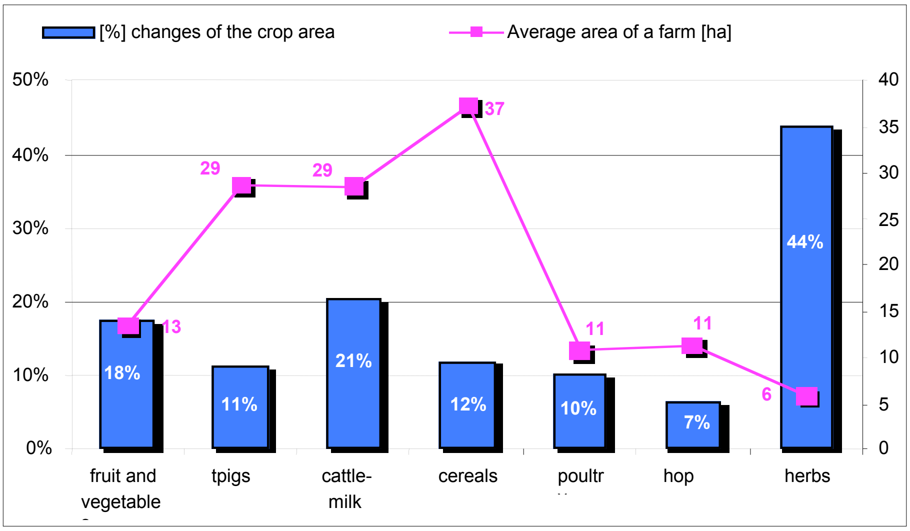

Figure 1. Changes in the area of surveyed farms after accessing producer groups, regarding kind of production.
Source: Author's research.

4.2. Changes in the commodity production at farms of group members

Output of a farm, depending on its destination, can be divided into two parts: one part remaining in the farm and the other for sale. The part for sale is called commodity production because of its market character.

In 2001 commodity production per 1 ha of arable lands reached value of 3900 PLN in surveyed farms. It is nearly twice as much as value of the average commodity production per 1 ha of arable lands in Poland in 2001. According to statistical data from the Central Statistical Office commodity production in Poland in 2001 equalled 2007 PLN (Statistical Yearbook of Poland, 2002).

In farmers' opinion value of commodity production increased on average by 33% when compared to the value reached before the accession. The increase of value resulted from the increase of crops caused by implementing "technological regime" by group members, intensification of animal production and increase of yield of marketable agricultural output.

4.3. Changes in the distribution of output after accession

Distribution is mainly aimed at supplying the final purchaser with requested goods at a time and place convenient to them as well as at the best possible price. Thus, distribution means transferring the product from the producer to the consumer through distribution channels. The research allowed to define main changes that took place in distribution channels after farmers accessed producer groups. In order to describe the changes well, we had to calculate the percentage of farmers using individual channels before and after the accession. These data enable to outline the general tendency which is decreasing number of farmers selling their products in bazaars (retail) and decreasing percentage of farmers selling their products to agents. Taking into consideration changes in distribution of agri-products, this phenomenon is of a favourable character as bazaar sale is highly ineffective due to high costs compared to profits gained from sale. Another equally favourable change resulting from accession to producer groups is shortening of distribution channels by eliminating private agents, who played the role of an element making bigger batches out of small supplies from individual farmers (concentration process). At the same time the number of farmers supplying goods directly to processing plants increased by 13,9% and those supplying goods to retail shops by 4,3%, wholesale markets, wholesalers.

Figure 2 shows changes in the percentage of farmers using different distribution channels 2.

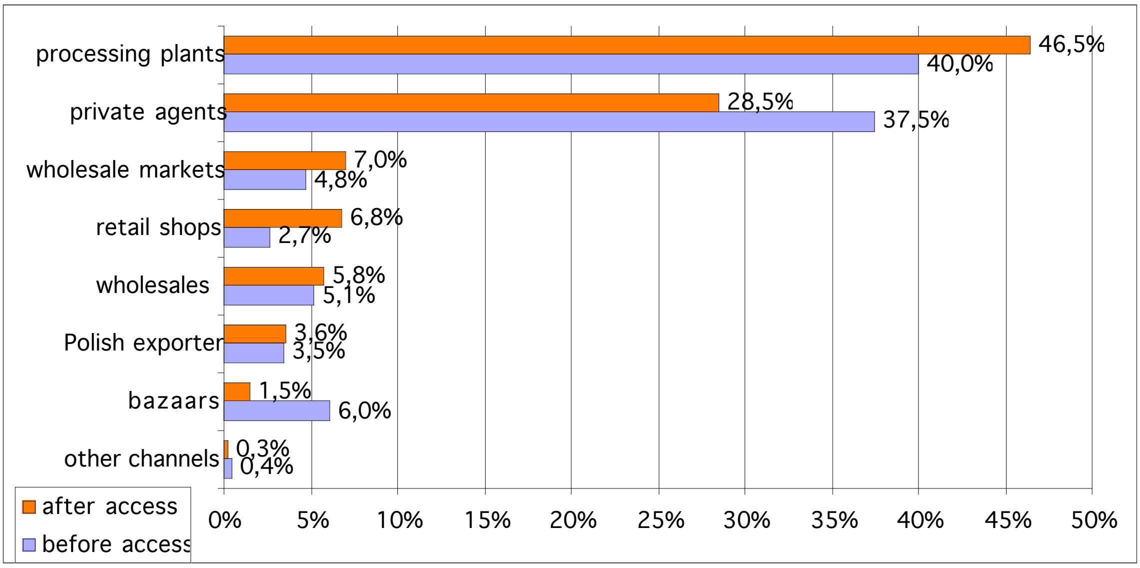

Figure 2. Changes in use of individual channels of distribution after accession
Source: Author's research.

