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# Poland

## National report

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*Apple production in Malopolska voivodeship (left), and super-expensive wheat cropping(right) in Opolskie voivodeship.*

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## **EXECUTIVE SUMMARY: APPLES**

### **1.Introduction**

#### **a.Data collection methods**

- This section of the research was finalized with a Participatory Workshop that brought together eleven individuals interested in the topic of apple production in the Małopolska region. The group included: an employee of a cooperative bank, a head of the county office of the Agency for Restructuring and Modernisation of Agriculture, an employee of the local office of the Agricultural Advisory Centre in Łącko Municipality, a mayor, a farmer (an employee of the producer group concentrated on orchard production), another farmer, a farmer also involved in processing, an employee of the insurance company, a local entrepreneur involved in fruit processing, a representative of a garden cooperative, the head of the county office of the Agricultural Advisory Centre.
- It should be stated that the majority of particular FGIs knew each other from other meetings organized for farmers. These are the specifics of agricultural circles with their numerous opportunities to meet during various instructional courses on integrated farming, agricultural machinery or the use of plant protection products, as well as courses in subsidies and funds directed to rural areas in Poland.
- The participants in previous stages of the research were encouraged to engage in the subsequent ones. At every stage they received information describing the whole research process and the current state of the research. The respondents understood the relations between particular aspects of the research and because of that expressed willingness to take part in the subsequent stages of the SUFISA project. For example, four respondents who participated in FGI took part in the workshop, as well. This was crucial as the respondents, besides being farmers, were also members of various institutions connected with the food production chain and/or organizations whose members were farmers.
- The most effective recruitment for the FGI and workshops participants is believed to have been conducted with the help of Agricultural Advisory Centres. The group of Polish researchers asked the heads of Agricultural Advisory Centres to organize discussion meetings. Then the researchers received contact information to field advisors who regularly worked with people that fulfilled recruitment criteria to participate in the FGI meetings and workshops. Field workers were more involved in the direct work of farmers and stakeholders than the heads of centres. Based on recruitment experience so far it is suggested that contacts with farmers and stakeholders should be made with help of advisory structures at the level of field advisors. Furthermore, the engagement of agricultural advisors in organizing meetings was a consequence of previous contacts of the researchers with the directors of field branches of The Agricultural Advisory Centre in Krakow (the Centre is one of several stakeholders in the SUFISA project) regarding help with the research logistics.
- Besides the recommended methods in the instructions for conducting FGI and workshops that had been prepared by the SUFISA team, the Polish team used a short survey questionnaire for the FGI participants. In this questionnaire respondents had to answer a

set of questions and based on their answers the index of economic attitudes was created. Thanks to this, each respondent could be placed on a scale of attitudes from very liberal to ultraconservative. This helped with better interpretation of the qualitative data obtained during FGI and Workshop due to the knowledge of respondents' attitudes.

### **b.Apples and the Malopolska economy**

Małopolska is one of the smallest regions in Poland (NUT 2). Its area is roughly 15 thousand square kilometres that takes less than 5% of the total area of Poland. However, concerning the population density Małopolska region is the second in the country with 221 persons per square kilometer. Małopolska is inhabited by 3.35 million people who make 8.7% of the total population in Poland. Majority of inhabitants live in rural areas and only three cities in the region (Kraków, Tarnów, Nowy Sącz) together have only slightly more than 28% of the total number of the regional dwellers. Małopolska is quite diverse in terms of landscape and climate. In the northern part of the region one might observe the presence of the industrial type of agricultural production as a result of the better quality of soils as well as a more visible number of larger and market-oriented farms. In the central part of the region the impact of the major regional cities seems to be visible. Therefore, in this area the involvement in agricultural work is only an additional type of labor activity for the population. In turn, the southern part of the region has been perceived as the most interesting one due to natural conditions (mountain areas) but mostly rather difficult conditions for agricultural production. In this particular area, farms are rather traditional as well as small. Therefore, farm operators have been seeking for some amenities in the niches (agritourist services, organic production, regional and local production). In Małopolska we might still observe more than 150 thousand farms which are mostly small. About 83% of farms are smaller than 5 ha, and only 3.1% of them occupy more than 15 ha. The average size of farm in the region is currently of 3.8 ha. It should be noted however that Małopolska region has the largest number of farms among all the regions in Poland. Almost all of them might be defined as individual/family units. Horticulture has been the most important part of the Małopolska agriculture and, at the same time, the region has been one of the biggest producers of fruits as well as vegetables in the country. It should be stressed here that the production of fruits and vegetables is an agricultural activity based on the tradition as well as local/regional knowledge. In the years of 2013 – 2014 Poland became a leading producer of fruits in the European Union. In 2013, the production reached more than 4 million of metric tons. In the context of European Union market one has to stress that apples have been the number one export product for Poland and Małopolska in the recent years. Production of peaches, raspberries, strawberries, cherries as well as plums and strawberries in Małopolska should to be mentioned here as well. The region might be characterized as the area with a workforce surplus in rural areas. Family farms in the region have been using family labour almost exclusively (99.6%). In turn, farm operators tend to be older than 45. Almost 2/3 of family farm operators are over the age of 45. Very young people (under the age of 25) are rare among farm operators and make slightly more than 1% (!). It should be also stressed that agricultural activities provide rather minor part of the total income of farming families (only 13.1%). Major sources of income might be

identified as industry labour and work in services sectors (37 %) and social benefits transfers (26.3%).

## **2. Policy and regulatory conditions**

- The respondents were rather critical of the implications of current state policy on their economic activities. They reported difficulties with access to production subsidies. It was stressed that the state policy was not supportive of orchard fruit growing due to limited access to subsidies (increased requirements on producers, additional criteria to qualify for subsidies). They also expressed some criticism of the state response to the Russian embargo, which in this case was interventional buying. It should be explained that during the embargo Polish state intervention went as far as buying apples from large scale producers to prevent them from incurring huge losses. Then the apples were distributed throughout schools and social help institutions all over Poland. As a result, free apples were also available in Malopolska Province and local, small-scale producers were unable to sell their good quality apples at sustainable prices. This measure mostly benefited producers from the area around Warsaw, where apple production is most dominant in Poland. The respondents thought that the state policy was giving advantage to mass production of low quality fruit (production of industrial apples amounts to 60% of Poland's entire apple production) and there was no tendency to change this situation. Generally, the respondents complained about the lack of a national policy regarding apple production, which would point out production directions and possible investment needs.
- The interview participants paid a lot attention to certain political issues influencing production and its profitability. In their opinions, the policies of farm losses compensation did not consider the fact that the majority of farms in the Malopolska, Subcarpathian, and Swietokrzyskie regions were relatively small and operated by older farmers (over the age of 40). According to the participants the compensation money was mostly flowing to larger farms, operated by younger (under the age of 40) farmers/orchard fruit growers. Another negative point related to the state agricultural policy noted by the focus group participants had to do with giving advantage to farmers who formally graduated from a certain type of school over farmers who had significant experience but no formal agricultural education. To clarify this matter, it should be stated that farmers with no formal agricultural education have limited access to some subsidies. Insurance and compensation issues also contributed to the participants' discontent. They admitted lacking trust in a compensation system. In their view, the companies offering these insurance policies were from foreign countries and calculated losses by focusing on the individual fruit. To meet the compensation eligibility criteria, an apple had to be damaged in such a way that it was only possible to sell it as an industrial fruit. For the fruit that was not badly damaged farmers were not receiving any compensation, even though they were not able to sell such fruit as dessert apples.
- The issues of Common Agricultural Policy of the European Union also received a lot of attention from the respondents. In their opinion, starting in 2016 Polish farmers should receive direct subsidies equal to those received in the countries of the old European



Union. They claimed that Polish producers were not currently competitive as their incomes were lower than the incomes of their Western counterparts. Additionally, production means were more expensive in our country. The respondents advocated for a change in the philosophy of spending the financial means allocated to Poland within the framework of Common Agricultural Policy. In their view, the Polish state should decide how these means would be spent. The financial support should be directed into the production areas where there were no surpluses and a real need to increase production and into ensuring a good price for the producer. In the mountainous areas (such as Łącko municipality) the subsidies should be higher for the producers who used their land properly without setting aside arable land. This was very important to our respondents, who suggested going a few steps in the direction of individualized subsidies, which would address the specifics of particular farms. It was stated several times that the position of orchard farmers from Małopolska (and from mountainous regions in particular) was more difficult than the position of orchard farmers from other regions of Poland. In this context the climate conditions, shape of terrain, and traditional farm structure were discussed as influencing production of fruit, and apples in particular, in two ways. On one hand, the climate conditions were thought to be harsher than in other parts of Poland or the European Union. The transport conditions were also seen as more problematic than in other EU countries. On the other hand, there was a necessity to cultivate fruit due to the dispersed farm structure (80-90% of farms operated in an area smaller than 5 ha), soil quality, and shape of the terrain that eliminated any other type of agricultural production besides fruit production and forestation. The need to manage the surpluses of fruit and vegetable production by increased fruit processing was expressed by workshop participants and it was viewed as an issue pertinent to all the EU countries.

- National agricultural policy is oriented for mass production in large orchards while disregarding small ones, run by families
- Lack of vision regarding the development of orchard fruit production in Poland
- Lack of reliable data that would be collected in diligent manner by the state and address the new plantings and current state of apple production
- Lack of a policy encouraging “economic patriotism” understood as the government developing a consistent course to promote domestic products in Polish society
- Demand to introduce minimal prices

### **3.Markets and marketing**

- Disruption of local market due to introduction of „free distribution” of apples while fighting the negative consequences of Russian embargo
- Necessity to gain foreign markets, including the markets of the neighbouring countries
- In theory, farms of various size supply different segments of the market (local, regional, global) but in practice some instruments of national agricultural policy disrupt this order
- Agriculture in Poland is steered by global corporations, which dictate their own conditions. They determine agricultural production to a greater extent than the state. These concerns introduce their own standards and criteria for fruit they would be willing to buy. They are



not concerned about the problems faced by farmers who have good quality products that do not fulfil all criteria of the market chain

- The respondents suggested that perhaps the state should introduce regulations on local and regional sales
- Large supermarket chains have a policy of selling fruit they bought from local producers under their own trademark and their own brand. This important aspect of the policy of large supermarket chains is highly criticized by the research participants.
- Small producers (small family farms) seem to have the most diversified channels of distribution of their products. Quite contrary, producer groups have the less diversified ones. Therefore, producer groups are the most sensitive to fluctuations of the markets.
- The model of selling apples in Poland shows that each particular group of producers needs various directions of selling networks, namely: producer groups are mostly focused on international (global) and national markets, cooperatives are mostly focused on regional markets and small family producers are mostly focused on local markets.
- Russia was a very important consumer of apples from Poland. However as a result of Russia embargo of Polish apples (and other food products from Poland and other EU countries) the national apples market in Poland has been destabilized. Big Polish producers begin to look for national consumers and therefore they strongly limited the opportunities for small family producers on local markets

#### **4.Resilience**

- The responses indicated the presence of three models of production and sales for apples in the region. The first one was a producer group, the second a cooperative, and a third one could be described as dispersed operations of small, family farms. The interviewees emphasized that cooperation between the producer group and large supermarket chains allowed for trading of the region's apples with European purchasers. Various producer groups were complementary with each other, exchanging different varieties of fruit which they produced. In turn, cooperatives were known to have their stores and refrigerated storage facilities for storing fruit. Such measures were ensuring fruit sales in the region and within the cooperatives' own store. According to fruit growers, a horizontal coordination of cooperation among farmers could be seen in cases of broken farm machinery or equipment. A farmer who experienced such misfortune was able to borrow the machinery from another farmer. No other examples of horizontal cooperation were recognized in the focus group interview. Generally, the respondents complained about the lack of a national policy regarding apple production, which would point out production directions and possible investment needs. The interviewed fruit growers highlighted the need for subsidizing plant protection products, which year after year were becoming more expensive.
- Contracts with large supermarket chains were an important aspect of cooperative work. Although orchard fruit growers saw their production from a local and regional perspective, their perception of marketing and distribution was somewhat influenced by the contract with the global market chain they had signed within the past.

- During the focus group interview, participants pointed to an alternative system for the distribution and sales of apples.
- Direct marketing was also discussed but it was said to involve only 10% of orchard fruit producers. Producer groups or cooperatives were seen as dominating actors here as they could sell their products directly to stores. The high quality of the product and good storage conditions were guaranteed by producer groups and it meant meeting the expectations of the consumers.
- The respondents were very critical of the processing sector as the price of the final product received by farmers and small processors was unsustainable. This was attributed to the manner in which market chains operate. Traditional methods of processing in this context were difficult to maintain deeming the product prices unsatisfying.
- Orchard producers emphasized compatibility of their practices with environmental regulations but they admitted that their limited use of chemicals in production was mostly due to high costs. The environmentally friendly attitude was in that sense forced upon them. Intensification of production rather than its mere maintenance as well as its improved quality were seen as the remedies for the current situation. These participants pointed out the weak lobbying position of farmers who operated orchards. They wished it was as significant as the lobbying position of miners or other professions, which had their own unions fighting for their interests. The respondents were not very optimistic about the new direction of production, namely cider production, which in their view was rather small scale, and not likely to bring significant changes.
- Another problem that was addressed in the focus group interview pertained to ecological production. In this context, the respondents emphasized the superiority of so called integrated production over ecological production. They saw the following downsides of organic production: a/ lack of any intervention in production; b/ in Poland – unlike in the West – so-called ecological product did not generate better price; and c/ the lack of any recognizable certification that the product was indeed ecological. Integrated production, on the other hand had, according to the respondents, numerous positive sides related to production of fruit and apples, in particular: a/ integrated production allowed for the use of chemical products but it needed to be done under the strict supervision of responsible institutions; b/ it was possible to set up appropriate price of the product; c/ in the process of integrated production there were numerous inspections ensuring the safety of the product.
- The issues related to credits and mortgages were also present in the discussion and they involved two main problems. The first one was related to the institution that could be involved in the funding of apple production in the most suitable way. Here, the respondents alluded to cooperative banks as local institutions, close to local matters, cooperating with local government, and potential allies to local development. In cooperative banks the customer was never anonymous and the decisions were made locally.

- According to the participants in the workshop, the Polish state should strive for increasing agricultural subsidies that farmers received in Poland to reach the subsidy level of the old EU.
- The respondents noted that Polish agriculture was generally lacking a strategic policy for orchard fruit production that would allow the farmer to know what to invest in, what to cultivate. Economic patriotism concentrated on the development, promotion, and purchase of Polish products should be an integral part of such a policy. Some respondents thought that it would require certain control over the media which were mostly in “foreign hands”.

### **5.Focus groups and workshop feedback: drivers, strategies and future performance**

- Producer groups, assets:
  - they were able to represent individual orchard fruit producers at the fruit exchange market as these producers devoted most of their time to farm and orchard work;
  - the producer groups facilitated the storage and sales of fruit to large market chains;
  - the groups enabled farmers to conduct activities like the sorting of apples, which was required by large purchasers from supermarket chains and rather impossible to be done by individual producers
- Cooperatives were known to have their stores and refrigerated storage facilities for storing fruit. Such measures were ensuring fruit sales in the regions and within the cooperatives’ own store.
- Small family farms were established because of inheritance or through marriages and the farm owners and operators combined agricultural work (orchard work) with non-agricultural work. According to the respondents only 10 – 20% supported themselves exclusively through agricultural work (in orchards). In such farms orchards were usually not profitable (they did not generate significant incomes) and they were mostly kept due to family tradition. Orchards required long-term care and maintenance, so the investment could bring income and profitability. Some growers were mostly supporting their orchards through agricultural subsidies from the European Union. There were also problems of a generational change as there were no orchard successors. The respondents described orchard work as hard and unprofitable and thus not very attractive to young people. The younger generations preferred working in different sectors where stable employment was possible. They perceived employment in agriculture as risky, with little predictability in terms of income.

The participants mostly focused on factors that influenced apple prices. They pointed out that prices did not depend on local factors or conditions as they were globally determined by the price of industrial apples, which in turn was influenced by the price of apple concentrate. The respondents emphasized difficulties with the export of Polish apples to neighbouring countries, because they were buying the above mentioned apple concentrate from Belgium, Bulgaria, or even Turkey. As respondents reported, in these countries there were no contract agreements, so the price of the product was significantly lower, allowing for competitiveness

from other global players. The respondents charged that industrial apples comprised about 60% of Polish apple production and such production was not profitable. Apples for consumption produced in Poland were estimated as 2200 thousand metric tons (about 40% of entire Polish apple production) but Polish producers needed five times more orchard area than the area used in Italy for similar production quantity. The price paid for apples, which could not satisfy the producers, had to do with the restrictive requirements of supermarket chains (TESCO, BIEDRONKA – Jeronimo Martins) related to product quality. The price paid to producer is low because the apple producers does not meet supermarket quality requirements. The prices received by apple producers did not exceed 50% of the price paid by the consumer in the supermarket. Producers thought this required some intervention in order to improve the market organization.

The respondents addressed the issue of dependency of producers in their relations with large market and retail chains. They estimated that producers were only able to sell their apples for about 40 – 50% of the retail price. This was thought to be the result of retail chains forcing the producers to incur the costs of market preparation and product packaging, so apples could be placed on supermarket shelves. The costs included placing apples on special Styrofoam trays, wrapping them in foil, or packing them in other types of containers.

Producers devoted a lot of attention in their statements to critical evaluation of national regulations, especially those that were made as a reaction to the Russian embargo on apples. They criticised free distribution of apples from Grójec area (the biggest centre of apple production in Poland, near Warsaw) in other regions of Poland. In their opinions such actions were destructive to local markets, including those of Małopolska. The respondents claimed that apples from the Grójec area were of poor quality, which contributed to the negative image of Polish apples as low grade products. Additionally, such “distributions” of apples preserved in the consumers’ collective mind the stereotype of a product of little value. Therefore, producers of dessert apples who tried to sell them were laughed at because they demanded a certain price for a product of poorly perceived value. The producers were afraid that free distribution of apples would diminish the willingness of Polish consumers to buy domestic apples. The discussion also addressed the differences between the prices in various regions. The producers from Małopolska were well aware that their counterparts from the Grójec area had a rather favourable opinion of the state’s agricultural policy as it allowed them to sell lower quality industrial apples to the Agency of Agricultural Market at the price of dessert apples meant for consumption. It was revealed that the local market in the Łącko area of Małopolska Province could suffer while the Grójec area market of the Mazovia region near Warsaw was experiencing gains. The respondents called for expanding the repertoire of state intervention to increase the production of apple concentrate which could be stored while producers waited for better prices. They also proposed other measures such as providing healthy foods for children in schools, biogas production, alcoholic beverages (cider) or aroma products for the cosmetic industry.

Insurance policies for farmers who produced apples made for another important subject in the producers’ discussion. According to the respondents the 13% insurance rate was too high, which made farmers unlikely to insure the crops. At the same time farmers understood that

the insurance rate is the effect of specific conditions of the region, where calculated risk is rather high. The solution for this problem could be found in the system of state subsidies for insurance, the way it had been implemented in the past. The respondents thought that the problem lied in the lack of solidarity on the insurance issue. The policies were tailored individually and if a farmer incurred losses there was a “punishment” in subsequent years in the form of increased premiums for the insurance policy. Respondents said that in the past this was not a problem. All farmers collected money for the one who was in need. The respondents claimed that numerous institutions did not want to insure farmers because paying claims in cases of natural disasters could mean losses for the insurance companies. It would be rather hard for these companies to profit from such insurance plans.

The issues related to credits and mortgages were also present in the discussion and they involved two main problems. The first one was related to the institution that could be involved in the funding of apple production in the most suitable way. Here, the respondents alluded to cooperative banks as local institutions, close to local matters, cooperating with local government, and potential allies to local development. In cooperative banks the customer was never anonymous and the decisions were made locally. According to producers this type of bank should be supported by the state because of being farmer-friendly. Another problem mentioned by respondents related to the compatibility of the credit system to the rhythm of agricultural production. Farmers’ unwillingness to take credits and mortgages was a sign of their fears of inability to pay them off as sales of products could be problematic and uncertain. The respondents emphasized that farmers were very cautious in taking investment credits because the situation was uncertain and making a living solely on agricultural income was quite risky. It was mentioned that farmers (apple producers) were under the pressure of crediting institutions, namely banks. The lack of certain bank products, such as agricultural procurement credits, was addressed. Such a credit could allow farmers to get much needed financial means even before the harvested apples were sold. Contracting of apples in September or October without prepayments (agricultural procurement credits) put direct producers at a disadvantage when confronted with banks.

The issues of Common Agricultural Policy of the European Union also received a lot of attention from the respondents. In their opinion, starting in 2016 Polish farmers should receive direct subsidies equal to those received in the countries of the old European Union. They claimed that Polish producers were not currently competitive as their incomes were lower than the incomes of their Western counterparts. Additionally, production means were more expensive in our country. The respondents advocated for a change in the philosophy of spending the financial means allocated to Poland within the framework of Common Agricultural Policy. In their view the Polish state should decide how these means would be spent. The financial support should be directed into the production areas where there were no surpluses and a real need to increase production and into ensuring a good price for the producer. In the mountainous areas (such as Łącko municipality) the subsidies should be higher for the producers who used their land properly without setting aside arable land. This was very important to our respondents, who suggested going a few steps in the direction of individualized subsidies, which would address the specifics of particular farms. It was stated

several times that the position of orchard farmers from Małopolska (and from mountainous regions in particular) was more difficult than the position of orchard farmers from other regions of Poland. In this context the climate conditions, shape of terrain, and traditional farm structure were discussed as influencing production of fruit, and apples in particular, in two ways. On one hand, the climate conditions were thought to be harsher than in other parts of Poland or the European Union. The transport conditions were also seen as more problematic than in other EU countries. On the other hand, there was a necessity to cultivate fruit due to the dispersed farm structure (80-90% of farms operated in an area smaller than 5 ha), soil quality, and shape of the terrain that eliminated any other type of agricultural production besides fruit production and forestation. The need to manage the surpluses of fruit and vegetable production by increased fruit processing was expressed by producers and it was viewed as an issue pertinent to all the EU countries.

Direct marketing was also discussed but it was said to involve only 10% of orchard fruit producers. Producer groups or cooperatives were seen as dominating actors here as they could sell their products directly to stores. The high quality of the product and good storage conditions were guaranteed by producer groups and it meant meeting the expectations of the consumers. At the same time, individual producers could not count on consumers or small store owners to buy their apples. It was noted that the opinions on apples sold by producer group or cooperatives were quite favourable due to expected guarantees of higher quality and proper storage of apples.

The respondents were very critical of the processing sector as the price of the final product received by farmers and small processors was unsustainable. This was attributed to the manner in which market chains operate. Traditional methods of processing in this context were difficult to maintain deeming the product prices unsatisfying. The producers, who opted to produce fruit and traditional fruit preserves and other products processed by traditional methods complained about low prices. They thought that the orchard fruit producers from other regions who followed in their footsteps of traditional production contributed to the reduction in prices. During the research they argued that traditional production meant relatively small batches of diverse products (different apple varieties), destined for relatively small, sometimes niche markets. In such cases production was necessarily more expensive and, consequently, the product prices on the market needed to be higher as well. Unfortunately, this was not the case. There was no consensus between the producers, especially the producers from outside of Małopolska Province, who were driving prices down. The respondents said it could be the result of significant pressure coming from big supermarket chains and consumers. The producers should not succumb to such tensions because natural products or the ones produced with traditional methods should be more expensive. Furthermore, it was mentioned that ecological production was the subject of so many rules and regulations that agricultural advisers were hesitant to take up such issues. The respondents advocated for special subsidies for ecological production as the quantity of ecological raw material was insufficient. Polish producers were likely to face the necessity of buying ecological raw materials outside of the country.



The last major segment of the discussion was devoted to the role of the state and social consequences of functioning of orchard farms. According to the producers, the Polish state should strive for increasing agricultural subsidies that farmers received in Poland to reach the subsidy level of the old EU. It was also indicated that the state subsidies allotted to the municipal budget (in this case, Łącko municipality) were regularly reduced due to the decisions of the mayor to relieve some inhabitants from the agricultural tax. The respondents pointed out the faults of such policy. They thought the state policy needed to be more sensitive to future prospects in terms of researching what types of crops would be profitable in years to come. The state policy should not just be interventionist and should be conducted with future prospects in mind. The crisis of overproduction should be prevented and the production leading to surpluses of certain kinds of fruit should not be subsidized. The agricultural advisors should be cautioned that the quantity of production was less important than sustainable production goals of future profitability. The respondents noted that Polish agriculture was generally lacking a strategic policy for orchard fruit production that would allow the farmer to know what to invest in, what to cultivate. Economic patriotism concentrated on the development, promotion, and purchase of Polish products should be an integral part of such a policy. Some respondents thought that it would require certain control over the media which were mostly in “foreign hands”. They also noted that similar developments could be observed with banks. Bank Gospodarki Żywnościowej (Food Economy Bank) used to have a very good reputation in Poland as it had been established to support agricultural production and finance food production in Poland. The bank was supposed to support farmers. After the bank was bought out by French capital, namely Paris Agricole Bank, it was apparent that in some sense the bank monopolized how the turnover of agricultural products was supported at the level of 70%. This was not beneficial to agricultural producers and became a prime example of the power of financial capital.

In the statements made by producers there were historical motifs of comparing the current situation of orchard fruit producers to the situation from before 1990, when orchard fruit production in Poland was dominated by cooperatives. According to respondents, at that time cooperatives controlled about 80% of production. After the political changes, individual orchard production started to be preferred and producers were able to receive higher prices, even by 20%. Later it became obvious that the global market was dominated by large producers that were additionally supported by their states. This was thought to be the main problem for contemporary Polish cooperatives in operating their businesses. Additionally, there was a demographic problem as young people were not very likely to see themselves as apple producers in the future.

During the discussion the good conditions for orchard farms were linked to the welfare of entire farming families. This type of economic activity in this community (Łącko municipality) was second most important after construction and building services. At the same time, the lack of a workforce faced by orchard farms was addressed. This part of the market was drained by orchard farmers from other countries (Germany, Sweden) who offered better pay. The respondents emphasized that professional activities of families involved in orchard fruit production should be diversified so the income from non-agricultural economic



activities could support orchard fruit production. Some attention was given to the shrinking workforce market as young people migrated to other parts of Poland or other countries within the European Union.

## 6.The future: Russian embargo and beyond

### Some general remarks (some kinds of policy recommendations)

- Introduction of the national policy concerning apples with emphasis on regional diversification of apple production in Poland.
- Strengthening the role of producers when facing purchasers and processors through the strengthening of local apple processing and more intensive cooperation among individual producers.
- Strengthening the role of credit unions that seem to be more sensitive and flexible in responding for producers` requests unlike the commercial banks.
- Policy focused on reduction of prices and qualities of means of production among EU countries.
- Introduction of the policy focused on an independent (from purchasers or processors) evaluation of the product quality.
- Introduction of the policy focused on upgrading the system that monitors growing apples.

### Russian embargo remarks

- The well-known problem of the Russian embargo and its negative consequences were also addressed collectively during the focus group interview. The respondents declared that the ban on sales of Polish apples in Russia had had a minimal impact on apple growers in Małopolska Province as they sold a rather small quantity of apples in Russia.
- The respondents were rather critical of the implications of current state policy on their economic activities. They reported difficulties with access to production subsidies. It was stressed that the state policy was not supportive of orchard fruit growing due to limited access to subsidies (increased requirements on producers, additional criteria to qualify for subsidies). They also noted that the state response to the Russian embargo included the distribution of free apples in Małopolska Province, favouring producers from the area around Warsaw, where the apples came from. The respondents thought that the state policy was giving advantage to mass production of low quality fruit (production of industrial apples amounts to 60% of Poland's entire apple production) and there is no tendency to change this situation
- It should be mentioned that orchard fruit growers from this region are concentrated around the local (regional) market. **This determined how they perceived apple prices, patterns of distribution, and how they prepared operation strategies, and, in this case, ways of selling their product.** Tensions usually appeared when "global" producers were cut off from their usual markets - which were beyond local and regional - and unable to sell their

products there. Such a situation occurred with the Russian embargo on Polish apples, which resulted in the presence of apples produced by large scale fruit growers on local or regional market. Consequently, these apples were competing with those produced by the participants of the focus group interview. It was stated that such activities were leading to market disruption, unfair battles for product distribution, price drops, as well as the decline of many farms specializing in orchard fruit production.

- In the context of the Russian embargo on Polish fruit, the focus group participants emphasized their explicitly negative opinion on the state measures taken in response. These measures affected the Małopolska Province as it allowed for free distribution of apples produced in other areas of Poland. In a way, Małopolska became hostage to other regions. This created a serious problem for numerous producers in Małopolska, where small farms and orchards were predominant. They were experiencing losses as a result of the decision of state authorities to allow apples from central Poland to enter the regional market.
- Producers devoted a lot of attention in their statements to critical evaluation of national regulations, especially those that were made as a reaction to the Russian embargo on apples. They criticised free distribution of apples from Grójec area (the biggest centre of apple production in Poland, near Warsaw) in other regions of Poland. The respondents called for expanding the repertoire of state intervention to increase the production of apple concentrate which could be stored while producers waited for better prices. They also proposed other measures such as providing healthy foods for children in schools, biogas production, alcoholic beverages (cider) or aroma products for the cosmetic industry.

## EXECUTIVE SUMMARY: WHEAT

### 1. Introduction

#### a. Data collection methods

- It should be stated that the majority of particular FGI participants knew each other from other meetings organized for farmers. These are the specifics of agricultural circles with their numerous opportunities to meet during various instructional courses on integrated farming, agricultural machinery or the use of plant protection products, as well as courses in subsidies and funds directed to rural areas in Poland.
- Besides the recommended methods in the instructions for conducting FGI and workshops that had been prepared by the SUFISA team, the Polish team used a short survey questionnaire for the FGI participants. In this questionnaire respondents had to answer a set of questions and based on their answers the index of economic attitudes was created. Thanks to this, each respondent could be placed on a scale of attitudes from very liberal to ultraconservative. This helped with better interpretation of the qualitative data obtained during FGI and Workshop due to the knowledge of respondents' attitudes.
- One of the participant in the research conducted by the individual interview method also took part in FGI research. This situation occurred during research conducted in Opole Province (case of wheat). One farmer with experience in running his own farm as well as work in an agricultural cooperative was an expert who, in individual interviews, described fundamental dependencies between local and global wheat market and elaborated on the causes for the decline of agricultural cooperatives in Poland. This respondent was also

invited to participate in the FGI research, where he presented a farmers' perspective. Thanks to his extensive experience, he was able to characterize various possible models of wheat distribution. It should be noted that this particular participant was considerably more active in discussion than any other respondent. He both asked and answered questions. It could be said that he had a leading opinion in the group but successfully conversed with other participants and offered knowledgeable responses to their arguments. His disposition, manners and behaviour did not intimidate others or caused them to quit the conversation. In fact, it was quite the opposite, his somewhat authoritative opinions were met with counterarguments.

- This particular respondent did not initiate new topics within FGI but he readily shared his views and sentiments within IDI and presented them extensively to other participants. The group could relate and react to his narrative. Both the group and this particular respondent were able to challenge their own opinions and evaluations with others, farmers, whose experiences were also notable. Thanks to this, the outspoken respondent gained some new knowledge regarding models of wheat distribution and information on the unfavourable agricultural policy of the Polish state and the European Union for Polish farmers.
- The participants in previous stages of the research were encouraged to engage in the subsequent ones. At every stage they received information describing the whole research process and the current state of the research. The respondents understood the relations between particular aspects of the research and because of that expressed willingness to take part in the subsequent stages of the SUFISA project. For example, four respondents who participated in FGI took part in the workshop, as well. This was crucial because the respondents, besides being farmers, were also members of various institutions connected with the food production chain and/or organizations whose members were farmers.
- The most effective recruitment for the FGI and workshops participants is believed to have been conducted with the help of Agricultural Advisory Centres. The group of Polish researchers asked the heads of Agricultural Advisory Centres to organize discussion meetings. Then the researchers received contact information to field advisors who regularly worked with people that fulfilled recruitment criteria to participate in the FGI meetings and workshops. Field workers were more involved in the direct work of farmers and stakeholders than the heads of centres. Based on recruitment experience so far it is suggested that contacts with farmers and stakeholders should be made with help of advisory structures at the level of field advisors. Furthermore, the engagement of agricultural advisors in organizing meetings was a consequence of previous contact of the researchers with the directors of field branches of The Agricultural Advisory Centre in Krakow regarding help with the research logistics. The Centre is one of several stakeholders in the SUFISA project.

#### **b. Wheat and the Opolskie economy**

- Opolskie voivodship (region) (NUT 2) has a size of less than 10 thousand square kilometers as well as the population reaching slightly more than one million dwellers. It has been an agricultural-industrial region with advantageous climate as well soil conditions. Concerning the administrative partition of the region we might point out eleven rural sub-regions as well as one city. In the city (the capital city of the region) one might observe significantly more than a hundred thousand inhabitants. The Opolskie region consists of

seventy one local communes (NUT 4): three of them are of urban character, thirty one can be classified as urban-rural and the remaining thirty seven are purely rural. Rural areas make up more than 90% of the Opolskie region. However, rural communities seem to be quite large when compared to other rural localities in Poland. The average number of inhabitants in rural communities in Opolskie region is 525 persons, while the national average is 340. Opolskie region seems to be quite peculiar in that regard since every fifth village has more than 800 inhabitants. One should also stress that 47% of the inhabitants of Opolskie region live in rural areas but these areas appear to have more in common with urban areas than with rural areas of other parts of Poland. Rural areas of the Opolskie region are also known for the best spatial planning, landscape construction and aesthetics of rural houses and farmyards. Since 1997 the Opolskie region has been the leading area in Poland in the Rural Renewal programme. This particular initiative is one of the most important as well as the longest regional programme in Poland concerning the activation of rural communities. Opolskie region has been perceived as one the best areas in Poland for agricultural production. It is one of the warmest regions in Poland with slightly wavy landscape and significant number of lowlands and plains. The climate in the region is quite beneficial to agricultural production with warm summers, mild and a rather short winter, early spring as well as long and mild autumn. All these conditions seem to be quite friendly to the plant cultivation and production. The vegetative period starts early usually in late March and continues to early November and roughly amounts to 200 to 230 days in the year. Rainfalls take place in 160 to 180 days per year with multi-year level of 600-800 millimetres. Moreover, in the Opolskie region the majority (62%) of arable land is quite fertile, which also creates favourable environment for the development of agricultural production.

- One also should mention that from 2008 to 2012 Poland was one of the largest grains producers in the European Union after France and Germany and before United Kingdom as well as Spain. Notably, the Opolskie region has been the area of high plant productivity in Poland. It has a leading position in the national production of grains, rapeseed and sugar beets. Almost 2/3 of arable land in the region is designated for grain production. It should also be stressed that this small-sized region has produced more than 6% of grain in Poland. Wheat seems to be a special type of product in the region since its productivity has been on the level of 45-52 dt (deciton) per ha while the level for the whole country oscillates around 30-34 dt per ha. It is worth mentioning that there are some intensive, industrial farms in the region that in the last ten years reached the productivity level of 100 dt per ha.
- Slightly more than half a million and slightly less than 50% of people in the Opolskie region inhabit rural areas. Rural population is relatively young there. Concerning this particular indicator the Opolskie region seems to have a relatively high level of inhabitants in the productive age living in rural areas. In fact the region has second youngest rural population among all 16 regions of the country. Moreover, the percentage of the labour force involved in agriculture is 28 %, one of the highest in Poland.

## **2. Policy and regulatory conditions**

- Regarding agricultural policy regulations, the wheat producers were in favour of curbing grain imports to Poland. They argued that such grains were of poor quality and often ended up being mixed in with better quality Polish grains. As a result, the quality of the overall product was compromised. The farmers in the FGI thought that the current agricultural policy brought some difficulties to their business activities.
- The wheat producers felt threatened by the import of grains to Poland from some EU countries, such as the Czech Republic, and from outside the European Union (e.g. Ukraine). They claimed that policymakers viewed the market from the narrow perspective of product price thus resulting in the import cheap grains from Ukraine. The farmers in the FGI did not address the fact that grains (mostly wheat) from Poland were exported to other countries and that in some ways Polish farmers could benefit from such exports.
- The surveyed wheat producers reported a strong attachment to the land and farming tradition. In this perspective, politicians responsible for agricultural and rural policies are seen in rather ambivalent terms as the ones who are aware that farmers will not abandon the cultivated land, no matter what. In that sense, farmers' attachment to the land is the reason why political institutions pay no special attention to the activities of agricultural producers. In the focus group farmers declared a rather low level of interest in general political questions, emphasizing that their main concern is about the effects of their economic activity. Therefore, farmers appeared to be disconnected the national or European political scene. The demands of wheat producers focused on the following issues: a/ introduction of guaranteed minimal crop prices, which should be known at the moment of production decision; b/ subsidizing credit interests; c/ disconnecting eligibility for the EU funds from the demand that farmers must leave Agricultural Social Insurance Fund (*Kasa Rolniczego Ubezpieczenia Społecznego –KRUS*), which exists in Poland is known to be beneficial to farmers ; d/ more favourable rules for land purchasing and renting for smaller farms; e/ limiting of the bureaucracy. To summarize, the opinions of farmers expressed in the focus group defended particular interests of small and medium farms and they were the reflection of the economic way of thinking.
- Agricultural policy and related matters played significant roles in the discussions at the Participatory Workshop. Farmers indicated that due to longer lifespan, it was increasingly possible that farmers could pass their farms on to their grandchildren instead of their children. Farmers also asserted that in the Opolskie Province, due to the lack of available agricultural land for sale, current regulations in force in Poland and related to land turnover for cultivation did not influence the activities of wheat producers in the region. The farmers emphasized that it was necessary to increase the export of wheat from Poland because the country had a significant surplus caused by grain imports from Czech Republic and Ukraine. The producers paid a lot of attention to the issue of levelling out the subsidies for Polish farmers with those available to farmers in Western Europe. It was stated that limiting cultivation of wheat would be desired and a smaller quantity of high-quality wheat could be produced. There were also calls for the introduction of a stable wheat price in a timeframe of at least 10 years. More radical statements alluded to conducting Poland's own agricultural policy for wheat production, without the need to

consider the interests of other UE wheat-producing countries. These opinions were followed by claims that national agricultural policy could only be possible after Poland's exit from the European Union. Some respondents suggested the introduction of a minimal wheat price while others preferred to focus on Polish comparative advantages, which could lead to gaining new markets. In this context the issue of cheap wheat imports from Ukraine and Canada were addressed again, but this time in reference to GMO threats.

- Necessary halting of wheat import into Poland
- During the research the wheat producers indicated three types of conditions potentially changing their situation and consequently influencing their farming strategies. The first one related to elimination of other production directions (i.e. drop in milk prices which resulted in abandoning animal production and taking up plant production, later resulting in increased wheat production and consequently a price drop. Two other factors were related to Poland's accession to the European Union and globalization. The former factor was regarded as positive, creating opportunities for modernization of production. The latter was seen as ambivalent indicating the necessity to enlarge farms (giant mania) or to engage in narrow specialization. The „effect of the scale” becomes the most important here.

### **3. Markets and marketing**

We can distinguish four types of farms according to the model of selling their products:

- Producer group – farmers praised this strategy, as it provided them with a better bargaining position in relation to both the retailers of means of production and the purchasers of their product (namely wheat). They claimed that older farmers were not open to innovation and did not support their younger counterparts. Younger farmers declared the possibility to change the strategy every few years but they still valued the confidence and certainty stemming from participation in the producer group. Sometimes this strategy had its drawbacks, such as lower product price, but, on the other hand, it included barter transactions such as acquiring fertilizers and means of production based on future wheat sales.
- Direct marketing – involving direct selling of wheat to a grain elevator, had a rather good reputation among farmers. It allowed for flexible reactions and selling wheat at the moment, when the price was the best. This was purely the market strategy, which was not constrained by any agreements or obligations. Farmers following this strategy were well aware that they needed to use the help of middlemen and finance their operations as well. The advantage of this strategy was that farmers did not need to search for contracting parties. According to the surveyed farmers, this was an ideal strategy for medium farms that were not big enough to create channels to directly market or sell their products to big processors but at the same time were too big to concentrate on dispersal distribution within niche sales channels.
- Selling to processors – selling wheat directly to processors, but this was only feasible for larger producers who had large quantities of homogenous grains at their disposal.
- Selling during harvest time – according to farmers in the focus group – was only suitable for the smallest farms, whose area did not exceed 30 ha. This strategy could be summarized as immediate sales of wheat during harvest necessitated by an inability to



store the grain. Although this strategy did not seem to be very beneficial to wheat producers, as it did not give them time to negotiate prices, it did not always necessarily mean poor prices for farmers' products.

#### **4. Resilience**

- The farmers participating in the workshop appreciated the producer group operating in the region, whose members were producers and processors alike. Nevertheless, they brought up the problems of financial regulations as being unfavourable to producers. Operating within a producer group was treated as a regular economic activity. Farmers felt dominated here by the purchasers of their product and the prices they offered.
- Farmers indicated that due to longer lifespan, it was increasingly possible that farmers could pass their farms on to their grandchildren instead of their children. Farmers also asserted that in the Opolskie Province, due to the lack of available agricultural land for sale, current regulations being in force in Poland and related to land turnover for cultivation did not influence the activities of wheat producers in the region. The respondents thought that the relatively low affluence level of Polish society made consumers more concerned about the price of the product rather than its quality, which made them more agreeable to accepting genetically modified products. On a general level, the declarations on horizontal cooperation were absolutely positive. All farmers in the group were able to find at least several other producers they cooperated with in some way. The reciprocity rule was strongly emphasized here. In that sense, horizontal cooperation is highly rationalized in a purely economic sense. This cooperation is treated as certain kind of insurance in sudden and unpredicted cases.
- While describing vertical coordination the surveyed primary producers emphasized that it was based on stable relations with purchasers and fostered by informal relations. Regarding agricultural policy regulations, the wheat producers were in favour of curbing grain imports to Poland. They argued that such grains were of poor quality and often ended up being mixed in with better quality Polish grains.
- The young farmers were also asked about vertical cooperation. In the view of these wheat producers such cooperation was mostly based on economic relations. As was noted, the tradition of such cooperation is often passed from generation to generation, highlighting the importance of mutual trust, which is a crucial and helpful factor in conducting the business. The emphasis on this aspect of vertical cooperation did not interfere with the search for other new partners.
- The respondents were sceptical about the future of producer groups and cooperatives because of the strong, individualistic approach among farmers, which caused older farmers to prefer to sell their own land. The remedy for this was seen in a potential consolidation of small farms and enforcing adequate care and stewardship of the land where cultivating wheat could be possible, as such areas in Poland were rather rare.
- The farmers argued that their farms did not pollute. The ecological character of the farms was also determined by the fact that excessive use of chemical products generated high



production costs and could make production unprofitable. Within this context, farmers called for CAP subsidies to be the same in all EU countries.

- In reaction to three models of farm presented in the focus group (family farming model, market model, and sustainable farming model) the surveyed producers were pointing to the market model as having a real possibility to thrive. The family farm model in this context was only treated as a certain form of tradition and guiding principles for the functioning of the contemporary farm. It was stressed that without family tradition and the groundwork established by previous generations, it would be nearly impossible to start a wheat production business and to create such a farm from scratch due to the extremely high costs of such an endeavour. Furthermore, the market model of farming is to some extent imposed on farmers by the increasingly globalized nature of the agricultural market forcing agricultural farms to specialize, and to expand their production scale. The main factors that determined the functioning of agricultural farms and possible changes of their production profile were the following: market outlets, costs of engaging in the new type of economic activity, climate change, etc. Social factors (tradition, producer's preferences, etc.) seemed to be of secondary importance.

### **5. Focus groups and workshop feedback: drivers, strategies and future performance**

We distinguish few types of farms according to the model of production:

- Family farm – social dimension, crisis of family farming, ruralism combined with agrarism, farmers are principal creators, revitalization of the countryside, endogenous development, dependence on local resources, ecological modernization:
  - a. **Regulatory and policy conditions** : 1/ EU subsidies, 2/ green growth; 3/ the need for state interventional help appears due to Russian embargo; 4/ the possibility for better risk diversification as an effect of financial globalization;
  - b. **Factor conditions**: 1/ Negative role of excessive use of chemicals, 2/ Good opportunities for ecological agricultural production; 3/ Higher diversity of soil quality is more efficient for plant protection and general agricultural production than biological control agents;
  - c. **Demand conditions**: 1/ production of biomass for energy may be a chance for development for many farms;
  - d. **Finance and risk conditions**: 1/ The sector of cooperative banks acts counter-cyclically, which means that supply of credits and loans is not reduced during economic slowdowns;
  - e. **Socio-demographic conditions**: 1/ Business goals incorporate concern for environmental issues and bring redefinition of functioning of farms; 2/ Slow and consistent emergence of specialized family farms due to aging of farm population;
  - f. **Technological conditions**: 1/ Precision farming is seen as leading to reduction of chemicals and as helpful to decreasing pollution of soil and ground-water;
  - g. **Ecological conditions**: 1/ Poland has favourable conditions for ecological production; 2/ Agriculture must adjust to climate changes but its environmental function should be seen as equal to its production function.

- **Market-oriented farm** – economic dimension, market relations, opportunities for investment, landscape and nature as commodities, high productivity, multiple land use, limited state role, neoliberal ideas):
  - a. **Regulatory and policy conditions:** 1/Industrialization and intensification of production leading to the food security;
  - b. **Finance and risk conditions:** 1/Farmers` problems are connected to uncertain situation on agricultural markets; 2/ Banks are not charity institutions and they have to make money on every loan; 3/ market-oriented agricultural needs to have regular access to credits and loans;
  - c. **Socio-institutional conditions:** 1/ Only large farm owners are able to effectively compete with farmers of other EU countries;
  - d. **Socio-demographic conditions:** 1/ Education plays an important role in the development of entrepreneurship; 2/ Young farmers should be supported since they adapt technical novelties;
  - e. **Technological conditions:** 1/ The need of intensive farmers` training, 2/ Agricultural advising treated as an investment and meaningful element of the business model; 3/ Advisers should constantly work on updating their knowledge; 3/ New computer technologies enable round the clock Internet sales;
  - f. **Ecological conditions:** 1/ Intensive and high-yields agricultural production does not help biodiversity.
- **Sustainable farm** – continuity of the family farm, solving technical and social problems at the same time, leading role of the consumer, international perspective, tourism and recreation, landscape quality, institutionalisation with many agencies including state and NGO`s).
  - a. **Regulatory and policy conditions:** 1/TTIP as a threat to agricultural in Europe, Industrialization and intensification of production leading to the food security but to lower quality and less healthy food, 2/ negative consequences of intensive agricultural may be originating in lack of appropriate legal regulations;
  - b. **Demand conditions:** 1/ Small production of traditional food products protects cultural heritage and may stimulate the development of agro-tourism; 2/ monoculture farming is not very resilient in crisis situations; 3/ the role of state in the financial policies as well as strengthening consumers` positions in the food system; 4/ Food security should be ensured through prices regulations and support of agricultural producers;
  - c. **Finance and risk conditions:** 1/ Innovative financial instruments introduced by EC should lead to various sources and forms of financing ; 2/ Financial risk might be reduced through production contracts (regulations);
  - d. **Socio-institutional conditions:** 1/ Administrative efficiency should be marked by clarity and simplicity of legal regulations pertinent to economic activity; 2/ Stimulation of structural changes in agricultural is often perceived as the role for state and other types of public-private ownership; 3/ the role of state and other agencies to train farmers and provide them with cultural capital is needed; 4/ the role of state is needed in the area of preventing corruption that may be resulting from some business activities;
  - e. **Socio-demographic conditions:** 1/ the role of professional advisers and expert groups and LEADER-like programs are also quite important; 2/ the issues

concerning poverty as part of the reflections on lifestyles underscore the contradictory process of increased affluence on the Polish countryside mostly though the funds obtained from the EU; 3/ preference for local and regional products is usually part of the rebellion against mass culture and lifestyles presented in TV commercials; 4/ anti-GMO attitudes relate to rural activities complementary to agricultural ; 5/ the need to develop cooperation practices among Polish farmers; 6/ The need for public support of young farmers;

**f. Technological conditions:** 1/ New technologies should favour sustainable development and ecological production; 2/ Quality of food means that it should be GMO-free;

3/ Computer programs help to provide farmers with newest agricultural trends (energy efficiency, development of renewable energy sources, new methods of farm management); 4/ Internet facilities help in the development of local rural communities;

**g. Ecological conditions:** 1/ Biodiversity is connected to sustainable agricultural and food security; 2/ Climate change will have an impact on agriculture in the EU and in the rest of the world leading to necessity to produce more food with smaller use of land;

As a result of research we noted that natural conditions will consider to be beneficial to production of high quality varieties of wheat. These natural conditions were, in farmers' opinion, a great starting point for constructing policies that should benefit such production.

Farm structure and related issues constituted the main theme of debate among the workshop participants. Attention was given to the large percentage of small farms, those below the regional average of 18 ha. The position of such farms was rather unfavourable when compared to the position of middlemen and processors, as they did not have the power to individually negotiate prices for their products. According to workshop participants, a good solution for small farmers would be starting and/or joining a producer group. Such efforts should be made despite previous negative experience. This is the only way for small farmers to get good prices for their products.

During the workshop discussion, the interested parties addressed the issues surrounding farmers' perception of being cheated while selling their products to grain elevator. In farmers' opinion this stemmed from detailed requirements that grains delivered by producers had to meet. They related to moisture levels of grains, protein content, sedimentation, density, and others characteristics. In the above mentioned regulations, gluten level was not addressed, even though this issue had often been brought up by grain elevators. Individual farmers, especially the owners of small farms, were powerless over this situation. They highlighted the necessity to standardise wheat grain parameters in the entire Union, so farmers would know which varieties to cultivate and how to do it properly. During the workshop the participants also addressed the lack of regulations on specific – as described by farmers – elite and niche varieties of wheat that would provide a raw material to make pasta, cakes etc. There were calls to organize a whole production chain, stating that information on soil quality needed for this type of production – information that farmers in Opolskie Province were already receiving - was quite insufficient.

The farmers participating in the workshop appreciated the producer group operating in the region, whose members were producers and processors alike. Nevertheless, they brought up the problems of financial regulations as being unfavourable to producers. Operating within a producer group was treated as a regular economic activity. Within this context, the interviewed producers would probably prefer to be treated in a more privileged manner, like typical farmers. They also expressed very sceptical opinions relating to the contract system stressing that they included various requirements that put constraints on producers' activities but did not ensure certain product price. Direct producers, namely farmers, had to take care of this problem by dividing the sales of their products between two or three instalments according to the best price. They could not compete with the largest farms (like TOP FARMS, for example) that were able to come up with large quantities of homogenous material (wheat grains). Farmers felt dominated here by the purchasers of their product and the prices they offered.

The workshop participants pinpointed that various types of wheat-producing farms existed in the region. In their opinions family farms should be defined as agricultural units sized 100 ha or more. The presence of small, traditional farms sized 5 – 10 ha did not make any sense to them. In Poland, the establishment of large 100-ha farms would be rather difficult because of farm tradition, socio-economic conditions and a certain mindset. Additionally, people with small farms were known to combine farming with other work, which allowed them to keep the farm. At the same time respondents expressed opinions that farms sized 300 ha or more resembled corporations much more than farms. Some respondents agreed that such large farms, to some extent, would constitute an important element of Polish agriculture in the future. They were sceptical about the future of producer groups and cooperatives because of the strong, individualistic approach among farmers, which caused older farmers to prefer to sell their own land. The remedy for this was seen in a potential consolidation of small farms and enforcing adequate care and stewardship of the land where cultivating wheat could be possible, as such areas in Poland were rather rare.