Apart from presenting the percent of farmers using each channel of distribution, we calculated the average share of each channel in distribution of the output (Table 1) in order to better illustrate changes in the system of sales. Analysis of data enclosed in the table allows to elaborate the hierarchy of distribution channels, based on the share they hold in the sale of output. Direct sale to processing plants definitely dominates as the share of this distribution channel equals 55%, while private agents take the second place. However the share they hold in the sale is not too high and it equals 12,7%. It decreased by 50% after farmers accessed the group, which proves that there is a strong tendency to shorten distribution channels. Similarly, sale in bazaars became less considerable. Before the accession bazaars hold a share of 9,0% of total sale, while after taking actions aiming at integration it fell to 4,1%. At the same time the share of wholesale market, retail shops, wholesalers and exporting companies (excluding processing plants) increased noticeably.

Table 1. Average share of individual specified in sale of output before and after accessing the group (%)

Specification	Before accession	After accession	Change
Wholesale markets	7,3	10,1	2,8
Wholesalers	4,1	6,0	1,9
Retail shops	3,1	5,7	2,6
Bazaars	9,0	4,1	-4,9
Processing plants	44,0	55,0	11,0
Exporter	5,0	6,4	1,4
Private agents	27,5	12,7	-14,8
Total	100,0	100,0	

Source: Author's research.

4.4.Factors determining success of members of the groups

When taking decision to access the producer group, farmers wanted to gain benefits they could not gain acting individually. The surveyed agri-producers listed difficulties in finding markets, the need to eliminate agents from the distribution chain, high costs of production, etc., as main reasons of taking up cooperation with other farmers. On the other hand, the main target of their actions was to improve financial situation by gained benefits.

Results of the research helped to define the main benefits gained as a result of group work and so they are called "success factors".

Figure 3 shows factors contributing to the success of farmers, gained by accessing the group. It also shows distribution of answers for each of them.

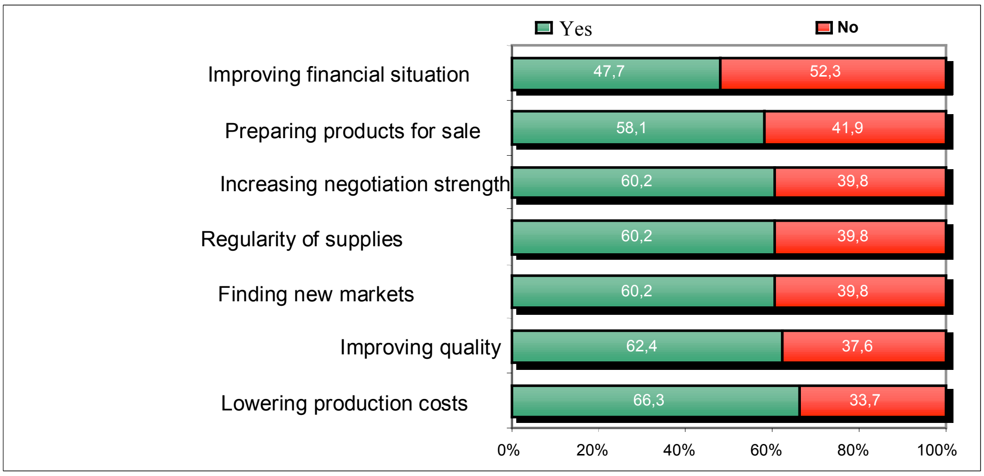

Figure 3. Distribution of answers to individual success factors
Source: Author's research.

5. Factors determining improvement of competitive position of agri-producer groups

Competitive position of producer groups meant as a result of competition among these groups, is shaped by resources and abilities to use them for building competitive advantage in the market. Position of a group in the market to a large degree depends on the situation in the farms of its members, as the quantity and quality of the output originate from farm resources.

When agri-producers combine output from different farms, they also enrich it with other resources or actions (e.g. marketing actions), which cannot be taken by each member individually. Groups try to use their resource advantage to build up their market advantage.

Results of empirical research revealed factors that in the opinion of leaders determine strengthening the market position of groups.

Majority of surveyed leaders claim that competitive position of groups became stronger in the middle of their works. 62,9% of surveyed leaders admitted that competitive position of their groups is stronger. Other 37,1% claimed that there was no improvement resulting from actions taken by the group in the market.