## **6.The future: Ukrainian competitors and beyond**

### **Some general remarks (some kinds of policy recommendations)**

- Introduction of the policy focused on strengthening of diversified production in farms since specialisation of production and “monoculture” might result in economic risk and the destruction of natural environment.
- Strengthening the role of credit unions that seem to be more sensitive and flexible in responding to producers' requests quite contrary to commercial banks.
- Strengthening the role of producers when confronted with purchasers and processors through the strengthening of local apple processing and more intensive cooperation among individual producers.
- Policy focused on reduction of prices and harmonization of quality of means of production among EU countries.

- Introduction of the policy focused on an independent (from purchasers or processors) evaluation of the product quality.

### **Some specific remarks about Ukrainian competitors**

- Young wheat producers painted the future of the system of wheat production in the region and in the entire country. In the regional context farmers did not expect any significant changes in the foreseeable future, mainly because of lack of land that could be cultivated. They also reported lack of prospects to expand smaller farms. On the country level they entertained the possibility of replacing wheat production with rapeseed production, which, according to farmers, was becoming more profitable. This idea was connected with farmers' serious concerns over imports of wheat from Ukraine or the Czech Republic, where GM crops were allowed, which could destabilize the wheat market in Poland. There were also noticeable fears related to climate change and the effects of signing the CEFTA agreement with Canada, which – according to surveyed farmers – could result in Europe being flooded with cheap Canadian wheat.
- The wheat producers felt threatened by the import of grains to Poland from some EU countries, such as the Czech Republic, and from outside the European Union (e.g. Ukraine). They claimed that policymakers viewed the market from the narrow perspective of product price thus resulting in the import cheap grains from Ukraine. The farmers did not address the fact that grains (mostly wheat) from Poland were exported to other countries and that in some ways farmers could benefit from such exports.
- Agricultural policy and related matters played significant roles in the discussions. Farmers indicated that due to longer lifespan, it was increasingly possible that farmers could pass their farms on to their grandchildren instead of their children. Farmers also asserted that in the Opolskie Province, due to the lack of available agricultural land for sale, current regulations in force in Poland and related to land turnover for cultivation did not influence the activities of wheat producers in the region. The farmers emphasized that it was necessary to increase the export of wheat from Poland because the country had a significant surplus caused by grain imports from Czech Republic and Ukraine. The producers paid a lot of attention to the issue of levelling out the subsidies for Polish farmers with those available to farmers in Western Europe. It was stated that limiting cultivation of wheat would be desired and a smaller quantity of high-quality wheat could be produced. There were also calls for the introduction of a stable wheat price in a timeframe of at least 10 years. More radical statements alluded to conducting Poland's own agricultural policy for wheat production, without the need to consider the interests of other UE wheat-producing countries. These opinions were followed by claims that national agricultural policy could only be possible after Poland's exit from the European Union. Some respondents suggested the introduction of a minimal wheat price while others preferred to focus on Polish comparative advantages, which could lead to gaining new markets. In this context the issue of

cheap wheat imports from Ukraine and Canada were addressed again, but this time in reference to GMO threats. The respondents thought that the relatively low affluence level of Polish society made consumers more concerned about the price of the product rather than its quality, which made them more agreeable to accepting genetically modified products.

- Wheat producers perceived import of grains to Poland as their biggest threat. They felt threatened by the imports from the EU countries such as Czech Republic as well as the imports from outside the EU, namely from Ukraine.
- The farmers mostly do receive support from the producer groups they belong to, as the president of such groups is looking out for the best prices for wheat and exploring the possibilities for gaining potential contracts for them. This is the only active way to search for new markets because the production scale of most grain producers is rather small. The surveyed producers appeared to have a subordinate position in relation to the buyers of their products, who often questioned the grain's quality. The farmers in the focus group were not particularly interested in certified agricultural production. The wheat producers felt threatened by the import of grains to Poland from some EU countries, such as the Czech Republic, and from outside the European Union (e.g. Ukraine).
- Farmers provided the example of the Czech Republic, which borders the Opolskie region and where the system of wheat production resembles a closed circuit. The advantage of the Czech system could be seen in the dominance of a small number of very large farms, which resulted in a large supply of homogenous product. In that sense Czech production could pose a threat to Polish producers, who were more diverse and quite dispersed. A similar threat could be attributed to Ukrainian wheat production, but for a different reason. The price of wheat was the main issue, as it was significantly lower in Ukraine than in Poland.

## **1.Introduction**

### **1.1Agriculture in Poland**

Poland is considered to be a comparatively medium-sized country. Its total area is 312 700 km<sup>2</sup>. With a population of 38.5 million, the country occupies 6th place in the EU-28, both in terms of population and area. It is worth noting that Poland has the highest agricultural population in the EU-28 and in terms of the total number of agricultural farms it holds second position after Romania. Poland is a rather unique country within the context of the currently conducted SUFISA project that focuses on agriculture and rural areas. There are also other arguments that can support this thesis. In Poland, the



percentage of people working in agriculture, hunting, forestry and fishing industry is 2.5 times larger than the percentage of people employed in these sectors in the EU-28 overall.

In recent years a growing rural population could be observed in Poland. The number of people in Poland in 2014 was 38.5 million people, of which 23.2 million people lived in cities and metropolitan areas and 15.3 million people lived in rural areas. In the years 2005-2014 the number of rural people increased by over half a million (529 000) but negative population growth in the cities meant that the overall population growth for the entire country during the analyzed period was no more than 323 000 people.

Territory-wise, Poland is divided into 16 provinces, 314 counties, 66 city counties and 2479 municipalities. Auxiliary units in municipalities include i.a village councils in number of 40 617 000.

### Territorial Division Units in Poland



Source: “Agriculture and food economy in Poland” Ministry of Agriculture and Rural Development, Warszawa, 2015, p. 11.

Polish agriculture is characterized by great fragmentation. However, the average farm size has been increasing in recent years, and reached 10.3 ha in 2014. The dynamics of these changes should be noted. In 2002 the average farm size was 5.8 ha, which indicates a growth of 77% in 12 years. Still, more than half of agricultural farms (51%) in Poland operate on no more than 5 ha of utilized agricultural land, with farms of this size comprising 12.7% of total utilized agricultural areas in Poland. The farms utilizing less than 10 ha of arable land make up 75% of all farms and their total area comprises 27.7% of the utilized agricultural area in Poland. Such a farm structure is the result of farming traditions and patterns of agricultural land ownership in Poland. Referring to this farm structure it should be noted that farms up to 10 ha are characterized by traditional agricultural production with low mineral fertilization and use of agricultural chemicals. Farms of the size between 10 and 30 ha comprise 31% of utilized agricultural areas in Poland, and the largest farms (over 30 ha



of utilized agricultural area) make up 5.2% of all farms. These farms comprise 41.3% of utilized agricultural land.

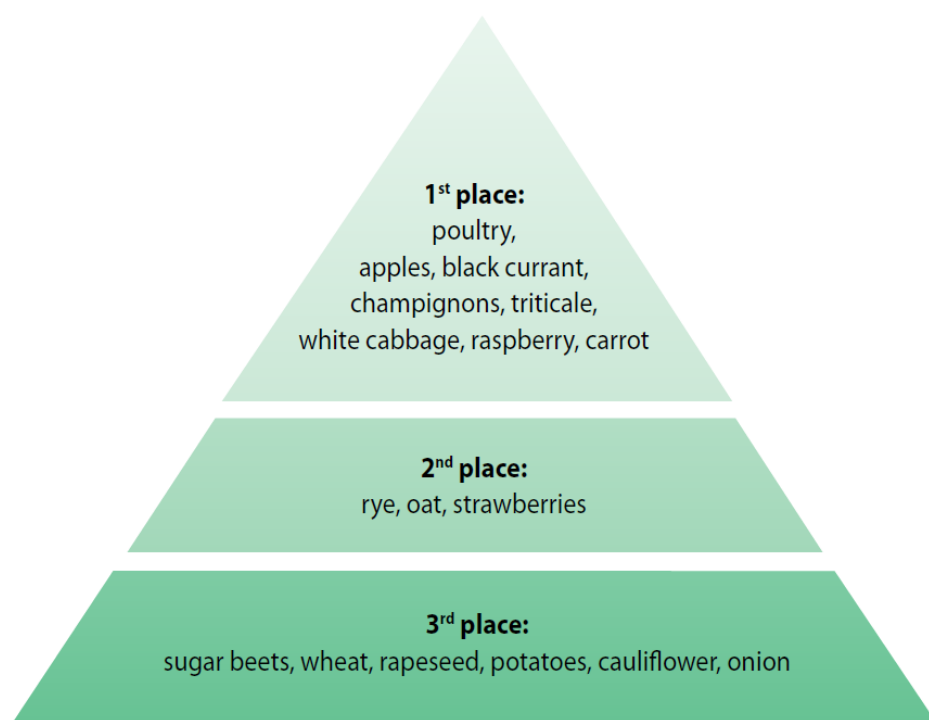
#### Average farm size in Poland



Source: Authors' own study based on the data from: "Agriculture and food economy in Poland" Ministry of Agriculture and Rural Development, Warszawa, 2015.

Despite its unfavourable agrarian structure, Poland plays a significant role in the production of crops, garden vegetables, and products of animal origin, both in Europe and worldwide. One of the most notable factors contributing to this is undoubtedly its easy access to an agricultural labour force. Within the structure of commodity production in 2014 the share of commodities was as follows: cow milk (18.6%), pork (13.9%), poultry (13.5%), cereal (13.3%), vegetables (9.1%), industrial plants (7.3%), beef and veal (6.3%), hen eggs (5.7%) and fruit (5.1%).

## Polish agriculture in the EU – 28 in 2014



*Source: prepared on the basis of Eurostat data.*

Source: “Agriculture and food economy in Poland” Ministry of Agriculture and Rural Development, Warszawa, 2015, p. 14. <https://bip.minrol.gov.pl/Opracowania-ekspertyzy-publikacje/ROLNICTWO-I-GOSPODARKA-ZYWNOSCIOWA-W-POLSCE2>

As noted earlier, regional traditions have a substantial influence on production specialization. Besides soil and climate conditions they are the most important factor contributing to Poland’s diversity in terms of crops. In central, northern and eastern Poland agriculture production mostly focuses on rye, cereal mixes and corn. There are also many green areas there. Plants that require better soil and climate conditions are cultivated mostly in south-eastern and western Poland.

Data on the number of farms in particular years confirm the tendency for changes in Polish agriculture observed in recent years, especially after the accession to the European Union. Comparing the newest data with those collected for the Agricultural Census in 2002 the changes relate to:

- Reduction in the number of farms combined with a parallel increase in their size;
- Significant changes in the structure of agricultural farms, with a 49.4% drop in the number of the smallest farms (1-2 ha), a 27.4% drop in the number of farms in the group 2-10 ha, a 19.4% drop in the group of farms sized 10-15 ha, and a 10.2% drop in farms sized 15 – 30 ha. These changes are accompanied by a significant increase of 25,1% in the number of farms sized 30-50 ha, and a 66,8% increase in the number of farms of 50 ha and more;
- Slow but steady dissemination of the functional farm model, particularly in the group of small farms, which take up non-agricultural activities and partially or entirely resign agricultural activity;
- Reduction in overall arable land that could be utilized due to conversion of agricultural areas to serve non-agricultural purposes such as infrastructure. The total area of utilized agricultural land in Poland has decreased from 16.9 million hectares to 14.6 million hectares.

- Small reduction of cultivated areas with parallel changes in the structure of cultivated crops – a drop in the areas of rye, barley, and oats cultivation and an increase in areas where triticale, corn for grains, potatoes, and sugar beets are cultivated. There is also an increase in areas of canola and fodder plants cultivation;
- Increase of total cattle stock with smaller herds which are more efficient. This tendency is connected with an increasing interest in cattle production intended for slaughter after Poland's accession to the European Union and an increase in the profitability of production;
- Improvement in agricultural farm equipment in production means, which confirms the process of agricultural modernization after the access to the European Union;

This overview of Polish agriculture was prepared based upon publications from the Ministry of Agriculture and Rural Development ( [www.minrol.gov.pl](http://www.minrol.gov.pl) ).

## 2. Media Content Analysis

In preparation for media analysis, the Polish team followed the suggestions received from Pisa University with some additional premises. We started by dividing the sources as recommended in the instructions. We selected four types of media to analyse articles, editorials, and other types of written materials they contain. Firstly, there were articles in academic and scientific periodicals. Secondly, there were daily and weekly papers, as well as the sites and blogs related to them. Thirdly, we also took into consideration specialist journals and periodicals as well as websites and blogs of this kind. Finally, we also recognized the importance of publications released by institutions that either belong to state structures or to the so-called third sector, which encompasses non-government organizations. We decided to analyse the content of the appropriate Internet portals. It is worth stressing that in each of the four cases mentioned above, we used somewhat different criteria while selecting the respective sources of information. Based on what participants in the SUFISA agreed upon during the meetings in Leuven and Paris, we decided to analyze the media content over the last five years.

### Summary of media analysis sample

Source type	Number of articles analysed	% of the entire sample
Specialised magazines / websites / blogs	70	24
Generalist newspapers / magazines/ websites / blogs	104	35
Government, NGO, farmers' organisations	89	30
Scientific articles	31	11
<b>Total</b>	<b>294</b>	<b>100</b>

### 2.1 Regulatory and policy conditions

This theme is tightly connected with direct subsidies which support farmers' incomes in order to stabilize them regardless of price and market fluctuations. The problem of farmers in Poland receiving lower subsidies than their counterparts in "the old EU" is also present in the discourse. The groups that are particularly sensitive to the issue of subsidies are young farmers and the owners/operators of small farms. It is often emphasized that the Union is the game of interests. Direct subsidies contribute to growing incomes in Polish rural areas. Similarly to other instruments of Common Agricultural Policy direct subsidies can foster environmentally friendly attitudes, behaviour and activities. However, it can also be said that the EU funds preserve in some ways the traditional character of agriculture and agrarian structure in Poland.

The media analysis of issues pertinent to agri-environmental policy concentrates on food security and concrete agri-environmental regulations as well as related elements of Common Agricultural Policy. The term 'food security' is not precise and its ambiguity is often referred to. There are attempts to create a multidimensional definition of 'food security' taking into consideration food availability, food accessibility, food utilization, and food stability. In the discourse on food security two approaches seem to be prevailing. The first of them emphasizes production and deals with quantitative growth of food production. The second approach focuses on environment and advocates following the principles of sustainable agricultural practices, protecting productivity and quality of the soil, clean water and biodiversity. The first approach promotes the idea of unrestrained markets, free trade and the second one is associated with various limitations and protectionist politicians. There are numerous contradictions between food security and food safety. Globalization processes cause that production

from the countries with low production costs may be threatening the viability of the EU farmers. They must stand for quality of their products. Here, agricultural advising and extension make important elements of activities of food security understood as suitable and reliable system. Within this context, the statements on Common Agricultural Policy often refer to the necessity of maintaining balance between instruments that aim to stabilize agricultural incomes, new instruments helping farmers with various mechanisms that enhance unrestrained competition (e.g. development of infrastructure, risk management in agriculture). In Poland, there are calls for supporting semi-subsistent farms out of necessity, as they make the majority of total number of agricultural farms.

Legal regulations pertaining to agriculture, food and labour make another important aspect of media analysis. The obstacles of cooperation with rural entrepreneurs are discussed. They are: lack of legal regulations on public-private partnership, limited communication and limited availability of information, lack of sufficient knowledge about the activities of institutions surrounding business, lack of specific offer for rural entrepreneurs or entrepreneurs with 'traditional mentality'. It is also stressed that the quality of the law made in Poland has not improved even after joining the European Union. The role of state legal regulations is emphasized especially in environmental protection, regulations pertinent to renewable sources of energy. Lack of appropriate legal regulations for small producers of deli meats, cheeses, liquor beverages are brought up. Administrative bureaucracy and fiscalism are also seen in a negative light. The laws dealing with the Agricultural Property Agency focus on maximizing current budget revenues and make consistent and effective policy of shaping agricultural regime quite difficult. The law does not protect suppliers who have to confront big international retail chains. A variety of organizational and legal forms of agricultural activities is needed. It is even mentioned that legal loopholes, contradictory and inconsistent laws and regulations make cider production quite difficult.

Another theme deals with external regulations regarding the costs of agriculture. The role of taxes and fees is highlighted as they are seen as important factors regulating functioning of agriculture and protection of natural resources. The media point out to the need for a discussion to introduce income taxes in agriculture and rural areas that are similar to those paid by people of other professions, namely personal income taxes. There are arguments for implementation of sanitary regulations to make unrestrained sales of raw and processed food directly by farmer and from the farm. There is also a need for simplifying laws and regulations connected with animal health and welfare as well as veterinary inspections. There are calls for tightening of the regulations that would eliminate products that are like „ecological”, although not actually produced with ecological methods. There is also an issue of export subsidies that lead to large food surpluses in the EU and at the same time can be perceived as contradicting the principles of the free market.

Another area of interest within the discussed subject of regulations and policy are regulations on sanitary standards and global trade principles. The first ones mostly deal with functioning of veterinary and sanitary services. In reference to principles of global trade there are matters of customs fees, protectionism and globalization and foreign markets. Moreover, some other issues are analyzed as an introduction or lowering of customs fees, which are often politically motivated. Here. Russian embargo on the EU food products in reaction for sanctions of the European Union may be a good example. There are discussions about the need to smooth out the effects of applying the instruments that interfere with global food trade. In the EU case it is argued that protectionist instruments (payments connected with production, export subsidies, etc.) should be phased out as they contribute to the lack of stability on international markets. There are discussions on productivity of Polish agriculture. It is described as relatively low and therefore producers' position on the global market may be weak.

## 2.2 General conditions

The discussion on the costs of chemicals used in agriculture points out the need to use herbicides to fight weed, which in time may increase due to climate changes. Use of chemicals often goes hand in hand with the use of biological agents for plant protection. For that reason, the courses for farmers and agricultural advisers on the use of microorganisms in agriculture become quite important. Within this context the climate changes and degradation of natural environment are seen as main challenges. Use of pesticides increases the risks for natural environment and while it eliminates some of existing threats it also creates new ones. Use of biotechnology in agriculture and introduction of GMOs in particular, cause numerous controversies. Production of energy crops (bio-fuels) is discussed here as it may have negative consequences for biodiversity, soil depletion and environmental pollution. Costs of chemicals and herbicides necessary for such production are also meaningful for farmers. The use of larger machinery is thought to reduce the number of rides through the fields and lower the costs of agricultural operations as less fuel is needed.

Labour force issues make another important subject of media analysis. The role of migration of rural residents and the possibility of hiring migrants in agriculture are the key issues discussed here. The issue of immigrants appears in Polish media often in reference to fears related to buying out of agricultural land by foreigners, which can be threatening to Poland's food security. Analyses of labour market indicate relatively high number of redundant workforce in agriculture. Growing costs of labour force are also analysed. Poland's position as food and agriculture powerhouse depends mostly on low price of agricultural labour and agricultural production. Large multinational corporations invested a lot in Poland for these very reasons.

Services are also enlisted among general conditions. Within this context the role of cooperative banks is highlighted. Farmers expect professional services from the centers of agricultural advising. The level of cooperation with farmers and other institutions such as Polish Agency of Enterprise Development, local centers of entrepreneurship and similar entities is rather low. It is noted that agricultural farm should go above and beyond agricultural production and offer additional services such as agricultural tourism, environmental services, etc. Development of rural entrepreneurship depends on agricultural services and agricultural advising in particular. Farmers' improving their ability to acquire information and expansion of information systems connecting farmers with consumers could be beneficial for rural development.

### 2.2.1 Demand conditions

The first area of interest covers issues pertinent to non-agricultural activities taking place in rural areas including agro-tourism and other forms of diversification of income of rural people. This shows a demand for agricultural farms to be able to respond to the need for non-standard production of agricultural commodities. As far as agro-tourism is concerned recreational function and the services provided for tourists prove to be good solutions for places, where agricultural production is limited by certain environmental conditions. Within this context the emphasis on ecological production is quite noticeable. Diversification of farmers' income connects with non-agricultural economic activities, local development and creation of new workplaces in rural areas. This calls for the involvement of agricultural extension and advising. Functioning of agricultural farms is based on changeable factors, which include demographic characteristics of farmer's family, farm size and financial support received by the farms (such as direct subsidies). Diversification of agricultural production and propensity for taking up additional non-agricultural economic activity is also important for multifunctional development of rural areas. Such process of development is more likely to occur on local scale and it depends on local conditions, which affect its trajectory. LEADER-type programs play a rather strong role here. Worth noting are various training courses for farmers that teach them flexibility and prepare

them to react to changeable situation. Promotion of renewable energy resources may be helpful here but unfortunately, in Poland, it steers in the direction that is not beneficial to consumers' interests and makes the production of energy crops dependent on large corporations. While discussing rural fusion of agricultural and non-agricultural economic activities direct marketing of food products receives a lot of attention. However, there are noticeable problems with overcoming resistance to sanitary and veterinary inspections. Non-agricultural economic activities are treated as playing important for ensuring farms' financial security. There is a need for broader policy towards rural areas, not just agricultural policy. Monoculture farming is not very resilient in crisis situations. Within this context, a larger number of business entities operating in rural areas is needed, as well as stronger presence of knowledge and capital, because the simple reserves of entrepreneurial development has been exhausted in rural areas. There is also a great need to channel the excess of labour force existing in rural areas to non-agricultural types of business.

Another area of interests which is renewable energy has a lot of in common with sustainable agricultural development as expressed in the Code of Good Agricultural Practices. It is pointed out that inadequate legal solutions do not encourage farmers to use surplus areas for biomass production. The issues of renewable energy and processing should map out new directions of agricultural advising. Advisory and extension services must respond to changing food habits in contemporary societies. Controversies connected with the production of biofuels should not be omitted here. It turns out that some manners of biofuels production are not only costly but also highly questionable. Furthermore, the production of biofuels fosters development of industrial agriculture, which is harmful to the environment. Ecological organizations are known to criticize various aspects of biofuel production. On the other hand, support for energetic policy based on renewable sources may bring reduction of energy expenses in agricultural regions.

The above issues relate to the matters of food markets and food demands patterns and principles. It is often stressed that the surplus of supply over demand mostly affects farmers' incomes. Seasonal character of agricultural production has unfavourable consequences for farmers' incomes. The media also point out lack of political solutions in crisis situation such as incoming genetically modified foods from the United States. Furthermore, as the society becomes more affluent, the demand for ecological food tends to increase. In the media discourse there are calls for making agricultural subsidies conditional on the quality evaluation of food products supplied by farmers. Therefore, the competition for the access to agricultural areas may become a serious problem of the near future. Interventional buying and storing of food surpluses are two factors that ensure smooth and uninterrupted flow of agricultural products delivered to the market. The media coverage of issues connected with biomass production points out to intervention activities in the form of legal regulations conducted by the European Commission in the area of energy and climate change. It is often emphasized that increasing interest of farmers in setting up plantations for energy purposes strongly correlates with a significant drop in profitability of typical agricultural production. In the media discussion it is noted that changing patterns of food consumption can affect the situation of producers. Therefore speculations need to be prevented as they may interrupt the flow of products to the market. Food security should be ensured through prices regulation and support for agricultural producers.

Issues pertinent to price level and its changeability also receive attention. The price of agricultural land is included in the discourse. People who do not conduct agricultural production often treat agricultural land as capital investment. The media allude to the need to improve farmers' bargaining position (perhaps through producer teams/groups) in order to negotiate more favourable relations between prices of agricultural products and the prices of means of production needed in agriculture. Prices can be influenced by lack of trust between farmers and processing plants (weak vertical integration). These issues are particularly important in the era of dominance of transnational supermarket chains. The



surplus of agricultural products over the demand for them has rather negative influence on prices received by farmers.

### *2.2.2 Finance and risk management conditions*

The matters pertaining to credits and loans proved to be the most extensively discussed in various sources of media analysis. Credit interest rates are said to play important role in shaping prices of food products as they are significantly higher than prices of agricultural raw products. Starting in 2008 farmers' inclinations for taking farm loans and credits dropped by 10 percent points. The problem of farm debts and loan taking differ depending on orientation of production. Within this context there is an increased risk of sudden financial crises connected with globalization processes. Securing appropriate loan and credit conditions for agricultural farms should be among key issues of financial policy in agriculture. Credits can be evaluated based on the following factors: level of subsidizing farm credit, quality and stability of farmers' credit collaterals, quantity, competition and complexity of operations conducted by creditors/lenders. One of the most important parameter helping with the process of monitoring credit activities is the value of agricultural land. The necessity of conducting regular accounting on agricultural farms is discussed. For young farmers and those who are willing to invest in agriculture preferential credits, based on subvention from the Agency for Restructuring and Modernization of Agricultural are highly desired. Within the context of political changes in Poland there is a new issue of persuading farmers to take loans and credits (especially working credits) with the subsidies from the European Union in mind. Credits are crucial for farmers, who experienced losses as results of natural disasters such as droughts. The obstacles to taking loans include: bureaucratic and complicated procedures, high prerequisites to fulfill, high financial costs, necessity to invest farmers' own finances, weak information on financing. Financing by producers of agricultural machinery is also discussed but its conditions are thought to be quite complicated. It is also mentioned that for farmers from the West the land in Poland is relatively cheap. Lack of market stability may be originating in political decisions such as Russian embargo for Polish agricultural products. Interest rates are key elements of credits. There is a special group of financial products for agriculture „Agrolinia”.

Finances are another area of interest in media analysis. It is mentioned that recession (financial crisis) makes use of internal local resources necessary for multifunctional rural development. It is emphasized that market-oriented agriculture needs to have regular access to credits and loans. Other financial instruments are also discussed, especially in terms of implementation of Common Agricultural Policy mechanisms. The European Commission implements „innovative financial instruments” in order to increase the access of various business entities to various sources and forms of financing.

Another financial matter that is extensively discussed in the media relates to banks acting as agents in the lending process. The role of globalization, which increases financial fragility and susceptibility for crises, is seen as detrimental. There are calls for making tighter links between financial policy and widely understood agricultural policy. Monitoring the trade of agricultural land is also seen as important.

Financial risk is another important factor analyzed in the media. Price risks for agricultural producers (especially cereals) are higher than risks faced by processors. Another element of risk is so called prospective model of financing of agricultural activity, which means using of external sources of financing. Financial oversight and prevention of excessive bank concentration are also quite important. Globalization contributes to increasing financial risks as farmers are unable to comply on time with financial commitments and payments. There are also problems of currency incongruity, emergence of

speculative bubbles on agricultural market and even more specifically on food market. Risk can be reduced through production contracts among other things.

The risks tie with price speculations and insurance. Development of financial sector and introduction of numerous new price instruments increase possibilities of speculation. Various projects are being discussed including establishing of the Fund of Mutual Assistance in Stabilizing Farmers' Incomes based on farmers' dues and collections. Larger number of insured farmers would lower financial risks.

### *2.2.3 Socio-institutional conditions*

Four main facets were identified within socio-institutional realm. The first one deals with efficiency of administration. It is presented as one of the most crucial external factors determining rural entrepreneurship and farmers activities. It is argued that administrative efficiency should be marked by clarity and simplicity of legal regulations pertinent to economic activity. Another important issue here is the protection and enhancement of production potential of agriculture. The state should actively alleviate the consequences of Russian embargo and transfer the land at the disposal of Agricultural Property Agency to family farms. The third important motif analyzed in the media relates to social capital. The first issue distinguished here is educational capital, often mentioned in reference to improving farmers' professional qualifications. Specialized training courses understood as potential stimuli for farmers to take up economic activity are available. Unfortunately, there is a group of people who do not see the need for this type of training. It is also noted that rural entrepreneurs need professional and expert advisors to assuage their fears related to the risk of taking up economic activity. Teagasc (Agriculture and Food Development Authority) provides both extension and advising services, which help farmers, get highest possible incomes and receive premiums within the framework of direct EU subsidies.

The remaining motives appearing within the realm of socio-institutional factors deal with controlling of negative phenomena such as corruption and crime. Controlling is extended to various factors related to production (verification of how the agricultural land is used, costs and other financial issues, ways in which financial aid received by farmers is spent, ecological production, activities of agricultural chemistry stations, activities of food imports, GMO foods). The media also address the weakness of institutions of business surroundings (agriculture) and how it facilitates corruption, which consequently weakens the economic growth. Criminal aspects mostly concern foreigners buying land in Poland through „substitutes” and farmers providing inaccurate or false data about their agricultural production in order to receive subsidies.

### *2.2.4 Socio-demographic conditions*

The issues concerning poverty as part of the reflections on lifestyles underscore the contradictory process of increased affluence on the Polish countryside mostly through the funds obtained from the EU programs. Agricultural incomes are currently twice as high as they were before the accession to the European Union. In Poland, about 50% of farmers' revenues comes from various forms of EU subsidies and grants. This provides an incentive for young people in Poland to stay in rural areas. According to EUROSTAT, Poland has the largest number of young farmers (under the age of 40) among all EU countries. Furthermore, Polish countryside is improving in terms of having more waterworks, gas pipelines, and sewage treatment plants, as well as better quality roads. Villages have become attractive places to live, even for people who have no ties with agriculture, but still seek the possibility of an alternative lifestyle markedly different from what can be found in big cities. The process of aging of the farming population is noted in the discussion of socio-demographic factors that play a role in rural areas. The aging of farmers influences other issues concerning family farms, including the age structure and depopulation of rural areas.

GMOs are also featured in the media and they are often presented as a threat to the traditional model of farming based on family farms. Such presentations are often combined with the goal of having all Polish-origin meat products additionally certified as GMO-free products. Another issue often discussed within the context of family farms pertains to purchasing of agricultural land and the necessity for monitoring farm renting and processes of farm polarization. The growing importance of rural activities complementary to agriculture is noticeable. They mostly include agritourist services and other types of services for available in rural areas, as well as various forms of local craftsmanship, often of traditional character. Environmental and spatial functions of farms are highlighted within the principle of sustainable development. Another set of issues described by the media encompasses the matter of young farmers. Various programs that facilitate the professional start for young farmers are analysed. The increasing public support for this category of producers - including the financial benefits combined with tax exemptions and the waiving of certain fees and gaining the ability to exercise real influence on the functioning of the farm while the primary owner is still alive - is also featured in the media. It should be mentioned here that young farmers receive as much as one third of ownership share. There are also issues of popularization of farm rentals, facilitation of land purchases and information about the opportunities for young farmers to acquire grants and special premiums. It has been noted that the number of young people who take up farming is increasing in Poland.

The shift in consumption patterns is another socio-demographic factor discussed in the media. The change is connected with urbanization and rising income, which reduce the consumption of grains and lead to increased intake of meat, milk, fish, fruit, and vegetables. The European Food Declaration from 2010 is also addressed, as well as various grassroots initiatives for local food production and distribution. The rather low consumption of ecological food in Poland compared to the countries of Western Europe is also present in the media analysis.

#### *2.2.5 Technological conditions*

With farmers applying modern methods of work and modern technologies the role of agricultural advising becomes crucial. Agricultural advising and extension services make transfer of knowledge and innovation to agricultural farms possible. It is often stressed in the media that advisers should constantly work on updating their knowledge. Agricultural advising should be treated as smart investment, intellectual capital and a meaningful element in the business model. Introduction of technologies that would minimize the negative impact on natural environment is strongly advocated. These new technologies should favour sustainable development and ecological production.

The role of biotechnology as intensifying agricultural production was also quite important until recently. The issue of control over food production is the issue of real economic power. Therefore, biotechnological corporations are already in that race for power. There is a significant media attention given to the quality of food, which should be GMO free and produced according to principles of environmental protection and animal welfare. Significance of ecological food is juxtaposed to food produced with the use of genetically modified organisms. GMO products cannot be certified as ecological products. Consumers become more likely to buy local products. It is often highlighted that the United States allows for use of artificial hormones and antibiotics on animal farms. In the EU they were banned in the 1990s.

Use of high-tech in agriculture is another key point in the media discourse. It mostly relates to matters of precision farming. This type of farming is usually perceived as leading to reduction of chemicals used in agriculture and consequently as helpful to decreasing pollution of soil and ground-waters. There are arguments for appropriate computer programming that would help to develop the strategy for precision farming. Technological innovations are the effect of both knowledge and readiness for change, with that change being accepted as valuable. Farmers participating in the survey mostly

identified themselves with innovations in the realm of production of various goods and also with innovations of modern technologies. Impact of technologies on the environment should also be considered. It is well illustrated in the media that agricultural production as a production of living organisms is not only dependent on technologies. Labour-intensive technologies are worth consideration due to their environmental benefits. Traditional technologies of production are mentioned here. Additionally, in the media there are recommendations for building bio-gas plants. The subjects of windmill farms, solar power plants, the use of biomass and sustainable agriculture are also present. The role of European Innovation Partnership is often referred to.

The part of the discourse that deals with information and computer technologies stresses the communication opportunities and the possibility for conducting round the clock Internet sales. Consequently, the position of agricultural accounting becomes stronger and styles of farm management also improve. Conducting courses and training session for farmers becomes easier as the access to information on newest agricultural trends (energy efficiency, development of renewable energy sources, new methods of farm management) is readily available. Computer programs connected with the idea of precision farming become available. The questions whether it is possible to effectively manage the farm without appropriate computer programming appear in the media. It is noted that farmer's decision about purchasing new farm equipment such as tractor is often influenced by built-in computer accessories.

The media analysis of basic infrastructure points out that its availability is one of the crucial factors fostering development of villages. A rather important role is played by local governments. The role of infrastructure in the process of multifunctional rural development is not to be undermined. Collective forms of activities such as activities of producer groups may contribute to the development of infrastructure (e.g. storage facilities). Further improvement and development of waste utilization infrastructure is called for. Proper servicing of existing rural technical infrastructure is also important.

#### *2.2.6 Ecological conditions*

Biodiversity is often juxtaposed to intensive agricultural production and industrial production inputs (fertilizers, pesticides). Intensive agricultural production increases the yields from the farms. Decrease of productivity worsens these results. Intensive and high-yields agricultural production does not help biodiversity. Environmental function at this moment is connected with production function. Poland with its relatively low level of agricultural use of chemicals, large labour resources in rural areas and relatively clean natural environment as well as rather impressive biodiversity has favourable conditions for ecological production. There is a possibility for biomass production. Agricultural extension and advising should go into this direction. However, the emphasis on biofuels can lead to soil depletion and killing of biodiversity. The issue of biodiversity often comes up when the practice of 'greening' is discussed. It said to be helpful to diversification of crops, maintaining lasting green areas and ecological agricultural areas. Farmers should conduct 'greening' activities even if they do not tie with economic aspects of farm production. Another area of interest deals with diseases of agricultural plants and farm animals. Within this context the specifics of agricultural production as depending on accidents and sudden occurrences (diseases, epidemics and natural disasters) are often discussed. Environmental functions of agriculture are also noted in analyses on these very issues. Genetic engineering that favours plants and animals which are more resistant to pest, diseases and climate changes can be helpful to agricultural productivity. It is argued that it can also help to improve relations between agricultural farm and natural environment. There are expectations that biotechnology in agriculture can decrease the use of chemicals in agricultural production. Still, genetic engineering is met with lots fears related to health of consumers and stability of the ecosystem. There are calls for establishing a fund that would help to compensate losses experienced by farmers caused

by diseases and epidemics of plants and animals. The matters of food security and food safety are highlighted in the debate. Contemporary European diet can be directly linked to high numbers of various diseases such as: obesity, hypertension, diabetes, cardiac and circulations problems and some types of cancer. Solution to the problem of plant diseases elaborated in Poland is based on the method of using mixed cereal seeds. It is supposed to prevent the dangers related to farmer's using the same seeds for too many seasons as it can lead to degradation of seeds. Change of seeds is recommended every 3 to 4 years.

Extreme weather conditions and phenomena can be seen as another area of interest in the media analysis. In the analyzed materials the issues of weather anomalies, ecological disasters, as well as flood and draughts are present. Here, attention is given to production costs and the importance of insurance, which influence the total cost of agricultural production. Weather anomalies influence global market, which may bring negative consequences to agricultural production in Poland and prices received by farmers. Energy crisis and growing prices of energy as well as the need for reduction of greenhouse gases emissions may become the most serious obstacles making increase of agricultural production quite difficult. Furthermore, the impact of climate changes may exclude the possibility of adding large areas of land into agricultural areas. Climate changes may cause water shortages and draughts slowing down the growth of agricultural production. Therefore, agriculture in the European Union and in the entire world may be forced to provide more food with smaller use of land, water and energy. Agricultural diversity is quite important for food security as variety of plant and animal species lower the probability of being greatly affected by diseases and pests. Diffusion of innovation in agriculture connects with European Innovation Partnership established in the EU strategy "Europe 2020", and is meant to help with preventing unfavorable climate changes, depletion of fossil fuel resources, demographic trends, etc. Agriculture must adjust to climate changes but its environmental function should be seen as equal to its production function. There is a need for more precise classifying of unfavorable weather phenomena and severe weather conditions as well as natural disasters in order to start aid programs for farmers. Floods and draughts can negatively influence profitability of agricultural production. Global warming can lead to increased demand for water in various places in the world, including Poland. Water resources may become scarce and new diseases of agricultural plants and farm animals may come into being. In such conditions EU agriculture will be forced to produce more food with less use of land and water. The problem of pollution ties with these issues. The pollution is often caused by agricultural producers who lower their production costs and market mechanism is not helpful here. Therefore, there is a need for cooperation on international level to achieve positive results in fighting pollutions.

### 2.3 Frames/discourse analysis

Summarizing the main themes that we noted in the analysed media we distinguished two main concepts that are present in the subject literature. They are: frame analysis linked to the social movement theory and a more generally prevalent concept of discourse. For the purpose of the following work we treat these approaches as convergent, pointing to the ways in which various actors perceive, interpret reality and give meaning to its objects. As the classic study of Snow and Bedford (1988: 198) has it: "(...) they [social movements and their leaders – K.G.; P.N.; A.D.] frame, or assign meaning to and interpret relevant events and conditions in ways that are intended to mobilize potential adherents and constituents, to garner bystander support, and to demobilize antagonists". As Snow emphasizes in his most recent work: „(...) the framing perspective (...) focuses attention on the signifying work or meaning construction engaged in by social movement activists and participants and other parties (e.g. antagonists, elites, media, countermovements ) relevant to the interests of social movements and the challenges they mount" (2007: 384). The concept of discourse is not



unequivocally connected with social movements but it also applies to representations of existing reality, where various actors are present and active. Frouws understands discourse as “(...) an organized set of social representations. Depending on the „organizers” we can discern „lay” discourses, professional” discourses, „academic” discourses, and so on” (1998: 56). His concept is especially interesting to us as it relates to agriculture and rural areas. Using the variety of sources such as: texts, documents, reports, academic and popular publications, press reports, accounts of scientific congresses and public debates and other written sources produced by the various participants covering the matters pertaining to the future of countryside in the Netherlands the author distinguished three kinds of discourse: agriruralist discourse, the utilitarian discourse and the hedonist discourse (Frouws, 1998: 58 – 63).

The first of them concentrates on social dimension. Ruralism here is tied with agrarism, therefore farmers are perceived as „ (...) principal creators and carriers of the rural (...)” (Frouws, 1998: 59). There are references to forces of endogenous development, some interpretations of the role of the state and a general support for the idea of ecological modernization. The next one is the utilitarian discourse with the focus on economic dimension. The market is perceived as a primary regulator of the agrarian structure and rural space, while landscape and nature are treated as commodities. The role of the state is limited to mediation and arbitration between various actors. Finally, there is the hedonist discourse encompassing cultural dimension. Its base is a „naturalist tradition”. As Frouws (1998: 62) points out: “Spatial quality is one of the leading principles in this discourse”. Nature conservation and landscape aesthetics and similar issues are of particular significance. The state is perceived as a crucial element that steers, coordinates and facilitates rural development. Various networks and social governance also matter here but the presence of the state is very strong.

Other authors developed this concept a bit further within the perspective of sustainable development, particularly significant for the project we are involved in. They emphasize that each type of the three discourse mentioned above sanctions different approaches to sustainable development (Hermans, Horlings, Beers, Mommaas, 2010). For example, in the agriruralist discourse „(...) sustainability is directly linked to the family farm scale and, more specifically, to the continuity of the farm” (Hermans, Horlings, Beers, Mommaas, 2010: 54). The importance of long-term perspectives in rural development is stressed here and sustainability is treated as certain legitimization for social acceptance of agriculture. In the utilitarian discourse sustainability is discussed in the market context. The prices of products and their availability to consumers are seen as crucial. The consumers should in the first place decide what and how agricultural products should be produced. As these authors point out: “Sustainability opportunities are concentrated around a starter organization of production chains, either horizontally (a more eco-efficient integration of production chains) or vertically (a more eco-efficient organization of the life cycle of products)” (Hermans, Horlings, Beers, Mommaas, 2010: 56). The picture of sustainability in the hedonist discourse is broader and more diverse because networks of governance encompassing many various actors are quite important in this discourse. These actors, however, are viewed in complementary manner, influencing economic development not just in reference to agriculture but more broadly in rural areas, including tourism, landscape shaping and land stewardship as well as more extensive methods of farming, animal welfare and wellbeing.

Analysing the frame analysis and the concept of discourse we decided to focus on the latter for various reasons. First of all, we are aware that the concept of framing is closely tied with social movements. In the following work we do not reflect much on this perspective, giving our attention to an open discourse that takes place the media and deals with sustainable development. Additionally, taking a closer look at the discourse on sustainable development we study various sources including various types of media (see the part on methodology). Here, we deal not only with various social movements (organization consisting of farmers, food processors and distributors) but also with a whole spectrum



of other actors, presenting their message in the media. Therefore, as the analytical context we propose the discourse context and not just the frame analysis.

At the beginning, we reflect on regulatory and policy conditions. This theme is tightly connected with direct subsidies which support farmers' incomes in order to stabilize them regardless of price and market fluctuations. In this area of analysis the presence of agriruralist discourse is quite obvious. Some similarities can be seen in the theme of environmental protection, where significant role is given regulations stemming from Common Agricultural Policy. This message is supported by certain statements in the media, related to agri-environmental policy that stress the importance of regulations pertaining to various aspects of functioning of agriculture and rural areas. The need to maintain the functional existence of self-subsistent farms is also addressed. As expected the role of the state is strongly emphasized in reference to legal regulations. The role of state legal regulations is especially noted in environmental protection, and particularly in regulations on renewable sources of energy. Lack of appropriate legal regulations for small producers of deli meats, cheeses, liquor beverages are brought up. Administrative bureaucracy and fiscalism are also seen in a negative light. The laws dealing with the Agricultural Property Agency focus on maximizing current budget revenues and make consistent and effective policy of shaping agricultural regime quite difficult. Similar approach to functioning of agriculture can be found in the perspective referring to production costs. The role of taxes and fees is highlighted as they are seen as important factors regulating functioning of agriculture and protection of natural resources. The media point out to the need for a discussion on introduction of income taxes in agriculture and rural areas that are similar to those paid by people of other professions, namely personal income taxes. There is also an issue of export subsidies that lead to large food surpluses in the EU and at the same time can be perceived as contradicting the principles of the free market.

While encompassing rural areas development media point out that it should not be treated as exclusively dependent on the logic of the market. There are discussions about the need to smooth out the effects of applying the instruments that interfere with global food trade. In case of the EU protectionist instruments (payments connected with production, export subsidies, etc.) should be phased out as they contribute to the lack of stability on international markets. There are discussions on productivity of Polish agriculture. It is described as relatively low and therefore producers' position on the global market may be weak. So, again the magnitude of the role of the state in shaping regulations affecting the conditions of agricultural and rural development in Poland is sanctioned. Thus, the dominance of agriruralist discourse can be noted here.

In the media analysis of farm conditions two types of discourse can be seen next to each other. On one hand there is the agriruralist discourse addressing regulatory functions of the state and on the other – there is the utilitarian discourse, where market mechanisms play the most crucial role. In the first case reflections on soil classes and the use of chemicals and energy in agriculture can be found. In the part of media analysis that relates to soil classes and soil quality in particular it is pointed out that the main goal of sustainable agriculture should be preservation of production potential of the soil, as a key elements of natural environment. This is presented in the Code of Good Agricultural Practices that requires agricultural activities to be conducted with preservation of natural resources. In the second part of the analysis labour force issues and services offered to farmers are discussed. The market approach linked to the utilitarian discourse is quite obvious here. It is also noticeable that the labour force issues make another important subject of media analysis. The role of migration of rural residents is discussed here as well as the possibility of hiring migrants in agriculture. The issue of immigrants in Polish media appears mostly in reference to fears related to buying out of agricultural land by foreigners, which can be threatening to Poland's food security.

The analysis of demand conditions shows obvious domination of agriruralist discourse with clear references to sustainable development. The main area of interest covers issues pertinent to non-agricultural activities taking place in rural areas including agro-tourism and other forms of diversification of income of rural people. This shows a demand that agricultural farms should respond and involves non-standard production of agricultural commodities. As far as agro-tourism is concerned recreational function and the services provided for tourists prove to be good solutions for places, where agricultural production is limited by certain environmental requirements. Factors related to diversification of agricultural production and propensity for taking up additional non-agricultural economic activity is also important. This can lead to multifunctional development of rural areas. Such process is more likely to occur on local scale and depends on local conditions, which affect its trajectory. Another area of interests which is renewable energy has a lot of in common with sustainable agricultural development as expressed in the Code of Good Agricultural Practices. It is pointed out that inadequate legal solutions do not encourage farmers to use surplus areas for biomass production. Price level can be influenced by lack of trust between farmers and processing plants (weak vertical integration). These issues are particularly important in the era of dominance transnational supermarket chains. The surplus of agricultural products over the demand for them has rather negative influence on prices received by farmers. The consecutive reforms of Common Agricultural Policy have influenced changeability of prices and weakened the profitability of producers and processors.

In the part of media analysis that covers management of finances and financial risks again two types of discourse are intertwined, namely the utilitarian one as well as the agriruralist one. The former is mostly observed in reflections on the following issues: access to mortgages and credit, financial instruments as well as financial risks. The expressions of agriruralist discourse here include evaluation of commercial banks, clearly focused on their own profit, without much concern for the situation of farmers. The agriruralist discourse is noted in reflections on introduction of new financial instruments, limiting price speculations and insuring farmers' businesses. Financial risk is another important factor. Price risks for agricultural producers (especially cereals) are higher than risks faced by processors. Another element of risk is so called prospective model of financing of agricultural activity, which means using of external sources of financing. Financial oversight and prevention of excessive bank concentration are also quite important.

Among socio-institutional conditions, efficiency of administration appears to be important and it is often evaluated. The agriruralist discourse appears again here with its calls for clarity and simplicity of legal regulations pertinent to economic activity. It is often combined with opinions that the state should increase the protection of the land allotted for crop production. It seems crucial to regulate activities of megafarms engaged in intensive agriculture. The needs of professional advice (instead of neighbour advice) and extension services helpful to production decisions are expressed as well. Within the context of local conditions favourable rural infrastructure enabling multifunctional and sustainable rural development and the enhancement of social activism are advocated. The issues of farmers meeting consumers' needs for ecological products and local food brands are also highlighted. The next important motif analyzed in the media relates to social capital. The first issue distinguished here is educational capital, often mentioned in reference to improving farmers' professional qualifications. Specialized training courses understood as potential stimuli for farmers to take up economic activity are available. Unfortunately, there is a significant group of people who do not see the need for this type of training. It is also noted that rural entrepreneurs need professional and expert advisors to assess their fears related to the risk of taking up economic activity.

The agriruralist discourse seems rather crucial to discussion on socio-demographic conditions. In the foreground there is the issue of farmers' education and, more broadly, the education of the rural population. It should be mentioned here that the Polish language terms for "education" and

“completed education” or “degree” have somewhat different meanings than their direct English translations. Education is understood as the process of transferring knowledge, ideas and values to certain recipients. Completed education is understood as the effect of such a process. It allows individuals and certain groups to reach a certain level of knowledge, ideas, and values. These processes are tied with ecological conditions of production, the problems of poverty and aging of population employed in agriculture.

In the discussion on technological conditions the presence of utilitarian discourse is clearly marked and the discourse is coupled with some sustainability ideas. Agricultural advising and extension services make transfer of knowledge and innovation to agricultural farms possible. It is often stressed in the media that advisers should constantly work on updating their knowledge. Agricultural advising should be treated as a smart investment or a potential for intellectual capital and also as a meaningful element of the business model. Use of high-tech in agriculture is another key point in the media discourse. It mostly relates to matters of precision farming. This type of farming is usually perceived as leading to reduction of chemicals used in agriculture and consequently as helpful to decreasing pollution of soil and ground-waters. There are arguments for appropriate computer programming that would help to develop the strategy for precision farming. The part of the discourse that deals with information and computer technologies stresses the communication opportunities and the possibility for conducting round the clock Internet sales. It may contribute to strengthening the position of agricultural accounting and improving the styles of farm management. Conducting courses and training session for farmers becomes easier as the access to information on newest agricultural trends (energy efficiency, development of renewable energy sources, new methods of farm management) is readily available.

In the area environmental protection the dominance of the hedonist discourse is quite visible. It is also infused with some elements of sustainability. Environmental function at this moment is connected with production function. Poland with its relatively low level of agricultural use of chemicals, large labour resources in rural areas and relatively clean natural environment as well as rather impressive biodiversity has favourable conditions for ecological production. Environmental functions of agriculture are also noted in analyses on these very issues. Genetic engineering that favours plants and animals which are more resistant to pest, diseases and climate changes can be helpful to agricultural productivity. It is argued that it can also help to improve relations between agricultural farm and natural environment. There are expectations that biotechnology in agriculture can decrease the use of chemicals in agricultural production. Environmental functions of agriculture are also noted in analyses on these very issues. Agricultural diversity is quite important for food security as variety of plant and animal species lower the probability of being greatly affected by diseases and pests. Diffusion of innovation in agriculture connects with European Innovation Partnership established in the EU strategy “Europe 2020”, and is meant to help with preventing unfavourable climate changes, depletion of fossil fuel resources, demographic trends, etc. Agriculture must adjust to climate changes but its environmental function should be seen as equal to its production function.

#### Conditions influencing farmers` strategies (proposed and used in the SUFISA project)

<b>Conditions influencing farmers` strategies (proposed and used in the SUFISA)</b>	<b>Agri-ruralist discourse</b> ( <i>social dimension, crisis of family farming, ruralism combined with agrarism, farmers are principal creators,</i>	<b>Utilitarian discourse</b> ( <i>economic dimension, market relations, opportunities for investment, landscape and</i>	<b>Hedonist discourse</b> ( <i>cultural dimension, naturalist tradition, post-modern era, rural as the green delta, city garden, the role of the state as the coordinating agency,</i>	<b>Sustainability discourse</b> ( <i>continuity of the family farm, solving technical and social problems at the same time, leading role of the</i>
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<b>project)</b>	<i>revitalization of the countryside, endogenous development, dependence on local resources, ecological modernization)</i> from: Frouws (1998)	<i>nature as commodities, high productivity, multiple land use, limited state role, neoliberal ideas)</i> from: Frouws (1998)	<i>governance)</i> from: Frouws (1998)	<i>consumer, international perspective, tourism and recreation, landscape quality, institutionalisation with many agencies including state and NGO`s)</i> from: Hermans, Horlings, Beers, Mommaas (2010)
<b>Regulatory and policy conditions</b>	1/ EU subsidies, 2/ green growth; 3/ the need for state interventional help appears due to Russian embargo; 4/ the possibility for better risk diversification as an effect of financial globalization	1/Industrialization and intensification of production leading to the food security	1/ Establishing of an agency for matters pertinent to rural areas development would be beneficial to rural areas,	1/TTIP as a threat to ag. In Europe, Industrialization and intensification of production leading to the food security but to lower quality and less healthy food, 2/ negative consequences of intensive ag. may be originating in lack of appropriate legal regulations,
<b>Factor conditions</b>	1/ Negative role of excessive use of chemicals, 2/ Good opportunities for ecological agricultural production; 3/ Highest diversity of soil quality are more efficient for plant protection and general ag. Production than biological control agents;	-	-	-
<b>Demand conditions</b>	1/ production of biomass for energy may be a chance for development for many farms;	-	-	1/ Small production of traditional food products protects cultural heritage and may stimulate the development of agro-tourism; 2/ monoculture farming is not very resilient in crisis

				<p>situations; 3/ the role of state in the financial policies as well as strengthening consumers` positions in the food system; 4/ Food security should be ensured through prices regulations and support of ag. producers</p>
<b>Finance and risk conditions</b>	<p>1/ The sector of cooperative banks acts counter-cyclically, which means that supply of credits and loans is not reduced during economic slowdowns;</p>	<p>1/Farmers` problems are connected exactly with uncertain situation on ag markets; 2/ Banks are not charity institutions and they have to make money on every loan; 3/ market-oriented ag. needs to have regular access to credits and loans;</p>	-	<p>1/ Innovative financial instruments introduced by EC should lead to various sources and forms of financing ; 2/ Financial risk might be reduced through production contracts (regulations)</p>
<b>Socio-institutional conditions</b>	-	<p>1/ Only large farm owners are able to effectively compete with farmers of other EU countries;</p>	-	<p>1/ Administrative efficiency should be marked by clarity and simplicity of legal regulations pertinent to economic activity; 2/ Stimulation of structural changes in ag. is often perceived as the role for state and other types of public-private ownership; 3/ the role of state and other agencies to train farmers and provide them with cultural capital is needed; 4/ the role of state is needed in the area of corruption resulting</p>

				from some business activities
<b>Socio-demographic conditions</b>	1/ Business goals incorporate concern for environmental issues and bring redefinition of functioning of ag. farms; 2/ Slow and consistent emergence of specialized family farms due to aging of farm population;	1/ Education plays an important role in the development of entrepreneurship; 2/ Young farmers should be supported since they adapt technical novelties;	1/ Emerging new lifestyles result in the emerging of the importance of non-ag aspects of rural areas; 2/ Rather low consumption of ecological food in Poland	1/ the role of professional advisers and expert groups and LEADER-like programs are also quite important; 2/ the issues concerning poverty as part of the reflections on lifestyles underscore the contradictory process of increased affluence on the Polish countryside mostly though the funds obtained from the EU; 3/ Preference for local and regional products is usually part of the rebellion against mass culture and lifestyles presented in TV commercials...; 4/ anti-GMO attitudes due to rural activities complementary to ag. ; 5/ the need to develop cooperation practices among Polish farmers; 6/ The need for public support of young farmers
<b>Technological conditions</b>	1/ Precision farming is seen as leading to reduction of chemicals and as helpful to decreasing pollution of soil and ground-water	1/ The need of intensive farmers` training, 2/ Ag advising treated as an investment and meaningful element of the business model; 3/ Advisers should constantly work on updating their knowledge; 3/	-	1/ New technologies should favor sustainable development and ecological production; 2/ Quality of food means that it should be GMO-free; 3/ Computer programs help to provide



		New computer technologies enable round the clock Internet sales;		farmers with newest ag. trends (energy efficiency, development of renewable energy sources, new methods of farm management); 4/ Internet facilities help in the development of local rural communities
<b>Ecological conditions</b>	1/ Poland has favorable conditions for ecological production; 2/ Ag must adjust to climate changes but its environmental function should be seen as equal to its production function	1/ Intensive and high-yields ag. production does not help biodiversity	-	1/ Biodiversity is connected to sustainable ag. and food security;  2/ Climate change will for ag. in EU and in the rest of the world to produce more food with smaller use of land;

NOTE: The expressions in italic (in the first level) are the characteristics of particular discourses drawn from the literature. The statements in cells below the first level result from the media analysis presented in this report.

### 3. Case Study I: Wheat (Opolskie Region)

#### 3.1 Cereal production in Poland

Grain production is one of the most crucial branch of Polish agriculture. When it comes to total agricultural land utilized for grain production, Poland has a second place in the European Union but the volume of grain harvest gives the country the third place in Europe after France and Germany.

National grain production in 2014 was dominated by wheat, corn and triticale. Significant areas of utilized agricultural land were devoted to barley, rye and cereal mixes. The quantity of collected crops may vary from year to year, mostly due to changes in harvest volume and not so much because of the size of cultivated areas.

The area devoted to grain production in 2014 in Poland was 7.5 million ha, which was quite similar to the number of hectares allotted for grain production 2013. In 2014 grain harvest reached the record level of 31.9 million tons, which was 12.3% more than in 2013 and about 19.5% more than average harvest in the years 2006-2010. Such big increase was a result of better planning. The grain yields reached almost 4.2 t/ha, which is 12.3% more than in 2013 r. (for wheat it was almost 5 t/ha, for corn intended for grains – 6.6 t/ha, barley and triticale– 4 t/ha, rye – 3.2 t/ha).

For years, national demand for grains oscillated between 26-28 million tons. In the 2014/15 season the use of grains was 27.7 million tons as compared to 26.8 million tons in the previous season. In the structure of national use grazing uses 16-18 million tons on average. In the 2014/15 season the use of grains for animal feed rose by 1.2 million tons because of beef and poultry production surge. Industrial use of grains also increased while use of grains for consumption purposes decreased. Grain consumption has been declining for many years as people change their eating habits. In 2014 export played a significant role in national grain production and it amounted to 5.5 million tons (increase by 33.6%). The 89 % increase was noted in wheat export and 3.2 million tons were exported abroad. Such intense increase of wheat export compensated for the drop of export of other types of grains (rye, barley, oats and corn).

#### 3.2 Case study introduction

Opolskie voivodship (region) (NUT 2) has a size of less than 10 thousand square kilometers as well as the population reaching slightly more than one million dwellers. It has been an agricultural-industrial region with advantageous climate as well soil conditions. Concerning the administrative partition of the region we might point out eleven rural sub-regions as well as one city. In the city (the capital city of the region) one might observe significantly more than a hundred thousand inhabitants. The Opolskie region consists of seventy one local communes (NUT 4): three of them are of urban character, thirty one can be classified as urban-rural and the remaining thirty seven are purely rural. Rural areas make up more than 90% of the Opolskie region. However, rural communities seem to be quite large when compared to other rural localities in Poland. The average number of inhabitants in rural communities in Opolskie region is 525 persons, while the national average is 340. Opolskie region seems to be quite peculiar in that regard since every fifth village has more than 800 inhabitants. One should also stress that 47% of the inhabitants of Opolskie region live in rural areas but these areas appear to have more in common with urban areas than with rural areas of other parts of Poland. Rural areas of the Opolskie region are also known for the best spatial planning, landscape construction and aesthetics of rural houses and farmyards. Since 1997, the Opolskie region has been the leading area in

Poland in the Rural Renewal programme. This particular initiative is one of the most important as well as the longest regional programme in Poland concerning the activation of rural communities. Opolskie region has been perceived as one of the best areas in Poland for agricultural production. It is one of the warmest regions in Poland with slightly wavy landscape and significant number of lowlands and plains. The climate in the region is quite beneficial to agricultural production with warm summers, mild and a rather short winter, early spring as well as long and mild autumn. All these conditions seem to be quite friendly to the plant cultivation and production. The vegetative period starts early usually in late March and continues to early November and roughly amounts to 200 to 230 days in the year. Rainfalls take place in 160 to 180 days per year with multi-year level of 600-800 millimetres. Moreover, in the Opolskie region the majority (62%) of arable land is quite fertile, which also creates favourable environment for the development of agricultural production.

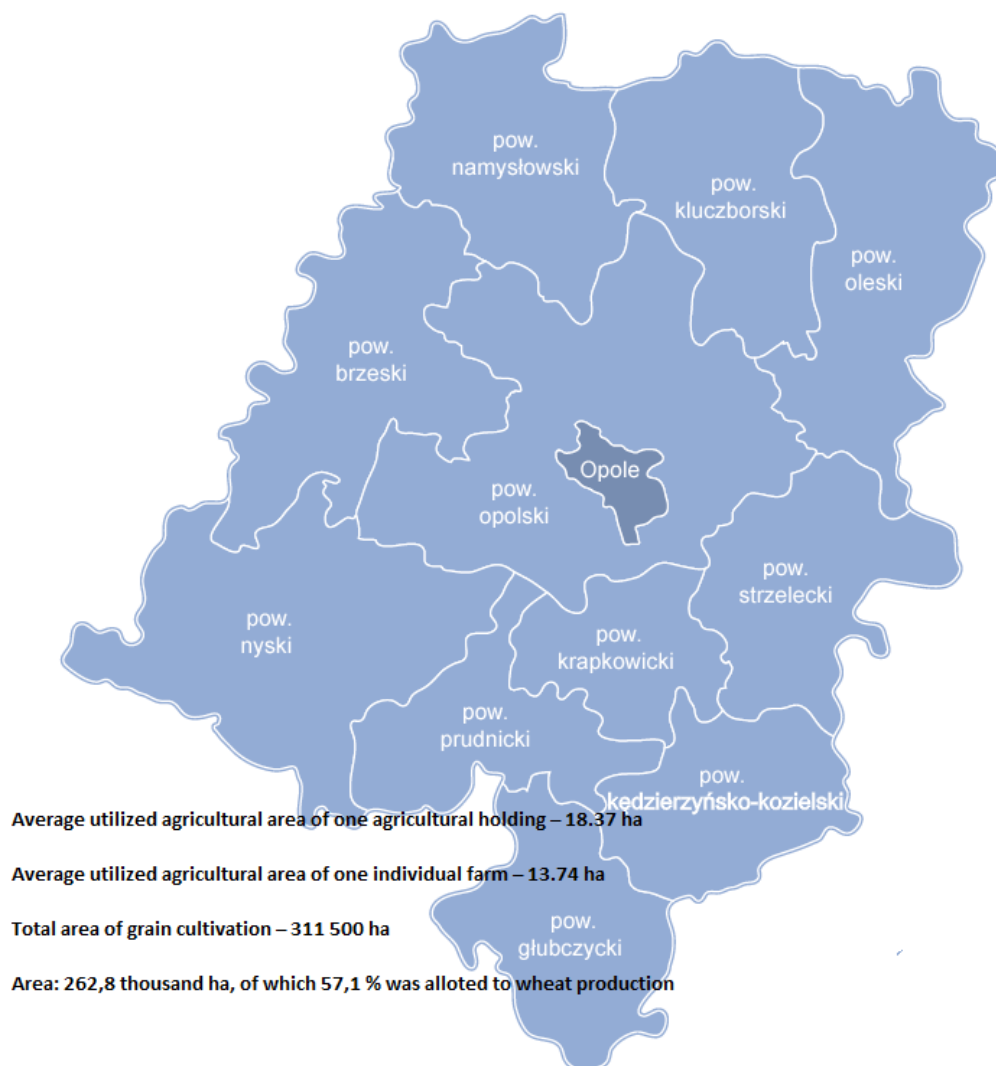
One also should mention that from 2008 to 2012 Poland was one of the largest grains producers in the European Union after France and Germany and before United Kingdom as well as Spain. Notably, the Opolskie region has been the area of high plant productivity in Poland. It has a leading position in the national production of grains, rapeseed as well as sugar beets. Almost 2/3 of arable land in the region is designated for grain production. It should also be stressed that this small-sized region has produced more than 6% of grain in Poland. Wheat seems to be a special type of product in the region since its productivity has been on the level of 45-52 dt (deciton) per ha while the level for the whole country oscillates around 30-34 dt per ha. However, there are some intensive, industrial farms in the region that in the last ten years reached the productivity level of 100 dt per ha.

Slightly more than half a million and slightly less than 50% of people in the Opolskie region inhabit rural areas. Rural population is relatively young there. Concerning this particular indicator the Opolskie region seems to have a relatively high level of inhabitants in the productive age living in rural areas. In fact, this region has second youngest rural population among all 16 regions of the country. Moreover, the percentage of the labour force involved in agriculture is 28 %, one of the highest in Poland.

The respondents in our study belonged to the following categories: a. farming families with dominant wheat production, b. farming families with farm operators under the age of 40 (the youngest ones); c. farming families with farm operators aged 41-50 (the largest category of family farm operators); d. an investigated community is divided into those farms where agricultural (fruits) productions has been the major source of income and those where the agricultural (fruits) production has been an additional source of family income.

Describing political conditions and regulations of wheat production and sales in Poland one should start with the institutionalized surroundings of the wheat market. The role of these intuitions can be seen at every link on the food chain, from wheat production through processing, distribution and sales. Certain state units have as their priorities to monitor, inspect, advise and help producers. It should be stated here that presentation of the institutional background and mechanisms of the wheat market in Poland provides only a rough frame of formal premises describing how the market should look and how it should be monitored and controlled. If commentaries acquired during in-depth interviews with the representatives of the wheat sector from the Opole area are added, the picture looks quite different. Combining farmers' narration with legal and formal aspects of the wheat market mechanisms in Poland gives a rather realistic picture of what is really happening.

## Characteristics of agricultural farms in the Opolskie region 2014



*Source: Agriculture in Opolskie region in 2014, Central Statistical Office of Poland, Opole 2015, p.19,26.*

The table below presents the number of conducted interviews with representatives of particular category. It should also be noted that in many cases, each respondent represented more than one category. This was mostly the case with farmers, who were members of Agricultural Production Cooperative or Producer Group and also operated a purchasing company. Additionally, there were agricultural advisers, who were operating their own farms. In such situations conducting of interviews was targeted at main category (such as farmer) but during the conversation many various issues were discussed and they related to much wider context such as functioning of producer groups and/or operating purchasing companies.

**Category and number of respondents participating in the study**

<b>Category</b>	<b>Number</b>
Farmers	7
Companies selling equipment and plant protection products	2
Advisors	1
Large agricultural farms	2
Agricultural Production Cooperative, Producer Group	3
Banks	2
<b>Total</b>	<b>17</b>

**3.3 Political conditions and regulations***3.3.1 Institutions*

According to the Regulation of the Council of Ministers (Journal of Laws from 1999 No 91, position. 1016) from November 10, 1991 the Ministry of Agriculture and Rural Development is responsible for shaping rural and agricultural policies in Poland. The regulation states that the ministry was established on the basis of the former Ministry of Agriculture and Food Economy. The newest Regulation of the Council of Ministers from November 20, 2015 (Journal of Laws from 2015 position 1945), which reorganized the functioning of the Ministry of Agriculture and Rural Development, thus far servicing the matters of the departments concerning agriculture, rural development, agricultural markets and fisheries, excepted from it the organizational units dealing with matters pertaining to fisheries and the employees of that department. A detailed description of the scope of activities of the agricultural minister after the changes can be found in the regulation from November 20, 2015 (Journal of Laws from 2015 position 1945) and it is described in the regulation of the Prime Minister from November 17, 2015 Journal of Laws 15.1906). The regulation describes the tasks of the minister pointing out that the minister:

- supervises the domains of public administrations such as a) agriculture, b) rural development, c) agricultural markets;
- has the authority over of the following parts of the state budget 32 (agriculture), 33 (rural development) and 35 (agricultural markets) according to the notice of the Minister of Finances from December 20, 2013 regarding the announcement of the consolidated text of the regulation of the Ministry of Finances on the classification of the parts of the state budget and naming authorities over them);

Additionally, the regulation states that the minister is supported by the Ministry of Agriculture and Rural Development, and describes the institutions reporting to the minister and those monitored and controlled by him (attachment to the regulation). There are 7 units reporting to the Ministry of Agriculture and Rural Development and 17 units controlled by this ministry. The Complexes of Schools of Agricultural Education are also supervised by the Ministry of Agriculture and Rural Development. There are 45 such schools in Poland. It is worth mentioning that some of the institutions overseen by the Ministry of Agriculture and Rural Development also report to other ministries such as Ministry of Finances and the State Treasury, which shows close connection between them.

The ministry is the highest authority overseeing and controlling agriculture in Poland.

The following institutions that are overseen by the Ministry of Agriculture and Rural Development and thus the state are connected to the chain of production and sales of wheat.

a) **Voivodeship (Regional) Inspectorate of Plant Health and Seed Inspection (Wojewódzka Inspekcja Ochrony Roślin i Nasiennictwa - WIORiN)** – it is a field branch of the Main Inspectorate of Plant Health and Seed Inspection (Państwowa Inspekcja Ochrony Roślin i Nasiennictwa - RPIORiN), whose works is based on the following laws: law on plant protection, law on plant protection products, law on seeds and the implementing acts of the above laws<sup>1</sup>.

The activities conducted by PIORiN „aim at reducing of the threat from harmful organisms, eliminating the negative effects of the market turnover and the use of plant protection products as well as oversight over production and sales of seed material fully meeting the health and quality requirements”<sup>2</sup>. These tasks can be divided into the following categories:

- Tasks related to plant protection and its technics. These tasks include monitoring and controlling as well as issuing of authorizations, keeping registries;
- Tasks pertaining to monitoring plant health, including monitoring, records keeping, evaluating, decision making and issuing of certificates (passports and other documents), oversight activities, keeping registries, conducting laboratory research;
- Tasks related to seeds, including seeds evaluation, cooperation with the Research Centre for Cultivar Testing (Centralnym Ośrodkiem Badania Odmian Roślin Uprawnych - COBORU), conducting controlling activities, issuing of accreditation, issuing of official labels and seals, oversight activities, organizing instruction courses and exams, preparation of information on the turnover, application intake and issuing of administrative decisions, keeping records and registries.

b) **Regional Chemical-Agricultural Station (Okregowa Stacja Chemiczno-Rolnicza OSChR)** is a field branch of the National Chemical-Agricultural Station (Krajowa Stacja Chemiczno-Rolnicza - KSChR) acting on the basis of the law on fertilizers and fertilization (Journal of Laws from 2015.625), statute of KSChR and implementing acts of the above law.

Tasks conducted by KSChR mostly include:

- Conducting soil analyses as well as analyses of plants, agricultural and forest crops
- Advising on matters related to soil fertilization
- Conducting research on the quality of fertilizers
- Preparation of expert opinions on soil absorbency, chemical composition of plants and fertilizers as well as opinions on proper application of fertilizers;
- Conducting lectures and instruction workshops and courses on the above matters;

c) **Experimental Station for Variety Testing in Głubczyce (Stacja Doświadczalna Oceny Odmian w Głubczycach - SDOO)** is an integral unit of the Research Centre for Cultivar Testing (COBORU), which operates based on the Law from November 25, 2010 r. on the Research Centre for Cultivar Testing (Journal of laws 239/2010, position 1591, changes art. 130 law from November 9, 2012 on seeds Journal of Laws position 1512), law from November 9, 2012 on seeds (Journal of Laws from 2012, position 1512; changes Journal of Laws from 2013, position 865). Law from June 26, 2003 r. on the Legal Protection of Plant Varieties (Journal of Laws No 137/2003, position 1300; changes: Journal of Laws No 126/2006, position 877; Journal of Laws No 99/2007, position. 662; Journal of Laws No

<sup>1</sup> The list of laws regulating functioning of PIORiN can be found in the Attachment no 1.

<sup>2</sup> <http://piorin.gov.pl/o-inspekcji/zadania-realizowane-przez-inspekcje.1.html>, access on May 16, 2016



186/2011, position 1099) with the implementing acts<sup>3</sup>, as well as the Regulation of the Council No 2100/94 from July 1994 on Community plant variety rights (Journal of Laws of the European Community 227 from 1.09.1994; with later changes) and Regulation of the European Commission (European Community) No 637/2009 from July 22, 2009 establishing implementing rules as to the suitability of the denominations of varieties of agricultural plant species and vegetable species (Journal Of Laws of the European Community L 191 from July 23, 2009).

The above legal acts show the main statutory tasks of COBORU as the following:

- keeping and updating national registry of varieties;
- keeping and updating the book of plant protection and maintaining the exclusive rights to certain varieties;
- issuing permits allowing for the turnover of seed material for the purpose of conducting tests and field experiments for the official research;
- elaborating research methodology and evaluation of distinctness, alignment and durability of plant varieties according to the guidelines of Community Plant Variety Office (CPVO) and International Union for the Protection of New Varieties of Plants (UPOV),
- elaborating of research methodology and evaluation of the economic value,
- conducting research on distinctness, alignment and durability of plant varieties as well as economic value of varieties for the purpose of registration or allowing the producers to have exclusive rights to certain varieties.
- conducting research on economic value of vegetable plant and garden plant varieties after they were listed in national registry for the purpose of making new lists describing particular varieties;
- conducting post-registration trials with varieties in cooperation with regional governments and agricultural chambers,
- conducting the evaluation of varietal identity and purity,
- publishing of COBORU diary;
- publishing of lists of agricultural plant varieties, including vegetable varieties and garden varieties listed in the national registry;
- publishing of lists describing plant varieties and the results of post-registration trials with plant varieties,
- elaborating lists of varieties recommended for growing in particular provinces, in agreement with regional governments and agricultural chambers,
- cooperation with registration units of the EU and Community Plant Variety Office (CPVO),
- cooperation with the units of International Union for the Protection of New Varieties of Plants UPOV) on research related to distinctness, alignment and durability of plant varieties and within the scope of implementations of the UPOV Convention on the territory of Poland,
- notifying the European Commission and member states about the date crucial to varietal registration,
- cooperation with Main Inspectorate of Plant Health and Seed Inspection,
- cooperation with organizations and institutions regarding plant production ,seeds and varietal experimentation,
- fulfillment of other tasks described in the law on seeds, law on protection of plant varieties and law on the Research Centre for Cultivar Testing

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<sup>3</sup> Detailed list of legal acts mapping put COBORU activities can be found in the Attachment No 2.

- d) **Opole Center for Agricultural Advisory in Łosiów (Opolski Ośrodek Doradztwa Rolnego w Łosiowie - OODR)** and its 10 field branches) is supervised by the Provincial Assembly of the Opole Province and operates since January 1, 2005 based on the law on units of agricultural advisory from October 22, 2004 (Journal of Laws No 251, position 2507). In 2009 a new law went into force introducing changes in the tasks of public administration of the province (Journal of Laws from 2009 r. No 92, position 753 with changes), which matched Opole Center for Agricultural Advisory in Łosiów with the Provincial Assembly of the Opole Voivodship as a legal body of regional self-government .

The main tasks of OODR include:

- Advising farmers and rural inhabitants,
- Conducting experimental and implementation work in the field of farming techniques, animal husbandry, agricultural economics and mechanisation of agricultural production,
- Conducting and organizing courses and workshops for farmers and rural residents and presenting them with opportunities of the EU funding,
- Support for emerging producer and theme groups,
- Aid to agricultural producers in implementation of the EU directives related to environmental protection and ecology,
- Conducting activism work among children and youth,
- Elaborating plans of modernization of rural areas,
- Conducting publishing work and release of information pertinent to food economy and issues concerning rural areas
- Organizing courses on the use of chemical products in agriculture, courses on agritourist services, courses on environmental protection, courses for tractors and agricultural machinery operators, harvester operators, forklift operators, driver's license courses
- Maintaining trial fields as Post-Registration Varietal Testing

- e) **Agency for Restructuring and Modernisation of Agriculture (Agencja Restrukturyzacji i Modernizacji Rolnictwa -ARiMR)** was established in 1994 in order to support agricultural and rural development in Poland. Currently it performs the role of an accredited paying agency and deals with implementation of instruments of financial aid for farmers co-financed from the European Union's budget as well as from national funds. The Agency reports to the Minister of Agriculture and Rural Development and The Minister of Finances on matters pertaining to the management of public funds. It should be noted that the agency is an organ of government administration. The binding legal acts, based on which the Agency for Restructuring and Modernisation of Agriculture is fulfilling its tasks are the following:

- The law from December 29, 1993 r. on establishing the Agency for Restructuring and Modernisation of Agriculture (Journal of Laws from 1994 No 1 position 2)
- Law from May 9, 2008 on Agency for Restructuring and Modernisation of Agriculture (Journal of Laws from 2008 No 98 position 634)
- Regulation of the Minister of Agriculture and Rural Development from June 15 2009 on granting statute to the Agency for Restructuring and Modernisation of Agriculture (Journal of Laws No 97 position 811)
- Regulation of the Council of Ministers from January 27, 2015 on detailed scope of tasks performed by the Agency for Restructuring and Modernisation of Agriculture and the

manner of conducting some of them (Journal of Laws from 2015, position 187 from 06.02.).

- Regulation of the Minister of Agriculture and Rural Development from August 25, 2008 on territorial jurisdiction of the country offices of the Agency for Restructuring and Modernisation of Agriculture (Journal of Laws 163 position 1021)
- Law from December 22, 2015 r. on the change of law on social insurance for farmers and some other laws.

The legal acts mentioned above underwent various changes over time, so in order to follow the binding legal framework, one must remember about the changes that these acts were made to.

The main tasks conducted by the Agency for Restructuring and Modernisation of Agriculture include:

- Implementation of instruments of financial aid for farmers from the EU funds (ERDF and EMFF) and providing aid from national funds
- Keeping the registry of farm animals that have identifications and land parcel identification system (LPIS)

While implementing various instruments of financial aid the Agency for Restructuring and Modernisation of Agriculture is currently conducting the following programmes:

- European Rural Development Fund – for years 2014-2020
- Operational Programme of the European Maritime and Fisheries Fund for years 2014-2020
- Common organization of fruit and vegetable markets

**f) Agricultural Market Agency (Agencja Rynku Rolnego - ARR)** is „a state institution supervised by the Ministry of Agriculture and Rural Development as well as the Ministry of Finance within the scope of the Common Agricultural Policy (CAP) of the EU and related tasks. Since 2004 the Agency is an accredited EU Paying Agency distributing financial support and performing controls related to manufacturing of agricultural products under CAP. According to the national law it became an executive agency on January 1, 2012”<sup>4</sup>. The Agency can operate on the basis of legal acts of the European Union including the law from July 11 2014 on the principles of implementation of the cohesion policy programmes, financed under the 2014-2020 financial perspective<sup>5</sup> (Journal of Laws from 2014

<sup>4</sup> <http://www.arr.gov.pl/o-arr>, access on May 16, 2016

<sup>5</sup> The law serves the application of the Regulation of the European Parliament and the European Union Council No. 1303/2013 from December 17, 2013 establishing community laws related to European Regional Development Fund, European Social Fund, Cohesion Fund, European Agricultural Fund for Rural Development and European Maritime and Fisheries Fund and establishing general regulations related to European Regional Development Fund, European Social Fund, Cohesion Fund and European Fisheries and Maritime Fund and repealing the Regulation of the Council of the European Community no 1083/2006 (Journal of Laws of the European Union L 347 z 20.12.2013, str. 320), Regulation of the European Parliament and the Council of the European Union no 1301/2013 from December 17, 2013 on European Regional Development Fund and detailed regulations related to the goal „Investments to increase the employment” and repealing the Regulation (EC) no 1080/2006 (Journal of Laws of the European Union L 347 z 20.12.2013, str. 289), Regulation of the European Parliament and the Council of the European Union no. 1304/2013 from December 17, 2013 on European Social Fund and overruling the Regulation (EC) no 1081/2006 (Journal of Laws. UE L 347 from December 12, 2013, p. 470), Regulation of the European Parliament (EU) no 1300/2013 from December 17, 2013 on the Cohesion Fund and repealing the Regulation (EC) no 1084/2006 (Journal of Laws of the European Union L 347 z 20.12.2013, str. 281), Regulation of the European Parliament and the Council (EU) no 1299/2013 from December 12 2013 **on specific provisions for the support from the European Regional Development Fund to the European territorial cooperation goal** (Journal of Law of the European Union L 347 from December, 20., 2013, p. 259)

position 1146). Other legal acts regulating the functioning of the agency are: the law from March 11, 2004 on Agricultural Market Agency and organization of some agricultural markets (Journal of Laws from 2012 position 663 with later changes) and executive regulations on Agricultural Market Agency.

Agency has the following tasks<sup>6</sup>:

- Financial payments made to agricultural producers, processors and exporters related to participation of Agricultural Market Agency in the mechanisms of Common Agricultural Policy and in national policies.
- Issuing administrative decisions related to the participation of the above subjects in the mechanisms of the Common Agricultural Policy (CAP) and national agricultural policies.
- Providing information on conditions that need to be fulfilled by those who would like to benefit from the EU mechanism managed by the Agricultural Market Agency
- Administering of registries conducted according to the national law and the law of the European Union;
- Monitoring the volume of quota production and out of quota production within the framework of allotted production quotas;
- Accepting and giving payments for promotion of food using the funds from the state and the EU budget and the funds designed for promotion of food products.
- Conducting inspections verifying whether the beneficiaries of the rights to production of certain products and the funds granted by Agricultural Market Agency follow the regulations;
- Forwarding of information to the European Commission on the activities required by the Common Agricultural Policy conducted by Agricultural Market Agency;
- Participating in decision making of the EU institutions on matters related to administration of Common Agricultural Policy mechanisms and providing beneficiaries and all the interested parties with information on these decisions;
- Preparing cyclical and interim analyses, prognoses, information and research papers on current and forecasted situation on primary agricultural markets;
- Conducting information activities aiming at expanding the knowledge on the program of Common Agricultural Policy managed by Agricultural Market Agency and the conditions of participation for the potential beneficiaries;

g) **The Inspection of Commercial Quality of Agricultural and Food Products - Inspekcja Jakości Handlowej Artykułów Rolno-Spożywczych - IJHARS)** operates based on the law from December 21, 2000 (law on trade quality of food and agricultural products, Journal of Laws from 2001 No 5, position 44).

The tasks conducted by IJHARS mostly include:

- Overseeing and inspecting commercial quality of agricultural and food products;
- Overseeing the conditions of stocking and transportation of agricultural and food products;
- Cooperation with certain organs of government administration in particular regions, other inspection organs, custom offices, local government bodies and organizational units of the state implementing the agricultural policy of the state as well as organizational units

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laying down common provisions European Regional Development Fund, European Social Fund and Cohesion Fund within the framework of programs related to the cohesion policy.

<sup>6</sup> <http://www.arr.gov.pl/o-arr>, access on May 16, 2016

playing the role of accredited paying agencies working on implementation of Common Agricultural Policy,

- Cooperation with or participation in international organizations that work on commercial quality of agricultural and food products and international turnover of food and agricultural products,
- Conducting instruction courses and workshops on laws, regulations and requirements concerning commercial quality or determining the classes of commercial quality as well as methods and examination of agricultural and food products,
- Cooperation with official inspection units in other countries concerning inspecting the commercial quality of agricultural and food products including exchange information and samples of agricultural and food products.

**h) Prof. Wacław Dąbrowski Institute of Agricultural and Food Biotechnology (Instytut Biotechnologii Przemysłu Rolno-Spożywczego im. Prof. Wacława Dąbrowskiego - IBPRS)** was established in reference to the Regulation of Ministry of Agriculture and Rural Development from June 15, 2009 (Journal of Laws No. 99 from June 26, 2009 position 831) through a fusion of several units (the Institute of Meat and Fats Industry, Institute of Sugar Industry, Institute of Biotechnology and Agricultural and Food Industry). The legal acts that regulate the functioning of the Institute include: the law from April 30, 2010 on research institutions (Journal of Laws from 2010, No 96, position 618); law from April 30, 2010 – Regulations introducing laws reforming the educational system (Journal of Laws from 2010, No 96, position 620)], law no. 534/54 of the Council of Ministers from August 2, 1954 on transformation of the Central Institute of Agricultural and Food Industry into the Institute of the Fermentation Industry, Decree no 15 of the Minister of Agriculture, Forestry and Food Industry from March 26, 1988 on establishing the name: Institute of Biotechnology of Agricultural and Food Industry, statute and the rules of the Institute, as well as other regulations [Regulation of the Minister of Agriculture and Rural Development from December 11, 2002 on the fusion of the institutions: Institute of Biotechnology and Agricultural and Food Industry, Central Laboratory of Food Concentrate Industry, Central Laboratory of Processing Technology and Grain Storage and Research Institute of the Baking Industry (Journal of Laws from 2002 r. No 233, position 1961); Regulation of the Minister of Agriculture and Rural Development from December 19, 2007 on the fusion of the Central Laboratory of Refrigeration, Central Laboratory of Potato Industry, Center of Research and Development of Gastronomy and Food Industry and the Institute of Biotechnology and Agricultural and Food Industry (Journal of Laws from 2007 No 247, position 1837); Regulation of the Ministry of Agriculture and Rural Development from June 15, 2009 on the fusion of the Institute of Meat and Fats Industry, Institute of Sugar Industry and the Institute of Biotechnology and Agricultural and Food Industry (Journal of Laws from 2009, No 99, position 831); Regulation of the Council of Ministers from September 7, 2012 on the name change of the Institute of Biotechnology and Agricultural and Food Industry (Journal of Laws from 2012 No 0, position 1053)].

The work of the Institute focuses for the most part on research, development, academic work and implementation of biotechnology and food processing technologies. While fulfilling its tasks the Institute offers the results of research and development work, licenses and „know-how”, export opinions, reviews and provides advisory services, consultation and instruction courses to business enterprises, institutions, offices of public administration. The Institute conducts the works according to its statute which includes partnership with businesses and therefore it can receive finances for its activities from sources other than the state budget.

Detailed scope of IBPRS activities are presented on its homepage<sup>7</sup>, but it is still helpful to present their general list:

- Acquiring, collecting, identifying, storing and improving strains of micro-organisms useful in biotechnology processes, agricultural and food industry, elaborating methods of their evaluation and methods of their functional activity protection;
- Carrying on scientific and R&D works in the scope of technology and technique as well as raw material and industrial product analysis for the following industries: fermentation industries, fruit and vegetable industry, storage of cereal grains, milling industry, baking and pastry industry, food concentrate and stimulant industry, spirit industry and fodder industry;
- Dissemination of research and R&D results and their implementation in practice;
- Research on waste-less technologies of agricultural and food industry and protection of natural environment (lowering the use of water, sewage load and gas release);
- Development and adaptation of analytical methods for foods in order to control new materials, technological processes and food products (food adulteration detection);
- Research and obtaining of new food products
- Research of packaging materials, packages and packaging techniques for the quality assurance and safety of food;
- Conducting service work on micro-organisms identification and depositing to the Culture Collections of Industrial Microorganisms.
- Conducting instruction courses related to the scope of activities of the Institute.
- Conducting research services related to the analyses of raw materials and lightly processed food products, food additives, stimulants animal feed according to the Quality Assurance System formulated in Quality Manual and General Procedures Manual;
- Carrying on production and production services (including experimental and low volume production) as well trade activity in fields comprised in the Institute activity
- Research support activities

The Institute also carries on tasks and activities characteristic for state service, including:

- Carrying the Culture Collections of Industrial Microorganisms for the purpose of research activities and industrial practices. The collection plays a role of national (status given by Polish Patent Office) and international deposit body according to the Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure (status given by World Intellectual Property Organization).
- Development, adaptation and practical implementation of modern analytical methods of food analysis;
- Development of standards of food economy and environmental protection as well as products, processes and services; issuing of opinions on these standards and preparation of instruction on following the standards in regards to certain branches of agricultural and food industry supervised by the Institute.
- Monitoring the quality of raw materials, agricultural and food industry both domestic and imported according to the requirements of the European Union.
- Monitoring threats to the natural environment posed by various branches of agricultural and food industry supervised by the Institute in references to the norms of the European Union.

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<sup>7</sup> <https://www.ibprs.pl/o-instytucie/zadania-statutowe-i-dziaalnosc>, access on May 24, 2016



**i) Research Institute of Horticulture (Instytut Ogrodnictwa - IO)** was established by the Ministry of Agriculture and Rural Development. The Institute owns four companies: Centre for Elite Nursery-Garden in Prusy near Skierniewic, Florist Experimental Plant in Nowy Dwor near Skierniewice, the Experimental Fruit Growing Station in Brzezna near Nowy Sącz, and Experimental Vegetable Growing Station in Pszczyna near Katowic. Besides the laboratory based work the Institute has an experimental field and an ecological field to conduct research on vegetable growing and the Polmonology Orchard in Skierniewice, Polmonology Orchard w Dąbrowice and Ecological Polmonology Orchard in Nowy Dwor-Parcela to conduct research in the field of fruit growing. Research program of Research Institute of Horticulture covers all issue related to horticultural production, starting from research on biological basis for production of fruit, vegetables and decorative plants through biotechnology, genetics and cultivation of new varieties of garden plant, agricultural technology, phyto-pathology, arboriculture and protection of garden vegetable and decorative plants gene pool, plant irrigation, growing edible mushrooms, processing and storing of fruit and vegetables, food safety, agricultural engineering, economics and marketing. Due to the fact that all orchard plants and that majority of vegetable plants are pollinated by insects, beekeeping plays important role in research program”<sup>8</sup>.

The work of the Institute is based on the following legal acts:

- Regulation of the Ministry of Agriculture and Rural Development from September 16, 2010 on merging Research Institute of Pomology and Floriculture named after Szczepan Pieniążek and the Institute of Vegetable Crops named after Emil Chroboczek (Journal of Laws No. 172, position 1166)
- Law from April 30, 2010 on research institutes (Journal of Laws No 96, position 618)
- Statute of the Research Institute of Horticulture
- Organizational rules

According to the Statue the scope of work of the Institute involves conducting scientific research and developmental work as well as implementation. It also includes veterinary work in beekeeping, conducting postgraduate studies and Ph. D. studies as well as educating and polishing specialists in horticulture. Additionally, the Institute can conduct economic activity such as cultivation, animal breeding, wholesale and retail, storing of commodities, publishing books and magazines, running a hotel, renting and property management, research and analyses related to food quality.

**j)Institute of Soil Science and Plant Cultivation – (Instytut Uprawy Nawożenia i Gleboznawstwa Państwowy Instytut Badawczy -IUNG-PIB)** conducts its work based on the following legal acts:

- Regulation of the Council of Ministers from May 31, 1950 on establishing the Institute of Soil Science and Plant Cultivation (Journal of Laws from 1950, No 24, position 212),
- Provisions of acts on R&D institutions (law from April 30, 2010 on research institutes (Journal of Laws No 96, position 618.),
- Regulation of the Council of Ministers from May 4, 2005 on granting the Institute of Soil Science and Plant Cultivation status of the state research institute (Journal of Laws No 85 from May 16, 2005 r., position 730),
- statute enacted by Scientific Board, approved supervising body, namely the Ministry of Agriculture and Rural Development,
- organizational rules introduced by the Director’s decree, with change on December 18, 2015
- Regulation of the Minister of Finances from August 7, 1991 (Journal of Laws no. 72/91 position 318 with later changes),

<sup>8</sup> <http://www.inhort.pl/o-nas>, access on May 24, 2016

- law on accountancy from September 29, 1994 (Journal of Laws no 121 position 591 with later changes)

According to its statute IUNG-PIB conducted scientific and research programme entitled "Supporting activities for shaping agricultural and environmental sustainability of agricultural production in Poland". The scope of the programme includes the issues of development of agricultural production on arable land and its influence on shaping agricultural space<sup>9</sup>. The programme brings about a significant volume of R&D works in the area of sustainable development of agricultural production as well as shaping and protection of agricultural environment, which is supported by the Ministry of Agriculture and Rural Development and regional authorities. The program is also a good source of information and agricultural advisory for farmers.

Currently, IUNG-PIB implements a long-term program under the name of "Supporting activities for the conservation and rational use of agricultural production space in Poland and for shaping the quality of plant raw materials" 2020 and „Increased use of domestic feed protein for the production of high-quality animal products under the conditions of sustainable development" both set for the period 2016-2020. Additionally, the Institute participates in many international projects, including research and innovation projects (2014-2020) Horizon 2020 „New Strategies on Bio-Economy in Poland”.

**k)Institute of Plant Protection National Research Institute (Instytut Ochrony Roślin Państwowy Instytut Badawczy - IOR-PIB)** is the R&D institution operating according to the law from April 30, 2010 on research institutes (uniformed text in the Journal of Laws from 2016, position 371), the Statute of the Institute elaborated Scientific Board IOR-PIB and enacted by Minister of Agriculture and Rural Development on October 20, 2015 r. and the Institute rules (Director's Decree No. 12/2011). The scope of the R & D works is the following:

- Research on biology, ecology concerning harmfulness of disease causing microorganisms, pests and weeds affecting agricultural plants and present in their products;
- Improving diagnostics methods on causes of diseases such as pests including quarantine species with the use of modern technologies i.e. molecular biology;
- Improving the methods and manners of evaluations concerning presence, intensity and harmfulness of disease, pests and weeds in order to elaborate short-term and long-term prognoses of their populations' development.
- Developing and improving systems of supports for decisions regarding the need to perform a procedure;
- Developing integrated programmes of plant protection with the use of new, environmentally friendly products of plant protection;
- Developing programmes of crop protection in the system of ecological agriculture;
- Improving the methods of harvest loss evaluation of plants affected by pests as well as evaluation of biological effectiveness and economic effects of plant protection procedures;
- Evaluation of usefulness and effectiveness of plant protection products;
- Monitoring of resistance of pathogens, pests and weeds towards applied plant protection products, recognizing the mechanism of resistance and preventing resistance phenomenon;
- Quality control of applied plant protection products;
- Evaluation of usefulness of equipment to perform plant protection procedure;
- Controlling the remains of plant protection products present in products of plant origin and also in soil and in ground waters;

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<sup>9</sup> [http://biper.iung.pulawy.pl/bip/index.php?option=com\\_content&view=article&id=47&Itemid=55](http://biper.iung.pulawy.pl/bip/index.php?option=com_content&view=article&id=47&Itemid=55), access on May 23.05.2016

- Explanation of scientific reasons for utilization of expired plant protection products, empty packages and pesticide wastes;
- Research on unwanted side effects related to use of chemicals in agricultural environment;
- Determining the range of plant protection products permitted to be used in the zones of protected intakes of drinking water;
- Developing methods of fighting quarantine species;
- Collecting, identification and storing of pathogens of the plants grown in Poland as well as international exchange.

Additionally, the Institute performs analyses of soil, ground and seed materials, identifies the causes of plant diseases and pests that are harmful to plants. It also prepares expert opinions and provides advisory services on matters related to plant protection. The Institute has the authority to issue the quality certificates for plant protection products and the certificates describing the content of remains of plant protection products, including the products for the export needs. The Institute can grant Ph. D. degrees.

- 1) **Plant Breeding and Acclimatization Institute (Instytut Hodowli i Aklimatyzacji Roślin - IHAR)** conducts research on breeding and seeds of cultivated plants. The work of Institute is based on Cabinet Law No. 33 from January 24, 1951 on reorganization of agricultural science, law from July 25, 1985 on research and development units Journal of Laws No. 36, position 170, uniform text Journal of Laws No. 44, position 194. No. 107, position 464 from 1991 with later changes Journal of Laws No. 54, position 254 from 1992, Journal of Laws No. 1 position 3, No. 43, position 163 from 1994, Journal of Laws No. 41, position 175 and No. 89, position 402 from 1996, Journal of Laws No. 43, position 272 and No. 275 position 467 from 1997, No.103, position 1100 from 2000, Journal of Laws No 74, position 676, No 113, position 984, No. 200, position 1683 and No. 240, position 2052 from 2002, Statute of the Institute elaborated by Scientific Board on March 19, 1992 approved by the Ministry of Agriculture and Food Economy and the rules of organization introduced by the Director's Decree no. 13/018/2002 from December 20, 2002 with later changes. The principles of financial economy are described in the Regulation of the Minister of Finances from August 7, 1991 (Journal of Laws no. 72/91 position 318 with later changes), and law on accounting from September 29, 1994 (Journal of Laws no. 121 position 591) with later changes.

The work of the Institute concentrates on four areas:

- Developing and using of biological progress in plant cultivation,
- Development of new technologies of oil and root plants production as well as storing of potatoes,
- Collection and maintenance of live plants' gene resources,
- Production of breeding materials of agricultural plants.

IHAR currently conducts its activities in eight science centres, namely in: Radzikow, Bonin, Bydgoszcz, Jadwisin, Młochow and Poznan. The Institute currently includes six Experimental Stations Plant Breeding and Acclimatization operating in various regions of the country. They were 9 such stations until 2000 when 3 of them were converted to limited liability one-person companies.

The Institute also conducts the following tasks:

- publishing the results of research studies and applying them in practice,

- educating and instructing specialists of disciplines covered by the work of the Institute,
- methodological advisory on evaluation of seeds material and vegetable plantings,
- cooperation with institutions abroad,
- preparation and dissemination of publications related to disciplines encompassed by the work of the Institute,
- preparation of expert opinions, experimental and technical works and other service work of research kind,
- collecting, processing and dissemination of scientific and technical information,
- Conducting standardization work.

Additionally, the Institute is authorized to grant Ph. D. degrees, to conduct academic and practical work with appropriate institutions in Poland and abroad and signing agreements with them. It can also conduct trade with abroad institutions base on the concession it was granted.

**m)National Centre for Agricultural Education in Brwinow- (Krajowe Centrum Edukacji Rolniczej w Brwinowie KCER)** receives funds from the state budget and it work covers the entire country. Based on Art. 5 paragraph 3 point 2 of the law from September 7, 1991 on educational system (Journal of Laws from 2004 no. 256, position 2572, with later changes) National Centre of Agricultural Education was established on September 1, 2007 as a public institution devoted to training of teachers of vocational subjects, who teach in agricultural schools.

The Centre has the following tasks and goals:

- preparation of diagnosis of qualifications of teachers of vocational subjects in agricultural schools;
- conducting of conceptual works on organizing various forms of professional training of teachers of vocational subjects as well as the management of agricultural schools;
- identifying the priorities in the training of teachers of vocational subjects in agricultural schools in partnership with bodies exercising pedagogical superintendence;
- preparation of teacher's training programs and preparation of educational materials for teachers of vocational subjects in agricultural schools;
- conducting various forms of training for teachers of vocational subjects as well as form management of agricultural schools;
- organizing various forms of cooperation and exchange of experience, including workshops, conferences and seminars, for teachers of vocational subjects and the managers in agricultural schools;
- cooperation with national and international partners on matters pertaining to professional training of teachers of vocational subjects in agricultural schools;
- supporting self-education and other initiatives conducted by teachers of vocational subjects in agricultural schools;
- providing consultations for teachers, managers on vocational curriculum conducted by agricultural schools;
- development and implementation of educational projects financed from European funds and other programmes helping with professional training of teachers of vocational subjects as well as the management of agricultural schools;
- diagnosis and analysis of the effectiveness of teaching vocational subjects in agricultural schools;
- methodical support for professional training of teachers in agricultural schools;

- initiating and supporting changes in professional training programmes for teachers of vocational subjects in agricultural schools;
- establishing and developing of the pedagogy information centres for the needs of agricultural education as well as publishing of educational materials.

The other laws that describe the activities of the National Center of Agricultural Education are the following: Regulation No 26 of the Ministry of Agriculture and Rural Development from August 21, 2007 on establishing of the National Centre of Agricultural Education in Brwinow, Decree No. 36 of the Minister of Agriculture and Rural Development from November 19, 2007 r. changing the Decree on establishing of the National Centre of Agricultural Education in Brwinow and the Decree No. 2 of the Minister of Agriculture and Rural Development from March 11, 2010 changing the Decree on establishing of the National Centre of Agricultural Education in Brwinow. While conducting its works the Center is authorized to perform the following tasks:

- Organizing and conducting of instruction courses and workshops in pedagogy, methodology and specialized education;
- Advisory services for teachers;
- Preparation and dissemination of pedagogical information;
- Popularization of new educational methods and techniques;
- Organization of activities promoting advancement and professional development of teachers;
- Cooperation and exchange of experience between teachers and schools with participation of international partners;
- Initiating content-related support for changes in vocational education programmes;
- Establishing and development of multimedia centres of pedagogical information suitable for agricultural education;
- Diagnosing the status quo and forecasting the development of agricultural education;
- Analysis and evaluation of the effectiveness of teaching of vocational subjects;
- Evaluation of implementation of educational programs
- Publishing agricultural education materials.

**n) Institute of Technology and Life Sciences (Instytut Techniczno-Przyrodniczy ITP)** conducts scientific research and development work in life science and technical disciplines in the following areas:

- protection, use, landscaping and infrastructure in rural areas, water resources, agro-ecosystems, permanent grassland, the environment and nature conservation of lowlands and mountainous areas;
- innovative, complex technologies in production of crop, livestock, including fish, and food processing, technical infrastructure in villages and obtaining energy from renewable sources;
- safety of the implemented technologies as well as usage of machinery and equipment.

The scope of the Institute's activities besides research R&D works includes operational implementation, information dissemination, advisory services, education, training, promotion, and monitoring, in the following areas:

- agricultural engineering and technical solutions applied to crop and livestock production, including fish;;
- agro-energy, including bio-energy and other renewable energy sources;
- water supply and drainage engineering, land reclamation and of water resources management for agriculture, construction of buildings as well as flood protection facilities;

- construction of rural buildings and roads;
- engineering and technology of rural sanitation and sanitary condition of the village, along with disposal of sewage sludge, and municipal waste, and from food processing;
- shaping and usage of the surface structure and spatial order, agriculture and rural infrastructure, system infrastructure, technical and technological management of the environment and landscape;;
- nature conservation, biodiversity and landscape in rural areas;
- economy of permanent grasslands in lowlands, foothills and mountains, feed production technology, the threats and conservation of grassland habitats, soil and water;
- water management in agriculture and rural areas, irrigation and drainage, prevention of water shortages and flooding,
- protection of water quality, as well as wastewater and sewage management and disposal in rural areas;
- shaping the environmental conditions in the agricultural buildings and reduction of greenhouse gases, odours and dust emissions from agricultural sources;;
- safety of use of agricultural machinery;
- economics, organization and mechanization of agriculture and programs of energetic development in agriculture and rural areas.

Additionally, The Institute carries out tasks of standardization, approval, control and verification, certification and homologation, together with maintaining accredited laboratories, certifying body and notified body.

The tasks listed above the Institute fulfills according to the following legal acts:

- Law from April 30, 2010 r. on research institutes (Journal of Laws No. 96, position 618).
- Law from April 30, 2010 on principles of financing science (Journal of Laws No. 96, position 615)
- Statute of the Institute of Technology and Life Sciences from October 20, 2005.

The legal and institutional environment, in which the chain of wheat production and sales operates appears to be quite rich but this is not necessarily well-reflected in the awareness of the respondents. When asked about the role of the state in the production process and sales of wheat, the respondents said that the state practically does not control and does not influence the chain of wheat production and sales. The role of the state in the food chain was perceived by respondents neutrally or negatively but during the interview many of them admitted that they cooperated with some of the above institutions. Among the institutions they referred to were the following: Regional Inspectorate of Plant Health and Seed Inspection (Wojewódzka Inspekcja Ochrony Roślin i Nasiennictwa - WIORiN), Regional Chemical-Agricultural Station (Okręgowa Stacja Chemiczno-Rolnicza - OSChR), Experimental Station for Variety Testing in Głubczyce (Stacja Doświadczalna Oceny Odmian w Głubczycach -SDOO), Opole Center for Agricultural Advisory in Łosiów (Opolski Ośrodek Doradztwa Rolnego w Łosiowie -OODR), The Agency for Restructuring and Modernisation of Agriculture (Agencja Restrukturyzacji i Modernizacji Rolnictwa - ARiMR), Agricultural Market Agency (Agencja Rynku Rolnego - ARR). Interestingly, the respondents did not think these institution conducted cooperation with other intuitions.