Table 2 shows factors (and percentage of answers) that in the opinion of leaders contributed to strengthening market position of the group

Table 2. Distribution of answers relating to factors determining improvement of competitive position of surveyed groups

Specification	Distribution of answers	
	yes (%)	**no (%)**
Meeting quality requirements of supplies	69,4	30,6
Taking advice of specialists	50,0	50,0
Purchasing agri-products from other farmers	56,5	43,5
Contracts for goods supply	72,6	27,4
Taking marketing actions	66,1	33,9
Regularity of supplies	69,4	30,6
Meeting quantity requirements of supplies	71,0	29,0

Source: Author's research.

Analysis of these factors provides us with a lot of optimistic information about chances to improve market position thanks to joined efforts.

We used V Cramer's coefficient (Table 3) to analyse relationship between factors determining improvement of competitive position (independent variables), and improvement of the position (dependent variable).

In case of all analysed variables, probability accompanying χ^2 statistics was less than 0,05, which allows to conclude that these relation are statistically valid.

Table 3. V Cramer's coefficient for analysed variables determining stronger market position of the group

Specification	Strengthening competitive position of the group in the market			
	V Cramer's coefficient	chi-square	Degrees of freedom	Importanc e
Meeting quality requirements of supplies	0,501	11,5	1	0,00
Taking advice of specialists	0,431	15,6	1	0,00
Purchase of agri-products from other farmers	0,605	22,7	1	0,00
Contract for supply	0,576	20,6	1	0,00
Marketing actions	0,538	17,9	1	0,00
Regularity of supplies	0,576	20,6	1	0,00

Meeting quantity requirements	0,612	23,2	1	0,00

Source: Author's research.

V Cramer's coefficient allows to conclude that strong market position was determined mostly by the factor of meeting quantity requirements. Hence the conclusion that concentration of supply, which is one of the fundamental functions of producer and marketing groups, contributes more than other factors to strengthening market position of the group. Furthermore, it is a proof that farmers acting individually will not achieve such effects. That is why individual farms find it difficult to strengthen their market position. Quite strong relation exists between the factor of regular supplies and contracts with customers and the position of the group in the market.

5.1. Model of logistic regression for strengthening market position of groups

Logistic regression allows to analyse the effect of all factors on the dependent variable.

In the model we identified factors that make the market position of groups stronger. The following equation is a product of our calculations:

$$P = \frac{1}{1 + e^{-(-6,8+2,5X_1+3,2X_2+2,6X_3+2,5X_4)}}$$

Table 4 shows estimated parameters of the regression model.

Table 4. Parameters of the regression model for strengthening competitive position of groups

Independent variable	$\hat{\alpha}_j$	**Wald's statistics**	**Degrees of freedom**	**Importance**	$e^{\hat{\alpha}_j}$
Regularity of supplies	2,5	5,6	1	0,02	12,1
Meeting quantity requirements of supplies	3,2	7,5	1	0,01	23,8
Meeting quality requirements of supplies	2,6	5,7	1	0,02	14,0
Contracts for supplies	2,5	5,4	1	0,02	12,7
Const.	-6,8	12,8	1	0,00	

Source: Author's research.

Positive value of all $\hat{\alpha}_j$ parameters of the model, proves that they have a stimulating impact on the probability of strengthening market position of groups.

Individual elements of the above equation have the following meaning for strengthening market position of the group:

$e^{2,5} = 12,1$ indicates that producer groups who are able to supply their products all the year increase the probability of strengthening their position against customers 11-fold, provided that the impact of other factors remains under control;

$e^{3,2} = 23,8$ indicates that groups who meet quantity requirements in respect of their products increase the possibility of strengthening their position against customers nearly 12-fold provided that the impact of other factors remains under control;

$e^{2,6} = 14,0$ means that groups offering products of the quality required by the customer increase the probability to strengthen their position in the market nearly 13-fold (provided that the impact of other factors remains under control),

$e^{2,5} = 12,7$ indicates, that groups who have contracts to supply products, increase the probability to improve their market position nearly 12-fold.

SUMMARY AND CONCLUSIONS

Contradictions between agri-producers and food industry (mainly five contradictions: quality, quantity, time, space and information) can be solved by establishing producer groups. Furthermore, setting up producer and marketing groups is a starting-point for vertical integration activities, giving the groups a possibility to take over the function of primary wholesaler or even preliminary processing. This way group support lessens lack of balance in the negotiations between agri-producer and other stages of distribution.

Results of the research allow to conclude that:

1. Taking horizontal integration activities of functional character initiated changes in farms run by group members: these changes increase competitiveness of the farms.
2. Group activities are mostly taken up by farmers who own big farms and who are better educated than an average farmer in Poland.
3. Distribution channels changed: they were made shorter, private agents are eliminated, volume of direct sale to processing plants increased, share of wholesale markets and increasing share of retail chains in the distribution of the agri-output increased.
4. Overwhelming majority of groups sell their products within contracts for supply, however, they were mostly one-year contracts.
5. Joined efforts enabled groups to use advertising instruments to awaken demand for their products.

   Moreover results of the analysis indicate that it is necessary to promote the program of cooperation within a group and to promote usage of instruments supporting creation and development of horizontal integration activities.

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