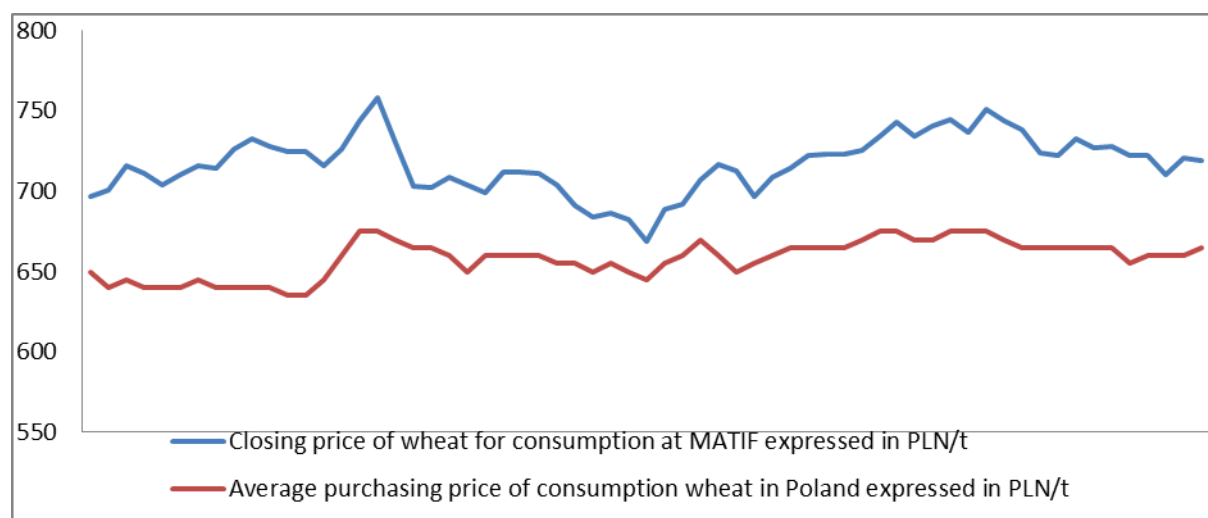
### 3.3.2 Food security

The extent of the cooperation with the state institution is the same as the formal scope of tasks fulfilled by them. It is worth noting that according to the respondents, not all policies and tasks carried out by these institutions are beneficial and/or conducted properly. The respondents complained lack of well-



thought through food security Policy and the disregard for national interest in shaping of agricultural policy (R5op, R6op). In this case, the respondents pointed out to the passivity of Polish government in ensuring profitable wheat production in Poland („if wheat producers protested and did not sell wheat to Polish mills at such low price, the ministry would buy wheat in Germany with no hesitation” R5op). The noted low quality and quantity control over the wheat imported from abroad (uncontrolled deliveries of wheat from Ukraine and Czech Republic), as well as lack of supervision over new price fixing on the wheat market (R4op, R5op, R6op). The last example the respondents illustrated with relations of price of wheat in Poland to the prices of wheat on agricultural exchange market in Paris (exchange MATIF). The analysis of the closing price of a ton of consumer wheat at MATIF and the price of wheat in Poland for the same time period do not confirm these opinions. As it can be seen on the chart below, MATIF price fluctuations are similar to those in Poland and the average difference between closing prices was 58.97 PLN in the period of time starting on May 17, 2015 and ending on August 16, 2016 reaching the highest value of 90 PLN at the end of July and the beginning of August and the lowest value of around 30 PLN at the end of June and at the beginning of July. According to the collected data it can be said that the prices remain proportional and their average differences amount to 14 Euro on 1 ton. Farmers admitted that the differences should be around 20 euro per ton, which could be attributed to the costs of transport. It turns out that the knowledge of respondents is not based on facts, which should be seen as lack of professionalism in such key question as profitability of production.

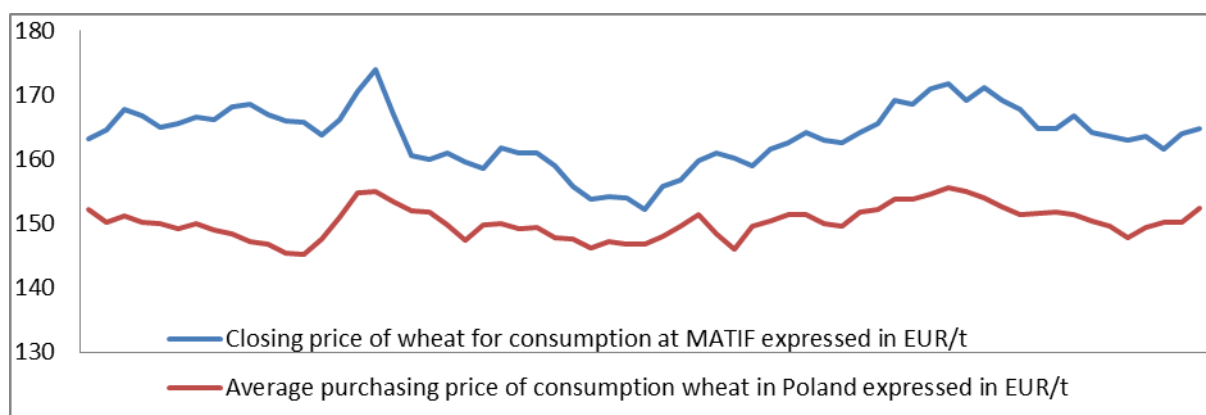
**Closing process of wheat intended for consumption on MATIF and in Poland from May 17, 2016 to August 18, 2016 (PLN/t).**



Source: Authors' own research based on data from AGROLOK.PL<sup>10</sup> – wheat prices records.

<sup>10</sup> <https://www.agrolok.pl/notowania/notowania-cen-pszenicy.htm>, access on August 16, 2016

**Closing process of wheat intended for consumption on MATIF and in Poland from May 17, 2016 to August 18, 2016 (EUR/t).**



Source: Authors' own research based on data from AGROLOK.PL<sup>11</sup> – wheat prices records.

The above charts show that Polish farmers sell their grains below the prices of French MATIF stock. In this context both legal and illegal import of grains from Ukraine has negative influence on grain sales prices in Poland.

### 3.3.3 Direct subsidies and subsidies for purchases of agricultural machines and equipment

The table below presents direct payment rates in Poland in 2015 in relation to various factor determining the level of agricultural subsidies. The table also presents the context of subsidies in cases of apples and wheat so important to the following report.

#### Direct subsidy rates in Poland in 2015

l.p.	Category	Rate of direct subsidies		Rates on EURO (1 PLN = 4,2448 EURO)	
1	Single area payment	453,7	PLN/ha	106,88	€/ha
2	Greening payments	304,31	PLN/ha	71,69	€/ha
3	Payments for young farmers	258,97	PLN/ha	61,01	€/ha
4	Additional payments	170,22	PLN/ha	40,10	€/ha
5	Cattle payments	261,37	PLN/szt.	61,57	€/szt.
6	Cow payments	314,28	PLN/szt.	74,04	€/szt.
7	Sheep payments	116,56	PLN/szt.	27,46	€/szt.
8	Goat payments	77,8	PLN/szt.	18,33	€/szt.
9	Protein crops payments	415,21	PLN/ha	97,82	€/ha
10	Hops payments	2 311,32	PLN/ha	544,51	€/ha
11	Production aids for starch potatoes	1 387,12	PLN/ha	326,78	€/ha
12	Sugar beet payments	2 138,45	PLN/ha	503,78	€/ha
13	Payments for tomatoes	4 272,62	PLN/ha	1006,55	€/ha

<sup>11</sup> <https://www.agrolok.pl/notowania/notowania-cen-pszenicy.htm>, access on August 16, 2016

14	Soft fruit payments	927,65	PLN/ha	218,54	€/ha
15	Payment for flax	411,92	PLN/ha	97,04	€/ha
16	Hemp payments	572,49	PLN/ha	134,87	€/ha
17	Tobacco payments - Virginia tobacco	4,34	PLN/kg	1,02	€/kg
18	Tobacco payments– other types of tobacco	3,05	PLN/kg	0,72	€/kg

Source: Internet website of the Ministry Agriculture and Rural Development in Poland, <http://www.minrol.gov.pl/Wsparcie-rolnictwa/Platnosci-bezposrednie/Archiwum/Platnosci-bezposrednie-w-2015-r/Wysokosc-platnosci-bezposrednich-stosowanych-w-2015-r>.

Common Agricultural Policy allows farmers to explore various possibilities and use other instruments of support included in Rural Development Programme 2014-2020 (PROW 2014-2020). In its strategic documents Polish Ministry of Agriculture and Rural Development presented 27 instruments that were grouped in the following categories:

- instruments of support directed at agricultural farm development
- activities strengthening the development of entrepreneurship
- activities supporting territorial development
- activities related to transfer of knowledge and innovation
- activities related to quality systems of agricultural and food products
- activities directed at protection of ecosystems and effective management of natural resources in rural areas<sup>12</sup>

Another charge that farmers formulated against state policy had to do with delays and missing deadlines for direct subsidies payments and the payments for subsidised purchases of farm equipment. In the first case, farmers explain that such situations were very problematic and in some cases delayed payments of direct subsidies led to collapsing of the farms (R1op) that took loans for sowing, fertilizing and for chemical products used for crops. Low buying prices of wheat caused low profitability of wheat sales, which was oscillating around 0 PLN. Therefore, the only profit, which farmers could use for paying off the loans, was tightly connected with direct subsidies, which were delayed in 2015. As indicated in the press analysis the delays with payments of direct subsidies indeed did take place in the previous years. In February 2016 the Agency for Restructuring and Modernisation of Agriculture (ARiMR) which is an institution responsible for making direct payment of subsidies presented on its website an official statement on problems with direct subsidies in 2015<sup>13</sup>. It was a response to the series of accusations and charges made against new Polish government expressed by farmers and the media<sup>14</sup>.

<sup>12</sup> Description of 27 instruments of PROW 2014-2020 in Poland can be found at the website: <http://www.minrol.gov.pl/Wsparcie-rolnictwa/Program-Rozwoju-Obszarow-Wiejskich-2014-2020/Instrumenty-wsparcia-PROW-2014-2020>, access on September 14, 2016

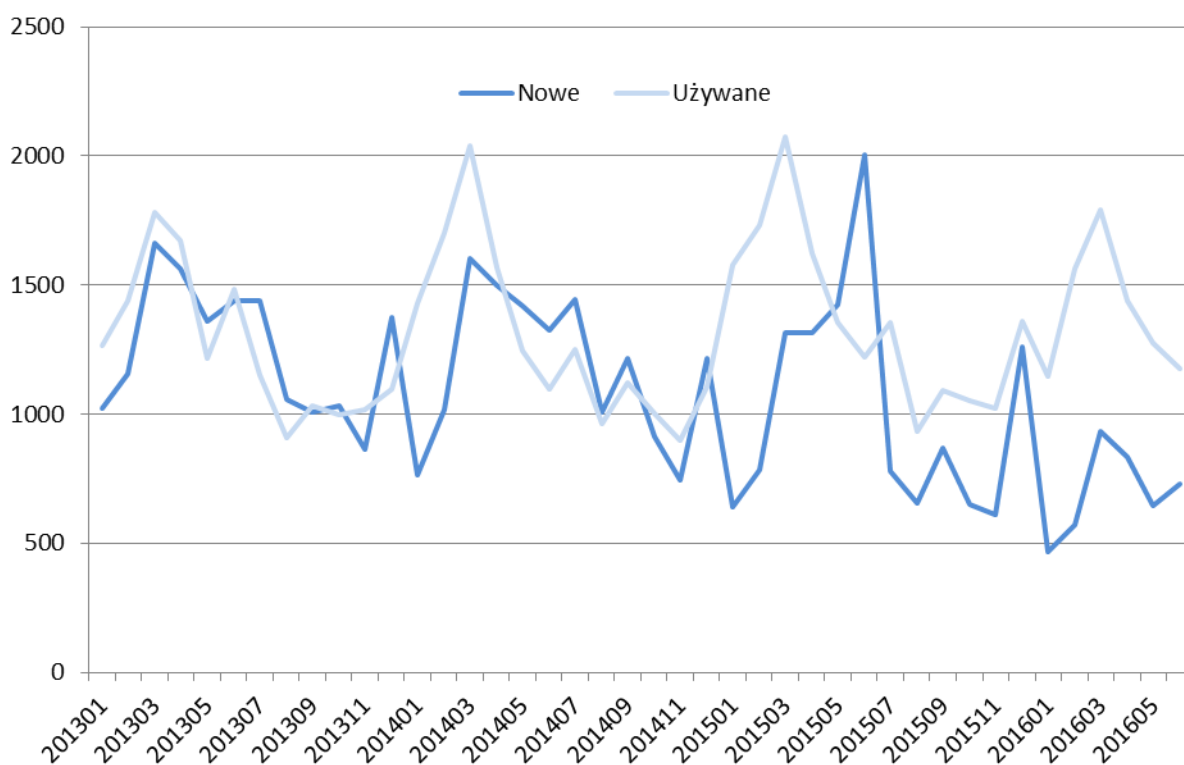
<sup>13</sup> <http://funduszeue.info/blog/2016/02/20/stanowisko-arimr-w-sprawie-wyplat-doplat-bezposrednich-za-2015-rok/>, access on August 16, 2016

<sup>14</sup> Compare to: [http://www.tygodnik-rolniczy.pl/articles/aktualnosci/\\_skad-wzielo-sie-opoznienie-w-wyplocie-doplat-bezposrednich/](http://www.tygodnik-rolniczy.pl/articles/aktualnosci/_skad-wzielo-sie-opoznienie-w-wyplocie-doplat-bezposrednich/), access in August 16, 2016r., <http://www.strefaagro.gloswielkopolski.pl/arttykul/rolnicy-dluzej-poczeka-na-doplaty-bezposrednie>, access on August 17, 2016., <http://www.strefaagro.gloswielkopolski.pl/arttykul/powazne-opoznienia-w-wyplocie-doplat>, access on August 17, 2016., <http://www.polskieradio.pl/42/3166/Artykul/1584353,Doplaty-dla-rolnikow-opoznione-Rzad-i-opozycja-szukaja-winnych>, access on August 8, 2016

The second type of charges was related to the scheme of subsidizing of agricultural equipment. The statement made by one of the respondents is particularly interesting as he blames the EU and national agricultural policies for instability of the market of agricultural machinery and equipment (R2op). In his opinion the market of agricultural machinery is very much dependent on the promises of timely payments of direct subsidies and real timing of subsidy payments that farmers receive to make machinery purchases. For the above reasons farmers' decisions about buying agricultural machinery are made based on opportunities to finance such purchases. They appear cyclically, so the situation on the discussed market is also cyclical. The data collected from January 2013 to June 2016 show this tendency quite well. On the chart below one can see both periods of low activity on the market of tractors and the periods of visible spike in tractor purchases. Decision to purchase a tractor because subsidies are available is rational from farmer's point of view because he can receive 50% return of the cost of the purchase. This, however, causes periodical spike of prices of machines at times of subsidy payments and plummeting of prices, when subsidies are not available. Consequently farmers, who are not able to buy a tractor without subsidies buy the machines at higher prices than those farmers who do not have to rely on subsidies when buying farm equipment. In effect, these farmers buy the machines outside of the time of price spikes. Large scale farms do not receive such subsidies and it can be said that significant fluctuations of prices on the market of agricultural machinery are beneficial to them. The official position of the Agency of Restructuring and Modernisation of Agriculture regarding payments of direct subsidies, which were supposed to start in January implied mistakes and shortcomings of the previous board of the institution, which had not been adequately vigilant about assigning and controlling the preparatory work for the computer information system that would service the system of agricultural subsidies. According to the Agency of Restructuring and Modernisation of Agriculture it was lack of good computer programming and inadequate time for its preparation, testing and implementation after the change of the Executive Board that caused delays in direct payments. Political opposition and respondents of our study perceived the problems with payments of direct subsidies are the result of non-economic use of financial resources by current government. There are complains that the financial means originally intended for farmers' subsidies were spent on fulfillment of election campaign promises.

Additionally, they accuse the top management of the Agency of lack of competence and poor managing skills. This is a political conflict. However, it does not change the fact that delays in payments of direct subsidies are significant (up to several months), which undoubtedly contributes to the low grade of the state as a „protector” of food sector with no positive influence on farmers' economic decisions and risk management. Farmers not having any certainty about the date when they will receive direct subsidies do not risk any investments or purchases of larger quantity or better quality production means. Again the biggest disadvantages are experienced by farms that are highly dependent on direct subsidies, namely the smallest producers. Larger farms that can afford investments and purchases regardless of direct subsidies become more competitive.

### Price of new and used tractors



**Legend:** Nowe–New, Używane–Used **Source:** Authors` own research based on GUS data (average Euro course in the years 2013-2016 was 4,23 PLN)

#### 3.3.4 Import of grains from the Ukraine

The increase of grain import from Ukraine is strongly connected with the decisions of the European Union related to additional trade preferences for Ukraine. These decisions are part of the policy of tying Ukrainian economy with the internal market of the European Union as Ukraine is to become a member of the EU in the future. However, these political decisions and regulations are met with protests from Polish farmers, who are afraid that accepted Ukrainian export limits will cause worsening of economic conditions for them.

For regulation and policy issues the problem of importing grains to Poland from Ukraine seems rather important. „According to the data of Agricultural Market Agency in the economic year 2015/2016 the import of grains to Poland was much bigger than a year before. From July 2015 to May 2016, 1.2 million tons of grains were brought to Poland, which was 25 % more than in the same period of time in the 2014/2015 season. In particular, the import of corn increased significantly and it reached the level of 530 thousand tons, being 82 % higher than in the analogous time in the 2014/2015 season. The import of wheat also increased by 3% to reach 525 thousand tons and the import of triticale spiked by 54 % to reach 7.5 thousand tons. On the other hand, the import of barley fell 7 % down to 118 thousand tons and the import of oats decreased by 6 % to 19 thousand tons while the import of rye plummeted by 61 % to almost 4 thousand tons)”<sup>15</sup>. These are the official data but farmers and representatives of National Council of Agricultural Chambers (Krajowa Rada Izb Rolniczych - KRIR)

<sup>15</sup> <http://www.farmer.pl/produkcja-roslinna/zboza/mrirw-zapowiada-zwiekszona-kontrolę-przywozu-zboz.65874.html>, access on August 17, 2016

and National Federation of Grain Producers (Krajowa Federacja Producentów Zboż - KFPZ)<sup>16</sup> claim that the real quantity of grains that crosses the border with Poland may be even four times higher due to lack of tightness at borders and insufficient control. The imports of grains from Ukraine are problematic both in terms of quality and quantity of grains that become available on the market. Farmers in Poland use integrated plant protection and respect the bans on the use of many chemical products. Ukrainian farmers do not respect these requirements and that creates the problem of unfair competition on Polish grain market. It is worth mentioning that the respondents expressed opinions that (R4op, R5op, R6op) decision of the European Commission allowing Ukraine duty-free export to the EU countries of over 1 million ton of grains will mostly affect Polish market due to costs of transport. This will cause a drop in prices of grains on Polish markets as well as uncertainty in consumers regarding the quality of consumed grain products.

### 3.4 Market conditions and determinants

#### 3.4.1 Food chains

In the study the respondents had to show the circulation of wheat in the food chain. In particular, they were asked to present the entire path that wheat has to make from a seed through various stages of the food chain to reach the final consumer. Additionally, the respondents were asked to point out institutions and organizations that in their opinions had influence (through inspections, issuing of opinions, advisory services) on wheat food chain. Models of chains presented by respondents can be distinguished as simple and complex because of the number of intermediary institutions that influence wheat circulation. Before the presentation of the models elaborated by respondents a few general remarks should be made. As it was already pointed out in the sub-chapter describing institutional environment of the wheat sector, respondents have very limited knowledge of institutions and organizations that directly or indirectly influence wheat food chain in Poland. Only a few respondents identified some state institutions (supervised by the state and/or subordinate of the state) but none of them was able to name a non-government organizations, such as associations, cooperatives or producers' groups. It is an important observation, which ties with respondents' perception of low level (or lack) of help from the state for agricultural production and strong sense of Polish farmers being used by the European Union and Western food concerns. Once again, the statements by respondents participating in the study suggest low level of state engagement in agricultural market and weakness of legislation as well as state institutions.

#### 3.4.2 Simple model

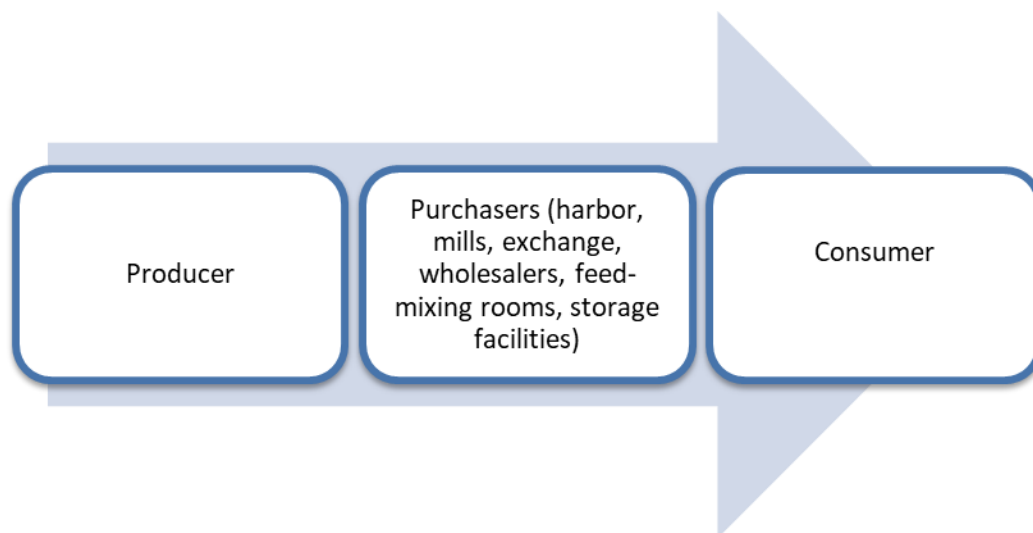
Simple model of wheat food chain is limited to the relations between the wheat producers and customers (buyers) of wheat. In this model respondents did not name any institution that would deal with sowing, crop inspections or processing in that context. Simple relation between a producer and a buyer respondents described as more important to the farmer because of direct and personal involvement. Among enlisted purchasers were: harbors, mills, exchange, wholesalers, feed mixing rooms and storage operations. Some respondents highlighted advantages of simple chain over complex chain stating that smaller number of intermediaries allows for better product price. Such strategy can only be adopted by large farms that have space and facilities to store grains. They are also able to meet quality and quantity requirements for grains. Respondents emphasized that what is currently important for purchasers is not just quantity or quality but right combination of quantity and quality. The purchasers are the most interested in large lots of order of identical quality merchandise. Thanks to the search for purchasers who are able to process wheat it becomes possible to get seasonal contracts

<sup>16</sup> <http://www.polskieradio.pl/42/273/Artykul/1648960,Import-zboz-z-Ukrainy-Jest-problem-czy-nie>, access on August 16, 2016 <https://www.agrofakt.pl/problemy-z-importem-zboze-ukrainy/>, access on August 16, 2016



before harvesting, which means that the price is being set at the beginning of the year, when grain prices around the world are spiking, so the selling price of wheat after harvesting, may be even 15% higher than current market price. Processing plants buy wheat from large market players that can provide high quality products and therefore this type of price „guarantee” option is only available to owners of large farms.

#### Simple model of wheat food chain



*Source: Authors` own research*

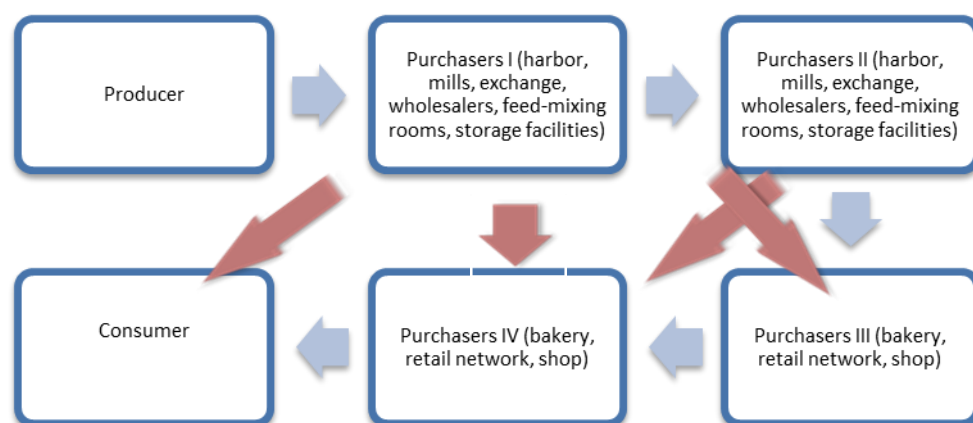
#### 3.4.3 Complex model

The complex model was described by several respondents. They discussed the variety of possibilities of intermediaries participating in the food chain, which on one hand increases the price of final products (delivered to the customer) (R3op, R4op), and on the other makes it impossible to precisely describe what is the quality of semi-finished products that make the final products (R5op). On this subject one of the respondents said that “the farmer can only guarantee the quality of the grain but nobody really knows what is in the bread” (R5op). These assumptions were however not supported by desk research analysis and other respondents.

In this model the complex food chain starts with the purchase of seed material. The producers have their own seed material that they experiment with on special trial fields and/or buy the whole material. All respondents confirmed that they were purchasing from reliable producers with whom they have long-term business relations. Furthermore, the respondents were able to identify several institutions that assist with the choice of seed material as well as the institutions controlling the crop before the harvest. They named the following institutions: agricultural advisory centres, research institutes (SDOO, IHAR), plant breeding stations, Agency for Restructuring and Modernisation of Agriculture, Agricultural Property Agency, Agricultural Market Agency. Additionally, private companies dealing with agricultural sector (advisory companies, companies selling plant protection products, seeds and/or fertilizers, companies selling agricultural machinery and equipment) start to play significant role in advising, instructing and influencing farmers’ decisions. Bank is another important institution as it grants credits for purchases of chemical products necessary for agricultural production, as well as loans for the purchases of agricultural equipment and disaster loans. In the complex model presented here, the institutions mentioned above influence agricultural production up to the moment of selling harvested crops. It was quite noticeable that the respondents identified the input of these institutions before the moment of selling crops. Within the context of sales and further stages of the food chain, they saw free market as the only causative „force” influenced by various actors aiming at highest

possible financial profit. Respondents were negatively evaluating this phenomenon. They believed that the food market should be more controlled by the state, which could influence the market through legislation and strong institutions and intervene in cases of negative for situations of farmers. They criticized current market mechanisms as having adverse effects on farmers and also mentioned negative impact of political activities or weather conditions. Respondents describing the complex model of food chain named the same bodies that were also present in the simple model but they also included others. Down the line, they pointed out to another category of processors that are located further in the food chain such as bakeries, supermarket chains, grocery stores and finally the consumers. Additionally, they suggested that the food chain may include many intermediary links in both categories of production and sales. However, the relations between them do not have to be present in one chain throughout all its links.

### Complex model of wheat food chains



*Source: Authors` own research*

Two models of wheat food chains are presented above. The first model is the simple model, which provides some evidence that some respondents might not have been fully aware what the whole food chain looks like. On the other hand, it presents certain strategy of producers who try to make the food chains shorter in order to have the best possible market conditions. The second model, presents complex relations between various chain links that the wheat has to go through in order to reach the final consumer in the well-processed form.

Both models show common pattern reflecting the situation of agricultural producers who do not have local outlets to sell their products, do not deliver merchandise to local processors and count on contract with larger purchasers. As respondents suggested, producers currently put great emphasis on safety. Therefore, they try to acquire contracts for larger sales that enable them to sell the whole merchandise, even at lower price. As a result, large purchasers and processing companies have better starting point for negotiation and cooperation. When the respondents were asked about local purchasers (i.e. local mill, bakery) they described difficulties of selling on local markets. They connected the productivity growth from one hectare in the recent years, as well as mechanization and modernization of agricultural farms with the increase amount of grains on the market as compared to the situation from several years ago. Currently, the farmer must ensure outlet for his products but the distribution channels that worked in the past has been abandoned in favour of larger deliveries.

Respondents agreed that larger farms had comparative advantage over smaller farms. In respondents' view small farms have no influence on the price at which they could sell their crops. Generally, they do not own heating chambers or storage facilities and have to sell their crops immediately during harvest time, when the market price is the lowest. Farms that are more autarkic and equipped with

heating chambers and storage facilities can speculate on wheat outlet. They can wait out the seasonal fluctuations of prices and sell the crops when demand will be higher, and supply will be lower.

#### 3.4.4 *Insurances, loans and credits*

In farm strategies adopted by their operators insurances, loans and credits play important role. They are financial instruments that on one hand allow for lowering the risk related to farming of field crops in an open space (with no covering). Credits and loan may be the only chance for farm modernization and investments.

Farmers sign up for buyers' credits, investment credits and natural disaster loans. The first type is generally meant for purchases of plant protection products and/or fertilizers. These credits and loans are not especially designed for farmers and can be described as regular consumer loans offered by most banks on the market. Sometimes farmers are offered the possibility of deferring payments until they are able to sell the crops (R1op). This issue appears to be important and farmers reflected on it while discussing credits for purchases of plant protection products and fertilizers. Such instrument is quite helpful especially for these farms that do not possess adequate finances to purchase necessary products and do not want to take credits in the banks. Deferred payments do not come free. Distributors that offer such opportunity execute higher margins on deferred payments for plant protection products and fertilizers.

Disaster loan is another credit that should be discussed here. This instrument is meant to provide aid to agricultural farms, which experience losses as a result of adversary weather conditions. When these subsidies are granted by the Agency of Restructuring and Modernization of Agriculture, the interests are paid from the resources of the bank cooperating with the Agency. The aid means that the Agency pays the portion of the interest rate for the farmer. Disaster loans can be divided into investment loans (meant for replacement of fixed assets) and working capital loans (intended for financing current needs related to agricultural production). Farmers can apply for disaster loans in banks that signed the appropriate agreements with the Agency for Restructuring and Modernisation of Agriculture or with cooperative banks associated with the Agency. Starting from 2015 the disaster loans were offered by the following banks: BGŻ BNP Paribas, Bank BPS, Krakowski Bank Spółdzielczy, Raiffeisen Bank, SGB, Bank Zachodni WBK and Bank Pekao<sup>17</sup>. This instrument received positive reviews from the respondents who were farmers but they did not connect it directly with the state aid. While discussing it they mostly focused on problem-free cooperation with the bank, without pointing out to the role of the state. Besides the described disaster loan the Agency for Restructuring and Modernisation of Agriculture also offers other preferential credits that agricultural producers can apply for. They are:

- investments credits in agriculture and inland fishing
- credits for purchases of agricultural land
- credits for investments in processing of agricultural products, fish, crustaceans and molluscs and for purchases of stock and/or shares
- credits for large enterprises to resume agricultural production and replace fixed assets
- capital loans with no interests for agricultural producers
- credits for young farmers to purchase arable land with portion of the capital being paid for them

Additionally, farmers may receive guarantees and sureties for liabilities of bank credits, including disaster loans and investments credits.

<sup>17</sup> <http://www.arimr.gov.pl/pomoc-krajowa/kredyty-preferencyjne-od-2015-r.html>, access on August 29, 2016

There is certain trend among respondents regarding choice of the bank to take credit from. Cooperative banks are the most trusted banks. Respondents claimed that (R3op, R5op, R6op) they are banks with traditions and they worked with them for many years while also being acquainted with the bank employees, which might be helpful in getting better credit terms. Another important characteristic of cooperative banks that the respondents alluded to was the possibility of coming to the agreement in the situation of trouble resulting from crop failure. The respondent said that corporate banks were unforgiving in such situation and did not try to understand the specific conditions of farming and agriculture, while cooperative banks understood the logic farmers' functioning and sometimes allowed for renegotiations of the term of credit already taken.

It was quite noticeable that popularity of credits and loans increased radically when the refunds of costs of large purchases (such as tractors) were introduced. One of the most popular instruments is the no interest credit for purchasing of agricultural machines<sup>18</sup>. When this financial instrument is applied farmer only pays the costs of commission, which usually oscillate around 0.25 % of the credit sum but all interest rates are paid by the Agency for Restructuring and Modernisation of Agriculture. The aid from the Agency is 'de minimis' aid, which means that the amount of subsidies to credit interest rates cannot exceed the free limit of such aid per one farm, which is equivalent of 15 000 Euro in the period of three years.

While discussing the credits the privileged position of large farms able to buy machines from their own funds without relying on subsidies has to be mentioned once again. As one of the respondents noted (R4op), credits are always pricey and increase the risk level for farmers. Indebted farm is very risky to operate because even in case of unexpected changes on the market and natural disasters, possibly leading to significant farm losses, the outstanding debt will still need to be paid. One of the risk management strategies is not taking loans and credits.

One of the respondents described a quite interesting credit mechanism connected with sales of agricultural machines and equipment (R2op). The respondent who had a company selling agricultural machines claimed that there are national agreements between banks and producers of agricultural machines. The French banks have agreements signed with French producers of machines and because of that they can offer zero interest for particular machines of certain producers. Then the credit interest rates are really not a burden to the creditors and the costs of credit are distributed between the producer and the distributor. As an effect the purchase of the machine from French producer is more advantageous than a purchase of another machine.

Insurance policies make another important financial instrument that farmers use. Specific conditions of agricultural production make farmers especially prone to crop destruction, consequences of natural disasters and other catastrophes and misfortunes (such as diseases). Therefore, insurance policies can be seen as strategies minimizing the risks connected to farm production. In Poland, only about 10% of farmers fulfil the legal obligations to insure their crops. Experts emphasize that law on that matter remains a dead letter and nobody executes that farmers abide it<sup>19</sup>. Such low percentage of farmers insuring their crop in Poland may be influenced by several factors. Firstly, system of insurance of crops in Poland has not been reformed for years. Farmers have rather negative experience with insurance because of difficulties with obtaining insurance policies and problems with the insurance value. Lack of trust of Polish people in insurance products is another factor. There is also a

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<sup>18</sup> <http://www.podlaskie.strefaagro.pl/artykul/rolnicy-czekaja-na-doplaty-i-biora-nieoprocentowane-kredyty>, access on August 28, 2016

<sup>19</sup> <http://www.polskieradio.pl/42/5202/Artykul/1643231,Dlaczego-tak-niewielu-rolnikow-w-Polsce-ubezpiecza-uprawy>, access on August 28, 2016

discouraging price of some insurance policies and the belief that „nothing bad is going to happen”<sup>20</sup>. Focusing on farmers, it may be helpful to name two characteristic reasons for such low level of crops being insured in Poland. Firstly, there is a problem with legislation. According to the current law the risk of draught is so high that the insurance companies are not able to propose insurance premium that would allow the farmer to receive subsidies from the state budget<sup>21</sup>. Secondly limited offer of insurance companies intended for farmers is not helpful. This problem ties closely with already mentioned problems with legislation. In Poland only three insurance companies deal with crop insurance policies. They are: PZU, Towarzystwo Ubezpieczeń Wzajemnych (TUW) and Concordia Insurance. This situation is caused by inconvenient legal regulations, which result in expensive and high-risk products of insurance companies. Incompatibility between farmers' needs and legal regulations contributes to some form of monopolization of the insurance market. The respondents complained about the constantly increasing insurance premiums suggesting that they originated in lack of competition on the insurance market. It is worth mentioning that all respondents from the studies area indicated that they insured their crops, which was in contrast with the nationwide tendency. This unusual characteristic of the Opole Province can be explained by affluence of the region (farmers could afford insurance policies) and large average farm size. In 2015 Opole Province had 5th position in the country in regards to farm size with average farm size of 18.21 ha)<sup>22</sup>. Additionally, it should be mentioned that despite complains about increasing prices of insurance products the respondents were quite satisfied with their quality. Those who received insurance benefits thought that the sums that the insurance company paid were satisfying. This goes well with farmers' motivation to insure crops. It was not so much the legal obligation but a strategic decision of managing the risk, which farmers make according to their convictions.

The above data indicating low percentage of farms insured in Poland do not correspond with information collected during interviews in the Opole region. These differences can be attributed to the fact that the interviews were only conducted with active farmers. Unlike the national data the respondents of the study did not include all registered farmers, including those who were only formal owners of agricultural farms.

### *3.4.5 Technologies*

Use of technologies in farm operation was often addressed by farmers. When discussing technologies farmers' knowledge and know-how should also be mentioned. For that reason both issues will be presented in the following subchapter.

#### *Farmers' knowledge and know-how*

Farmer's know how on agricultural matters, including novelties on the market of plant protection products, machines or fertilizers can originate in various sources. „If the farmer has the willingness he can find professional handling of farm matters and does not need to have expert knowledge (...) Majority of farmers nowadays know that application of new technologies makes sense but they remain resistant because they have been doing things in certain way for many years and it was good”(R1op).

Numerous organizations and institutions that instruct farmers and advise them on agricultural matters are worth a closer look. Agricultural Advisory Centres play important role here but the respondents noted their deficiencies in advising on technologies (R1op). The opinions such as „we can teach

<sup>20</sup> <http://www.polskieradio.pl/42/4393/Artykul/1475608,Polacy-nieubezpieczeni-bo-za-drogo-i-nie-wierza-ubezpieczycielom>, access on August 28, 2016

<sup>21</sup> <http://www.farmer.pl/finanse/czy-rolnicy-mogli-ubezpieczyc-sie-od-suszy,59382.html>, access on August 28, 2016

<sup>22</sup> <http://www.arimr.gov.pl/dla-beneficjenta/srednia-powierzchnia-gospodarstwa.html>, access on August 28, 2016

Agricultural Advisory Centres” (R3op) were popular among the respondents. This touches the larger problem of the agricultural advisory system in Poland that needs to undergo necessary changes and should modernize its centres. One of the recommendations presented in the final report of the study entitled “Evaluation of functioning of the system of agricultural advisory in Poland...”, advocates closer cooperation between Agricultural Advisory Centres, universities and other competent institutions on introduction of new technological solutions. Presently, technological advisory is not sufficiently covered by Agricultural Advisory Centres<sup>23</sup>. The Centres, however, fulfil an important task of helping farmers with filling in the applications, preparation of agri-environmental plans and farm modernization issues. They also provide advisory services for micro enterprises as well as organize training courses and workshops in cooperation with other institutions<sup>24</sup>.

Experimental Station for Variety Testing (SDOO) and Regional Chemical-Agricultural Station (WIORIN) are important institutions that help farmers to make decisions on seed choices, particular plant protection products, fertilizers and agricultural works that have to be conducted on farms. Farmers perceive Experimental Station for Variety Testing (SDOO) as an institution that publishes lists of varieties recommended for cultivation in particular regions. Regional Chemical-Agricultural Station WIORIN publishes announcements through special internet system and it signals pest problems that farmers appreciate. The presented information details provinces, counties as well as cultivated plant species and orchard plants. In case of active announcement, the description of the pest/disease appears on the site, as well as instructions for particular procedures to fight them<sup>25</sup>.

Instruction courses and workshops organized by commercial companies can also serve as good sources of knowledge and know-how for farmers. These companies oftentimes distribute plant protection products, fertilizers or agricultural machines and that is why they organize various forms of instruction courses and agricultural advisory services for individual farmers and groups. What is presented during the courses and workshops may seem like sales offers. Farmers admit they are aware of that, nevertheless these instruction courses and workshops are quite specialized and thought to be helpful. Farmers can expand their knowledge on various issues and make reasonable decisions on purchases, as well as apply certain solutions. The instruction courses organized and conducted by commercial companies become more popular than the ones conducted by Agricultural Advisory Centres. The commercial companies already implement innovative solutions and they need to promote and sell them. Thus the investments in instruction courses for farmers allow these companies to create distribution networks.

Only a small number of farms use private advisers, who help to run the farm (R3op). Hiring such adviser is rather expensive but gives the farm a rather great competitive advantage over other farms. Such person is highly specialized in particular area of expertise such as wheat cultivation. He or she has the knowledge from producers by completing instruction courses and getting certification. This is combined with that person’s own experience of cooperation with multiple farms. As it was already noted, the services of such person are quite expensive and only large farms can afford to hire them.

Study visits are another interesting form of improving knowledge on agricultural machines (R2op). The producers of agricultural machines invite potential clients to their production plants, where they also provide room and board. The cost of transport is on local distributor, who has great interest in

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<sup>23</sup> Final report of the study. „Ocena funkcjonowania systemu doradztwa rolniczego w Polsce w kontekście spełniania warunkowości ex ante zawartej w projekcie rozporządzenia PE i Rady w sprawie wsparcia rozwoju obszarów wiejskich przez Europejski Fundusz Rolny na rzecz Rozwoju Obszarów Wiejskich”, Warsaw 2012, p.70.

<sup>24</sup> Ibid., p. 96.

<sup>25</sup> <https://piorin.gov.pl/sygn/start.php>, access on August 25, 2016



potential clients purchasing the machines. Study visits are usually organized 1-2 times a year and their programs include visiting production plants and participation in agricultural shows and instruction courses. It is usually companies in Germany and France that invite farmers. This typical marketing exercise has its obvious benefits for both distributors and farmers.

The respondents identified agricultural magazines (such as Top Agrar) in the printed and internet form as another form of expanding their knowledge. They were also active on internet forums, where farmers can address various problems and share solutions with each other.

### *Agricultural machinery and equipment*

Agricultural machinery and equipment play important role in managing of an agricultural farm. As noted by one of the respondents: „Modernization and technical development are not cheap but they bring greater productivity and we can collect crops faster. Consequently, labour costs are smaller as well as fuel costs. Also, we can always collect crops regardless of the weather and there is smaller risk of losses” (R6op). Purchasing of agricultural machinery may be a part of strategy, not just for farm development but also for risk management. Another respondent said that he had his own machines and could not afford the mistakes of companies renting the machines or to expect help from others” (R5op).

Agricultural mechanization is a necessary process related to many other processes of economic and social kind. Dynamic increase of prices of production means for agriculture with noticeably smaller increase of prices of agricultural products cause decrease of profitability of agricultural production<sup>26</sup>. This makes it necessary to increase the scale of production in terms of enlarging the farm area as well as farm modernization. Mechanization here is two dimensional and relates to quantity and quality. It is meant to increase the productivity and reliability as well as to improve the quality of crops. Increasing operating performance of machines allows for getting high quality production with smaller input of labour per agricultural arable unit. At the same time economic efficiency of agricultural labour increases as well. „Rational mechanization of agriculture allows for improvement of effectiveness of production and higher quality of food products as well as protection of natural environment”<sup>27</sup>.

As farmers expand their knowledge in the field of agro-technology their awareness on necessity to conduct investments related to mechanization also increases. Differences in decision making can be well seen among respondents. Purchasing of agricultural machines and equipment was seen as one of the possibilities of farm modernization. Renting of necessary machines was another one. It was seen as a good strategical decision to rent some most expensive machines such as tractors and combine harvesters, as „they work only several days a year, so it does not make sense to keep them and service them year round. The cost of renting them is so low that buying machines seems uneconomical. The cost of purchase of such machines would be recovered only after several decades” (R5op). The statement quoted here not only addresses the cost of purchasing a machine but also servicing. When renting, the farmers can expect well-performing machine that in case of machine failure due to operational reasons will be fixed at the expense of the rental company. On the other hand, one of the respondents noted that the previous season he prepaid the rental of agricultural machines but it was not delivered to his farm at the agreed harvest time. As a result, farmers could be exposed to great losses, not having tools and machinery to collect crops (R5op).

As the costs of agricultural machines are among the ones that the agricultural farms have to incur in order to function properly, larger farms count on preferential terms of purchasing. „We do not buy machines from producers as such purchases are too small (...). There is a dealer who negotiates with

<sup>26</sup> J. Pawlak, *Rola mechanizacji w rozwoju rolnictwa*, Roczniki Nauk Rolniczych, series G.T.97 z 2, 2010, p.173.

<sup>27</sup> Ibid., p.173.

the producer and there is an argument that it is a whole Group (the group that encompasses the company, whose representative described the mechanism during an interview– remark by the authors)” (R3op).

With purchasing of agricultural machines and equipment servicing is of crucial importance. „The first machine is sold by a sales representative but the second machine is sold by service” (R2op). Service and repair of agricultural machines can be expensive and require professional knowledge. Therefore, small and big farms alike are more and more likely to cease having their own workshops and order these services from the third parties. Servicing becomes a part of competition game among machine dealers. Currently the prices of machines are low and price competition is not possible, so the dealers try to offer the best and the most comprehensive servicing package. Decisions to buy agricultural equipment can be influenced by servicing options offered together with the machinery.

Low demand for agricultural machines makes their prices low and the producers’ pressure dealers to sell them. „Currently about 5-6 thousand tractors are stocked and the companies are pushing dealers to sell them, so the new machines can be produced” (R2op). Currently it is a good time for purchasing of agricultural machines, because of macroeconomic determinants. As it was already described in the earlier part of the report the EU subsidies for purchases of agricultural machines have significant influence on this situation. If they are not available the prices of machines drop significantly, which from the farmer’s point of view becomes a good time for purchasing machines.

Precision farming, computerization and access information of agricultural farms were also important subjects discussed by farmers. The respondents explicitly understood the need for introduction of certain computer programs to manage the farm but they do not use them. In their view introduction of information systems and/or precision farming are the things of the future which could bring big savings and better farm efficiency. Nevertheless, these are very expensive technologies and thus only available to big farms. „Research models show that with access to specialized mechanization services and good knowledge of computer programming farming could probably be possible and profitable even on farms of 30 ha of arable land following the six-year crop rotation schedule with 6 ha of permanent green areas”<sup>28</sup>. Costs of purchasing of machines are not the only factors that matter. The expert knowledge, which farmers may be lacking, is crucial as well. As it was mentioned earlier, costs of servicing and operational cost of machines are also quite important. „Precision farming is a more advance technology, for younger generation (...) it is a technology of the future and for large farms. For small farms it would not be economical. Savings related to precision farming are only possible for the largest players” (R4op).

### *Fertilizers and plant protection products*

Farmers wanting to maintain productivity and meet strict EU requirements on using fertilizers and plant protection products are forced to incur purchase-related large expenses, and need to apply various products. Generally, farmers buy these products from reliable suppliers, from whom they can get original and safe products at attractive prices. It is extremely important to use the original verified products as the experience of recent past shows that using of bootleg products goes against the standards of agricultural production. Bootleg products cause huge problems for controlling institutions as well as for the farmers. The sales offer of unregistered products can be found on Internet and at farmers’ markets. „Illegal pesticides get to Poland through our Eastern border coming from countries such as Ukraine, Malaysia, China and India. It is estimated that bootleg pesticide make about 10 % of the entire pesticide market in Poland and about 25% of the pesticide market in the European Union”<sup>29</sup>.

<sup>28</sup> Ibid., p.170.

<sup>29</sup> <https://www.agrofakt.pl/uwaga-na-podrobki-srodkow-ochrony-roslin/>, access on August 28, 2016

Bootleg products are attractive for farmers mostly because of their prices as they can cost only half the price of the original products. This is quite meaningful if one considers the constantly growing costs of plant protection products that farmers have to face. The fertilizer market has increased in Poland for about 10% in the last 10 years. The rate of increase of the market of plant protection products was even higher<sup>30</sup>.

So called parallel import, which gives a legal possibility of importing plant protection products from the UE countries, where this product is less expensive is also worth attention. Such possibility was introduced by the law from March 30, 2007 on amending the law on plant protection. The law became effective on May 24, 2007 and in theory it allows for the imports of plant protection products at good prices. This mechanism is thought to have positive impact on competitiveness of prices of the products available to farmers in all the EU countries. In reality, this legislation is not effective, which some farmers recognize as the effects of the lobbying efforts of companies that make these products. According to farmers chemical concerns lobby for issuing of negative opinions on import possibilities, which can increase financial gains of global concerns<sup>31</sup>. This status quo leads to increase of availability of bootleg and illegal products of plant protection<sup>32</sup>. „Data estimates from PSOR and POLSOR indicate that illegal and bootleg plant protection products can make over 15% of the market in Poland, which is the sum of 250-375 million PLN<sup>33</sup>”.

#### *3.4.6 Farmers membership organizations and social capital*

Membership organizations for producers such as producer groups or cooperatives may play important role in strategic decisions on farm management. It is generally accepted that indicator of membership in organizations is compatible with the level of social capital. Informal relations and bonds are also important. When evaluating the bonds between the neighbours respondents did not agree on their strength or direction. While some responses indicated good neighbouring relations the other ones were extremely negative in their opinions. „Farmers help each other. A friend called for help with harvest collection and we assisted him. We also help each other lending machines. We are not part of cooperative. This is help between friends” (R1op). Majority of responses indicated lack of help inadequate help that farmers can expect from their neighbors or other farmers. „There is no help, for money everybody can borrow equipment but real help happens rarely. If machines are needed one can rent them” (R2op). Another respondent added that „there is no mutual help, there is only jealousy” (R5op). Farmers cannot count on mutual help. From previous statements about the purchases of machinery and remarks on mutual help between neighbours and other farmers it can be inferred that farmers self-sufficiency and overcoming the situations, in which they would have to count on help from others. This may serve as evidence of relatively low social capital of the studied group. However, the respondents explained this phenomenon differently. They argued that agricultural production is like any other business in the sense that one has to be resourceful and show an entrepreneurial streak to manage the farm effectively. While operating such business it is more rational to rely on formal associations and agreed upon contracts, with no room for emotions and sentiments. What matters is the labour done, that can be appraised. In case of dealing with relations of ephemeral character such as relations among friends or neighbours a businessman would need to rely on social norms and values, which in this understanding are more risky. It can be said that avoidance of friendly relations is some sort of management strategy, as well.

<sup>30</sup> <http://www.e-sadownictwo.pl/wiadomosci/z-kraju/4411-rynek-nawozow-i-srodkow-ochrony-roslin-w-polsce-wg-eksperta>, access on August 28, 2016

<sup>31</sup> <http://przedsiebiorcarolny.pl/index.php?content=897>, access on August 28, 2016

<sup>32</sup> [http://www.senat.gov.pl/gfx/senat/userfiles/public/k8/komisje/2015/ks/materialy/135pos\\_op.pdf](http://www.senat.gov.pl/gfx/senat/userfiles/public/k8/komisje/2015/ks/materialy/135pos_op.pdf), access on August 28, 2016

<sup>33</sup> *ibid.*, p. 3.

As it was mentioned before, informal relations that farmers may base their work and cooperation on are not the ones worth considering. There are also formal institutions. Farmers joining producer group and/or cooperatives could be a reasonable strategy of managing the farm, especially for small producers. As supported by data analysis, larger farms have better possibilities on influencing crop prices, as well as acquiring necessary means of production. Additionally, thanks to large quantities of crops at their disposal they can manipulate the volume of crops on the market as well as search for good wheat outlets. For that reason, the strategy of small farms joining forces appears to be the only right direction for the development. There are several reasons why this is not the case.

Farmers argued that the emergence of producer groups in the Opole region did not happen according to program principles. These producer groups were created on the base of several farms, which were artificially created out of one larger farm (R2op, R3op). Producers wanting to receive subsidies that were designed for emerging producer groups divided their farms, by legally transferring the ownership of the portion of the farm to the closest family members. This way family producer groups were established. As a result, the owners still remain in possession of the entire land and receive the subsidy money they could invest in farm development. At the end, money and the idea of cooperation and aid to small farms in the Opole region turned against them, because only large farms received the aid.

The authors of the 2013 program "Economic consolidation of agricultural commodity producers of the Opole Province" concluded its outcome to be a success, which led to improvement of market conditions for farmers with producer group membership<sup>34</sup>. However, the press materials from 2015 showed that state legislation contributed to dissolution of producer groups in entire Poland.<sup>35</sup> The problems were related to extending deadlines for issuing of decisions of the Agency for Restructuring and Modernisation of Agriculture, introduction of necessary financial safeguards and constant changes of regulations, which implementation had negative consequences.

Program for producer groups should be recognized as ideologically appropriate, but its implementation seems faulty, particularly in the Opole region.

Cooperatives are another form of membership organization for farmers. However, the respondents confirmed that the direction of changes in cooperatives were rather negative leading to liquidation rather than development of such organizational form. „Cooperatives do function but since they are able to liquidate themselves and divide the land, they opt to liquidate and sell the land. Their board members become millionaires (R3op). Such cases are described in sources used for the purposes of this report. Cooperative boards can legally dissolve cooperatives selling the land and dividing the wealth an assets between the members. As the respondent explained: „In the first year they [members of the cooperative – remark by the authors] received 6 combine harvesters from the central distribution and I could not get any agricultural equipment for many years. Then older residents started to exchange their lands for agricultural retirements. The state was taking the land for the Land Fund and later passed onto do Agricultural Production Cooperative. They paid very little money to the government agency.” In his response the farmer expressed his frustration with the state that allowed the members of the cooperative to get rich in such questionable manner”<sup>36</sup>. The charges about dissolution of cooperatives were also expressed by former members of the cooperative „Those who voted in favor of the liquidation did not work alone for all these assets and wealth to get accumulated.

<sup>34</sup> <http://wiadomosci.onet.pl/opole/w-regionie-dziala-85-grup-producentow-rolnych/skwkp>, access on August 30, 2016

<sup>35</sup> <http://www.ppr.pl/wiadomosci/aktualnosci/grupy-producenckie-nad-przepascia-183459>, access on August 30, 2016

<sup>36</sup> <http://www.strefaagro.nton.pl/artukul/wierzbicice-wies-milionerow-osiemnastu-szczesliwcow-dostanie-po-2-000-000-zl>, access on August 30, 2016

Many people worked for these things. We resigned from additional incomes, so the cooperative could pay for the land. When the cooperative was investing, we were all tightening our belts. And now, we were not invited to the meeting, where liquidation was decided”<sup>37</sup>. Farmers in the same region were also critical of the liquidation. As a result all the assets of 30 million value including 400ha of land, warehouses, base, offices, tractors, combine harvesters and tractors were sold to just one entrepreneur. The local farmers said that if the land was divided into plots of over 10 ha each then at least several dozen of individual farmers would have interest in buying these plots to enlarge their farms<sup>38</sup>”.

## Summary

### SWOT Analysis

Strengths	Weaknesses
<ol style="list-style-type: none"> <li>1.Comprehensive institutional framework</li> <li>2.Direct payments</li> <li>3.Investment subsidies</li> <li>4.Diversified food chains for wheat (long and short)</li> <li>5.Agricultural advisers, who help farmers</li> <li>6.High level of agricultural mechanization</li> <li>7.Access to investment credits, buyers’ credits and disaster loans</li> <li>8.State subsidies for disaster loans</li> <li>9.Strong cooperative banks, flexible and „compassionate” for traditional agriculture</li> <li>10.Farmers’ willingness to expand their knowledge</li> <li>11.Farmers’ access to commercial and noncommercial instruction courses and workshops</li> <li>12.High crop yields</li> <li>13.Short food chains mostly available to large farms</li> </ol>	<ol style="list-style-type: none"> <li>1.Farmers awareness of the weak role of the state as the institution responsible for shaping food chain</li> <li>2.Lack of well thought-through policy related to food security and lack of consideration for the national interest in shaping of agricultural policy</li> <li>3.Passivity of Polish government in securing profitable wheat production in Poland</li> <li>4.Insufficient inspections regarding quantity and quality of wheat coming from abroad (wheat transports from Ukraine and Czech Republic with no inspection),</li> <li>5.Farmers’ low level of knowledge on grain prices in Europe</li> <li>6.Delays and missed deadlines for payments of direct subsidies and subsidies related to purchasing of agricultural equipment and machinery</li> <li>7.Low activity and low popularity of non-government organizations (cooperatives, non-profit organizations, associations, foundations and producer groups)</li> <li>8.The system of agricultural advising in Poland is not competitive with the private sector on technology issues</li> <li>9.Lack of short food chains for small and medium farms</li> <li>10.Lack of local market outlets</li> <li>11.Large farms can postpone selling grains in order to wait for better prices as their own storage and drying facilities, small farms have to sell</li> </ol>

<sup>37</sup> Tamże.

<sup>38</sup> Tamże.

	<p>their grains at harvest time when the prices are the lowest</p> <p>12.Unreformed for many years legislation related to crops insurance option</p> <p>13.Monopolization of the crop insurance market</p> <p>14.High prices of crop insurance policies</p> <p>15.Low percentage of crops insured in Poland</p> <p>16.Low awareness of farmers regarding the need to insure crops</p> <p>17.Low social capital among farmers</p> <p>18.Formalization of social bonds</p> <p>19.Emergence of ‘family producer groups’</p> <p>20.Liquidations and selling of cooperative assets</p> <p>21.Market and prices are determined by large processors and transnational corporations</p> <p>22.Farmers’ inability to influence wheat prices</p> <p>23.Diverse quality of harvested crops</p>
Chances	Threats
<p>1.Large concerns with foreign capital as sources of innovation and new work places</p> <p>2.Farms being transferred to young farmers</p> <p>3.Initiating cooperation between farmers, advisory institutions and agricultural universities</p> <p>4.Continuous progress in the implementation of precision farming on large farms</p>	<p>1.Volatile price fluctuations on the market of agricultural machines and equipment, which depends on direct payments schedule</p> <p>2.Strong dependence of small farms on agricultural subsidies</p> <p>3.Decision of the European Commission granting Ukraine no customs export of 1 million tons of grains to the EU countries</p> <p>4.Large concerns with foreign capital able to lobby for prices beneficial to them and for increased use of fertilizers and plant protection products, which can be detrimental to medium and small farms</p> <p>5.Market preferences for large lots of commodities of the same quality</p> <p>6.Illegal pesticides get to Poland through Eastern border coming from countries such as: Ukraine, Malaysia, China and India</p> <p>7.Lobbying of large corporations producing plant protection products in favour of parallel import</p> <p>8.Problems with farm expansion (lack of access to agricultural land)</p> <p>9.Climate changes that cause wind-storms</p> <p>10.Lack of well-planned policy of the state</p>



	regarding the development of wheat production and harvesting in Poland
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*Key issues identified in the literature, media, and interviews (wheat)*

Based on the relevant literature, media, and interviews, one might stress that consideration of weaknesses has dominated the discourse concerning the wheat sector in Poland (see the table). These weak points cover a few areas, namely: a/ the lack of proper state involvement in support of wheat production, b/ limited inclination among farmers towards cooperation, c/ significant problems related to the low knowledge concerning wheat production insurance, as well as d/ domination by large producers in the sector. The points of strength seem to be less numerous but, at the same time, have been better detailed in the analysis. Poland seems to have some institutional background to develop wheat production, namely: direct payments, support for investment activities, as well as differentiated food chains, specifically long and short ones. However, even the latter are more open to cooperation with large farms. The presence of agricultural extension agents as well as some direct payments and support for investments have been stressed here. Moreover, the role of support in the case of natural disasters and the significant support of credit unions have been mentioned as well. A relatively open access to courses (both commercial and non-commercial ones) in order to improve farmers' knowledge seems to be an important factor in the development of the wheat sector.

An analysis of the strengths and weaknesses leads us to the evaluation of opportunities and threats for the wheat sector in Poland. Again, the “dark” side, i.e. threats, dominates over opportunities. The first threat has been related to dependency on payments, especially that observed in the case of small producers. The other threats seem to be more complex, for example, climate change. However, the major threat has been connected to various EU and state policies, such as the free import of grain (including wheat) from Ukraine to EU (1 million metric tons) as well as the lack of a clear vision of the development of the wheat sector in Poland in the near future. Moreover, the domination of transnational corporations in the chemical and pesticide market, as well as purchasing of the product have been stressed in this context. Some difficulties in the process of farm enlargement (land purchases) have also been mentioned here. Quite counterintuitively the role of transnational corporations has also been seen as a positive one, especially in the context of innovations and job creation. Other factors shaping opportunities for wheat farms have been seen in the areas of generational change in the farming community, growing interdependencies between farmers as well as extension services and even academic institutions, and the growing importance of precision farming procedures observed among wheat farmers.

## 4. Case Study II: APPLE (Malopolska Region)

### 4.1 Fruit market in Poland

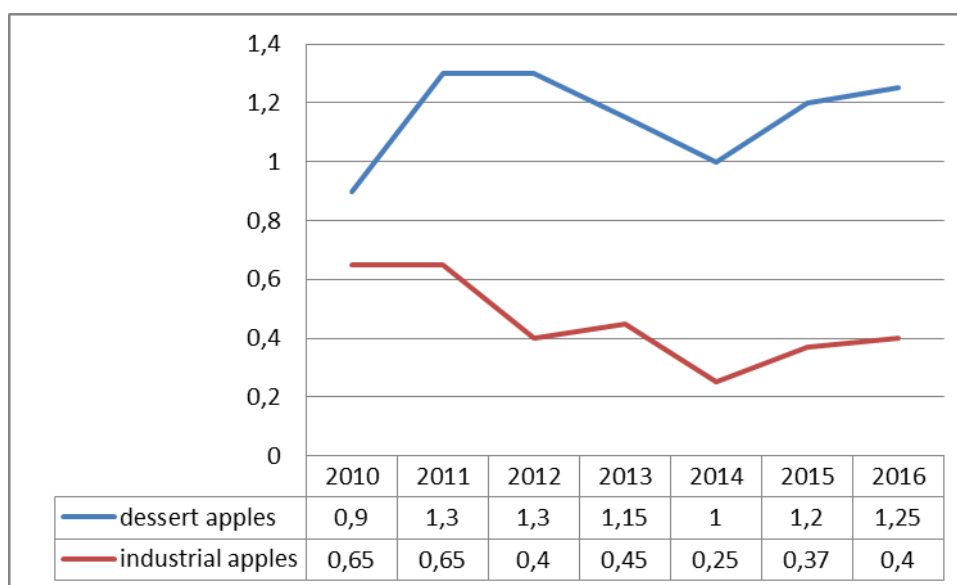
Fruit harvests in Poland in 2014 were record high and amounted to 4.2 million tons. Production of fruit from the trees was 3.6 million tons and it was 2.8% higher than fruit harvests of 2013. It was also 44% higher than the average fruit production in the years 2006-2010. Apple yields were 3.2 million tons and were 3.6% higher than harvest in 2013 and almost 50% higher than the average yields in the years 2006-2010 (table 17). Pear yields amounted to 74 thousand tons, plums to 106 thousand tons and cherries to 176 500 tons, while sweet cherries reached 48 thousand tons. Combined yields of peaches, apricots and walnuts were estimated as 20.4 thousand tons.

Total fruit harvests from fruit bushes and berry plantations reached 569 thousand tons in 2014 and were about 6.3% lower than in the previous year but still 11% higher than the average yields in the years 2006-2010. The most dramatic drop of 20 % was observed in the black currants yields.

Production of fruit preserves in Poland in the 2014/15 season was estimated as 1065 thousand tons and was 5% higher than the production in the previous season. The production of concentrated apple juice reached the record level of 335 thousand tons. The production of jams, fruit purees as well as canned fruit and dried fruit also increased significantly. Production of frozen fruit remained at 415-416 thousand tons. The production of concentrated juice produced from coloured fruit declined as well.

In the 2014/15 season the buying-in prices of almost all kind of fruit were lower than in the previous season. The prices of cherries and black currants were at their lowest. The prices of dessert apples dropped by 13% and the prices of apples designated for processing dropped by 44%. The situation on apple market in the fall of 2014 was greatly destabilized after Russia introduced the embargo. Only raspberries, pears and sweet cherries had higher than usual buying-in prices in that season.

#### Prices paid to fruit producers in Poland in years 2010-2016, expressed in PLN/kg



Source: Bożena Nosecka (ed.) *Rynek owoców i warzyw stan i perspektywy*, Institute of Food Economy – National Research Institute, June 2016, p.12.

**Prices paid to farmers for their fruit in Poland in years 2010-2016, expressed in Euro/kg**

	2010	2011	2012	2013	2014	2015	2016
dessert apples	0.21	0.31	0.31	0.27	0.24	0.29	0.30
industrial apples	0.15	0.15	0.10	0.11	0.06	0.09	0.10

*Source: Bożena Nosecka (ed.) Rynek owoców i warzyw stan i perspektywy, Institute of Food Economy – National Research Institute, June 2016, p.12. (average course of Euro in years 2010-2016 was 4.2 PLN).*

The above chart presents volatility of prices that farmers received for dessert apples and industrial apples in the years 2010-2016. The lowest prices of 2014 are undoubtedly the effect of embargo on Polish apples implemented by the Russian Federation.

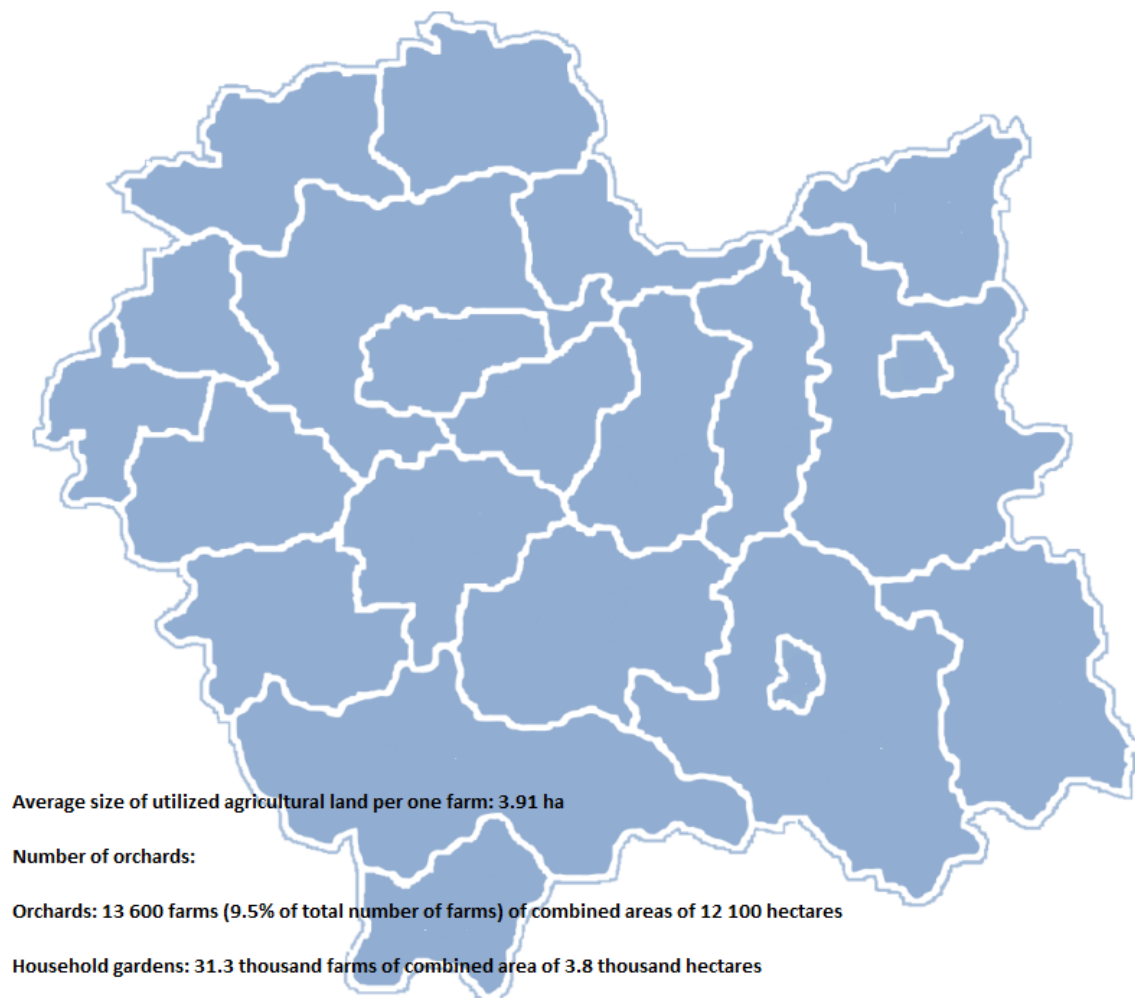
**4.2 Case study introduction**

Małopolska is one of the smallest regions in Poland (NUT 2). Its area is roughly 15 thousand square kilometres that takes less than 5% of the total area of Poland. However, concerning the population density Małopolska region is the second in the country with 221 persons per square kilometer. Małopolska is inhabited by 3.35 million people who make 8.7% of the total population in Poland. Majority of inhabitants live in rural areas and only three cities in the region (Kraków, Tarnów, Nowy Sącz) together have only slightly more than 28% of the total number of the regional dwellers. Małopolska is quite diverse in terms of landscape and climate. In the northern part of the region one might observe the presence of the industrial type of agricultural production as a result of the better quality of soils as well as a more visible number of larger and market-oriented farms. In the central part of the region the impact of the major regional cities seems to be visible. Therefore, in this area the involvement in agricultural work is only an additional type of labor activity for the population. In turn, the southern part of the region has been perceived as the most interesting one due to natural conditions (mountain areas) but mostly rather difficult conditions for agricultural production. In this particular area farms are rather traditional as well as small. Therefore farm operators have been seeking for some amenities in the niches (agritourist services, organic production, regional and local production). In Małopolska we might still observe more than 150 thousand of farms which are mostly small. About 83% of farms are smaller than 5ha, and only 3.1% of them occupy more than 15 ha. The average size of farm in the region is currently of 3.8 ha. It should be noted however that Małopolska region has the largest number of farms among all the regions in Poland. Almost all of them might be defined as individual/family units. Horticulture has been the most important part of the Małopolska agriculture and, at the same time, the region has been one of the biggest producers of fruits as well as vegetables in the country. It should be stressed here that the production of fruits and vegetables is an agricultural activity based on the tradition as well as local/regional knowledge. In the years of 2013 – 2014 Poland became a leading producer of fruits in the European Union. In 2013, the production reached more than 4 million of metric tons. In the context of European Union market one has to stress that apples have been the number one export product for Poland and Małopolska in the recent years. Production of peaches, raspberries, strawberries, cherries as well as plums and strawberries in Małopolska should to be mentioned here as well. The region might be characterized as the area with a workforce surplus in rural areas. Family farms in the region have been using family labour almost exclusively (99.6%). In turn, farm operators tend to be older than 45. Almost 2/3 of family farm operators are over the age of 45. Very young people (under the age of 25) are rare among farm

operators and make slightly more than 1% (!). It should be also stressed that agricultural activities provide rather minor part of the total income of farming families (only 13.1%). Major sources of income might be identified as industry labour and work in services sectors (37 %) and social benefits transfers (26.3%).

The respondents in our study belonged to the following categories: a. farming families with dominant wheat production, b. farming families with farm operators under the age of 40 (the youngest ones); c. farming families with farm operators aged 41-50 (the largest category of family farm operators); d. an investigated community is divided into those farms where agricultural (fruits) productions has been the major source of income and those where the agricultural (fruits) production has been an additional source of family income.

### Characteristics of agricultural farms in the Małopolska voivodeship in 2013



*Source: Characteristics of agricultural farms in the Małopolska voivodeship in 2013, Central Office of Statistics, Kraków 2014, p. 40-44.*

The table below presents the number of interviews with representatives of particular category of respondents. It should be noted that in many cases one respondent represented more than one category. These were the cases of farmers, who at the same were members of Agricultural Production Cooperative or Producer Group and operated purchasing company. There were also examples of advisers who also operated their own farms. In such situations interviews were focused on the main

category (such as farmer) but the conversation included many various aspects of much wider context, such as functioning of producer groups and operating of purchasing companies.

#### Category and number of respondents participating in the study

Category	Number
Farmers	5
Companies selling equipment and plant protection products	1
Advisers	3
Large agricultural farms	1
Agricultural Production Cooperative, Producer group	1
<b>Total</b>	<b>11</b>

#### 4.3 Political determinants and regulations

Farmers' ability to conduct direct sales of agricultural products is an important subject. Direct channel of apple distribution and processed products is particularly important for smaller farms that are mostly focused on local markets. The analysis of collected material explicitly shows that larger agricultural produces do not have any knowledge on laws concerning that matter. Farmers who have smaller farms and/or are operating on local market and relaying on local customers know the related legislation quite well. Currently, „the law on direct marketing” is being discussed in Poland. Various political groups are submitting projects of amending the law that became effective in January 2016. Current legal regulations concerning the possibility of farmers conducting direct sales can also be found in the law from April 9, 2015 on amending The Natural Persons' Income Tax Act and some other laws regulating taxing of direct sales<sup>39</sup>.

Current regulation allows for qualifying the revenues from direct sales to the category of „other”. The Natural Persons' Income Tax Act gives farmers the possibility of flat rate 2% taxation from recorded revenues, if the farmer did not exceed the sum of 150 000 Euro in revenues from this type of economic activity in the previous tax year. It is crucial that regulations also apply to revenues received from the sale of processed products. Processing must fulfill several conditions such as sales of processed products in non-industrial manner. Additionally, the processed products should come from farmers' own farm (cultivation or breeding). Detailed regulations describe exceptions from the rules and introduce precise provisions. Current legal situation is quite often criticized by farmers, fruit-growing farmers included. Amendments that became effective at the beginning of 2016 are not precise on matters concerning sanitary conditions of product processing, which causes „farmers to be afraid of direct sales of their processed products. Chief Sanitary Inspectorate has not established yet precise conditions concerning good practices. Quite contrary, the rules of production of processed products of plant origin are only the guidelines. Sanitary regulations currently on production of food from vegetable products are not clear (...) and allow the inspectors of sanitary and epidemiological stations (Sanepid) for subjective evaluation of facilities where the food intended for direct marketing is prepared. There are no guarantees that the farmer starting food processing operation meets all the

<sup>39</sup> This law introduces amendments to five other laws, namely: The Natural Persons' Income Tax Act from July 26, 1991; the law from November 20, 1998 r. on flat-rate of personal income tax concerning some revenues acquired by natural persons; The Freedom of Economic Activity Act from July 2004, law from January 12, 1991 on taxes and local fees; The Tax Ordinance Act from August, 1997, <http://sir-kielce.pl/index.php/608-571>, access on September 5, 2016

sanitary requirements”<sup>40</sup>. Farmers pointed out to the lack of in-depth regulations regarding meeting the hygiene requirements by particular processing entity. The only document that farmer can follow when processing food on his own farm is the paper elaborated by Chief Sanitary Inspectorate entitled „Guidelines of Good Practice of Hygiene and Production regarding production and processing of agricultural products of non-animal origin at home with the use of raw plant products from farmer’s own farm”. As it was mentioned before, these are just guidelines that farmers can choose to follow.

Another problem that the farmers addressed deals with direct sales of processed products. Farmers had some concerns about the ability to hire additional people for production and processing. In farmers’ view the already mentioned Natural Persons' Income Tax Act introduces some limitations that make production of food without registering economic activity practically impossible. This is obviously connected with the necessity to apply normal tax rules as if it was a regular company. The law currently in force does not permit hiring other people for processing and requires that selling of such products is conducted exclusively on outdoor markets with no permanent roofing.

Respondent also saw tax solutions as rather unfair. „Farmers are not interested in paying taxes (even in lump sum) on revenues from such activity [direct marketing – authors’ remark]. It should not be surprising that farmers who prepare several hundred jars of jam to sell them on the road stand do not see this endeavour as a business operation that should be taxed. Purchasing of equipment in order to produce small quantities of food and paying taxes– is completely uneconomic. Therefore, farmers do not intend to register sales, submit tax statement of undergo the taxman control”<sup>41</sup>.

Legislation changes that were supposed to enable farmers to sell their processed food directly to consumers did not affect all regulations and some of them still block such activities. For orchard farmers the provisions of the Education in Sobriety and Alcoholism Prevention Act<sup>42</sup> can be particularly important and difficult at the same time. The act solemnly limits profitability of production of products such as cider and the alcoholic beverage made of pears called perra. Prohibition on advertising of such products is also brought up because it makes these product lesser known to customers. Introduction of such products is therefore connected with big investment risks<sup>43</sup>.

As it was said before all these legal issues are currently debated in political circles. Bills of amendments of the current law propose various solutions to the problems described above. Current legislative situation is said to cause marginalization of direct sales of products processed from apples in Małopolska. Respondents pointed out that these sales are mostly unregistered. „The law on direct sales does not work for small farms. In fact, it kills them because they cannot sell their processed products as the requirements of sanitary-epidemiology stations are the same for big and small producers. It is pretty much impossible for small producers to meet them. It creates grey market and thwart on farmers’ potential to process food and earn money”(R1mlp).

Here, the issue of greening seems worth mentioning. Orchards that are considered permanent plantations do not need to follow diversification guidelines and are not obligated to implement agricultural practices beneficial to climate and the environment, which means that greening is not compulsory for them.

<sup>40</sup>[http://www.sadyogrody.pl/prawo\\_i\\_dotacje/104/sprzedaz\\_bezposrednia\\_w\\_oczekiwaniu\\_na\\_odpowiednie\\_przepis\\_5112\\_1.html](http://www.sadyogrody.pl/prawo_i_dotacje/104/sprzedaz_bezposrednia_w_oczekiwaniu_na_odpowiednie_przepis_5112_1.html), access on September 2, 2016

<sup>41</sup> Ibid., access on September 2, 2016

<sup>42</sup> <http://isap.sejm.gov.pl/DetailsServlet?id=WDU19820350230>, access on September 2, 2016

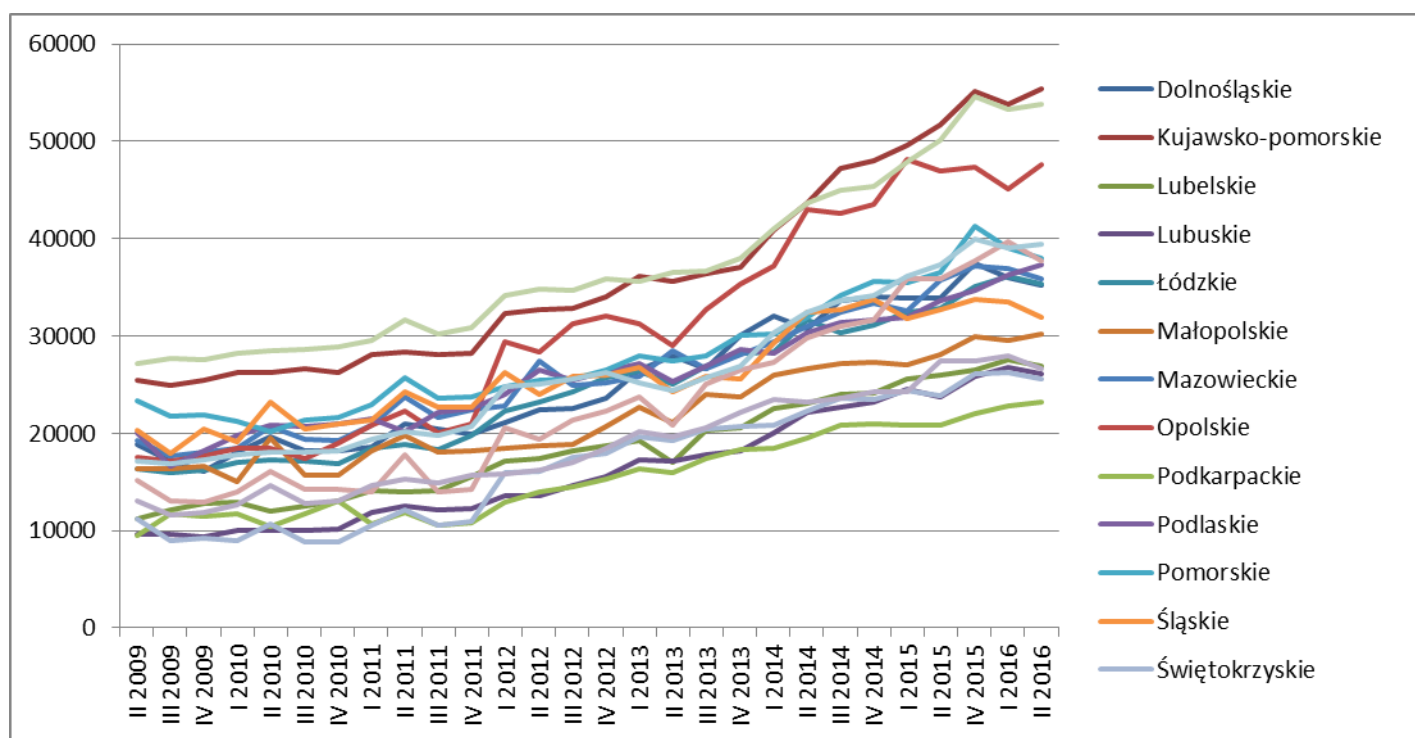
<sup>43</sup> [http://wyborcza.pl/1,75248,16473933,Browary\\_trzymaja\\_kciuki\\_za\\_zgode\\_na\\_reklamowanie\\_cydru.html](http://wyborcza.pl/1,75248,16473933,Browary_trzymaja_kciuki_za_zgode_na_reklamowanie_cydru.html), access on September 2, 2016



#### 4.3.1 Law on land trade

In 2016, the law from April 14, 2016 on halting the sales of properties by the Treasury Agricultural Property Stock amending some other laws was debated in Poland as it dealt with possibilities of private and public land turnover. The political discourse was dominated by the thesis that such law is meant to regulate these matters internally as well as regulate (limit) purchases of Polish land by foreigners after the transition period related to Poland's accession to the European Union. The transition period ended in May 2016 and the new law introduces regulations on land turnover for both Poles and foreigners. Most respondents agreed that despite the limitations on whom and on what conditions can buy the land in Poland, the law does not present problems for agriculture. The analyzed literature presented views that the introduction of the law could put a stop on rapidly growing prices of arable land in the recent years. The chart below shows average prices of arable land (bulk sum with no divisions related to the class of the land) in private turnover for all Polish provinces in particular quarters in the years 2009-2016.

#### Average prices of arable land in private turnover for particular provinces in the 2009-2016 years.



**Source:** Authors' own research based on GUS data (Average course of Euro in years 2009-2016 was 4.2 PLN).

As it can be seen the prices of arable land has been increasing. In some provinces the price doubled. The highest increase in prices of arable land was noted in provinces of western Poland. According to the collected data it cannot be answered with certainty, whether the introduction of the law can have any influence on halting price increases or cause drop in prices of arable land in Poland.

#### 4.3.2 Popularization and advertising of apples in Poland

As it was indicated by the material collected during field studies respondents who represented both farmers and institutions organized around apple market in Małopolska agreed popularization and advertising of apple consumption in Poland was insufficient. The respondents criticized weak promotion of apples and processed foods made from apples. The respondents expressed opinions that the volume of apple production in Poland is a result of government activities and policies, which

encouraged modernization of farms which consequently brought increase of productivity of apples collected from one hectare of the orchard. According to orchard farmers incentives and suggestions on how orchards should develop led to significant increase of production of apples and apple concentrate in Poland. „Nobody thought through what we will do with these apples. It is a problem now and looks like the orchards will need to be closed” (R5mlp). It can be said that the problems with demand for apples in the eyes of respondents are the result of government’s poor management of the apple market in Poland. It was stated that the government should start activities and policies to increase the export and consumption of apples and apple concentrate on the internal market. The respondents suggested that Polish people are not well-informed consumers, even though the tradition of apple consumption is huge in Poland. Poles do not have good awareness on the benefits of apple consumption and are not able to recognize particular varieties. The respondents suggested that the state should change eating habits of Poles through information campaigns in order to strengthen the position of apples on Polish tables. One of the respondents concluded the existing situation in the following manner: „(...) how is it possible that as a country we are the world’s leading producer of apples and apple concentrate and in Poland we practically don’t eat that fruit. (...) It must be so that the world appreciates our products and we don’t (R5mlp).

#### 4.3.3 *Law on commercial companies*

Respondents perceived legal regulations on farmers forming groups and associations as another legislative factor influencing how agricultural farms are operated. Some financial mechanisms of Common Agricultural Policy (CAP) intended to support emerging producer groups in Poland. They also aimed at stimulating the competitiveness of Polish agriculture in comparison to the „old 15 countries” of the EU. Fragmented nature of Polish agriculture can be characterized by low level of production concentration and low efficiency of labour. Based on the above premises some financial instruments (in the sum of 140 million Euro from 2007 to 2013)<sup>44</sup> were created to encourage farmers to form producer groups, where farmer can standardize, select, pack and initially process agricultural products in order to sell them. Among the advantages of selling products through a producer group there is undoubtedly the scale of the sales, which a group can achieve. Thanks to the large quantity of the product, the producer group may be a trade partner for the chain of stores and other large purchasers. The effect of the scale can bring about a possibility to negotiate contracts on selling the products and purchasing of necessary means of production (strengthening of the market position of the group and particular farms). Product quantity is not the only bargaining point in negotiations as quality and homogeneity are just as important. These are the variables that in respondents’ view are especially important for large purchasers, who do need large lots of identical quality merchandise.

Principles related to activities of producer groups suggest that by forming groups and associations small farms so characteristic to Małopolska region may acquire better market position and manage their resources more effectively. Additionally, forming a producer group should cause strengthening of participants’ social capital and improve bonding between farmers, which in longer perspective can be capitalized on. The respondents noted that theoretical principles of producer groups are not fully applied in practice. The law from September 15, 2000 (with later changes) on agricultural producer groups, their associations and amending of other laws state that „no member, shareholder or stockholder further called „a group members”, can have more than 20% votes at the shareholders’ meeting or General Meeting, as well as indirectly(...)”<sup>45</sup>. The respondents brought up the cases of producer groups they were members of, where the distribution of shares among group members causes

<sup>44</sup> <http://www.edufin.pl/index.php/component/k2/item/43-nowoczesne-formy-wspoldzialania-rolnikow>, access on September 02, 2016

<sup>45</sup> Chapter. 2, art. 3, <http://isap.sejm.gov.pl/DetailsServlet?id=WDU20000880983>, access on September 3, 2016

Board to have more than 50% of shares. According to the law such Board cannot be dismissed. The number of votes is adequate to the number of shares, and therefore three people having the authority that together gives them over 50% of shares makes their decisions non-negotiable. The respondents also highlight the fact (R3mlp), that the function of the Chairman of the Board is often held by the person with no connection to agriculture but significant business connections and therefore able to buy the largest number of shares. Not knowing the reality of the functioning of agricultural market, such Board makes decisions and policies that may not always reflect the interests and the needs of farmers focused around the group. This can cause unwillingness of farmers to work in a group and divide the group into management and farmers. Such state of affairs does not make farmers to quit the producer group because they are still aware that without the group they are not able to sell their products. The side effect is the distortion of the idea of the producer groups, in which producers work together for the profit of the group.

#### 4.3.4 Institutional environment

The previous chapter devoted to the wheat market in the Opole region describes main institutions connected with the food market. Without repeating the information that can be found in the chapter mentioned above the specifics of Małopolska Province are worthy noting. Additionally, as it was already presented in the chapter on institutional environment of the Opole area, theoretical knowledge will be confronted here with the study results. The institutions supervised by and subordinate to the state that are connected with the chain of production and sales of apples are:

- a) Regional Inspectorate of Plant Health and Seed Protection in Cracow (Wojewódzka Inspekcja Ochrony Roślin i Nasiennictwa (WIORiN) w Krakowie)
- b) Regional Chemical-Agricultural Station in Krakow (Okręgowa Stacja Chemiczno-Rolnicza (OSChR) w Krakowie)
- c) Experimental Station for Variety Testing in Łopuszna (Stacja Doświadczalna Oceny Odmian (SDOO) w Łopuszynie)
- d) Małopolski Agricultural Advisory Centre in Karniowice (Małopolski Ośrodek Doradztwa Rolniczego (MODR) w Karniowicach)
- e) Agency for Restructuring and Modernisation of Agriculture - (Agencja Restrukturyzacji i Modernizacji Rolnictwa)
- f) Agricultural Market Agency (Agencja Rynku Rolnego - ARR)
- g) The Inspection of Commercial Quality of Agricultural and Food Products (Inspekcja Jakości Handlowej Artykułów Rolno-Spożywczych - IJHARS)
- h) Prof. Waclaw Dabrowski Institute of Agricultural and Food Biotechnology (Instytut Biotechnologii Przemysłu Rolno-Spożywczego im. Prof. Waclawa Dąbrowskiego - IBPRS)
- i) Research Institute of Horticulture (Instytut Ogrodnictwa - IO) with Experimental Station of Fruit Growing in Brzezna (Sadowniczym Zakładem Doświadczalnym Instytutu Ogrodnictwa w Brzeznej - SZDIO)
- j) Institute of Soil Science and Plant Cultivation (Instytut Uprawy Nawożenia i Gleboznawstwa Państwowy Instytut Badawczy - IUNG-PIB)
- k) Institute of Plant Protection National Research Institute (Instytut Ochrony Roślin Państwowy Instytut Badawczy - IOR-PIB)
- l) Plant Breeding and Acclimatization Institute (Instytut Hodowli i Aklimatyzacji Roślin - IHAR)
- m) National Centre for Agricultural Education in Brwinow (Krajowe Centrum Edukacji Rolniczej w Brwinowie - KCER)
- n) Institute of Technology and Life Sciences (Instytut Technologiczno-Przyrodniczy - ITP)

o)Agricultural Chamber of Małopolska (Małopolska Izba Rolnicza - MIR)

Among the institutions mentioned above the respondents only mentioned a few of them in their statements. The one that was the most frequently mentioned was Experimental Station of Fruit Growing in Brzezna (SZDIO) of the Research Institute of Horticulture as some other entities that cooperated with it. The scope of work of the experimental station in Brzezna includes:

- 1.R & D work in life sciences, particularly in horticulture as well as activities related to biological progress, including creative breeding and breeding of reproduced varieties of garden plants,
- 2.Garden production and reproduction of seed and nursery material,
- 3.Educational activities and popularization of horticulture, including running of the centre of horticulture and ecological education,
- 4.Service activities related to project preparation, designing and maintenance of gardens, orchard and green spaces,
- 5.Buying-in and wholesale as well as retail sales of products and semi-finished products, either own or entrusted
- 6.Production of packaging for fruit and seed and nursery material
- 7.Handling and storage of commodities,
- 8.Agricultural and food processing
- 9.Transport services and renting of machines and agricultural equipment,
- 10.Maintenance and repair of motor vehicles and garden equipment,
- 11.Renting of properties, either own or leased,
- 12.Agri-tourist activities, including running of campsites and other places of short stay as well as cantinas and eateries,
- 13.Management of water resources,
- 14.Animal husbandry and breeding.

The respondents paid special attention another to institution, namely Małopolska Agricultural Chamber (Małopolska Izba Rolnicza - MIR), which is not directly connected with agricultural cultivation and tied more to politics while representing the interests of farmers to the outside worlds. Agricultural Chambers operate according to the law from December 14, 1995 on agricultural chambers. The tasks conducted by these institutions include:

- 1.preparation of analyses, evaluations, opinions and conclusions related to agricultural production and agricultural market as well as presenting them to the organs of government administration and local governments;
- 2.cooperation with organs of government administration in the province and organs of local government on the initiatives of legal regulations on agriculture, rural development and agricultural markets as well as preparing opinions on the drafts of these regulations;
- 3.conducting activities to start agricultural market and to improve conditions of outlet of crops and agricultural products;
- 4.analysis of costs and profitability of agricultural production;
- 5.gathering, processing and passing information on economic issues that may be helpful to agricultural producers and other entrepreneurs;
- 6.advisory on agricultural activities, rural household issues as well as ways in which farmers can find additional income;
- 7.initiating activities related to development of agricultural and rural infrastructure as well as improvement of the agrarian structure;
- 8.improving qualifications of people employed in agriculture;

- 9.maintenance of the list of experts and granting of qualifications titles in agriculture, based on separate regulations;
- 10.shaping and popularizing ethical principles, good conduct and practices in economic activities;
- 11.activities to improve the equipment used in agricultural activities and to ensure better labor conditions and safety in agriculture;
12. cooperation with entities running agricultural schools, supporting their activities, initiating establishing of new schools, introducing changes in school programs and joint organizing of school practices;
- 13.shaping of ecological awareness of agricultural producers;
- 14.initiating of activities aiming at establishing and supporting groups and associations of agricultural producers and forest producers;
- 15.activities to improve quality of agricultural products;
- 16.promotion of export of agricultural products
- 17.developing cooperation with organizations of agricultural producers abroad;
- 18.cooperation with public administration on environmental protection, health and rural cultural heritage.

Although the scope of work of agricultural chambers is quite wide the respondents expressed opinions that (R5mlp, R6mlp) these institutions do not hold real political power, which would help farmers to lobby political decisions. This problem is currently being discussed in political circles and a draft of the amended law, which could change financing arrangements as well as election process and competences of agricultural chambers, was filed in the parliament.

#### *4.3.5 Ban on imports of some fruit and vegetables to Russia - embargo*

According to § 5b paragraph 1 of the Regulation of the Council of Ministers from October 23, 2014 on tasks performed by Agricultural Market Agency (ARR) and connected with provisional temporary measures of extraordinary support for producers of some fruit and vegetables resulting from the ban on their import from the European Union to the Russian Federation (Journal of Laws, position 1468, with later changes) the actions of support for Polish fruit and vegetable producers were carried out. These activities included taking some of the fruit from the market with Agricultural Market Agency, buying of these commodities and giving them to organizations registered in „Register of recognized charity organizations and other authorized entities and natural persons” for free distribution. This type of aid was addressed to farmers who had problems with finding outlets for their fruit and vegetable production because of the embargo. Because of this special measure they were able to sell apples to Agricultural Market Agency.

The respondents in the study who were orchard farmers were not so keen on this operation of the Agricultural Market Agency. They argue that what was meant to help orchard farmers in the situation of Russian market being closed to Polish products, in reality divided the circles of orchard farmers in Poland and had rather negative impact on the internal apple market. First of all, the respondents pointed out (R2mlp, R3mlp, R4mlp, R5mlp) to the unequal treatment of orchard farmers from Małopolska Province and other important regions of apple production in Poland (Sandomierz area and Grójec area). „Grójec and Sandomierz benefitted the most and now people don't buy local apples as they are able to get them from free. The market has been deregulated” (R2mlp). The respondents addressed the procedural problems, which made orchard farmers from Central and Eastern Poland the main beneficiaries of the mechanism described above. They were not able to name the beneficiaries in their communities. The apples bought by Agricultural Market Agency were also distributed among the inhabitants of Małopolska, which caused a drop in demand for locally produced apples. Having to



choose between buying apples and getting them for free the residents of Małopolska preferred to get them for free. At the same time they supported the action of Agricultural Market Agency. The respondents claimed that orchard farmers from Central and Eastern Poland benefitted twofold from selling apples to Agricultural Market Agency. For the transactions with the Agency they used industrial apples and received higher prices for them as compared to prices they would have normally received from processing plants. In other words, they sold industrial apples at really good prices. As these apples reach Małopolska they complicated the local market. It should not be forgotten that the orchard farmers from Central and Eastern Poland also produced dessert apples, which they sold on local markets at regular prices. Not only they got richer as a result of help received from the government but also weakened their competitors in Małopolska. „Free giveaways of apples are the worse - for some farmers it is a salvation while for others it is a nail in the coffin, especially if that free apple is of poor quality. The market is shrinking and nice, pretty apples are going to the industry because people do not care about quality of those apples when people could get free stuff. For free they receive industrial apples. Taking apples out the market should mean utilization. People withdraw the worst apples, so they make good money but this is not fair” (R3mlp). One of our respondents called this process as the “coup d’etat” concerning apples from Małopolska (R5mlp).

While trying to help orchard farmers Polish government has taken up activities of identifying and winning new foreign markets for apples. However, the agreements signed with China, Canada and other countries so far did not bring the expected results, and orchard farmers have to expand their distribution on local and foreign markets on their own. There was also an opinion among respondents that orchard farmers found a way to go around the Russian embargo on apples. As respondents suggested, Polish producers indeed stopped exporting apples to Russia and started to transport them to Belarus and Ukraine, where these apples repackaged for further export to eventually reach the Russian market. Official data confirm that. „It is worth noting that in the 2014/15 season right after Russia introduced embargo on imports of European fruit, Polish exporters had to radically revise the geography of their deliveries. As a result Belarus became a leader in consumption of Polish apples and 26% of the entire export went there. At the same time the deliveries to Belarus increased 1.8 times in comparison with the same time of the previous season”<sup>46</sup>.

The table below presents the history of limitations that Russian Federation placed on apple trade with Poland.

#### Difficulties in trading with Russia

1st embargo – 3 years, November 2005 – November 2008	Limits on imports of fresh fruit and vegetables as well as dried fruit and vegetables from Poland. After the embargo was lifted new regulations on export of fruit and vegetables to Russian Federation were introduced. They included additional requirements made on exporters of garden fruit and vegetable products including certificates issued by Main Inspectorate of Plant Health and Seed Inspection (PIORiN) and information on pesticides, used in food production and food storing.
2011	<ul style="list-style-type: none"> <li>- questioning the quality of Polish apples by Federal Veterinary and Phytosanitary Services of the Russian Federation</li> <li>- introduction of additional safety certificates, requirements to conduct analyses on pesticides content, nitrates and nitrites in laboratories and organizations supervised by Federal Veterinary and Phytosanitary Services of the Russian Federation imposed on particular exporters, before their consignments of fruit</li> </ul>

<sup>46</sup> <http://wschodnik.pl/polska/item/1773-polskie-jablka-do-rosji-przez-bialorus-i-ukraine.html>, access on September 2, 2016



	and vegetables are allowed to enter the territory of the Russian Federation (starting on June, 15, 2011)
2013	1st half of the year: stricter inspections of apples from Poland, initial warnings before the embargo
2nd embargo – August 2014 –present	Embargo introduced in August 2014 encompasses fresh fruit and vegetables, frozen fruit and vegetables, dried fruit and vegetables as well as vegetable temporary preserved. On June 2105 Russian government decided to extend it until August 5, 2016r.

#### 4.4 Market conditions and determinants

In the system of direct subsidies in Poland there are no special instruments for apple producers. They can receive subsidies under general rules as described in the chapter on direct subsidies and subsidies for purchases of agricultural machines and equipment already discussed in the following report (see p. 42).

The analysis of the material collected in the field study allows for distinguishing of three different models of running of an orchard. Regardless of the farming model several factors should be named as they influence farmers' decisions related to managing of agricultural farm.

Firstly, the attention should be given to the orchard area. The respondents thought that average harvest of apples from 6-7 hectares is sufficient to keep the farm and the farming family viable. This thesis however is closely tied with family model of farming. „Profitability of production depends on family members working on the farm with their own hands and that is why the costs are lower” (R1mlp). Operating family farms with the involvement of family members is some sort of strategy of increasing competitiveness of production. This model may be too simplistic as the farmer does not calculate the costs of labour performed by family members. In the simplistic view, farmer indeed does not incur any costs related to having his wife and children working on a farm. In such situation these family members do not receive pay for their work which may be unfavourable for the entire farm (lack of income for family members). The orchard area matters as mechanization of bigger farms is necessary in order to cultivate and harvest apples. As one of the respondents noted „(...) the production on up to 10 ha can be profitable because one can do all the work but larger farms need machinery and have to hire people and at the end are less profitable” (R1mlp). Such approach places limit on profitability of the orchard and implies participation of the family in the process of agricultural production. The described strategy is compatible with the strategy of larger orchard farmers who are quite aware of their lack of time to trade or to expand the channels of distribution. The farmer should work on agricultural production and care about the efficiency of crops, as well as their quality, quantity and harvesting. Taking these matters into consideration it seems like a good strategic decision to extend the delivery chain through the sales of crops to producer groups at the expense of smaller profits on one ton of apples. Passing the crops to the producer group means that farmers need to pay fees. They may receive lower prices for their crops in comparison to prices they could receive distributing apples on their own in local stores, at farmers' markets and through direct marketing. One of the respondents mentioned that the fee related to passing the apples to the producer group is about 0.3 PLN on a kilogram of fruit. The wholesale price of apples is 1.20 PLN, so the fee makes ¼ of the entire price. Producers admit that they nevertheless gradually abandon the model of distributing apples on their own in favour of producer groups to minimize the risk of not selling apples. This is also a response to the demand of the market. Purchasers expect large quantities of regular commodity that producer group can provide (R3mlp). Producer group can be partners in trade relations with large purchasers such as supermarket chains (Delikatesy Centrum, Tesco, Carrefour, Biedronka).

The two models described above (family farm model and the organizational model) assume that the farm makes living/is viable through the work in agricultural sector. There is also a third model that mostly applies to small farms (up to 10 ha), where the farm is run by a person employed outside of agriculture (so called peasant-workers) (R1mlp). It is worth noting that farmers operating orchards larger 10 ha claimed that selling products within producer group is some kind of risk management, eradicating the possibility of not selling their crops at all. Quite contrary, farmers who operated on smaller areas considered relying on their traditional channels of distributions (passed from generation to generation) as risk management strategy of distribution. In their opinions having their own channels of distribution allowed them to thrive through the crisis situation caused by the introduction of embargo on apple imports to Russia. Ability to use the old channels of distributions was the reason why the embargo did not pose a big problem (R3mlp) to these farmers.

Proximity to farmers' markets is an important factor determining activities of farms that try to distribute locally. The Krakow exchange (trading square Rybitwy) is particularly important here. Sales of commodities on farmers' market or at the exchange allow the farmer to receive a desired price. Thanks to radical shortening of the delivery food chain to only include a producer and a consumer, the entire sum earned from the sales makes farmer's profit. This model assumes exclusive work on the farm. It is only in this model that the farmer has influence on the price of the product because he decides whether the competition will be concentrated on the quantity or the quality of the product.

### Characteristics of orchard farm models

Model	Family	Organizational	Peasant-worker	Market place
Type of farm	Small	Big	Small	Small
Distribution on local market	Yes	No	Yes	Yes
Distribution beyond local market	Yes	Yes	Yes	No
Risk management (diverse channels of distribution)	Yes	No	Yes	No
Role of tradition in farming	Yes	No	Yes	Yes
Producers' influence on the commodity price	Yes	Yes/No	Yes/No	Yes
Production of one variety of apples (response to purchasers' expectations)	No	Yes	No	No
Flexibility of production (response to consumers' expectations)	Yes	No	Yes	Yes

*Source: Authors' own research.*

The table above provides synthesis of several variables in four models of operating of orchard farms. According to the sociological concept of Max Weber these can be treated as ideal types, which mean abstract models that have certain characteristics of particular social phenomenon, but do not exist in reality in the pure form. Decisions on operating the farm according to one of the presented models depend on the configuration of objective variables (inheritance, farm size, financial condition, family situation, distance to wholesalers, farmers' markets and active producer groups) and subjective variables (decisions on joining association or producer group, orientation towards cooperation, readiness to take up risks and introduce changes).

#### 4.4.1 Insurances, credits and loans

Insurance, credits and loans are important instruments that affect investment opportunities and risk management. The financial instruments described in the part of the report dealing with insurance policies offered to wheat producers in the Opole Province are not different than the ones offered to orchard farmers. There are no other preferential conditions allowing orchard farmers to receive these financial means. Therefore, in order to become familiar with various mechanisms and possibilities of acquiring insurances, credits and loans one should read the subchapter entitled „Insurance, credits and loans” in the wheat case study. In the following section, the opinions of respondents connected with the apple market will be addressed.

The respondents agreed that credits were important instruments facilitating development and farm investments. They were not only helpful toll in case of losses related to natural disasters (disaster loans). Among the most frequently mentioned forms of credits used by framers are disaster loan, capital loan and investment credits. However, the respondents pointed out that the unpredictability of the weather and market responses pose some risk and therefore taking a loan for several years is a big challenge (R1mlp, R4mlp). The risks of losses and insolvency are inherent in the agricultural sector, which makes any long-term commitments problematic. This is a reason why farmers are very careful with taking loans, although they use these mechanisms. The strategy that in the view of respondents

lowers the risk has to do with taking credits in cooperative banks. The respondents saw them as the institutions that they can trust (R1mlp, R2mlp). Oftentimes, farmers do know cooperative bank employees and/or management and therefore can count on somewhat more preferential credit terms as well as understanding in case of unpredicted loss of financial liquidity. Additionally, the respondents admitted that in their friendly cooperative banks they can be certain that that credit terms will be presented clearly and in a transparent manner without the „fine print” and various “catches”. Cooperative banks enjoyed high level of trust among the respondents because of their reliability and sensitivity to farmers’ various situations. Strong tendency to trust cooperative banks is directly proportional to the lack of trust towards other banks, which are often associated with exploiting the clients, misleading customers and hiding important issues of credit agreement, which with time can make paying of the credits quite difficult.

Insurance for orchards are quite popular form of farm management. The respondents confirmed the data presented in the part on insurances and credits in the wheat case study, which indicated that the market of agricultural insurance is developing in Poland. The respondents believed that this is caused by the changes in the mentality of farmers regarding purchasing of the insurance. However, many farmers still have „mental unwillingness to put their money down” (R4mlp).

Insurance subsidies are another important instrument of state aid for farmers. They can cover up to 65% crop insurance premium. This type of aid is available to farmers thanks to the law on insurances of cultivated crops and farm animals but it also depends on the insurance rate. According to respondents, the insurance companies purposely manipulate the rate to make obtaining state subsidies impossible to farmers (R2mlp). The respondents thought that the reason why insurance companies were reluctant to use state insurance subsidies was related to extended waiting periods for reimbursement. For that reason, in respondents’ view the insurance companies made certain rules in the insurance contract that excluded the possibility of farmers applying for insurance subsidies.

The provisions in the Regulations granting insurance subsidies state that in case of the rate exceeding 6 % of total insurance sum, subsidies for the insurance premiums, in which such rates were applied cannot be granted with the objection in paragraph 8 [which describe the amount of aid for fruit trees and bushes as well as ground vegetables in case of exceeding 6% rate in the sum of insurance– remark by the authors]<sup>47</sup>. The analysis of the text of the above Regulation goes against what the respondents described as practices of insurance companies. The provisions in the Regulation state that even in cases of intentional increasing or lowering the rate by insurance companies, insurance subsidies for farmers are still available.

#### 4.4.2 Technologies

All respondents agreed that modernizing of agricultural farm is necessary for its development. Investments in agricultural machines, infrastructure and know how contribute to better conditions of work, better efficiency and profitability. First of all, modernization causes increase in harvest quantity from one hectare while the quality of fruit improves. Because of that the farm can sell more of better quality crops, which directly impacts its viability. Such uniformity of respondents’ opinions is to some extent caused by small area of farms and low possibilities for its increase caused by low supply of agricultural land in the described region. Thus, the farmers know that only farms up to date with technologies become more competitive on agricultural market. Interestingly, one of the respondents suggested that large farm investments made in recent years make farmers continue to grow apples despite low profitability (R2mlp).

<sup>47</sup> [https://www.pzu.pl/c/document\\_library/get\\_file?uuid=55b1539e-cc1b-431e-916a-fda947b0311e&groupId=10172](https://www.pzu.pl/c/document_library/get_file?uuid=55b1539e-cc1b-431e-916a-fda947b0311e&groupId=10172), access on September 4, 2016

Respondents usually understood farm modernization as purchasing of machines and farm equipment or changing them for a better model. They did not use computer systems to operate their farms and thought that precision farming was the thing of the future not intended for small farms so characteristic to Małopolska.

Farmers were very aware about the necessity to improve their skills and competences. They participated in instruction courses and workshops organized by Agricultural Advisory Centre and/or commercial companies, signed up for study visits and gained new experiences working on farms abroad. It is worth noting that the instruction courses and workshops offered by Agricultural Advisory Centre were criticized by respondent as outdated, not presenting new information or solutions to farmers' work. For that reason they are not very useful for agricultural producers, even those who have minimal familiarity with farm work. The respondents also advise caution about reading agricultural magazines and information released by various commercial and noncommercial institutions (R5mlp). The leaflets delivered to farmers are often sponsored by producers of plant protection products. Every time farmer has to judge whether the piece of information is an advertisement meant to encourage him to buy new products or a really helpful piece of information worth following up. Such expert knowledge farmers gain through their experiences of working on the farm and interacting with friendly producers. Farmers are enthusiastic users of SMS systems informing about weather conditions. SMSes sent to farmers contain information on air humidity, temperature as well as information on expected weather changes in the following days. As result, farmers can effectively plan fertilizing and spraying of orchards. The described SMS system is very much needed but requires some updating in Małopolska. Installed meteorological station collect current information but the SMSes are sent maximum once a week in the spraying season. This makes decisions on spraying times somewhat harder. To increase the effectiveness of the information collected by meteorological stations another system is needed, which would enable farmer's individual access to information according to farmers' needs. The respondents claimed that such systems where farmers can log in and check information from meteorological station on their own already existed and worked well. Availability of such systems could improve the effectiveness of farm management.

#### *4.4.3 Fertilizers, plant production means and plant protection products*

The respondents were buying production enhancement product and plant protection products as well as fertilizers from local suppliers that provided deliveries to the farms. They chose suppliers based on two criteria such as availability (geographic proximity) and financial criteria. Generally, the channels of deliveries of particular products could be identified and because of their predictability agricultural producers received benefits such as rebates and/or making payments at later date. This second option may but does not have to involve interest rates. Deferring payments could make them higher than the payment „on the spot”. Analysis of channels of deliveries of production means, fertilizers or small trees for planting did not show any deviation from the classic model of farm management, where agricultural economics is the most important. The respondents brought up two issues, which are worth some attention.

Firstly, among responses there were opinions on correctness of spraying and receiving quality certificates. Having certificates of apple quality is necessary for selling apples to wholesales and other purchasers. Agricultural farm undergoing the certification procedure is controlled by particular institutions (including international institutions), which in the last year visit the farms, secure samples and issue opinions on the correctness of pre-defined parameters. Receiving of the certificate is important for an agricultural producer because it allows for selling the commodity. On the other hand, the farmer has to incur costs of doing things by the book. This is a reason why respondents believed that not all farmers decide to start the certification procedure and just borrow the certificate necessary

to sell products from farms that were able to receive it. This mechanism enables farmers to fool the purchaser. These farmers are not controlled by authorised institutions that ensure the correctness of using plant production products and production means. Their products are advertised and sold as certified (originating from certified orchards). At the end, the consumer is receiving a product of unknown origin and unknown parameters (R3mlp).

Secondly, the respondents pointed to price fixing and lobbying of companies offering production means, plant protection products and fertilizers. According to farmers these companies lobby the institutions issuing certificates and recommend procedures of using agricultural chemicals in such a way that farmers must use more and more of them, which causes increased demand and higher prices of these products. As an example of such conduct they referred to introduction of frequent changes in regulations determining the substances allowed to be used on agricultural farms, as well as emphasis on selectiveness and prevention in the struggle with plant diseases and pests. Such policy increases the number of necessary procedures, which greatly increases production costs. When they are combined with stable wholesale prices of apples a drop in production profitability can be observed (R3mlp, R4mlp). As estimated by one farmer the current costs of spraying can be around 2000-3000 PLN. With average harvest of 13 tons from a hectare, and a wholesale price of dessert apples of 1.20 PLN per kilograms (assuming 100% harvest of dessert apples) farmer can gain around 12 000 – 13 000 PLN on one hectare, not counting other costs of production ( $15\ 600 - 3000 = 12\ 600$ ).

#### 4.4.4 Labour market

Hiring of workers is an important aspect of farm management. Depending on their needs and business opportunities farms may hire permanent (year-round) workers or seasonal workers. The farms that hire year-round employees usually are non-family farms, where the farmer does all the work with a helper or helpers. Seasonal workers help with starting orchards, do the maintenance work in the orchards, collect fruit and clean the farm after the season. The respondents looking for workers revealed that they had big problem with finding people willing to work permanently or just during the season. As they said such work is not attractive to young people because it is hard and does not pay much. Young people willing to earn some money working on a farm are more likely to go abroad, where for the same work they can earn four times as much as what they would receive in Poland. For that reason hiring workers from Ukraine is a frequently observed strategy. Such workers take up jobs for lower hourly rate than Polish worker. According to the respondents the hourly rate for the worker from Ukraine is 7-8 PLN, depending on other conditions of work such as lunch offered to worker by the employer, living conditions, and commute to orchards. For the same work Polish worker receives 9 - 11 PLN per hour of work. Agricultural producers oftentimes purposely hire Ukrainian workers to lower production costs. Unfortunately, prevailing number of Ukrainian workers do not have job contracts. Working in the „grey zone” allows for avoiding fees related to hiring of an employee and therefore a worker can receive larger sum „from hand to hand” in cash.

### Summary

#### SWOT Analysis

Strengths	Weaknesses
<ol style="list-style-type: none"> <li>1. Advanced system of institutions</li> <li>2. Strong producer groups</li> <li>3. Purchasing of commodities from farmers by Agricultural Market Agency. After taking the commodities of the market they can be designated for free distribution which result in</li> </ol>	<ol style="list-style-type: none"> <li>1. Imprecise law on direct marketing discouraging this type of sales</li> <li>2. Act on upbringing in sobriety and counteracting alcoholism which blocks the development of cider and perra markets in Poland</li> </ol>



<p>the increase of apple prices</p> <p>4. Family farm</p> <p>5. Diversified food apple chain</p> <p>6. Market division related to farm sizes (small farms – local market, large farms – beyond local market)</p> <p>7. Farmers' market/market places</p> <p>8. Direct subsidies</p> <p>9. Subsidies for investments</p> <p>10. Access to investment credits, trade credits and disaster loans</p> <p>11. State subsidies to disaster loans and crop insurances</p> <p>12. Strong cooperative banks, flexible and „compassionate” to farming with good traditions</p> <p>13. Farmers' awareness on the necessity of farm mechanisation and the need for expanding their knowledge</p> <p>14. Large investments in farm modernization</p> <p>15. SMS system of informing farmers about weather conditions</p> <p>16. Well-established channels of suppliers of particular products, so agricultural producers can benefit in terms of rebates and/or options to pay for the merchandise at the later date as well as to receive the guarantee of proven merchandise</p> <p>17. Agricultural advisers who help farmers</p>	<p>3. High percentage of unregistered direct sales</p> <p>4. Insufficient promotion and advertising of apple consumption in Poland</p> <p>5. Low consumption of apples in Poland</p> <p>6. Producer groups manager like corporations</p> <p>7. Farmers' convictions about the weak role of the state as the entity shaping food chains</p> <p>8. Lack of real political power of Agricultural Chambers and other institutions representing farmers</p> <p>9. Purchasing of commodities from farmers by Agricultural Market Agency. After taking the commodities of the market they can be designated for free distribution that could result in destabilizing of local markets</p> <p>10. Divisions of orchard fruit farmers between southern and northern Poland</p> <p>11. Monopolization of the crop insurance market</p> <p>12. High crop insurance prices</p> <p>13. Small percentage of insured crops in Poland</p> <p>14. Farmers' low awareness on the necessity of crop insurance</p> <p>15. Delays and failure to meet deadlines for payments of direct subsidies and subsidies for agricultural equipment and machinery</p> <p>16. Low supply of land</p> <p>17. Outdated and not helpful instruction courses and workshops at Centres for Agricultural Advising</p> <p>18. Difficulties in accessing solid and certain information on technologies beneficial to crops (mostly commercialized instruction courses, workshops and specialist magazines are available)</p> <p>19. Farmers „borrowing” necessary certificates to enable selling apples at wholesalers</p> <p>20. Lack of Polish workers willing to take up seasonal or permanent jobs</p> <p>21. Low salaries and remunerations in Polish agriculture</p> <p>22. „Grey area” of agricultural employment</p>
<b>Chances</b>	<b>Threats</b>
1. Introduction of the law on turnover of	1. Lack of clear and consistent state policy related

<p>agricultural land may stop the trend of growing prices of land in Poland</p> <p>2.Increased awareness of Poles on apple consumption</p> <p>3.Export policy – search for other outlets (Africa, Canada, Far East)</p> <p>4.Alternative ways to reach Russian market (via Belarus)</p> <p>5.Workers from Ukraine receive lower rates than Poles (possibility to lower the production costs by entrepreneurs)</p> <p>6.Taking over agricultural farms by young farmers</p> <p>7.Initiating cooperation between farmers, advisory institutions and agricultural universities</p>	<p>to development of apple market in Poland</p> <p>2.Embargo of the Russian Federation on Polish apples</p> <p>3.Market preferences for large lots of the same quality products</p> <p>4.Too expensive precision farming technologies for orchard fruit farmers</p> <p>5.Lobbying of global producers of plant protection products contributing to farmers' increased expenditure</p> <p>6.Workers from Ukraine working at lower rates than Poles (competition for Polish workers)</p>
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### *Key issues identified in the literature, media, and interviews (apples)*

Quite similar to the case of wheat production, some weak sides concerning the apple sector have also been mentioned by interviewed experts. The majority of concerns has been related to some regulations established mainly by the state. Some of these regulations have been focused on direct sales which are perceived as “not sufficiently precise” by interviewed primary producers and members of extension services. Moreover, some regulations concerning alcohol consumption in Poland have also been recognized as barriers to the development of cider production. A relatively limited fruit consumption (especially apples) in Poland - resulting from traditional eating habits, as well as insufficient marketing - has also been perceived as an obstacle to the growth of apple production. At the same time, the insufficient marketing of apples (and fruit products generally) in Poland has been mentioned as well. The other weak points are generally related to the low level of lobbying effectiveness on the part of apple producers. This is an effect rooted in several reasons, namely: the functioning of producer groups as corporation-type organizations, regional divisions among apple producers in Poland, lack of bargaining and political power presented by Agricultural Chambers representing producers, and insufficient – according to experts – state support for apple production, etc. Moreover, some characteristics of the labour market in this sector have been stressed by interviewed experts, such as: a relative shortage of labour, low salaries, as well as a shadow economy in large parts of the sector. Some problems of the insurance system concerning apple production have also been mentioned. In this case, the experts stressed the monopoly of the insurance firms and the high cost of the insurance policies, occurring simultaneously with a low acceptance among apple producers regarding the necessity of taking out insurance policies. The lack of available land for new orchards in order to expand production, as well as the system of “lending of certificates” in order to develop the wholesale system in the apple sector, have been cited as problems as well. Additional weak points in support of the production process have been mentioned, namely: courses and trainings offered by the extension services that were of questionable usefulness, destabilisation of local markets due to state agencies purchasing some portion of apple crops in order to organize a free distribution of the product, and some difficulties (commercialized trainings, high prices of professional magazines) in obtaining technological information concerning new methods of production.

In turn, the strengths observed by interviewed experts are mainly related to the family character of apple farms, as well as the strong position of some producer groups and diversified apple food chains

and diversified markets for large producers (typically markets of a more global nature) and smaller ones (more local markets). What also seems to be interesting is that some factors might be treated simultaneously as strengths and weaknesses in characterizing the situation of the apple farm. For example, the purchase of apples by state agencies has been pointed out as a weakness (see the paragraph above). However, some other interviewed experts stated that it might be treated as a strength, since it has resulted in increased prices (and thus, increased revenues of apples for some producers). Quite similar to the case of the wheat sector, the strengths have also been related to some instruments of CAP and state policies, like direct payments, availability of partial financing of investments, credits for investments, help in the case of natural disasters, strong and effective credit unions, and some possibilities for direct sales. However, some difficulties concerning “on time” payments have been mentioned as a weakness in this context. The other group of strengths has been connected to the primary producers themselves, namely their ability to modernize their farms and abilities to obtain professional knowledge. Established relations between primary producers and firms providing them with means of production on defined contracts have also been mentioned as an important strength in the sector. The positive role of extension agents has been stressed as well in this context.

Interviewed experts have expressed some more general opinions about opportunities and threats. Among the threats they identified several conditions, such as: the lack of clear and long-term state policies concerning apple production in Poland, the Russian embargo on apples (and a lot of other products) imported from Poland as well as the lack of well-designed policies towards the apple market. The last one has resulted in the market preferences for large quantities of standardised products and clearly against a diversity of producers and production. The other threats seem to lie in new, high-cost technologies of precision farming, as well as the domination by the lobby of agricultural chemical and pesticide firms, thus raising production costs. Moreover, a labour force coming primarily from Ukraine has resulted in a reduction in salaries for Polish workers.

On the other hand, some opportunities here lie in a new regulation of the land market that might halt the increase in land prices in Poland. Moreover, some observed changes in eating habits seem to be a kind of supporting factor for the enlargement of the production of healthy foods (apples included). The same might be said in the case of policies focused on searching for new markets including Africa, Canada, Far East, etc. which has been especially important in the case of the Russian embargo and the insufficiency of “exporting” apples to Russia via Belarus, which is a partly illegal procedure. Stronger ties between primary producers and extension agencies, as well as the generational shift in the farming community (as in the case of the wheat sector) have also been perceived as significant opportunities in the apple sector. Moreover, the Ukrainian labour force seems to have its “opportunity side” from the point of view of producers, enabling them to reduce the cost of labour.

## 5. Cases conclusions

The research analysis of selected publications and interviews with experts revealed a variety of issues which can be situated somewhere between utilitarian discourse centered on production issues and discourse that elaborates on the ideas of sustainable development and focuses on rural development in the post-production stage.

Within this discourse, the importance of professional education for farmers is emphasized. The educational process is meant to ensure the transfer of specialized knowledge through well-suited experts. The whole process is perceived as crucial to the enhancement of rural entrepreneurship and farmers’ ability to adapt to new technologies of agricultural production. It is also noted in the media that such education should appreciate the need to develop non-agricultural activities in villages and

implement a multifunctional model for the development of rural areas. However, according to the interviews in this process some “dark” sides, i.e. weaknesses and threats, can be observed, namely that the cost of obtaining the necessary knowledge can sometimes be prohibitive as a result of the commercialization of training courses and sometimes organised training courses offer “insufficient” knowledge. On the other hand, the role of extension agents has been recognized here as a crucial one.

Another important theme of the media analysis deals with agricultural productivity, as opposed to the biodiversity strategy and “greening” of rural areas. Within this context various concerns about food security and food safety are discussed. The food security concept is mostly about providing an adequate quantity of food, produced on a large scale by industrial methods. Food safety, on the other hand, ties in with production of high-quality food as an effect of sustainable practices applied to agricultural production. The issue of eating habits has been stressed in the interviews within this context. The development of new eating habits has been recognised as an important factor in stimulating production, particularly that of apples.

The debate over application of modern technologies in agricultural production is also present in the media. The issue of genetically modified organisms (GMO) is the most highlighted here. On one hand, the obvious production-oriented effects of genetically modified organisms are emphasized. The use of this technology introduces new kinds of crops and farm animals that are disease-resistant. At the same time, it is also assumed that consumption of genetically modified food may have potential negative effects which are not yet fully recognized. Similarly, renewable energy sources and biofuels are also met with ambiguous evaluations in the discourse on energy conservation. Investments in renewable energy sources and biofuels are seen as protective of the natural environment, but the possible negative consequences of such practices are not omitted. Production of energy crops (for biofuels and biomass) may be leading to soil depletion and favoring the development of large global corporations focused on this type of production. Application of new information technologies related to precision farming or farm management can be fostering the use of biological technologies in agriculture (limiting the use of chemicals). However, due to the high costs of applying them, these modern solutions are not generally available to all farmers. Similar issues have also been stressed in interviews with experts and some primary producers especially in the case of precision farming practices.

The media discourse on financial issues related to agricultural production is focused primarily on the issues of loans and mortgages. It is emphasized that loans and mortgages are necessary for market-oriented agriculture. Access to loans and mortgages is often restricted through complicated procedures, lack of adequate information, high requirements, etc. In the traditional approach, loans and mortgages are an important part of the production-oriented model of agriculture, which is often juxtaposed with the sustainable development model. However, in the discourse, the presence of new financial instruments available to farmers who support practices focused on biodiversity, greening, or who engage in non-agricultural economic activities, is also noted. These various financial instruments have been met with both positive and negative opinions. Compensation mechanisms available to agricultural producers within the framework of the Common Agricultural Policy can be seen as justifying farmers’ tendencies to forgo insurance on agricultural production. However, it is also hard to deny that farmers who implement sustainable practices benefit from mechanisms that allow agricultural producers to recover from unexpected conditions and natural disasters. As all banks are not created equal, the superiority of cooperative banks over commercial banks is addressed. The decision by cooperative banks on whether or not a loan or mortgage can be granted to a farmer does not directly depend on the market situation of the farm. Within this context, commercial banks are perceived as forces conducive to a production-oriented, highly-functioning market model of agricultural production. At times of prosperity, commercial banks loan-granting decisions may

exacerbate tendencies for overproduction. During periods of economic stagnation or financial crises, the financial options available to farmers are quite limited.

In our view, more specific issues have been raised during interviews. As we wrote above: “Poland seems to have some institutional background to shape wheat production, namely: direct payments and support for investment activities, as well as differentiated food chains, namely: long and short ones. However, the latter are more open for cooperation with large farms. The presence of agricultural extension agents, as well as some direct payments and support for investments have been stressed here. Moreover, the role of support in the case of natural disasters and significant support of credit unions have been mentioned as well.” In the case of the apple sector, as we wrote earlier: “Quite similar to the case of the wheat sector, the strengths have also been related to some instruments of CAP and state policies, like direct payments, availability of partial financing of investments, credits for investments, help in the case of natural disasters, strong and effective credit unions, and some possibilities for direct sales. However, some difficulties concerning “on time” payments have been mentioned as a weakness in this context.”

Policy and regulations constitute important aspects of the analyzed discourse related to agriculture. The media evaluation of the most crucial components of CAP, such as direct subsidies, is often ambiguous. Often, their positive influence on income support for young farmers and individuals operating small farms is discussed. However, as subsidies are connected with environmental care and ecological farming they may lead to frauds in the form of emerging fictitious ecological farms. It is also argued that direct subsidies in some ways preserve the traditional character of Polish agriculture, allowing farmers to resist the structural changes. When discussing the regulations, there is criticism of land rentals present in the media. Land rentals are seen as enhancing the propensity for land exploitation, which does not benefit sustainable agriculture. There is also a credibility problem with certification of ecological products. Inconsistencies in regulations reflect the conflict between production-driven and sustainable models of agriculture and the already-mentioned lack of “integration of” food security and food safety. Calls for eradication of barriers that impede cooperation between rural entrepreneurs, farmers, and food processors are made. Further, the media notice the need to encourage farmers’ long-term cooperation on farm development strategies, and not just in terms of everyday technical cooperation that may be related to joint ownership of equipment. It seems necessary to introduce regulations enhancing farmers’ position as they confront and grapple with global food distribution. Of equal importance is the precise regulation of personal income tax paid by farmers and sanitary regulations allowing for direct sales. The discourse includes calls for establishing a special government agency, whose work should be devoted to the all-around development of rural areas, as well as the extent of protectionism in the era of the globalized economy.

It is emphasized that agriculture should receive comprehensive support from state institutions. Due to the generally low quality of soils in Poland a vast portion of the CAP funds in Pillar II should be moved to Pillar I. This is obviously related to the production-driven approach. It is argued that purchases of agricultural land should be made difficult for the non-farmer in order to prevent land speculation. The state should support the process of farm enlargement and help with the improvement of labour use in rural areas, including immigrant labour. The production-driven approach dominates this part of the discourse. Similar issues have been also stressed in analysed interviews. As we mentioned in an earlier part of our report: “An analysis of the strengths and weaknesses leads us to the evaluation of opportunities and threats for the wheat sector in Poland. Again, the “dark” side, i.e. threats, dominates over opportunities. The first threat has been related to dependency on payments, especially that observed in the case of small producers. The other threats seem to be more complex, for example, climate change. However, the major threat has been connected to various EU and state policies, such as the free import of grain (including wheat) from Ukraine to EU (1 million metric

tons), as well as the lack of a clear vision of the development of the wheat sector in Poland in the near future. Moreover, the domination of transnational corporations in the chemical and pesticide market, as well as purchasing of the product have been stressed in this context. Some difficulties in the process of farm enlargement (land purchases) have also been mentioned here.”. Slightly different opinions have been revealed among experts in the apple sector. Again, as we wrote above: Interviewed experts have expressed some more general opinions about opportunities and threats. Among the threats, they identify several conditions, such as: the lack of clear and long-term state policies concerning apple production in Poland, the Russian embargo on apples (and a host of other products) imported from Poland as well as the lack of well-designed policies for the apple market. The latter has resulted in market preferences for large quantities of standardised products rather than the diversification of producers and production. The other threats seem to lie in the high-cost new technologies of precision farming, as well as domination by the lobby of firms providing farmers with chemicals and pesticides raising the costs of production. Moreover, a labour force coming mainly from Ukraine has resulted in the reduction of salaries of Polish workers. On the other hand, some opportunities here lie in a new regulation of the land market stemming from a new state law which might stop the increase of land prices in our country”.



## FGI and Workshop

### 6.Primary producers perspective

#### 6.1Apples

##### *6.1.1Report – apples, FGI 1, Małopolska*

At the beginning of the focus group interview the respondents were asked to present opinions on distribution channels for the apples they produced. It was expected that information on the apple market and market strategies would be collected during this research procedure. The responses indicated the presence of three models of production and sales for apples in the region. The first one was a producer group, the second a cooperative, and a third one could be described as dispersed operations of small, family farms.

Following this line of thought it was revealed that locally there were four producer groups that created the most important model for distribution of apples. This was heavily stressed in the research. According to respondents, producer groups had the following assets: a/ they were able to represent individual orchard fruit producers at the fruit exchange market as these producers devoted most of their time to farm and orchard work; b/ the producer groups facilitated the storage and sales of fruit to large market chains; c/ the groups enabled farmers to conduct activities like the sorting of apples, which was required by large purchasers, i.e. supermarket chains and rather impossible to be done by individual small producers. Additionally, individual farmers (orchard fruit growers) usually had small batches of merchandise, too small to make large supermarket chains interested in them. As participants in the focus group interview claimed, the vast majority of farms were too big to engage in individual sales of their products and at the same time too small to be able to trade individually with purchasers networks. The interviewees emphasized that cooperation between the producer group and large supermarket chains allowed for trading of the region's apples with European purchasers. Various producer groups were complementary with each other, exchanging different varieties of fruit which they produced.

The well-known problem of the Russian embargo and its negative consequences were also addressed collectively during the focus group interview. The respondents declared that the ban on sales of Polish apples in Russia had had a minimal impact on apple growers in Małopolska Province as they sold a rather small quantity of apples in Russia. According to the research participants, the negative consequences of the Russian embargo for orchard producers in Małopolska had their origin in the decision of Polish authorities to allow for the state-sponsored free distribution of apples. As the apples were from one particular area of Poland these measures disrupted markets in other regions of the country. Additionally, according to Polish apple producers, these fruit were of lower quality.

The cooperative was the second model for the production and marketing of apples. Cooperatives were known to have their stores and refrigerated storage facilities for storing fruit. Such measures were ensuring fruit sales in the regions and within the cooperatives' own store.

The last model of apple production and marketing described the functioning of small family farms that were prevalent in the studied region of Małopolska. These farms were established because of inheritance or through marriages and the farm owners and operators combined agricultural work (orchard work) with non-agricultural work. According to the respondents only 10 – 20% supported themselves exclusively through agricultural work (in orchards). In such farms orchards were usually not profitable (they did not generate significant incomes) and they were mostly kept due to family tradition. Orchards required long-term care and maintenance, so the investment could bring income and profitability. Some growers were mostly supporting their orchards through agricultural subsidies from the European Union. There were also problems of a generational change as there were no orchard successors. The respondents described orchard work as hard and unprofitable and thus not very attractive to young people. The younger generations preferred working in different sectors where stable employment was possible. They perceived employment in agriculture as risky, with little predictability in terms of income.

Certification was another important issue related to production and distribution which was discussed in the focus group interview. It required following certain safety rules also by the producer group in order to ensure the quality of the product.

The participants in the focus group interview considered financial issues related to production as problematic in several ways. On one hand, the EU subsidies were mentioned here but the requirements to apply for them were thought to be so burdensome that the subsidies became “almost impossible to obtain.” Applying for credits was also considered difficult because farms did not seem valuable enough to banks as a form of collateral or credit insurance. According to many research participants farmers had to work outside of agriculture to keep the farms while the majority (up to 70%) of young potential successors and heirs were leaving, causing depopulation of these areas. Recently, more and more farmers insured their orchards, because they feared unfavourable weather conditions (hailstorms in particular) but these insurance policies were very expensive (about 13% value of orchards). Insuring orchards only made sense with a high profitability level of at least 20%.

According to fruit growers, a horizontal coordination of cooperation among farmers could be seen in cases of broken farm machinery or equipment. A farmer who experienced such misfortune was able to borrow the machinery from another farmer. No other examples of horizontal cooperation were recognized in the focus group interview.

The respondents were rather critical of the implications of current state policy on their economic activities. They reported observed difficulties with access to production subsidies. It was stressed that the state policy was not supportive of orchard fruit growing due to limited access to subsidies (increased requirements on producers, additional criteria to qualify for subsidies). They also noted that the state response to the Russian embargo included the

distribution of free apples in Malopolska Province, favouring producers from the area around Warsaw, where the apples came from. The respondents thought that the state policy was giving advantage to mass production of low quality fruit (production of industrial apples amounts to 60% of Poland's entire apple production) and there is no tendency to change this situation. Generally, the respondents complained about the lack of a national policy regarding apple production, which would point out production directions and possible investment needs.

The interviewed fruit growers highlighted the need for subsidizing plant protection products, which year after year were becoming more expensive. They addressed the issue of “fake” plant protection products, which they suggested should be eliminated from the market as part of state policy. There were also calls for the introduction of the minimum price controls for apples meant for consumption as well as appeals for insurance subsidies. The respondents advocated for more regular and systematic support for apple growers to prevent them from abandoning their production. Such support should be long-term, not just incidental and ad hoc. It should be based on a comprehensive agricultural policy conducted by competent people. Institutions responsible for the implementation of such a policy should be established. As respondents stated, a good product was the main prerequisite for change and a crucial factor in searching for new market outlets. This, however, required certain production input and investments. The focus group interview participants thought that state policy towards fruit growers was insufficient because it was based on the common assumption that they would not leave their orchards because of family tradition.

Orchard producers emphasized compatibility of their practices with environmental regulations but they admitted that their limited use of chemicals in production was mostly due to high costs. The environmentally friendly attitude was in that sense forced upon them.

During the research young orchard fruit producers emphasized difficulties related to continuation of orchard fruit production. They thought its low profitability was the biggest problem and saw a possible solution in reducing the number of fruit-producing orchards while improving the productivity of those which stayed in business. Intensification of production rather than its mere maintenance as well as its improved quality were seen as the remedies for the current situation. These participants pointed out the weak lobbying position of farmers who operated orchards. They wished it was as significant as the lobbying position of miners or other professions, which had their own unions fighting for their interests. The respondents were not very optimistic about the new direction of production, namely cider production, which in their view was rather small scale, and not likely to bring significant changes.

#### *6.1.2 Report – apples, FGI 2, Małopolska*

The focus group interview on apple production in the Małopolska region, which was organized in Raciechowice, included 6 people: 1/ a female member of a local cooperative who helped to establish it and also held membership in the Local Action Group (LAG); 2/ a female president of the County Agricultural Chamber who owned a farm of 7 ha; 3/ a female farmer who owned an orchard farm of 3.5 ha with her husband; they produced apples and pears; 4/ a worker of the Agricultural Advising Centre who was a graduate of the Agricultural University in Krakow but did not own a farm; 5/ a farmer who had a farm of 2,7 ha (and was in the

process of expanding it) who was also a councilperson in the municipality; and 6/ a farmer who owned a farm of 4,7 ha, producing mostly pears for the last 15 years. It should be added that this farmer switched to pears after previous apple production became less and less profitable and the first harvest of pears occurred 6 years after planting. Farmers participating in the research produced the following varieties of apples: Champion, Rubin, Gala, Lobo, Golden, Ligol, Alan, and Eliza. Not one respondent had more than one job. The participants who were engaged in orchard fruit production did not have other sources of income.

It should be mentioned from the start that orchard fruit growers from this region are concentrated around the local (regional) market. **This determined how they perceived apple prices, patterns of distribution, and how they prepared operation strategies, and, in this case, ways of selling their product.** They were quite aware of not being big market players oriented towards the national or even global market. They perceived themselves as a certain category of producers focused on the regional market. In a way their activities were supplemental to the activities of producers engaged in large scale production. Tensions usually appeared when “global” producers were cut off from their usual markets - which were beyond local and regional - and unable to sell their products there. Such a situation occurred with the Russian embargo on Polish apples, which resulted in the presence of apples produced by large scale fruit growers on the local or regional market. Consequently, these apples were competing with those produced by the participants of the focus group interview. It was stated that such activities were leading to market disruption, unfair battles for product distribution, price drops, as well as the decline of many farms specializing in orchard fruit production. Consequently, this contributed to a lack of trust among farmers, an unwillingness to cooperate, and discouragement of younger generation to continue orchard fruit production (and, therefore, the halting of farm modernization). The participants of the focus group interview estimated that the municipality area contained almost 1000 ha of orchards. The municipality was helpful with establishing the cooperative and during the negotiation process with the Carrefour supermarket chain related to apple sales. Unfortunately, the municipality was not able to provide financial help to orchard fruit growers who were experiencing problems.

Contracts with large supermarket chains were an important aspect of cooperative work. Although orchard fruit growers saw their production from a local and regional perspective, their perception of marketing and distribution was somewhat influenced by the contract with the global market chain they had signed with in the past. Firstly, they had a strong feeling of being subordinate to the global market player, namely Carrefour. In their view, agriculture in Poland was run by global food concerns, who dictated their market conditions to other players. They determined agricultural policy to a greater extent than the state. They introduced their own criteria and standards for the fruit that they would be willing to buy. These concerns were not interested in the fate of the fruit growers whose products did not meet all criteria of the supermarket chain, even though their quality was ensured. The respondents pointed out the breadth of these criteria and their changeability, including even specified requirements for apple stems. The criteria changed frequently, which meant that a certain product that might have been denied at first could be acceptable for a later sale.

The respondents claimed that the supermarket chains applied their buying policies quite aggressively and were more concerned about the product's price than about the product's quality. The supermarket chains were aiming for central storage as part of their logistics policy and therefore it did not make any difference to them where apples from a particular region were sold in stores. As the respondents emphasized, there were no regulations requiring supermarket chains to sell at least some portion of produce locally. Currently, apples from Raciechowice, where the research was conducted, can be sold both in Krakow (in the same region) and in Szczecin (in a completely different and distant part of Poland). The focus group participants called for introduction of regulations that could benefit local or regional markets. The respondents connected this issue with the phenomenon of so-called economic patriotism, which has existed in Western Europe both in terms of social consciousness and legislative solutions, while in Poland nothing was happening in that regard. Again, there were references to the Russian embargo, which resulted in the Polish state flooding the region of Małopolska with apples from other parts of Poland, as they could not be sold in Russia.

Another important aspect of the policy implemented by large supermarket chains involved selling products bought from local producers under the store's own brand and trademark. This prevented local producers from advertising their products. According to respondents, the foreign capital which had entered Poland should not impose their regulations and preferences on fruit producers but needed to become more receptive to local producers. It was also mentioned that large supermarket chains worked with several different suppliers and were still able to dictate their own conditions. The decision about buying merchandise from a certain producer was not always related to economic factors. Producers were very critical of supermarkets' requirements regarding packaging of merchandise that a particular chain would buy. They made about 60% of the product price. Uniform requirements on apple boxes made farmers dependent on one producer of such boxes. To quote some participants: "It is not Polish capital". Every box for packing apples must be purchased by the producer and not by the supermarket chain. Once the empty box returns to a fruit grower, he or she must pay again in order to send a new batch of merchandise for selling. This means fruit growers can end up buying the same box multiple times.

During the focus group interview, participants pointed to an alternative system for the distribution and sales of apples. Over the last 15 years the producer group of Raciechowice made numerous attempts to establish its own store in the city of Krakow (capital of Małopolska). The store would not only sell apples but also other locally or regionally grown products. This idea was inspired by French tradition of producer groups having their own stores. In such stores farmers would take turns selling their products. This initiative did not bring the desired result, despite lobbying efforts of the group aimed at the local authorities of the city of Kraków and the local government of the Małopolska Province. The main reason why this store was not established was that the producer group didn't have adequate funds to buy or rent a store space (which would meet certain standards) and maintain it. The city of Krakow and the government of Małopolska Province would not incur such costs. In the opinion of the respondents this was because of the lobbying efforts of other, more powerful market actors. LAG (Local Action Group) also tried to start a center for sales of local

products – along with a restaurant - by the main road connecting Krakow (capital of the region) to Zakopane (the primary resort town located in the mountains). Unfortunately, due to the change in regulations this project, which in the initial phase cost 150 000 PLN, could not be continued.

Grocery stores located in Krakow (capital of the region) but owned and operated by participants of the focus group interview made for another channel of distribution for the products from Raciechowice. These stores existed 10 years ago but recently went out of business due to strong competition from the large supermarket chains. They used to sell not only apples but also other local products that store owners bought from other farmers. The fate of the stores was, according to the focus group participants, an illustration of Poland's weakness when confronted with powerful foreign food companies. The respondents stated that Polish producers were not able to shape the local or regional market to their advantage. The state authorities were not helping them to do so as they were afraid of foreign capital leaving Poland.

The local network of stores was presented as another channel of sales of fruit products. However, even in this case the producers (including farmers and orchard fruit growers) were dominated by store owners. Firstly, they had to deliver merchandise to these stores. Secondly, the agreements were constructed in such a way that the fruit growers had to be permanently ready to supply these stores with apples. At the same time, they never knew until the last minute how much of the product they should deliver at a certain time. If the farmer at a given moment did not have his own apples, he was required to buy them from another producer and deliver to the purchaser or the contract would be dissolved. The price was set up by the purchasers without being regulated by an official agreement and there are no real possibilities to negotiate it.

Farmers markets were seen as another channel of distribution and treated as places where small vendors and small-scale sellers were acquiring products for their operations. This system was, however, strongly criticized by the respondents. On one hand they stressed that the number of producers who sold their products directly was limited yet, on the other hand, they claimed that farmers markets in the Małopolska region attracted large producers from central Poland. Consequently, they pushed out local producers. The role of middlemen was also perceived as questionable because they were buying merchandise from many small producers offering low prices, and later reselling it to other purchasers at higher prices. Such procedures were hurting the producers. In the past, the sales margins imposed by middlemen were regulated by the state. Now, in the market economy, such regulations are absent and middlemen were taking advantage of that. Selling apples to wholesalers was not a solution to this problem because they later offered these very products at farmer markets and competed with direct producers.

The focus group participants presented the opinion that there was no easy solution to distribution problems by supplying apples to the willing processors. The problem was related to high quality apples offered by fruit growers. Here, the respondents meant dessert apples, designated for direct consumption as their processing was not profitable. Only about 20% of



such apples would be processed only after being qualified as “industrial fruit” for various reasons. In other words, the Raciechowice community was facing a problem of surplus of good quality apples that nobody was buying. At the same time these apples were too expensive for processing, which would be totally unprofitable.

Another problem that was addressed in the focus group interview pertained to ecological production. In this context, the respondents emphasized the superiority of so called integrated production over ecological production. They saw the following downsides of organic production: a/ lack of any intervention in production; b/ in Poland – unlike in the West – so-called ecological product did not generate better price; and c/ the lack of any recognizable certification that the product was indeed ecological. Integrated production, on the other hand had, according to the respondents, had numerous positive sides related to production of fruit and apples, in particular: a/ integrated production allowed for the use of chemical products but it needed to be done under the strict supervision of responsible institutions; b/ it was possible to set up appropriate price of the product; c/ in the process of integrated production there were numerous inspections ensuring the safety of the product.

While discussing various **models of farming** the participants emphasized that the costs of starting such production were so high that it was literally impossible for new producers to enter the market. Only those who inherited farms had the possibility to maintain or expand their market presence. The participants also addressed the ambivalent attitudes of young fruit growers towards the idea of taking the reins of existing orchards. These respondents were critical of their potential successors who were unwilling to take any risk related to production. At the same time these successors-to-be did not want to sell the land as they saw it as their safety net. The focus group participants stressed the risks related to weather conditions, which was lately contributing to abundance of fruit on the market. Additionally, due to new planting and setting up of new apple orchards there was plenty of fruit on the market. All of this needed to be taken into consideration within the context of the apple market.

The interview participants paid a lot attention to certain political issues influencing production and its profitability. In their opinions, the policies of farm losses compensation did not consider the fact that the majority of farms in the Malopolska, Subcarpathian, and Swietokrzyskie regions were relatively small and operated by older farmers (over the age of 40). According to the participants the compensation money was mostly flowing to larger farms, operated by younger (under the age of 40) farmers/orchard fruit growers. Another negative point of the state agricultural policy noted by the focus group participants had to do with giving advantage to farmers who formally graduated from a certain type of school over farmers who had significant experience but no formal agricultural education. Insurance and compensation issues also contributed to the participants’ discontent. They admitted lacking trust in a compensation system. In their view, the companies offering these insurance policies were from foreign countries and calculated losses by focusing on the individual fruit. To meet the compensation eligibility criteria, an apple had to be damaged in such a way that it was only possible to sell it as an industrial fruit. For the fruit that was not badly damaged farmers were not receiving any compensation, even though they were not able to sell such fruit as dessert apples.

According to the interviewed orchard fruit growers the best solution to ensure profitability would require organizing maximally large producer groups that would be able to negotiate on equal terms with large distribution networks. In Poland, it might be sufficient to organize one or two such groups. Then it would be possible to set minimal prices, which according to the focus group participants could guarantee the profitability of production. Currently, various producer groups were competing with each other, which led to lowering the prices of apples.

Some respondents thought it was not appropriate that produce from one region of the country was available for sale in other regions. This was an extreme example of economic patriotism, which stood against the availability of apples coming from other regions of Poland in the stores of Małopolska region, and Kraków in particular. The regulations related to apple market should be made with the participation of farmers' representatives (orchard fruit growers and producers). According to the respondents, farmers were not very visible and effective as a pressure group. They were not strong enough to effectively defend their interests in agriculture. The research participants were in favour of limiting the area of orchards as there was high overproduction of apples, which was not under any type of control.

The respondents stressed the necessity of international cooperation. They mostly advocated cooperation with neighbouring countries such as Czech Republic or Slovakia, where there were relatively few orchards. Global markets such as China were, in their opinion, a field of activities for large and global entrepreneurs, and not for relatively small producers of the researched region. Even when referring to cooperation with neighbouring countries, the respondents admitted that the potential for such initiatives would be too small to hire effective managers, who would be necessary to lead a successful enterprise. This proved the regional way of thinking of the respondents. Similarly, in cases of managing external financial means, designed for organization of instructional courses, preparation of action strategies, etc. the focus group participants thought of a better use of spending them through a regional, rather than global, action strategy. According to the focus group participants, there was evidence that, to some extent, VAT was tailored to large producers and not small orchard fruit growers. The big players could benefit from deductions and small farms were not eligible for them. The participants argued that the policy towards orchard fruit growers should be regionally based and not uniform for the entire country.

Other issues covered by focus group interviews related to optimal **farm models**. Generally, **two models** of orchard farms were identified. **The first model** included relatively small farms, usually inherited from an older generation (parents, grandparents), where production was not intensive. Such farms were treated as a certain addition to other types of economic activity. It provided supplemental income to other types of revenue and it was not the main source of income. Operators of such farms were not particularly interested in farm development, production subsidies, or technological innovation that could strengthen the productivity of their farms. They were skeptical towards the ideas of purchasing new machinery or farm equipment, usage of chemical products, or other instruments for increasing production. In this case, orchards could be seen as a type of extra economic activity, i.e. so-called "hobby farms" in a way enabling the owners for work outside of the farm and agriculture. **For the second type of farm** orchard fruit growing was the only source of

income. These farms also tried to grow other fruits, such as pears or so-called soft fruits (strawberries, raspberries etc.). For the most part, these farmers did not belong to any producer groups or cooperatives and organized their own channels for distribution of their products. They used the marketplaces mentioned above as well as wholesalers, and they were also selling their products to small market chains. Similar to the previous farm model, the second type also consisted of family farms that were passed from generation to generation. According to the focus group participants, the family character of the operation guaranteed profitability for the entire endeavour. This was mostly related to the necessity to use human labour in orchard work due to the shape and contours of the terrain, in this rather mountainous area where the use of machinery for harvesting and collecting fruit would not be practical. The labour costs (hired farm help) were relatively high and therefore family labour was crucial here. Thanks to the use of a family workforce it was possible to establish a competitive price for farmers' own product. The use of family labour in orchards had the effect of increased job availability in the region, which reduced the problem of unemployment and the need to pay out unemployment benefits. For focus group participants, the family-oriented and intergenerational character of orchard enterprises was proof of the high culture of fruit growing.

The focus group participants extensively discussed the **Common Agricultural Policy of the European Union** and its impact on apple production in the region. In this context it was noted that small farms in Austria connected into groups of 10 farms and later created larger structures which, in effect, controlled almost 90% of the national market. The focus group participants were adherents to a certain ethic of self-sufficiency for fruit production in a particular country. The fact that Polish apples were not bought in Western countries in large quantities (Austria, Germany, the Netherlands and Belgium) despite their high quality was a sign of economic patriotism of those countries. Such patriotism promoted the purchase of domestic products in the first place in order to support domestic producers. The respondents proposed a creative way to compete with foreign products by conducting a negative campaign against the products of a certain country in mass media. These products could be chastised for contribution to environmental destruction or high usage of chemical products. Such a campaign could be seen as similar to the one carried out in Czech Republic a few years ago in reference to food products from Poland.

Focus group participants considered the issues of **farmers' cooperation and joining the cooperation**. A traditional mentality and the general unwillingness of Polish people to join associations as well as the negative historical experience related to participation in the cooperative movement caused by the unfair and corrupt practices of cooperative authorities/board was emphasized. Another reason for the weak productivity outcomes of farmers who had cooperative membership was caused by the aversion of cooperative members to coordinate their production decisions in such a way as to be able to produce a large quantity of the same product (e.g. a particular apple variety). This could not strengthen the position of cooperatives in confrontation with market chains as cooperatives were not able to offer large batches of an homogenous product. Additionally, supermarket chains preferred to sell products under their own brands, and not under the name of a producer group or

cooperative. The respondents reported that it was very hard to have new people join because the sum of cooperative assets of the current members was so significant that new, potential members would need to come up with adequate funds. Current cooperative members preferred buying more fruit from non-union farmers rather than allow new shareholders to join the cooperatives. The respondents expressed their dissatisfaction with cooperation within the European Union. They claimed that Polish producers were forced to buy production means from outside (non-Polish) suppliers. The suppliers were jacking up the prices of these products and the apple prices could not keep up with such changes. It was reported that various costs of production increased by 100% upon Poland entering the European Union, the prime example being plant protection products. The respondents emphasized that direct purchases of chemical products in Belgium could be economically sound, but these products were not certified for their use in Poland. It can be concluded that the European Union creates such barriers which are disproportionately helpful to large global concerns operating in the food and agricultural sector.

In the context of the Russian embargo on Polish fruit, the focus group participants emphasized their explicitly negative opinion on the state measures taken in response. These measures affected the Małopolska Province as it allowed for free distribution of apples produced in other areas of Poland. In a way, Małopolska became hostage to other regions. This created a serious problem for numerous producers in Małopolska, where small farms and orchards were predominant. They were experiencing losses as a result of the decision of state authorities to allow apples from central Poland to enter the regional market. It should be remembered here that apple production in central Poland was dominated by larger producers and a more standard product. Paradoxically, the apple producers from Raciechowice, who had never sold their products to Russia, felt more of the negative consequences of the Russian embargo than did other Polish producers which had mainly exported to Russia. It was also noted that sales of Polish apples to Russia through Belarusian middlemen was not a good business for Polish producers. It increased the costs of the entire transaction and significantly lowered profits.

The participants of the focus group interview in Raciechowice made interesting **comments related to the functioning of the Łacka Producer Group**. They considered this group to be a specific case, because it was not a typical producer group of orchard fruit growers but a group of various businesspeople engaged in other types of economic activities (e.g., a gas station and a poultry farm). These people treated apple production as an auxiliary business activity and in that sense were disconnected from the market reality that regular apple producers were facing. According to producers from the area of Raciechowice the Lacka Producer Group (which is perceived as a competitive actor by farmers from Raciechowice) was established thanks to the political contacts of shareholders, which created good investment conditions and facilitated access to EU funds and the Polish government. One female participant stated that the products of this group are of relatively low quality, having little to do with real ecological production. Therefore she stopped cooperating with this producer group.

The participants saw the future of orchard fruit production in their area of Raciechowice in rather dark colours. In their opinion young people were not interested in farm or orchard work

as they had other options, since the level of unemployment has been relatively low (only 3.3%). The respondents emphasized that continued work in orchards is mostly the result of tradition and passion. In the long run this could lead to setting the orchard land aside as renting them was not economically sound. All of this could contribute to the cumulation of social problems in the region where the research was conducted.

## 6.2Wheat

### 6.2.1Report on wheat, Opolskie region<sup>48</sup>

FGI were conducted with older and younger farmers who were engaged in wheat production in the Opolskie Province.

The first FGI was organized with the group of older farmers, who mostly discussed various sales channels for their product. They emphasized the fact that they were informally connected with market partners, from whom they buy means of production. These companies were treated as middlemen. This type of relationship was particularly valued by primary producers because they were long-term and allowed for barter transactions. Additionally, farmers were able to sell their products directly to grain elevators. At the same time they noted the lack of contracts for production and sales of wheat. They stressed that sales of their products were based on close territorial proximity to the purchasers and mutual trust established over years. They repeatedly mentioned the possibility for barter transactions as a very helpful aspect of such relationships. Only a few farmers in the region had decided to sign contract agreements and the predominant opinion was that such long-term agreements could be quite risky in the reality of a fluctuating market and may not bring the anticipated profits to producers. Farmers are generally not personally involved in the search for new or better market venues for their products. They do receive support from the producer groups they belong to, as the president of such groups is looking out for the best prices for wheat and exploring the possibilities for gaining potential contracts for them. This is the only active way to search for new markets because the production scale of most grain producers is rather small. The exception is the Kietrz Corporation, which operates in that region. The surveyed producers appeared to have a subordinate position in relation to the buyers of their products, who often questioned the grain's quality.

The farmers in the focus group were not particularly interested in certified agricultural production. They reported that such production requires more effort in terms of overcoming many bureaucratic barriers and yet there are no guarantees of getting a significantly higher price for the certified product.

The wheat producers felt threatened by the import of grains to Poland from some EU countries, such as the Czech Republic, and from outside the European Union (e.g. Ukraine). They claimed that policymakers viewed the market from the narrow perspective of product price thus resulting in the import cheap grains from Ukraine. The farmers in the FGI did not

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<sup>48</sup> This part of the report has been based on the results of two FGI's conducted in two groups with older and younger farmers.



address the fact that grains (mostly wheat) from Poland were exported to other countries and that in some ways farmers benefit from such exports.

While describing vertical coordination the surveyed primary producers emphasized that it was based on stable relations with purchasers and fostered by informal relations. This helps to receive the best prices as well as good conditions for buying the means of production. This is a purely economic relationship, focused exclusively on good business conditions.

Regarding agricultural policy regulations, the wheat producers were in favour of curbing grain imports to Poland. They argued that such grains were of poor quality and often ended up being mixed in with better quality Polish grains. As a result, the quality of the overall product was compromised. The farmers in the FGI thought that the current agricultural policy brought some difficulties to their business activities.

In reference to the environmental and social conditions of wheat production, the surveyed farmers presented conflicting opinions. On one hand, farmers were aware of being a minority vocational group in the area and, thus, were expected to be mindful of others and ensure that their production was not too burdensome (e.g. smells, roads to farms used by heavy agricultural machinery, tractors, etc.) to rural residents who did not engage in farming. Such residents started to dominate meetings organized by the local government at least in the interview location. Farmers in the FGI also discussed the presence of wild animals in the rural areas as evidence of a clean environment. They argued that their farms did not pollute. The ecological character of the farms was also determined by the fact that excessive use of chemical products generated high production costs and could make production unprofitable.

When reflecting on the production activities of their farms, farmers considered them to be of an industrial type, mostly because they were based on economic calculation. Within this context, farmers called for CAP subsidies to be the same in all EU countries.

#### *6.2.2 Report – wheat FGI (young), Opolskie Region<sup>49</sup>*

The second FGI was conducted with the group of younger farmers. Their indications on marketing channels of the produced wheat could be concentrated around four main types of activities. The first one was related to participation in the producer group. Young farmers praised this strategy, as it provided them with a better bargaining position in relation to both the retailers of means of production and the purchasers of their product (namely wheat). They claimed that older farmers were not open to innovation and did not support their younger counterparts. Younger farmers declared the possibility to change the strategy every few years but they still valued the confidence and certainty stemming from participation in the producer group. Sometimes this strategy had its drawbacks, such as lower product price, but, on the other hand, it included barter transactions such as acquiring fertilizers and means of production based on future wheat sales. The second strategy, involving direct selling of wheat to a grain elevator, had a rather good reputation among farmers. It allowed for flexible reactions and selling wheat at the moment, when the price was the best. This was purely the

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<sup>49</sup> This part of the report has been based on the results of one FGI's conducted in one group exclusively with young farmers.



market strategy, which was not constrained by any agreements or obligations. Farmers following this strategy were well aware that they needed to use the help of middlemen and finance their operations as well. The advantage of this strategy was that farmers did not need to search for contracting parties. According to the surveyed farmers, this was an ideal strategy for medium farms that were not big enough to create channels directly marketing or selling their products to big processors but at the same time were too big to concentrate on dispersal distribution within niche sales channels. The third strategy was selling wheat directly to processors, but this was only feasible for larger producers who had large quantities of homogenous grains at their disposal. The fourth strategy – according to farmers in the focus group – was only suitable for the smallest farms, whose area did not exceed 30 ha. This strategy could be summarized as immediate sales of wheat during harvest necessitated by an inability to store the grain. Although this strategy did not seem to be very beneficial to wheat producers, as it did not give them time to negotiate prices, it did not always necessarily mean poor prices for farmers' products.

The interviewed farmers named various factors which influenced their market strategies. On one hand they were mentioning farm size, and on the other family tradition and previously made contacts. The latter factors, usually inherited from the parents, were treated by current producers as a starting point to explore potential new strategies. Other important factors that were discussed included: a/distance to grain elevator (long distance and costs of transport related to it generate higher overall wheat production costs); b/ the fact that the prices one can get from a processor and the ones offered by a grain elevator are not significantly different. This erodes the incentive for an intense search for special purchasers (processors) of delivered grains. The surveyed producers were very critical in their remarks on any contract agreements on wheat production. They presented a list of arguments against such contract agreements: a/ contract agreements cannot be a good solution due to the unpredictability of harvests; the possibility of flexible choice of the moment to sell grains is better than having a sure purchaser b/ contract agreements are not needed because contracted prices can easily be changed and in effect the evaluation of parameters of the grain being sold; these agreements are more beneficial to buyers than wheat producers; c/ the market is unstable and therefore such agreements mean “trying to please farmers by force”; d/ the agreements create the risk for farmers that they will be forced to sell their wheat at lower prices than the actual market price at the particular moment.

The surveyed farmers share the feeling of being dominated by those who buy their products. This mostly relates to the evaluation standards by purchasers was thought to be aimed at lowering the price of wheat and, consequently, profits for farmers.

Similarly, the interviewed farmers were critical of the idea of certification of their products. Generally, they consider certification to be useful, as certified products are sold at higher prices. However, certification is closely tied with certain costs, and the price of wheat makes the whole endeavour of certification risky or even unprofitable. Low level of knowledge related to these certificates, lack of information in that regard, and a lack of family tradition in obtaining them are highly problematic. Additionally, the potentially higher price of the

certified product does not cover the costs of investing in such certificates and storing of such wheat.

The FGI revealed that wheat producers named three types of conditions which were influencing changes in their situation and consequently impacting their farming strategies. The first one deals with elimination of other directions in production (i.e. drop in milk prices leading to abandoning livestock production and turning to plant production), which causes increased wheat production and drop in prices as an effect. Two other factors are linked to Poland's 2004 accession to the European Union and globalization generally. This first factor producers perceive quite positively as creating possibilities for production modernization. The second one they see as ambivalent, pointing to the necessity for expanding farms (gigantism) and narrowing of one's specialization. First of all, what counts here is the "effect of the scale."

According to younger farmers in the focus group, the evaluation of the farming strategy should include financing of production as a key element. Here, the selling of products was presented as a main source for the acquisition of financial means but lots of attention was also given to credits and loans. Some aspects of this subject deserve more attention. First of all, young farmers emphasized that every wheat producer is forced to obtain credit, which often takes a hidden form. As was mentioned before, farmers are allowed to get means of production and plant protection products without the requirement to pay upfront. Being allowed to make payments later they are engaged in a certain form of wheat production crediting by companies that sell production means and chemical products. These companies are also interested in the wheat that farmers produce. Within this context the surveyed farmers emphasized the role of cooperative banks as opposed to commercial banks. Cooperative banks in their opinion are "closer" to people, and more friendly in granting a credit or a loan. Often, farmers received credits because they were known in the community and by bank employees, which contributed to mutual trust between the bank and the producer. It is worth emphasizing that such opinions had also appeared in the media and were analyzed within the framework previous research tasks of our project. The young farmers were more open to participation in producer groups, even though it meant the necessity to pay fees. They were aware that fees related to the functioning of producer groups guaranteed members' ability to use the infrastructure of the group, for example grain storage facilities. This asset of the producer group was also praised by the owners and operators of smaller wheat-producing farms (up to 30 ha), who, without this possibility, would become entirely dependent on any offer from grain elevators and processors. It should be noted that among young wheat producers there were no farmers who worked outside of the agricultural sector in order to finance agricultural production.

Another topic covered by FGI with young farmers was devoted to cooperation in its horizontal and vertical dimensions. On a general level, the declarations on horizontal cooperation were absolutely positive. All farmers in the group were able to find at least several other producers they cooperated with in some way. Nevertheless, such cooperation had a very specific sense. It was primarily treated as informal insurance in case of an unforeseen situation (machinery failure, natural disaster, etc.). The reciprocity rule was

strongly emphasized here. In that sense, horizontal cooperation is highly rationalized in a purely economic sense. This cooperation is treated as certain kind of insurance in sudden and unpredicted cases. It is not regarded as a specific routine in everyday activity, in the process of production and sales of agricultural product. In this realm the opinions such as “farmers are too rich to cooperate, they have to have their own stuff” or “if you have your own equipment, you don’t have to count on anyone and you can be independent” are frequently expressed. It has also been observed that farmers looking for partners for economic cooperation tend to go beyond their local community. Neighbours are important but they are recognized as partners mostly in social and interpersonal relations. Economic and business relations, which go beyond the closest neighbourhood circle, are usually limited to the county area. Young farmers in the focus group were rather sceptical about the idea of establishing a large agricultural producer group, which could encompass the area of the entire county. The responses to this question indicated that temporary types of cooperation limited to small circles of people (2 – 3 individuals) were more desired than some extensive and more lasting cooperating teams (5 – 7 or more people). The task cooperation was thought to be more suitable than its long-term and more institutionalized form related to joint purchases of equipment, strategy for selling the product, etc. According to the surveyed farmers this is the area where the causes of the lack of stability of producer groups and cooperatives should be identified. These opinions expressed in the focus group corresponded well with the results of the media analysis previously conducted within the framework of the SUFISA project.

The young farmers were also asked about vertical cooperation. In the view of these wheat producers such cooperation was mostly based on economic relations. As was noted, the tradition of such cooperation is often passed from generation to generation, highlighting the importance of mutual trust, which is a crucial and helpful factor in conducting the business. The emphasis on this aspect of vertical cooperation did not interfere with the search for other new partners.

The surveyed wheat producers reported a strong attachment to the land and farming tradition. In this perspective, politicians responsible for agricultural and rural policies are seen in rather ambivalent terms as the ones who are aware that farmers will not abandon the cultivated land, no matter what. In that sense, farmers’ attachment to the land is the reason why political institutions pay no special attention to the activities of agricultural producers. In the focus group farmers declared a rather low level of interest in general political questions, emphasizing that their main concern is about the effects of their economic activity. Therefore, farmers appeared to be disconnected the national or European political scene. The demands of wheat producers focused on the following issues: a/ introduction of guaranteed minimal crop prices, which should be known at the moment of production decision; b/ subsidizing credit interests; c/ disconnecting eligibility for the EU funds from the demand that farmers must leave Agricultural Social Insurance Fund (Kasa Rolniczego Ubezpieczenia Społecznego – KRUS), which exists in Poland is known to be beneficial to farmers ; d/ more favourable rules for land purchasing and renting for smaller farms; e/ limiting of the bureaucracy. To summarize, the opinions of farmers expressed in the focus group defend particular interests of small and medium farms and they are the reflection of the economic way of thinking.

While discussing policy regulations, farmers also mentioned environmental issues. In general, they presented environmentally friendly attitudes but admitted that environmental concerns were forced upon them by new regulations. They perceived environmental influences on agriculture as something positive leading to the increase of production profitability. Environmentally friendly agriculture implies fewer financial means spent on chemicals, limits on intensive exploitation of the soil, which must serve the next generations. The surveyed farmers were reporting their general compliance with the regulations of ecological production\* and rationalizing this strategy in economic terms. Among social conditions of agricultural production the increasing number of people that are not connected with agricultural production and reside in rural areas was addressed. This is a new factor that agricultural producers must take into consideration. As the representatives of this new category of rural residents are not engaged in agricultural production, they are not used to certain drawbacks related to agricultural production, such as odours, noise, and the like and they may find them to be burdensome.

In reaction to three models of farm presented in the focus group (family farming model, market model, and sustainable farming model) the surveyed producers were pointing to the market model as having a real possibility to thrive. The family farm model in this context was only treated as a certain form of tradition and principles for the functioning of the contemporary farm. It was stressed that without family tradition and the groundwork established by previous generations, it would be nearly impossible to start a wheat production business and to create such a farm from scratch due to the extremely high costs of such an endeavour. Furthermore, the market model of farming is to some extent imposed on farmers by the increasingly globalized nature of the agricultural market forcing agricultural farms to specialize, and to expand their production scale. The main factors that determined the functioning of agricultural farms and possible changes of their production profile were the following: market outlets, costs of engaging in the new type of economic activity, climate change, etc. Social factors (tradition, producer's preferences, etc.) seem to be of secondary importance.

In the final part of FGI of young wheat producers painted the future of the system of wheat production in the region and in the entire country. In the regional context farmers did not expect any significant changes in the foreseeable future, mainly because of lack of land that could be cultivated. They also reported lack of prospects to expand smaller farms. On the country level they entertained the possibility of replacing wheat production with rapeseed production, which, according to farmers in the FGI, was becoming more profitable. This idea was connected with farmers' serious concerns over imports of wheat from Ukraine or the Czech Republic, where GM crops are allowed, which could destabilize the wheat market in Poland. There were also noticeable fears relating to climate change and the effects of signing the CEFTA agreement with Canada, which – according to surveyed farmers – could result in Europe being flooded with cheap Canadian wheat.

## 7.Primary producer perspective – summary

### 7.1Producer strategies in sectors

#### 7.1.1Apples

- Producer groups, assets:

- a.they were able to represent individual orchard fruit producers at the fruit exchange market as these producers devoted most of their time to farm and orchard work;

- b.the producer groups facilitated the storage and sales of fruit to large market chains;

- c.the groups enabled farmers to conduct activities like the sorting of apples, which was required by large purchasers from supermarket chains and rather impossible to be done by individual producers

- Cooperatives were known to have their stores and refrigerated storage facilities for storing fruit. Such measures were ensuring fruit sales in the regions and within the cooperatives' own store.

- Small family farms were established because of inheritance or through marriages and the farm owners and operators combined agricultural work (orchard work) with non-agricultural work. According to the respondents only 10 – 20% supported themselves exclusively through agricultural work (in orchards). In such farms orchards were usually not profitable (they did not generate significant incomes) and they were mostly kept due to family tradition. Orchards required long-term care and maintenance, so the investment could bring income and profitability. Some growers were mostly supporting their orchards through agricultural subsidies from the European Union. There were also problems of a generational change as there were no orchard successors. The respondents described orchard work as hard and unprofitable and thus not very attractive to young people. The younger generations preferred working in different sectors where stable employment was possible. They perceived employment in agriculture as risky, with little predictability in terms of income.

Producer groups	Cooperatives	Small family farms
<ul style="list-style-type: none"> <li>• Focus on medium and large producers</li> <li>• Trades with market chains</li> <li>• Own purchase of product</li> <li>• Own processing food</li> <li>• Own infrastructure and trucks</li> <li>• Negotiating terms possible</li> <li>• Contracting agreements</li> <li>• Management problems</li> <li>• National and global competition</li> <li>• Hiring workers</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on medium and small producers</li> <li>• Trades by they own shops and with local market chainsOwn infrastructure</li> <li>• Management problems</li> <li>• Contracting agreements</li> <li>• Regional Competition</li> <li>• Hiring workers</li> </ul>	<ul style="list-style-type: none"> <li>• Direct distribution on local markets</li> <li>• Distribution to local processors</li> <li>• Strategy for farm survival</li> <li>• No hiring of additional persons</li> </ul>

### 7.1.2Wheat

#### Types of farms according to the model of production

- Family farm – social dimension, crisis of family farming, ruralism combined with agrarism, farmers are principal creators, revitalization of the countryside, endogenous development, dependence on local resources, ecological modernization) from: Frouws (1998).

**h.Regulatory and policy conditions :** 1/ EU subsidies, 2/ green growth; 3/ the need for state interventional help appears due to Russian embargo; 4/ the possibility for better risk diversification as an effect of financial globalization;

**i.Factor conditions:** 1/ Negative role of excessive use of chemicals, 2/ Good opportunities for ecological agricultural production; 3/ Highest diversity of soil quality are more efficient for plant protection and general ag. Production than biological control agents;

**j.Demand conditions:** 1/ production of biomass for energy may be a chance for development for many farms;

**k.Finance and risk conditions:** 1/ The sector of cooperative banks acts counter-cyclically, which means that supply of credits and loans is not reduced during economic slowdowns;

**l.Socio-demographic conditions:** 1/ Business goals incorporate concern for environmental issues and bring redefinition of functioning of ag. farms; 2/ Slow and consistent emergence of specialized family farms due to aging of farm population;

**m.Technological conditions:** 1/ Precision farming is seen as leading to reduction of chemicals and as helpful to decreasing pollution of soil and ground-water;



- n. **Ecological conditions:** 1/ Poland has favourable conditions for ecological production; 2/ Ag must adjust to climate changes but its environmental function should be seen as equal to its production function.
- **Market-oriented farm – economic dimension, market relations, opportunities for investment, landscape and nature as commodities, high productivity, multiple land use, limited state role, neoliberal ideas) from: Frouws (1998).**
  - g. **Regulatory and policy conditions:** 1/ Industrialization and intensification of production leading to the food security;
  - h. **Finance and risk conditions:** 1/ Farmers` problems are connected exactly with uncertain situation on ag markets; 2/ Banks are not charity institutions and they have to make money on every loan; 3/ market-oriented ag. needs to have regular access to credits and loans;
  - i. **Socio-institutional conditions:** 1/ Only large farm owners are able to effectively compete with farmers of other EU countries;
  - j. **Socio-demographic conditions:** 1/ Education plays an important role in the development of entrepreneurship; 2/ Young farmers should be supported since they adapt technical novelties;
  - k. **Technological conditions:** 1/ The need of intensive farmers` training, 2/ Ag advising treated as an investment and meaningful element of the business model; 3/ Advisers should constantly work on updating their knowledge; 3/ New computer technologies enable round the clock Internet sales;
  - l. **Ecological conditions:** 1/ Intensive and high-yields ag. production does not help biodiversity.
- **Sustainable farm – continuity of the family farm, solving technical and social problems at the same time, leading role of the consumer, international perspective, tourism and recreation, landscape quality, institutionalisation with many agencies including state and NGO`s) from: Hermans, Horlings, Beers, Mommaas (2010).**
  - h. **Regulatory and policy conditions:** 1/ TTIP as a threat to ag. In Europe, Industrialization and intensification of production leading to the food security but to lower quality and less healthy food, 2/ negative consequences of intensive ag. may be originating in lack of appropriate legal regulations;
  - i. **Demand conditions:** 1/ Small production of traditional food products protects cultural heritage and may stimulate the development of agro-tourism; 2/ monoculture farming is not very resilient in crisis situations; 3/ the role of state in the financial policies as well as strengthening consumers` positions in the food system; 4/ Food security should be ensured through prices regulations and support of ag. Producers;
  - j. **Finance and risk conditions:** 1/ Innovative financial instruments introduced by EC should lead to various sources and forms of financing ; 2/ Financial risk might be reduced through production contracts (regulations);
  - k. **Socio-institutional conditions:** 1/ Administrative efficiency should be marked by clarity and simplicity of legal regulations pertinent to economic activity; 2/ Stimulation of structural changes in ag. is often perceived as the role for state and other types of public-private ownership; 3/ the role of state and other agencies to train farmers and provide them with cultural capital is needed; 4/ the role of state is needed in the area of corruption resulting from some business activities;

- l.Socio-demographic conditions:** 1/ the role of professional advisers and expert groups and LEADER-like programs are also quite important; 2/ the issues concerning poverty as part of the reflections on lifestyles underscore the contradictory process of increased affluence on the Polish countryside mostly though the funds obtained from the EU; 3/ Preference for local and regional products is usually part of the rebellion against mass culture and lifestyles presented in TV commercials...; 4/ anti-GMO attitudes due to rural activities complementary to ag. ; 5/ the need to develop cooperation practices among Polish farmers; 6/ The need for public support of young farmers;
- m.Technological conditions:** 1/ New technologies should favor sustainable development and ecological production; 2/ Quality of food means that it should be GMO-free; 3/ Computer programs help to provide farmers with newest ag. trends (energy efficiency, development of renewable energy sources, new methods of farm management); 4/ Internet facilities help in the development of local rural communities;
- n.Ecological conditions:** 1/ Biodiversity is connected to sustainable ag. and food security; 2/ Climate change will for ag. in EU and in the rest of the world to produce more food with smaller use of land;

#### **Types of farms according to the model of selling their products:**

- Producer group – farmers praised this strategy, as it provided them with a better bargaining position in relation to both the retailers of means of production and the purchasers of their product (namely wheat). They claimed that older farmers were not open to innovation and did not support their younger counterparts. Younger farmers declared the possibility to change the strategy every few years but they still valued the confidence and certainty stemming from participation in the producer group. Sometimes this strategy had its drawbacks, such as lower product price, but, on the other hand, it included barter transactions such as acquiring fertilizers and means of production based on future wheat sales.
- Direct marketing – involving direct selling of wheat to a grain elevator, had a rather good reputation among farmers. It allowed for flexible reactions and selling wheat at the moment, when the price was the best. This was purely the market strategy, which was not constrained by any agreements or obligations. Farmers following this strategy were well aware that they needed to use the help of middlemen and finance their operations as well. The advantage of this strategy was that farmers did not need to search for contracting parties. According to the surveyed farmers, this was an ideal strategy for medium farms that were not big enough to create channels directly marketing or selling their products to big processors but at the same time were too big to concentrate on dispersal distribution within niche sales channels.
- Selling to processors – selling wheat directly to processors, but this was only feasible for larger producers who had large quantities of homogenous grains at their disposal.
- Selling during harvest time – according to farmers in the focus group – was only suitable for the smallest farms, whose area did not exceed 30 ha. This strategy could be summarized as immediate sales of wheat during harvest necessitated by an inability to store the grain. Although this strategy did not seem to be very beneficial to wheat

producers, as it did not give them time to negotiate prices, it did not always necessarily mean poor prices for farmers' products.

Producer group	Individual producers selling their products directly to purchasers	Sales direct to food processors	Direct sales during the harvest time
<ul style="list-style-type: none"> <li>•The less numerous type of production since to social and institutional conditions</li> <li>•Products sold to food processors and purchasers</li> <li>•Rare contracts with partners</li> <li>•The global markets define prices, but producer groups have the abilities to control prices to some extent</li> </ul>	<ul style="list-style-type: none"> <li>•The most often type of selling the products among big and middle-size producers</li> <li>•The domination of purchasers over producers due to qualities of the products</li> <li>•Rare contracts between purchasers and producers have been focused on particular types of products</li> <li>•Global markets define prices</li> </ul>	<ul style="list-style-type: none"> <li>•Quite rare type of selling since food producers prefer to purchase large amounts of products from storehouses and purchasers</li> <li>•Producers have been focused on particular types of wheat due to requests from food processors</li> <li>•Producers sell their products to local purchasers since high costs of the transport of the wheat</li> <li>•Domination of cartels of food producers</li> <li>•Lack of contracts</li> <li>•Global markets define prices</li> </ul>	<ul style="list-style-type: none"> <li>•Necessity of selling during the harvest time due to lack of storage infrastructure</li> <li>•High risk of speculation</li> <li>•Small producers</li> <li>•Lack of contracts</li> <li>•Global markets define prices</li> </ul>

## 7.2 Adaptation strategies to policy and regulation

### 7.2.1 Apples

- The respondents were rather critical of the implications of current state policy on their economic activities. They reported observed difficulties with access to production subsidies. It was stressed that the state policy was not supportive of orchard fruit growing due to limited access to subsidies (increased requirements on producers, additional criteria to qualify for subsidies). They also noted that the state response to the Russian embargo included the distribution of free apples in Malopolska Province, favouring producers from the area around Warsaw, where the apples came from. The respondents thought that the state policy was giving advantage to mass production of low quality fruit (production of industrial apples amounts to 60% of Poland's entire apple production) and there is no tendency to change this situation. Generally, the respondents complained about the lack of a national policy regarding apple production, which would point out production directions and possible investment needs.
- The interview participants paid a lot attention to certain political issues influencing production and its profitability. In their opinions, the policies of farm losses compensation did not consider the fact that the majority of farms in the Malopolska, Subcarpathian, and Swietokrzyskie regions were relatively small and operated by older farmers (over the age of 40). According to the participants the compensation money was mostly flowing to larger farms, operated by younger (under the age of 40)

farmers/orchard fruit growers. Another negative point of the state agricultural policy noted by the focus group participants had to do with giving advantage to farmers who formally graduated from a certain type of school over farmers who had significant experience but no formal agricultural education. Insurance and compensation issues also contributed to the participants' discontent. They admitted lacking trust in a compensation system. In their view, the companies offering these insurance policies were from foreign countries and calculated losses by focusing on the individual fruit. To meet the compensation eligibility criteria, an apple had to be damaged in such a way that it was only possible to sell it as an industrial fruit. For the fruit that was not badly damaged farmers were not receiving any compensation, even though they were not able to sell such fruit as dessert apples.

- The issues of Common Agricultural Policy of the European Union also received a lot of attention from the respondents. In their opinion, starting in 2016 Polish farmers should receive direct subsidies equal to those received in the countries of the old European Union. They claimed that Polish producers were not currently competitive as their incomes were lower than the incomes of their Western counterparts. Additionally, production means were more expensive in our country. The respondents advocated for a change in the philosophy of spending the financial means allocated to Poland within the framework of Common Agricultural Policy. In their view the Polish state should decide how these means would be spent. The financial support should be directed into the production areas where there were no surpluses and a real need to increase production and into ensuring a good price for the producer. In the mountainous areas (such as Łącko municipality) the subsidies should be higher for the producers who used their land properly without setting aside arable land. This was very important to our respondents, who suggested going a few steps in the direction of individualized subsidies, which would address the specifics of particular farms. It was stated several times that the position of orchard farmers from Małopolska (and from mountainous regions in particular) was more difficult than the position of orchard farmers from other regions of Poland. In this context the climate conditions, shape of terrain, and traditional farm structure were discussed as influencing production of fruit, and apples in particular, in two ways. On one hand, the climate conditions were thought to be harsher than in other parts of Poland or the European Union. The transport conditions were also seen as more problematic than in other EU countries. On the other hand, there was a necessity to cultivate fruit due to the dispersed farm structure (80-90% of farms operated in an area smaller than 5 ha), soil quality, and shape of the terrain that eliminated any other type of agricultural production besides fruit production and forestation. The need to manage the surpluses of fruit and vegetable production by increased fruit processing was expressed by workshop participants and it was viewed as an issue pertinent to all the EU countries.
- Negative effects of the Russian embargo and inappropriate handling of this matter by the state; faulty state policy

- National agricultural policy is oriented for mass production in large orchards while disregarding small ones, run by families
- Lack of vision regarding the development of orchard fruit production in Poland
- Lack of reliable data that would be collected in diligent manner by the state and address the new plantings and current state of apple production
- Lack of a policy encouraging “economic patriotism”
- Demand to introduce minimal prices

### 7.2.2Wheat

- Regarding agricultural policy regulations, the wheat producers were in favour of curbing grain imports to Poland. They argued that such grains were of poor quality and often ended up being mixed in with better quality Polish grains. As a result, the quality of the overall product was compromised. The farmers in the FGI thought that the current agricultural policy brought some difficulties to their business activities.
- The wheat producers felt threatened by the import of grains to Poland from some EU countries, such as the Czech Republic, and from outside the European Union (e.g. Ukraine). They claimed that policymakers viewed the market from the narrow perspective of product price thus resulting in the import cheap grains from Ukraine. The farmers in the FGI did not address the fact that grains (mostly wheat) from Poland were exported to other countries and that in some ways farmers benefit from such exports.
- The surveyed wheat producers reported a strong attachment to the land and farming tradition. In this perspective, politicians responsible for agricultural and rural policies are seen in rather ambivalent terms as the ones who are aware that farmers will not abandon the cultivated land, no matter what. In that sense, farmers’ attachment to the land is the reason why political institutions pay no special attention to the activities of agricultural producers. In the focus group farmers declared a rather low level of interest in general political questions, emphasizing that their main concern is about the effects of their economic activity. Therefore, farmers appeared to be disconnected the national or European political scene. The demands of wheat producers focused on the following issues: a/ introduction of guaranteed minimal crop prices, which should be known at the moment of production decision; b/ subsidizing credit interests; c/ disconnecting eligibility for the EU funds from the demand that farmers must leave Agricultural Social Insurance Fund (Kasa Rolniczego Ubezpieczenia Społecznego – KRUS), which exists in Poland is known to be beneficial to farmers ; d/ more favourable rules for land purchasing and renting for smaller farms; e/ limiting of the bureaucracy. To summarize, the opinions of farmers expressed in the focus group defend particular interests of small and medium farms and they are the reflection of the economic way of thinking.
- Agricultural policy and related matters played significant roles in the discussions at the Participatory Workshop. Farmers indicated that due to longer lifespan, it was increasingly possible that farmers could pass their farms on to their grandchildren

instead of their children. Farmers also asserted that in the Opolskie Province, due to the lack of available agricultural land for sale, current regulations in force in Poland and related to land turnover for cultivation did not influence the activities of wheat producers in the region. The farmers emphasized that it was necessary to increase the export of wheat from Poland because the country had a significant surplus caused by grain imports from Czech Republic and Ukraine. The producers paid a lot of attention to the issue of levelling out the subsidies for Polish farmers with those available to farmers in Western Europe. It was stated that limiting cultivation of wheat would be desired and a smaller quantity of high-quality wheat could be produced. There were also calls for the introduction of a stable wheat price in a timeframe of at least 10 years. More radical statements alluded to conducting Poland's own agricultural policy for wheat production, without the need to consider the interests of other UE wheat-producing countries. These opinions were followed by claims that national agricultural policy could only be possible after Poland's exit from the European Union. Some respondents suggested the introduction of a minimal wheat price while others preferred to focus on Polish comparative advantages, which could lead to gaining new markets. In this context the issue of cheap wheat imports from Ukraine and Canada were addressed again, but this time in reference to GMO threats. The respondents thought that the relatively low affluence level of Polish society made consumers more concerned about the price of the product rather than its quality, which made them more agreeable to accepting genetically modified products.

- Necessary halting of wheat import into Poland
- During the research the wheat producers indicated three types of conditions potentially changing their situation and consequently influencing their farming strategies. The first one related to elimination of other production directions (i.e. drop in milk prices which resulted in abandoning animal production and taking up plant production, later resulting in increased wheat production and consequently a price drop. Two other factors were related to Poland's accession to the European Union and globalization. The former factor was regarded as positive, creating opportunities for modernization of production. The latter was seen as ambivalent indicating the necessity to enlarge farms (giant mania) or to engage in narrow specialization. The „effect of the scale” becomes the most important here.

## 7.3 Adaptation strategies to markets

### 7.3.1 Apples

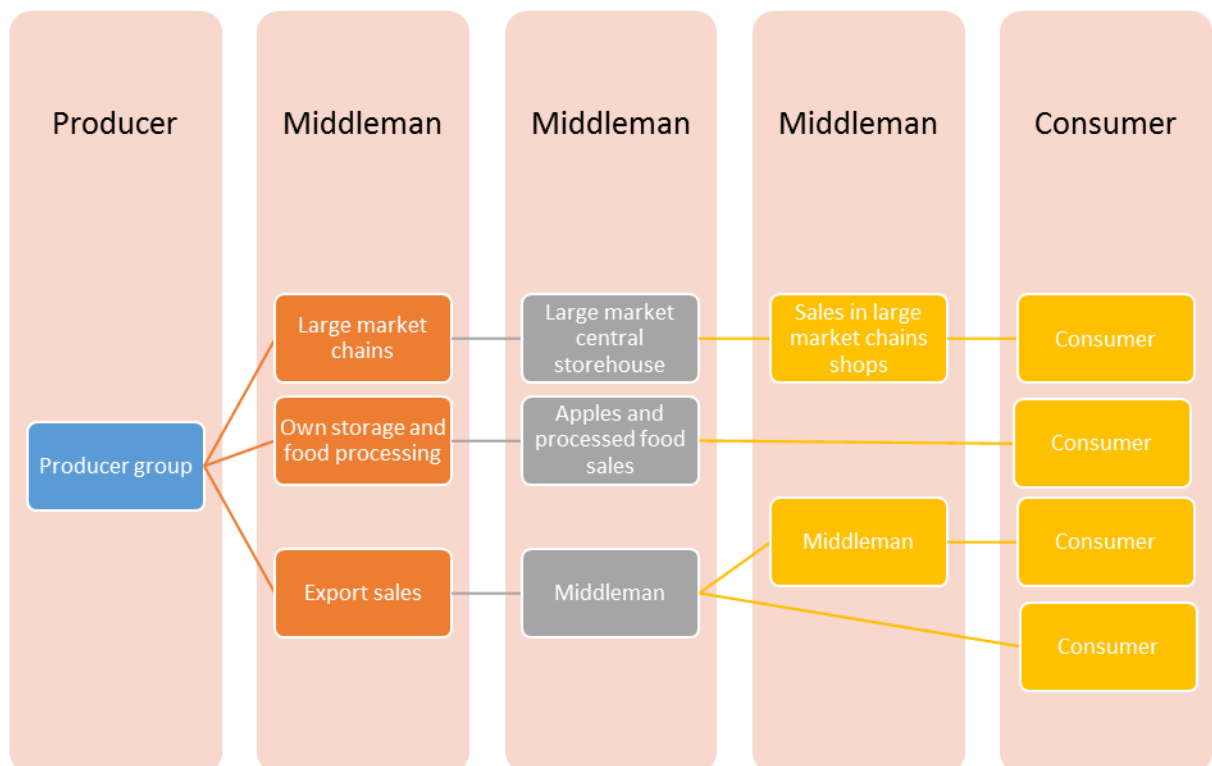
- Disruption of local market due to introduction of „free distribution” of apples while fighting the negative consequences of Russian embargo
- Necessity to gain foreign markets, including the markets of the neighbouring countries
- In theory, farms of various size supply different segments of the market (local, regional, global) but in practice some instruments of national agricultural policy disrupt this order
- Agriculture in Poland is steered by global corporations, which dictate their own conditions. They determine agricultural production to a greater extent than the state. These concerns



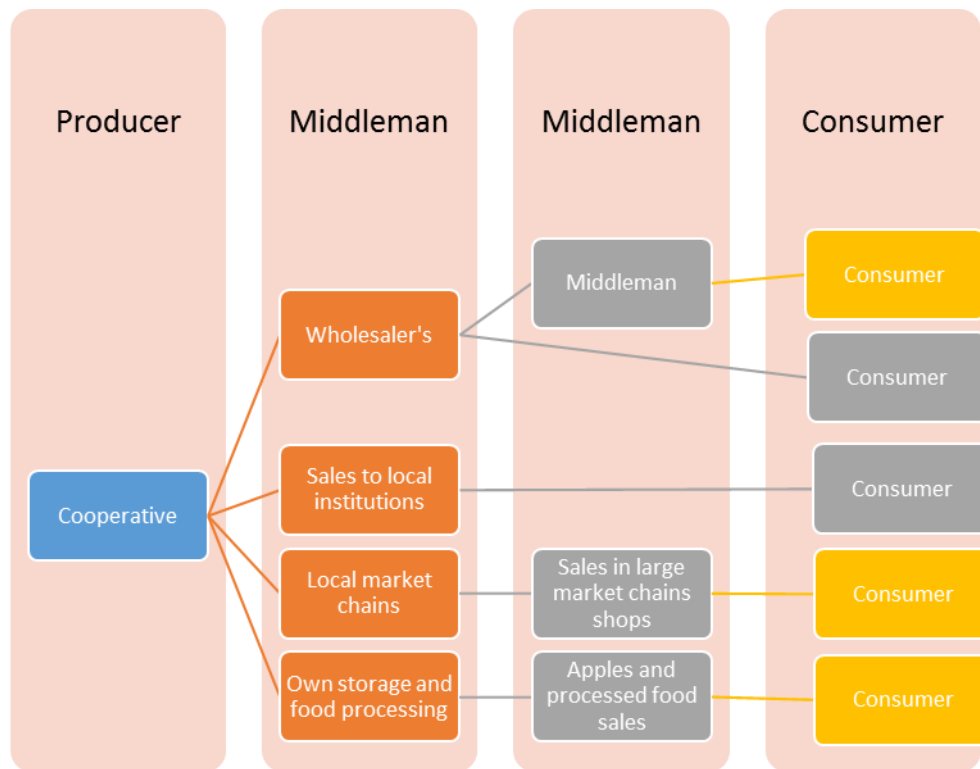
introduce their own standards and criteria for fruit they would be willing to buy. They are not concerned about the problems faced by farmers who have good quality products that do not fulfill all criteria of the market chain

- The respondents suggested that perhaps the state should introduce regulations on local and regional sales
- Large supermarket chains have a policy of selling fruit they bought from local producers under their own trademark and their own brand. This important aspect of the policy of large supermarket chains is highly criticized by the research participants.
- Small producers (small family farms) seem to have the most diversified channels of distribution of their products. Quite contrary, producer groups have the less diversified ones. Therefore, producer groups are the most sensitive on fluctuations of the markets.
- In Poland, one might distinguish three various models of selling apples that altogether form the complex system of selling networks.

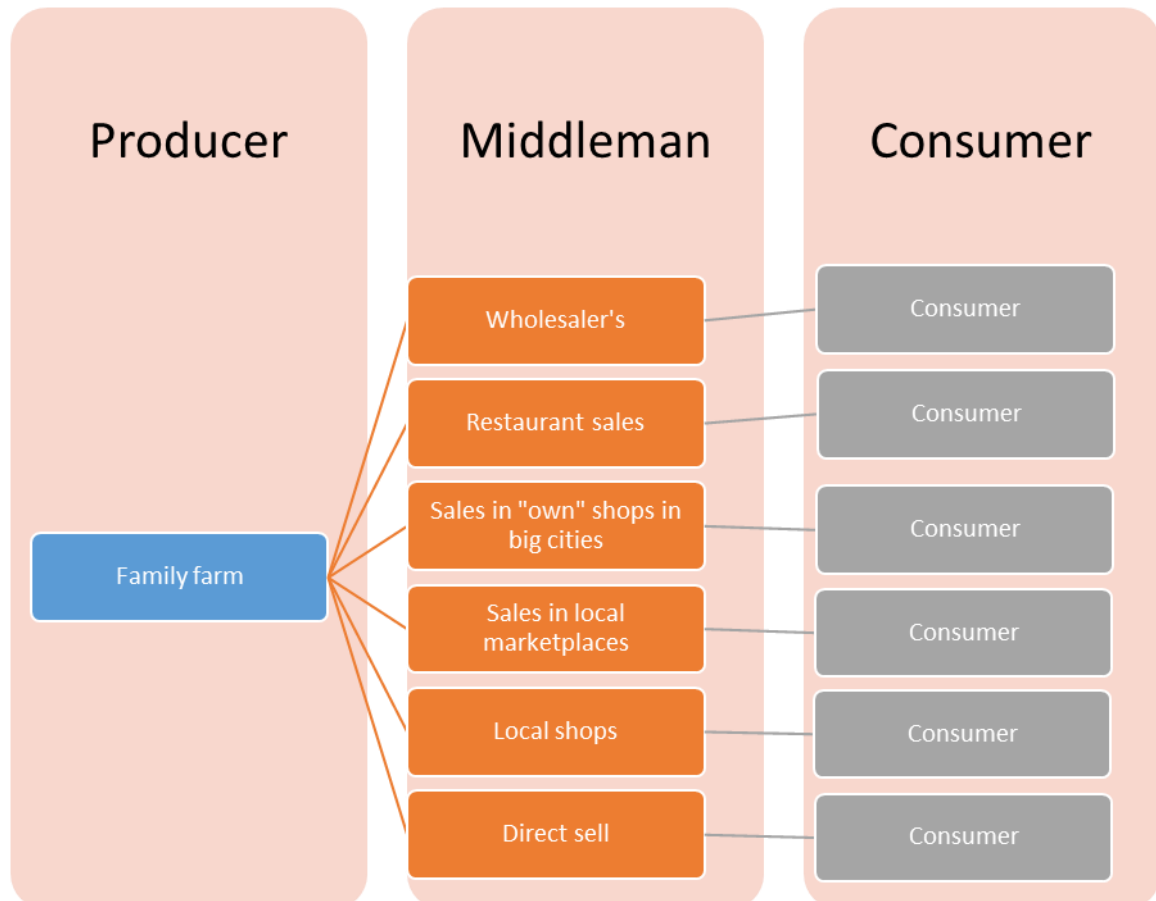
### Producer groups model



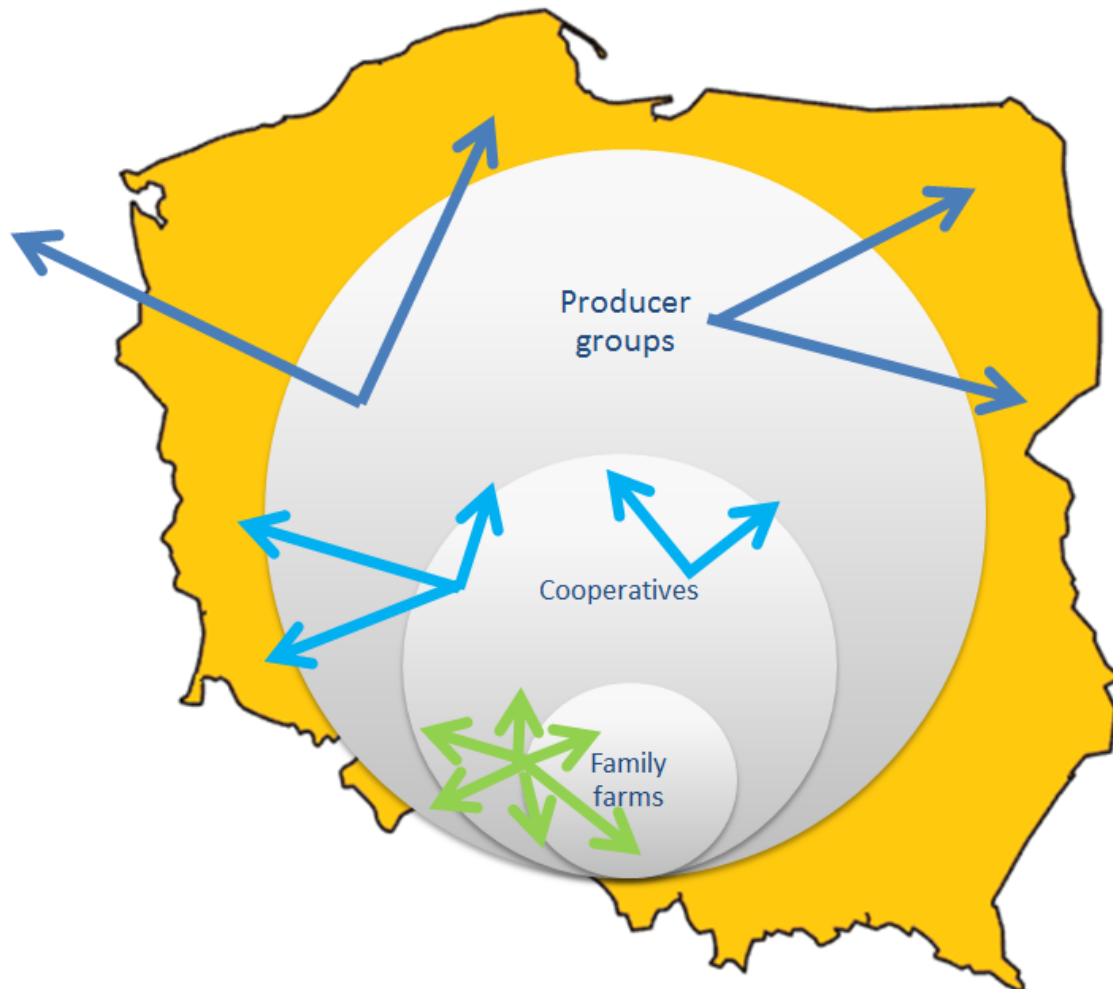
## Cooperatives model



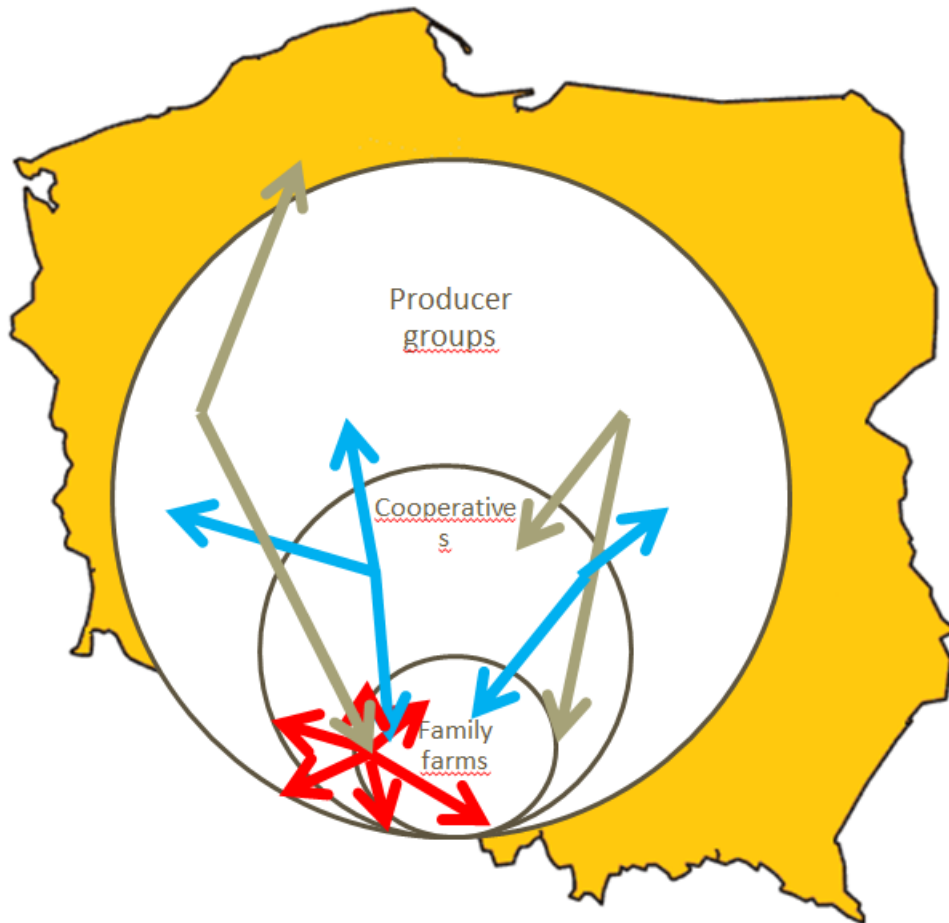
## Family farms model



- The model of selling apples in Poland shows that each particularly group of producers needs various directions of selling networks, namely: producer groups are mostly focused on international (global) and national markets, cooperatives are mostly focused on regional markets and small family producers are mostly focused on local markets.



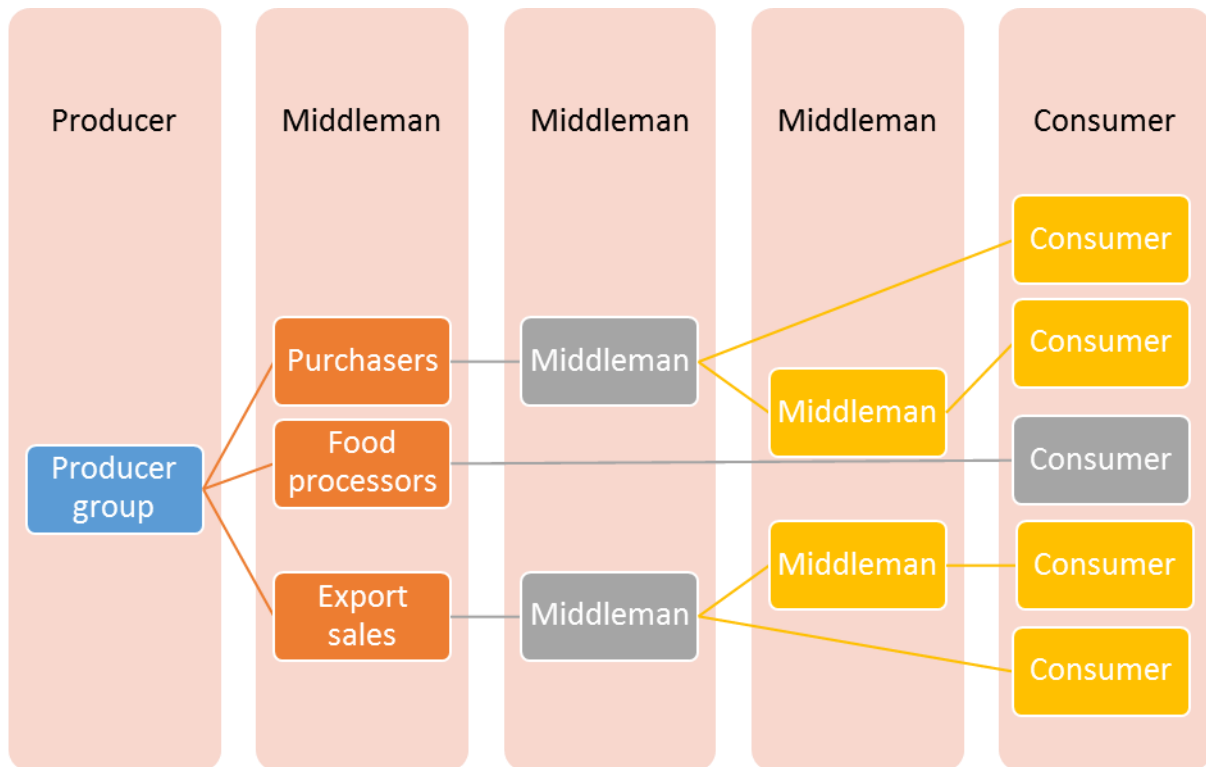
- Russia was a very important consumer of apples from Poland. However as a result of Russia embargo of Polish apples (and other food products from Poland and other EU countries) the national apples market in Poland has been destabilized. Big Polish producers begin to look for national consumers and therefore they strongly limited the opportunities for small family producers on local markets.



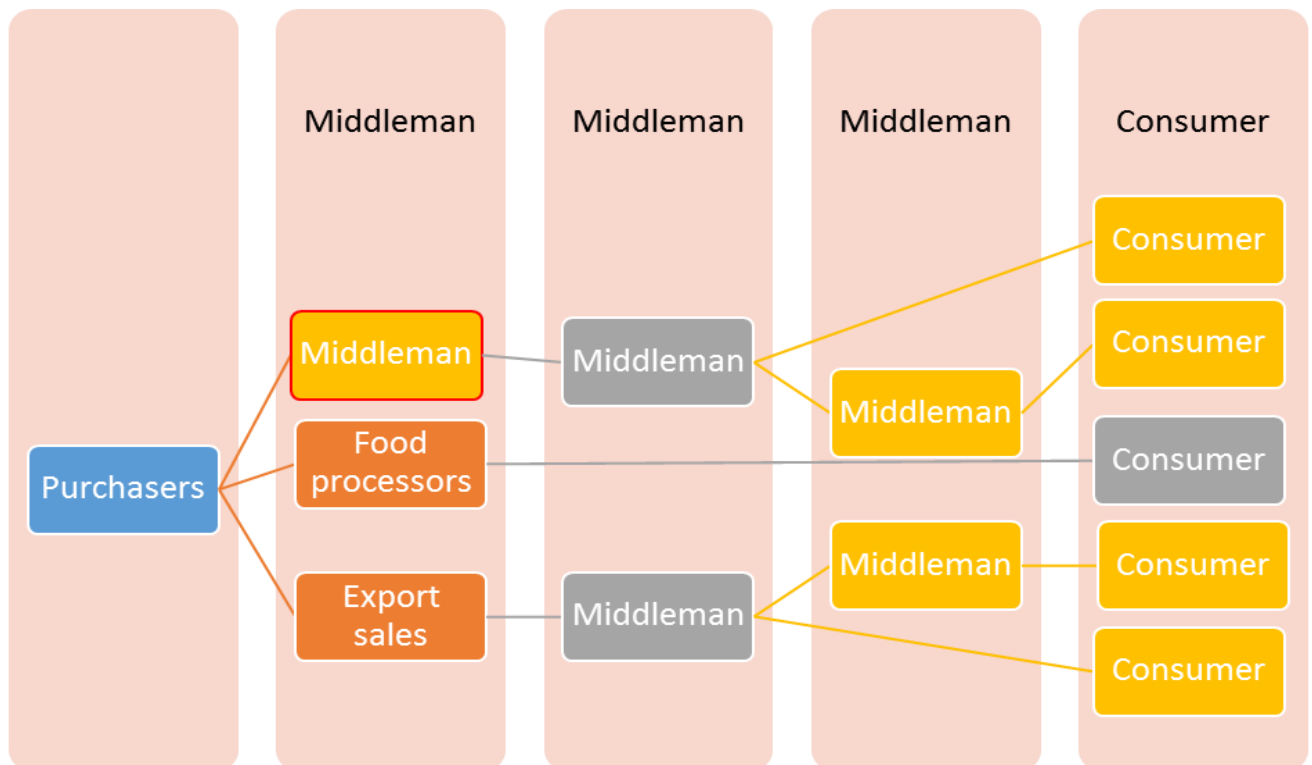
### 7.3.2 Wheat

- Wheat producers perceived import of grains to Poland as their biggest threat. They felt threatened by the imports from the EU countries such as Czech Republic as well as the imports from outside the EU, namely from Ukraine
- The participating farmers had the feeling of being dominated by purchasers of their products. It was mostly connected with the evaluation of parameters of the sold wheat. Purchasers oftentimes lower these parameters, which causes price drops and consequently less profits for producers
- Wheat production and distribution chains seems to be unified and global. The models presented above show various positions of producers within the system. Positions of producers result mainly from the area of their farms and the amount of their products.

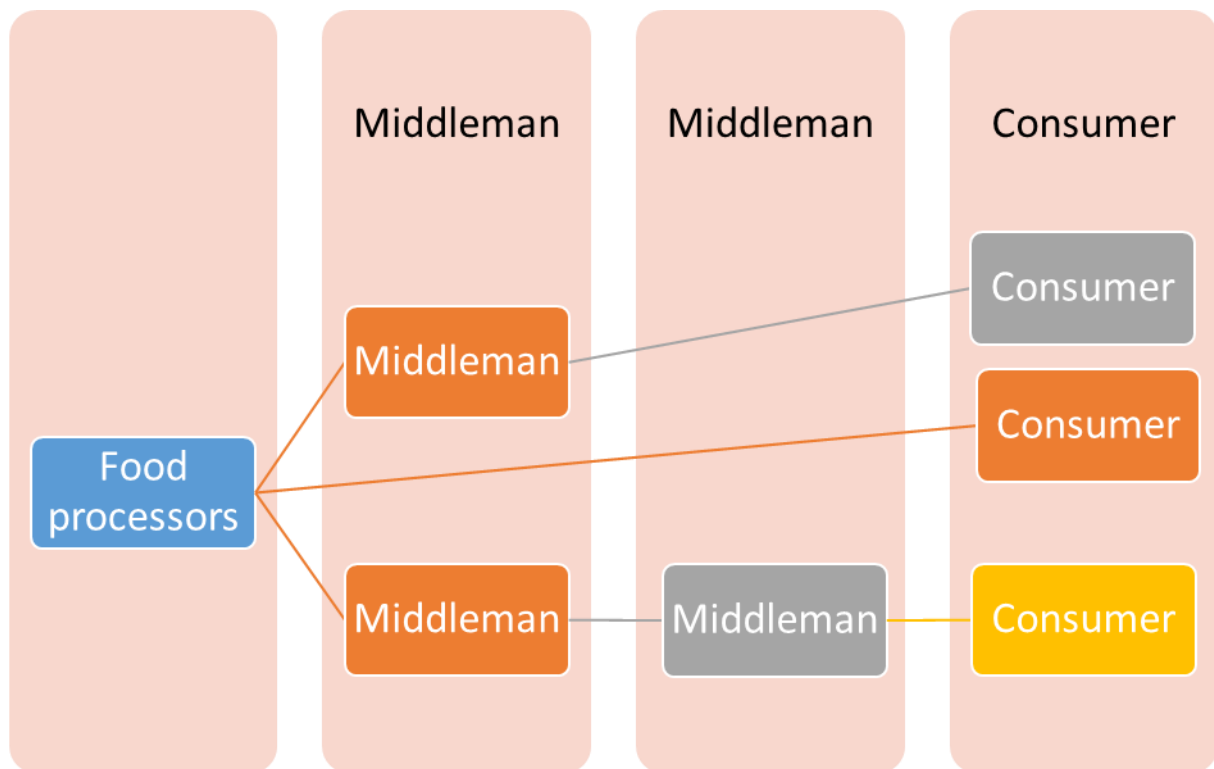
### Producer groups model



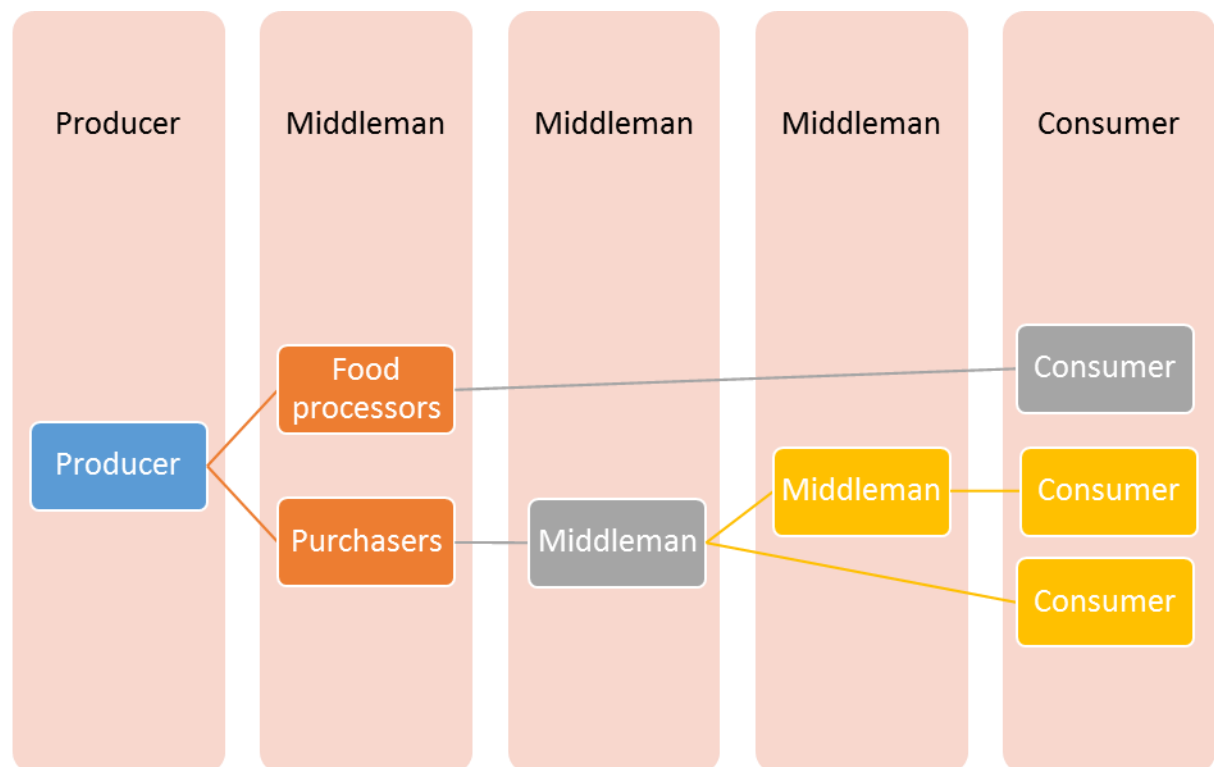
### Purchasers model



### Food processors model



### Direct sales during the harvest time





## 7.4 Adaptation strategies to socio-economic issues

### 7.4.1 Apples

- The responses indicated the presence of three models of production and sales for apples in the region. The first one was a producer group, the second a cooperative, and a third one could be described as dispersed operations of small, family farms. The interviewees emphasized that cooperation between the producer group and large supermarket chains allowed for trading of the region's apples with European purchasers. Various producer groups were complementary with each other, exchanging different varieties of fruit which they produced. In turn, cooperatives were known to have their stores and refrigerated storage facilities for storing fruit. Such measures were ensuring fruit sales in the regions and within the cooperatives' own store. According to fruit growers, a horizontal coordination of cooperation among farmers could be seen in cases of broken farm machinery or equipment. A farmer who experienced such misfortune was able to borrow the machinery from another farmer. No other examples of horizontal cooperation were recognized in the focus group interview. Generally, the respondents complained about the lack of a national policy regarding apple production, which would point out production directions and possible investment needs. The interviewed fruit growers highlighted the need for subsidizing plant protection products, which year after year were becoming more expensive.
- Contracts with large supermarket chains were an important aspect of cooperative work. Although orchard fruit growers saw their production from a local and regional perspective, their perception of marketing and distribution was somewhat influenced by the contract with the global market chain they had signed within the past.
- During the focus group interview, participants pointed to an alternative system for the distribution and sales of apples.
- The participants mostly focused on factors that influenced apple prices. They pointed out that prices did not depend on local factors or conditions as they were globally determined by the price of industrial apples, which in turn was influenced by the price of apple concentrate.
- Direct marketing was also discussed but it was said to involve only 10% of orchard fruit producers. Producer groups or cooperatives were seen as dominating actors here as they could sell their products directly to stores. The high quality of the product and good storage conditions were guaranteed by producer groups and it meant meeting the expectations of the consumers.
- The respondents were very critical of the processing sector as the the price of the final product received by farmers and small processors was unsustainable. This was attributed to the manner in which market chains operate. Traditional methods of processing in this context were difficult to maintain deeming the product prices unsatisfying.

#### 7.4.2Wheat

- The farmers participating in the workshop appreciated the producer group operating in the region, whose members were producers and processors alike. Nevertheless, they brought up the problems of financial regulations as being unfavourable to producers. Operating within a producer group was treated as a regular economic activity. Farmers felt dominated here by the purchasers of their product and the prices they offered.
- Farmers indicated that due to longer lifespan, it was increasingly possible that farmers could pass their farms on to their grandchildren instead of their children. Farmers also asserted that in the Opolskie Province, due to the lack of available agricultural land for sale, current regulations in force in Poland and related to land turnover for cultivation did not influence the activities of wheat producers in the region. The respondents thought that the relatively low affluence level of Polish society made consumers more concerned about the price of the product rather than its quality, which made them more agreeable to accepting genetically modified products. On a general level, the declarations on horizontal cooperation were absolutely positive. All farmers in the group were able to find at least several other producers they cooperated with in some way. The reciprocity rule was strongly emphasized here. In that sense, horizontal cooperation is highly rationalized in a purely economic sense. This cooperation is treated as certain kind of insurance in sudden and unpredicted cases.
- The farmers mostly do receive support from the producer groups they belong to, as the president of such groups is looking out for the best prices for wheat and exploring the possibilities for gaining potential contracts for them. This is the only active way to search for new markets because the production scale of most grain producers is rather small. The surveyed producers appeared to have a subordinate position in relation to the buyers of their products, who often questioned the grain's quality. The farmers in the focus group were not particularly interested in certified agricultural production. The wheat producers felt threatened by the import of grains to Poland from some EU countries, such as the Czech Republic, and from outside the European Union (e.g. Ukraine).
- While describing vertical coordination the surveyed primary producers emphasized that it was based on stable relations with purchasers and fostered by informal relations. Regarding agricultural policy regulations, the wheat producers were in favour of curbing grain imports to Poland. They argued that such grains were of poor quality and often ended up being mixed in with better quality Polish grains.
- The young farmers were also asked about vertical cooperation. In the view of these wheat producers such cooperation was mostly based on economic relations. As was noted, the tradition of such cooperation is often passed from generation to generation, highlighting the importance of mutual trust, which is a crucial and helpful factor in conducting the business. The emphasis on this aspect of vertical cooperation did not interfere with the search for other new partners.

## 7.5 Sustainability of the sector

### 7.5.1 Apples

- Orchard producers emphasized compatibility of their practices with environmental regulations but they admitted that their limited use of chemicals in production was mostly due to high costs. The environmentally friendly attitude was in that sense forced upon them. Intensification of production rather than its mere maintenance as well as its improved quality were seen as the remedies for the current situation. These participants pointed out the weak lobbying position of farmers who operated orchards. They wished it was as significant as the lobbying position of miners or other professions, which had their own unions fighting for their interests. The respondents were not very optimistic about the new direction of production, namely cider production, which in their view was rather small scale, and not likely to bring significant changes.
- Another problem that was addressed in the focus group interview pertained to ecological production. In this context, the respondents emphasized the superiority of so called integrated production over ecological production. They saw the following downsides of organic production: a/ lack of any intervention in production; b/ in Poland – unlike in the West – so-called ecological product did not generate better price; and c/ the lack of any recognizable certification that the product was indeed ecological. Integrated production, on the other hand had, according to the respondents, had numerous positive sides related to production of fruit and apples, in particular: a/ integrated production allowed for the use of chemical products but it needed to be done under the strict supervision of responsible institutions; b/ it was possible to set up appropriate price of the product; c/ in the process of integrated production there were numerous inspections ensuring the safety of the product.
- The issues related to credits and mortgages were also present in the discussion and they involved two main problems. The first one was related to the institution that could be involved in the funding of apple production in the most suitable way. Here, the respondents alluded to cooperative banks as local institutions, close to local matters, cooperating with local government, and potential allies to local development. In cooperative banks the customer was never anonymous and the decisions were made locally.
- According to the participants in the workshop, the Polish state should strive for increasing agricultural subsidies that farmers received in Poland to reach the subsidy level of the old EU.
- The respondents noted that Polish agriculture was generally lacking a strategic policy for orchard fruit production that would allow the farmer to know what to invest in, what to cultivate. Economic patriotism concentrated on the development, promotion, and purchase of Polish products should be an integral part of such a policy. Some respondents thought that it would require certain control over the media which were mostly in “foreign hands”.

### 7.5.2Wheat

- They were skeptical about the future of producer groups and cooperatives because of the strong, individualistic approach among farmers, which caused older farmers to prefer to sell their own land. The remedy for this was seen in a potential consolidation of small farms and enforcing adequate care and stewardship of the land where cultivating wheat could be possible, as such areas in Poland were rather rare.
- The farmers argued that their farms did not pollute. The ecological character of the farms was also determined by the fact that excessive use of chemical products generated high production costs and could make production unprofitable. Within this context, farmers called for CAP subsidies to be the same in all EU countries.
- In reaction to three models of farm presented in the focus group (family farming model, market model, and sustainable farming model) the surveyed producers were pointing to the market model as having a real possibility to thrive. The family farm model in this context was only treated as a certain form of tradition and principles for the functioning of the contemporary farm. It was stressed that without family tradition and the groundwork established by previous generations, it would be nearly impossible to start a wheat production business and to create such a farm from scratch due to the extremely high costs of such an endeavor. Furthermore, the market model of farming is to some extent imposed on farmers by the increasingly globalized nature of the agricultural market forcing agricultural farms to specialize, and to expand their production scale. The main factors that determined the functioning of agricultural farms and possible changes of their production profile were the following: market outlets, costs of engaging in the new type of economic activity, climate change, etc. Social factors (tradition, producer's preferences, etc.) seem to be of secondary importance.

## 8.Sector-wide stakeholder perspective (workshop results)

### 8.1Apples

This section of the research was finalized with a Participatory Workshop that brought together eleven individuals interested in the topic of apple production in the Małopolska region. The group included: an employee of a cooperative bank, a head of the county office of the Agency for Restructuring and Modernisation of Agriculture, an employee of the local office of the Agricultural Advisory Centre in Łącko Municipality, a mayor, a farmer (an employee of the producer group concentrated on orchard production), another farmer, a farmer also involved in processing, an employee of the insurance company, a local entrepreneur involved in fruit processing, a representative of a garden cooperative, the head of the county office of the Agricultural Advisory Centre.

The participants mostly focused on factors that influenced apple prices. They pointed out that prices did not depend on local factors or conditions as they were globally determined by the price of industrial apples, which in turn was influenced by the price of apple concentrate. The respondents emphasized difficulties with the export of Polish apples to neighbouring

countries, because they were buying the above mentioned apple concentrate from Belgium, Bulgaria, or even Turkey. As respondents reported, in these countries there were no contract agreements, so the price of the product was significantly lower, allowing for competitiveness from other global players. The respondents charged that industrial apples comprised about 60% of Polish apple production and such production was not profitable. Apples for consumption produced in Poland were estimated as 2200 thousand metric tons (about 40% of Polish apple production) but Polish producers needed five times more orchard area than the area used in Italy for similar production quantity. The price paid for apples, which could not satisfy the producers, had to do with the restrictive requirements of supermarket chains (TESCO, BIEDRONKA – Jeronimo Martins) relating to product quality. The prices received by apple producers did not exceed 50% of the price paid by the consumer in the supermarket. In the view of the workshop participants this required some intervention in order to improve the market organization.

The respondents addressed the issue of dependency of producers in their relations with large market and retail chains. They estimated that producers were only able to sell their apples for about 40 – 50% of their final prices. This was thought to be the result of retail chains forcing the producers to incur the costs of market preparation and product packaging, so apples could be placed on supermarket shelves. The costs included placing apples on special Styrofoam trays, wrapping them in foil, or packing them in other types of containers.

The workshop participants devoted a lot of attention in their statements to critical evaluation of national regulations, especially those that were made as a reaction to the Russian embargo on apples. They criticised free distribution of apples from Grójec area (the biggest centre of apple production in Poland, near Warsaw) in other regions of Poland. In their opinions such actions were destructive to local markets, including those of Małopolska. The respondents claimed that apples from the Grójec area were of poor quality, which contributed to the negative image of Polish apples as low grade products. Additionally, such “distributions” of apples preserved in the consumers’ collective mind the stereotype of a product of little value. Therefore, producers of dessert apples who tried to sell them were laughed at because they demanded a certain price for a product of poorly perceived value. The workshop participants were afraid that free distribution of apples would diminish the willingness of Polish consumers to buy domestic apples. The workshop also addressed the differences between the prices in various regions. The producers from Małopolska were well aware that their counterparts from the Grójec area had a rather favourable opinion of the state’s agricultural policy as it allowed them to sell lower quality industrial apples to the Agency of Agricultural Market at the price of dessert apples meant for consumption. It was revealed that the local market in the Łącko area of Małopolska Province could suffer while the Grójec area market of the Mazovia region near Warsaw was experiencing gains. The respondents called for expanding the repertoire of state intervention to increase the production of apple concentrate which could be stored while producers waited for better prices. They also proposed other measures such as providing healthy foods for children in schools, biogas production, alcoholic beverages (cider) or aroma products for the cosmetic industry.

Insurance policies for farmers who produced apples made for another important subject in the workshop participants' discussion. According to the respondents the 13% insurance rate was too high, which made farmers unlikely to insure the crops. At the same time farmers understood that the insurance rate is the effect of specific conditions of the region, where calculated risk is rather high. The solution for this problem could be found in the system of state subsidies for insurance, the way it had been implemented in the past. The respondents thought that the problem lied in the lack of solidarity on the insurance issue. The policies were tailored individually and if a farmer incurred losses there was a "punishment" in subsequent years in the form of increased premiums for the insurance policy. Respondents said that in the past this was not a problem. All farmers collected money for the one who was in need. The respondents claimed that numerous institutions did not want to insure farmers because paying claims in cases of natural disasters could mean losses for the insurance companies. It would be rather hard for these companies to profit from such insurance plans .

The issues related to credits and mortgages were also present in the discussion and they involved two main problems. The first one was related to the institution that could be involved in the funding of apple production in the most suitable way. Here, the respondents alluded to cooperative banks as local institutions, close to local matters, cooperating with local government, and potential allies to local development. In cooperative banks the customer was never anonymous and the decisions were made locally. According to workshop participants this type of bank should be supported by the state because of being farmer-friendly. Another problem mentioned by respondents related to the compatibility of the credit system to the rhythm of agricultural production. Farmers' unwillingness to take credits and mortgages was a sign of their fears of inability to pay them off as sales of products could be problematic and uncertain. The respondents emphasized that farmers were very cautious in taking investment credits because the situation was uncertain and making a living solely on agricultural income was quite risky. It was mentioned that farmers (apple producers) were under the pressure of crediting institutions, namely banks. The lack of certain bank products, such as agricultural procurement credits, was addressed. Such a credit could allow farmers to get much needed financial means even before the harvested apples were sold. Contracting of apples in September or October without prepayments (agricultural procurement credits) put direct producers at a disadvantage when confronted with banks.

The issues of Common Agricultural Policy of the European Union also received a lot of attention from the respondents. In their opinion, starting in 2016 Polish farmers should receive direct subsidies equal to those received in the countries of the old European Union. They claimed that Polish producers were not currently competitive as their incomes were lower than the incomes of their Western counterparts. Additionally, production means were more expensive in our country. The respondents advocated for a change in the philosophy of spending the financial means allocated to Poland within the framework of Common Agricultural Policy. In their view the Polish state should decide how these means would be spent. The financial support should be directed into the production areas where there were no surpluses and a real need to increase production and into ensuring a good price for the producer. In the mountainous areas (such as Łącko municipality) the subsidies should be



higher for the producers who used their land properly without setting aside arable land. This was very important to our respondents, who suggested going a few steps in the direction of individualized subsidies, which would address the specifics of particular farms. It was stated several times that the position of orchard farmers from Małopolska (and from mountainous regions in particular) was more difficult than the position of orchard farmers from other regions of Poland. In this context the climate conditions, shape of terrain, and traditional farm structure were discussed as influencing production of fruit, and apples in particular, in two ways. On one hand, the climate conditions were thought to be harsher than in other parts of Poland or the European Union. The transport conditions were also seen as more problematic than in other EU countries. On the other hand, there was a necessity to cultivate fruit due to the dispersed farm structure (80-90% of farms operated in an area smaller than 5 ha), soil quality, and shape of the terrain that eliminated any other type of agricultural production besides fruit production and forestation. The need to manage the surpluses of fruit and vegetable production by increased fruit processing was expressed by workshop participants and it was viewed as an issue pertinent to all the EU countries.

Direct marketing was also discussed but it was said to involve only 10% of orchard fruit producers. Producer groups or cooperatives were seen as dominating actors here as they could sell their products directly to stores. The high quality of the product and good storage conditions were guaranteed by producer groups and it meant meeting the expectations of the consumers. At the same time, individual producers could not count on consumers or small store owners to buy their apples. It was noted that the opinions on apples sold by producer group or cooperatives were quite favourable due to expected guarantees of higher quality and proper storage of apples.

The respondents were very critical of the processing sector as the price of the final product received by farmers and small processors was unsustainable. This was attributed to the manner in which market chains operate. Traditional methods of processing in this context were difficult to maintain deeming the product prices unsatisfying. The producers, who opted to produce fruit and traditional fruit preserves and other products processed by traditional methods complained about low prices. They thought that the orchard fruit producers from other regions who followed in their footsteps of traditional production contributed to the reduction in prices. During the research they argued that traditional production meant relatively small batches of diverse products (different apple varieties), destined for relatively small, sometimes niche markets. In such cases production was necessarily more expensive and, consequently, the product prices on the market needed to be higher as well. Unfortunately, this was not the case. There was no consensus between the producers, especially the producers from outside of Małopolska Province, who were driving prices down. The respondents said it could be the result of significant pressure coming from big supermarket chains and consumers. The producers should not succumb to such tensions because natural products or the ones produced with traditional methods should be more expensive. Furthermore, it was mentioned that ecological production was the subject of so many rules and regulations that agricultural advisers were hesitant to take up such issues. The respondents advocated for special subsidies for ecological production as the quantity of

ecological raw material was insufficient. Polish producers were likely to face the necessity of buying ecological raw materials outside of the country.

The last major segment of the discussion was devoted to the role of the state and social consequences of functioning of orchard farms. According to the participants in the workshop, the Polish state should strive for increasing agricultural subsidies that farmers received in Poland to reach the subsidy level of the old EU. It was also indicated that the state subsidies allotted to the municipal budget (in this case, Łącko municipality) were regularly reduced due to the decisions of the mayor to relieve some inhabitants from the agricultural tax. The respondents pointed out the faults of such policy. They thought the state policy needed to be more sensitive to future prospects in terms of researching what types of crops would be profitable in years to come. The state policy should not just be interventionist and should be conducted with future prospects in mind. The crisis of overproduction should be prevented and the production leading to surpluses of certain kinds of fruit should not be subsidized. The agricultural advisors should be cautioned that the quantity of production was less important than sustainable production goals of future profitability. The respondents noted that Polish agriculture was generally lacking a strategic policy for orchard fruit production that would allow the farmer to know what to invest in, what to cultivate. Economic patriotism concentrated on the development, promotion, and purchase of Polish products should be an integral part of such a policy. Some respondents thought that it would require certain control over the media which were mostly in “foreign hands”. They also noted that similar developments could be observed with banks. Bank Gospodarki Żywnościowej (Food Economy Bank) used to have a very good reputation in Poland as it had been established to support agricultural production and finance food production in Poland. The bank was supposed to support farmers. After the bank was bought out by French capital, namely Paris Agricole Bank, it was apparent that in some sense the bank monopolized how the turnover of agricultural products was supported at the level of 70%. This was not beneficial to agricultural producers and became a prime example of the power of financial capital.

In the statements made by workshop participants there were historical motifs of comparing the current situation of orchard fruit producers to the situation from before 1990, when orchard fruit production in Poland was dominated by cooperatives. According to respondents, at that time cooperatives controlled about 80% of production. After the political changes, individual orchard production started to be preferred and producers were able to receive higher prices, even by 20%. Later it became obvious that the global market was dominated by large producers that were additionally supported by their states. This was thought to be the main problem for contemporary Polish cooperatives in operating their businesses. Additionally, there was a demographic problem as young people were not very likely to see themselves as apple producers in the future.

During the workshop it was pointed out that good conditions for orchard farms were connected with the welfare of entire farming families. This type of economic activity in this community (Łącko municipality) was second most important after construction and building services. At the same time, the lack of a workforce faced by orchard farms was addressed. This part of the market was drained by orchard farmers from other countries (Germany,

Sweden) who offered better pay. The respondents emphasized that professional activities of families involved in orchard fruit production should be diversified so the income from non-agricultural economic activities could support orchard fruit production. Some attention was given to the shrinking workforce market as young people migrated to other parts of Poland or other countries within the European Union.

## 8.2Wheat

In order to finalize this section of the research a participatory workshop was organized. It attracted people who were interested in various aspects of wheat production in the Opolskie region.

The workshop participants noted the natural conditions that they considered to be beneficial to production of high quality varieties of wheat. These natural conditions were, in their opinion, a great starting point for constructing policies that should benefit such production.

Farm structure and related issues constituted the main theme of debate among the workshop participants. Attention was given to the large percentage of small farms, those below the regional average of 18 ha. The position of such farms was rather unfavourable when compared to the position of middlemen and processors, as they did not have the power to individually negotiate prices for their products. According to workshop participants, a good solution for small farmers would be starting and/or joining a producer group. Such efforts should be made despite previous negative experience. This is the only way for small farmers to get good prices for their products.

During the workshop discussion, the interested parties addressed the issues surrounding farmers' perception of being cheated while selling their products to grain elevator. In farmers' opinion this stemmed from detailed requirements that grains delivered by producers had to meet. They related to moisture levels of grains, protein content, sedimentation, density, and others characteristics. In the above mentioned regulations, gluten level was not addressed, even though this issue had often been brought up by grain elevators. Individual farmers, especially the owners of small farms, were powerless over this situation. They highlighted the necessity to standardise wheat grain parameters in the entire Union, so farmers would know which varieties to cultivate and how to do it properly. During the workshop the participants also addressed the lack of regulations on specific – as described by farmers – elite and niche varieties of wheat that would provide a raw material to make pasta, cakes etc. There were calls to organize a whole production chain, stating that information on soil quality needed for this type of production – information that farmers in Opolskie Province were already receiving - was quite insufficient.

The farmers participating in the workshop appreciated the producer group operating in the region, whose members were producers and processors alike. Nevertheless, they brought up the problems of financial regulations as being unfavourable to producers. Operating within a producer group was treated as a regular economic activity. Within this context, the interviewed producers would probably prefer to be treated in a more privileged manner, like typical farmers. They also expressed very skeptical opinions relating to the contract system

stressing that they included various requirements that put constraints on producers' activities but did not ensure certain product price. Direct producers, namely farmers, had to take care of this problem by dividing the sales of their products between two or three instalments according to the best price. They could not compete with the largest farms (like TOP FARMS, for example) that were able to come up with large quantities of homogenous material (wheat grains). Farmers felt dominated here by the purchasers of their product and the prices they offered.

Farmers provided the example of the Czech Republic, which borders the Opolskie region and where the system of wheat production resembles a closed circuit. The advantage of the Czech system could be seen in the dominance of a small number of very large farms, which resulted in a large supply of homogenous product. In that sense Czech production could pose a threat to Polish producers, who were more diverse and quite dispersed. A similar threat could be attributed to Ukrainian wheat production, but for a different reason. The price of wheat was the main issue, as it was significantly lower in Ukraine than in Poland.

Agricultural policy and related matters played significant roles in the discussions at the Participatory Workshop. Farmers indicated that due to longer lifespan, it was increasingly possible that farmers could pass their farms on to their grandchildren instead of their children. Farmers also asserted that in the Opolskie Province, due to the lack of available agricultural land for sale, current regulations in force in Poland and related to land turnover for cultivation did not influence the activities of wheat producers in the region. The farmers emphasized that it was necessary to increase the export of wheat from Poland because the country had a significant surplus caused by grain imports from Czech Republic and Ukraine. The producers paid a lot of attention to the issue of levelling out the subsidies for Polish farmers with those available to farmers in Western Europe. It was stated that limiting cultivation of wheat would be desired and a smaller quantity of high-quality wheat could be produced. There were also calls for the introduction of a stable wheat price in a timeframe of at least 10 years. More radical statements alluded to conducting Poland's own agricultural policy for wheat production, without the need to consider the interests of other UE wheat-producing countries. These opinions were followed by claims that national agricultural policy could only be possible after Poland's exit from the European Union. Some respondents suggested the introduction of a minimal wheat price while others preferred to focus on Polish comparative advantages, which could lead to gaining new markets. In this context the issue of cheap wheat imports from Ukraine and Canada were addressed again, but this time in reference to GMO threats. The respondents thought that the relatively low affluence level of Polish society made consumers more concerned about the price of the product rather than its quality, which made them more agreeable to accepting genetically modified products.

The workshop participants pinpointed that various types of wheat-producing farms existed in the region. In their opinions family farms should be defined as agricultural units sized 100 ha or more. The presence of small, traditional farms sized 5 – 10 ha did not make any sense to them. In Poland, the establishment of large 100-ha farms would be rather difficult because of farm tradition, socio-economic conditions and a certain mindset. Additionally, people with small farms were known to combine farming with other work, which allowed them to keep

the farm. At the same time respondents expressed opinions that farms sized 300 ha or more resembled corporations rather than farms. Some respondents agreed that such large farms, to some extent, would constitute an important element of Polish agriculture in the future. They were sceptical about the future of producer groups and cooperatives because of the strong, individualistic approach among farmers, which caused older farmers to prefer to sell their own land. The remedy for this was seen in a potential consolidation of small farms and enforcing adequate care and stewardship of the land where cultivating wheat could be possible, as such areas in Poland were rather rare.

## **9.Recommendations for the sector**

### **9.1Apples sector**

- 1.Introduction of the national policy concerning apples with the special stress on important regional diversification of apples production in Poland.
- 2.Strengthening the role of producers in confrontations with purchasers and processors through the strengthening of local apple processing and more intensive cooperation among individual producers.
- 3.Strengthening the role of credit unions that seem to be more sensitive and flexible in responding for producers` requests quite contrary to commercial banks.
- 4.Policy focused on reduction of prices and qualities of means of production among EU countries.
- 5.Introduction of the policy focused on an independent (from purchasers or processors) evaluation quality of the product.
- 6.Introduction of the policy focused on upgrading of monitoring system concerning of growing apples.

### **9.2Wheat sector**

- 1.Introduction of the policy focused on strengthening of diversified production in farms since specialisation and “monoculture” profile of production might result in economic risk and the distraction of natural environment.
- 2.Strengthening the role of credit unions that seem to be more sensitive and flexible in responding for producers` requests quite contrary to commercial banks.
- 3.Strengthening the role of producers in confrontations with purchasers and processors through the strengthening of local apple processing and more intensive cooperation among individual producers.
- 4.Policy focused on reduction of prices and qualities of means of production among EU countries.

5. Introduction of the policy focused on an independent (from purchasers or processors) evaluation quality of the product.

## 10. Survey

### 10.1 Apple

#### **Brief introduction addressing the aim of the section**

The aim of the following section is to present and describe the results of quantitative research conducted in the first quarter of 2018 in the Małopolska Province. The research was directed at producers of orchard fruit, who sell the fruit they produce. The fundamental questions that the authors of the survey tried to answer were the following: what are the characteristic features of marketing channels among the researched group and what factors are taken into consideration by orchard fruit farmers in making decisions regarding the type of farming management. Answering these two questions will allow to map out the strategies of orchard fruit farms.

The research sample was chosen at random, while strata and quotas were preserved. First the number of orchard farmers (orchard fruit producers) was estimated for every county of Małopolska Province. This inventory allowed for collection of data on the arrangement (?) of orchard fruit farmers in Małopolska Province and to address the farm size diversification in each county. After data collection, the sample of 200 respondents was divided into categories related to geographic location of their farms. (The proportion between the number of respondents in each county and the total number of orchard fruit growers in that county was maintained.) Then the respondents from each county were divided into categories based on farm size, with distinctions made between small (ranging from 1 ha to 4.99 ha), medium (from 5 to 10 ha), and large farms (sized over 10 ha). This allowed for random sampling throughout the entire province, which reflects territorial diversity and farm size. The survey included 160 small farms, 30 medium farms and 10 large farms, which reflected the farm breakdown in the province. Among surveyed farms 69% were farms operated by natural people (to use the legal term), 30% were described as family farms and one farm was operated as a regular business activity.

To characterize the sample one should take a look at basic demographic variables that differentiated the respondents. The breakdown of respondents was the following: 70% of them were farm owners, 28% of them were owners who also managed their farms and 2% were solely farm managers. The age structure was more diversified and the most represented category was the group of people aged 51-65 (39%). The second largest age group included people aged 41-50 (29%). The next group consisted of people aged 40 and under (23%). The least numerous group included people above the age of 65 (9%). Education was also a diversifying variable. Among the respondents, 40% were individuals whose education went beyond high school (technical or vocational education), 37% finished high school or secondary school, 14% were college graduates and 9% completed grammar school.



The vast majority of respondents were male. In the sample there were 5 times more men (84%) than women (16%). This widely divergent variable was related to having agricultural education and/or qualifications in agricultural education. 69% of respondents had such qualifications or education and 31% did not.

### **Sales channels: reporting the results of section B of the questionnaire**

Considering the basic form of sale, the farms can be divided almost equally. For 52% of farms, individual sales channels were the dominant form of sales and for the remaining part (48%) collective sales channels prevailed. The average area of apple cultivation for the surveyed farms was 4.9 ha and average volume of apple production (in tons) was 98 tons, which equalled a productivity of 20 tons from 1 hectare of the orchard. It is worth noting that no respondent indicated apple production that was certified as ecological.

The respondents reported on the day of survey that on average they sold over 90% of their production in the last completed production year. The percentage share of purchasers of apples produced in the last completed production year 2016-2017 looked interesting. Within the collective sales channels, the most popular form of sales involved selling to or through producer group (31.5%), and cooperatives (22.5%). Other collective sales channels were used by respondents only to a small extent. Only 2.5% of respondents sold their production through unions and 2% through an inter-branch organization. It is worth mentioning that besides the small number of people that used these last two sales channels, the volume of sales was small, between 10-20% in the entire population. The analysis shows that individual sales channels are more diversified. Local markets were the most popular channel of individual sales and this type of sales included selling at farmers' markets and selling to final consumers (38%) and selling directly to apple processors (apple juice producers, etc.) (36.5%). Over ¼ of respondents sold their apples to wholesalers and traders (28.5%) and 21.5% of them sold to small farms, independent retail sellers and restaurants. The least popular channel of individual sale involved selling to supermarkets and retail chains (14%) and for export (3.5%). The channels of individual sales were very diverse in terms of how they were being used. It means that single channels are used by some farmers to a small extent (up to 10% of production), while others almost completely focus on one channel (up to 100% of production). This demonstrates the various sales strategies of the farmers.

Over half of respondents declared membership in some agricultural organization (59%) which corresponded with the result indicating that for almost half (48%) of respondents, the collective model of produce sales was dominant on their agricultural farm. The largest percentage of respondents reported membership in a producer group (35%), and 21% said they were members of an agricultural cooperative (orchard production cooperative). 3% of surveyed farmers were members of a farmers' union or association. The data confirmed that membership in organizations largely determined a particular sales strategy of apple production.

Respondents were also asked to describe what kind of services the organization provided to their members. Almost all cooperative members (93%) declared that the cooperative bought production from its members, while 50% stated that the cooperative helped them to make

contacts with purchasers. 35.7% of respondents who were members of a cooperative declared that the organization negotiated the purchase price for them, and 21.4% of them said they received support from the cooperative while working on contract/transaction terms (i.e. duration of the contract, notice period, etc.).

A similar distribution of answers could be noted among members of a producer organization. 86% of them indicated that the organization bought their production, 42.3% said it helped with making contacts with purchasers. 40.8% of respondents said the producer organization helped to negotiate the price of merchandise and 35.2% noted that they received support while drafting terms of contract agreement. The situation looked quite different with the functions that farm unions and associations fulfill for their members. Here, only 16.7% respondents from this group declared that the organization was buying merchandise from them but a significant majority (83.3%) reported that the organization helped them to make contacts with purchasers. None of the union or association members indicated that the organization negotiated prices for them or help them to prepare the terms for a contract/transaction.

### **Characteristics of sale agreements: results of section**

The next series of questions that respondents had to answer dealt with terms of contracts/transactions, which were previously described (individual or collective channels). Firstly, it is worth noting that the diversification of contracts/transactions is quite significant. The largest percent of respondents (29%) indicated that their sales were based on an informal contract (i.e. a situation in which an orchard fruit producer continuously sold products to the same purchasers based on an oral agreement made before or during production). Slightly less than ¼ of respondents also pointed to informal agreements, but apparently meant agreements during sales (23%) (i.e. sales to wholesalers or retail stores). It can be said that 52% of transaction sales were based on informal agreements rather than a legally binding contract. The second form of sales was reported by 29% of respondents (18% - legal contract or oral agreement before starting the phase of production or during production, which could be legally executed, 11% - legal contract or oral agreement made at the time of sale or right before delivery of the produce, which could be legally executed). 15% of respondents said that their sales were regulated by the statute of the collective organization they were members of and 2% pointed to other forms of contracts. Besides the form of agreement, another differentiating aspect of the transactions had to do with the timeframe for which the sales or membership agreement in a collective organization was set up. Half of respondents signed sales contracts effective for over 5 years (50%), while agreements related to one, concrete transaction were made by 30% of respondents. These were two completely different, and at the same, most frequent forms of transactions. The answers that dealt with other contract timeframes combined for a total of 20% of all answers (7% - for contracts between 25 months and 5 years, 4% - for contracts ranging between 13 months and 2 years, 4% - for contracts ranging between 7 months to 1 year, 3% - from 3 to 6 months, 2% - less than 3 months). The analysis of answer distribution could suggest that the vast majority of transactions agreements were set up with a longer perspective of cooperation in mind (not just a one-time transaction).

Next, the respondents were asked to describe the characteristics of their formal or informal agreement, typical for apple sales in the fully completed production year 2016-2017. The analysis of collected data was quite surprising, as it did not allow for determining the typical structure for the majority of contracts. What 40% of contracts had in common was the possibility of receiving support with storage, transport, etc. In slightly more than 1/3 of contracts a clause relating to the possibility of receiving premiums for delivering high quality products appeared. In 22.5% of contracts there were clauses about penalties that the producer could face for not delivering the agreed-upon volume of produce. For less than 1/5 of contracts (19.5%) the possibility of receiving managerial support and technical assistance was standard. Only 17% of agreements had clauses regarding the possibility of receiving special assets and help with production technology. 15.5% of contracts required exclusivity (obligation to sell 100% of production) and had clauses allowing for automatic extension of agreements. Other types of requirements were rather rare. Only 12% of contracts addressed the issue of compensating farmers in situations when the purchasers did not keep the terms of contracts. Clauses relating to the possibility of compensation in cases of delayed payments could only be found in 4.5% of contract agreements. The same percentage of contracts had clauses regarding the possibility of receiving guarantee of credit.

Another aspect of the research was the formula according to which the price of apples is set through a signed agreement. In 74.5% of contracts the merchandise price was subject to change, connected to the market price at the moment of product delivery, and for 59.5% the quality of delivered produce was quite important and had an effect on price. The volume of delivered production was somewhat less important in price setting (20%). Occasionally, factors affecting the price of apples included production costs (7%) and share in the organization's profit (7%). The price was stable for only 2.5% of contracts and it was set at the moment of sale and not subject to change. This situation is understandable as the mechanisms of the market affect the price, which changes over time, depending on various factors. Therefore, in a significant majority of contracts the final price for merchandise was determined by the actual market situation and on merchandise characteristics. On the other hand, such a situation might not be beneficial to farmers. Even though they enter long-term agreements/contracts (50% of contracts were set for over 5 years) they were not given the benefit of deciding on a profit rate. At the moment of engaging in farm activities (such as spraying) a farmer usually knew how much he could invest in farm/cultivation, so managing the farm could be profitable.

In most cases farmers received the entire payment for their produce after delivering the products (51%) and less often they received the entire payment during product deliveries (21.7%). The most unusual were payments received at regular time intervals (i.e. daily, weekly, monthly) (12.1%), and in less regular time intervals, with some percent in the middle of the season, and the rest at the time of product delivery or later (10.6%). The data presented above could be compared with answers to questions in which respondents were asked to name the costs, which producer had to incur based on sales agreement. The costs that farmers reported the most frequently were related to storage, transport, service, etc. (61.6%) and membership fee to the organization (35.9%). The remaining costs were the costs of marketing

and promotion (29.8%), commission/profit margin (15.7%) and costs related to quality testing (14.6%). Comparing the answers to those two questions indicated the disproportionate nature of the risk that the producer and purchaser have to take. The data suggested that the producer usually incurred a wide variety of significant costs well before receiving any payment for merchandise. At the same time the contracts that farmers signed did not guarantee the price that could be received for the produced product. Often, these contracts had clauses about the penalties that farmers had to pay in situations where contract terms were not met. The contracts usually did not have any clauses describing penalties for purchasers when they failed to meet contract terms. The market power of the farmer is rather weak next to the power of the purchaser.

This was confirmed by the data showing what kind of requirements purchasers had for producers regarding production quality standards. The analysis showed that the requirements, were mostly related to organoleptic characteristics of the final product (taste, colour, etc.) (93.9%) and food safety, as well as hygiene standards related to consumption of the final product (85.4%). Other standards were decidedly less popular among the respondents. More than ¼ of them named the requirements connected with preservation of natural resources and environmental protection (biodiversity, agricultural conservation, integrated management against pests - 27.3%) and 7.6% pointed to the alleviation of, and adaptation to, the effects of climate change (minimizing the carbon footprint, minimizing the number of miles/kilometres in merchandise transport). The least frequently mentioned was the GMO-free standard (3%).

The disproportionate market force between the purchasers and apple producers could indicate that apple growers were not be satisfied with their position and would try to change the existing conditions. This was not the case, which could be seen in the distribution of answers to the question about the level of satisfaction from sales agreement. On the scale from 1 to 5 the respondents were to mark their level of satisfaction and their prevailing majority was satisfied with the sales contract (the total of 78% respondents expressed satisfaction – 28% were completely satisfied, 50% were somewhat satisfied and only 3% were unsatisfied with 1% being completely unsatisfied and 2% being somewhat unsatisfied). A relatively large percentage of respondents expressed neutrality on the matter (16% of respondents were neither satisfied nor unsatisfied).

The final questions related to terms and conditions of contract agreements. Each respondent had the occasion to express their opinion on the circumstances and effects of such contract. For 30% of surveyed farmers entering into such a contract was the only possibility to sell their products but 38% of respondents did not agree with such a statement. A high percentage of neutral answers (30%) is thought provoking. It could suggest a lack of knowledge on this matter and therefore a lack of willingness to explore the possibilities of sales diversification. This was confirmed by an even higher percentage of neutral answers to the question whether the contract agreement provided the farmer with a higher price than the prices offered by other potential purchasers. As many as 35% of the respondents gave a neutral answer to this question but the percentage of those who agreed with such a statement (32%) and those who did not (30%) was almost identical.

When farmers were asked for their opinions on whether or not sales agreements led to more stable prices from year to year than situations in which farmers were “free agents” without contracts (and thus were free to consider prices offered by any potential buyers) their answers were quite varied. 43% of respondents agreed with such a statement and 22% did not. Again, almost 1/3 of respondents (31%) did not have a clear opinion on the matter. They were more critical when it came to evaluating whether or not the scope of the contract allowed for the possibility of price negotiation. 40% of respondents did not agree with such a statement and 29% agreed, while 28% had no opinion. Interestingly, the respondents emphasized that their contractors were honest and trustworthy. As many as 71% of respondents did not agree with the statement that they were delays with receiving payments, 12% agreed with it and 14% had no opinion. Significant inability of the farmers to decide on the answer and notable differences in their experience presented their approach to the statement that the costs related to the sales agreement. 30% of respondents did not have clear-cut opinion, 31% agreed with such a statement and 36% did not. The distribution of answers was similar to the one involving opinions on required production and quality standards being very strict. Again, 30% did not have any opinion on the matter, 38% of respondents agreed with this statement, and 29% did not.

The above distributions of answers indicated big differences in experiencing farmers’ market position and power. Large disparity and lack of decisiveness could be seen in regards to evaluation of the terms of agreements/transactions.

### **Sustainability: results of section C1**

The next section of questions given to apple growers related to their opinions on the influence of a membership agreement in collective organization. Their viewpoints were described in the previous section on sustainable development. Several statements concerning how membership agreements could influence environment, society, and economics and the respondents could agree or not. Here, the indecisiveness of respondents was also significant. Almost half of the answers were neutral. This was the case with the evaluation of the influence of membership agreement on: maintain good quality of water (51% - neutral answer, 35% - I disagree, 5% - I agree, 9% - I don’t know), maintaining biodiversity on the farm (42% - neutral answer, 42% - I disagree, 7% - I agree, 9% - I don’t know), maintain the organic matter of the soil (46% - neutral answer, 33% - I disagree, 14% - I agree, 7% - I don’t know), achieve societal recognition for farmer’s profession (42% - neutral answer, 41% - I agree, 12% - I disagree, 5% - I don’t know), secure successor of the farm (44% - neutral answer, 30% - I agree, 20% - I disagree, 6% - I don’t know) sales during periods of time when apple prices were low (36% - neutral answer, 33% - I agree, 26% - I disagree, 5% - I don’t know). In the remaining cases, the answers that affirmed the presented statements were prevailing. They related to: creating good networking connections with buyers and input providers (64% I agree, 20% - neutral answer, 9% - I disagree, 7% - I don’t know), connecting with other farmers (72% - I agree, 12% - neutral answer, 11% - I disagree, 5% - I don’t know), maintaining profitability of agricultural production (49% - I agree, 24% - neutral answer, 17% - I disagree, 10% - I don’t know), investing in farm business (40% - I agree,



33% - neutral answer, 22% - I disagree, 5% - I don't know) and dealing with changing market conditions (53% - I agree, 30% - neutral answer, 12% - I disagree, 5% - I do not know).

### **Strategies and drivers of farming: results of section D**

The last section dealt with the issue of broader strategies that farmers decide to follow. This section concentrated on factors which affect farmers' decisions on how to manage the farms.

Initially, the respondents were asked to evaluate various types of risk that orchard fruit growers have to consider while making decisions on production of apples and farm strategy. The respondents reported their decisions were most influenced by a significant drop in market prices (79% of respondents recognized significant or even very strong influence), unfavourable climate conditions and pests (71% thought such influence was significant or very strong) fluctuations of input prices such as prices of seeds, synthetic fertilizers, pesticides, gas, energy, etc. (62% of respondents said the influence was significant or very strong). Changes in consumer behaviour and preferences made another important factor influencing farmer's decisions (27% noted that this influence was significant or very strong and 43% recognized its influence to some extent). Then there were changes in regulations regarding agricultural activity (22% of surveyed farmers thought this influence was significant or very strong while 36% reported the influence of this factor to some extent). Regarding changes in functioning of the Common Agricultural Policy, - 17% of respondents thought their influence of farmers' decisions was significant or very strong and 33 % recognized them as influencing farmers' decisions to some extent. For the respondents access to loans was considered to be one of the least important factors in determining farm strategies (9% of respondents recognized its significant or very strong influence while 27% of them thought of it as having some influence). Access to loans for capital investments was also seen as not very important in determining farm strategies (only 8% of respondents thought it was a significant or highly important factor while 25% said it was important to some extent).

Despite the complexity of factors that influence apple growers' decisions on farm development strategies and over 90% of apple producers wanted to maintain or expand the scale of their farms (55% planned to maintain production and 37% wanted to expand it). Only 5% of respondents planned to decrease the scale of their production, and 1% wanted to quit altogether. Such distribution of answers suggested that despite the large risk stemming from the specifics of agricultural production, apple growers were still interested in continuing their involvement in orchards and even considered further development. They were not discouraged by, or afraid of natural and economic factors (connected with the economic system of the country and global market).

While analysing the plans the respondents had to maintain or increase the scale of operation it might be essential to take a look at activities and endeavours that they wanted to engage in the upcoming 5 years in order to reach their goals. As far as production was concerned, 64% of respondents planned to invest more in the farm and the same percentage of respondents planned to insure the apple production. These were the most frequently reported future endeavours. Further down were plans to specialize the production, e.g. producing only dessert varieties of apples (42% of respondents planned such activities), externalizing some activities



related to apple production (10% of respondents planned such activities), while the same percentage of respondents did not have precise development plans (10%).

There were also market-oriented plans for farm development that the respondents expressed in the survey. Among the activities that the respondents were planning to take, the most frequently addressed were plans for finding new channels for selling apples (45% planned such endeavours). Farmers also thought about development of new cooperation networks, e.g. with producers, processors, and sellers, and increasing the value of produced merchandise, e.g. through switching to ecological production and/or introduction of new varieties of apples (in both cases, 43% of respondents planned such activities). In the next 5 years apple growers planned to diversify their agricultural production to include new crops (29% of respondents had such plans), insure themselves against volatile prices and costs to avoid the loss of income (19% of respondents indicated these plans) and 10% of the respondents did not have plans for market development of their farms.

## 10.2Wheat

### **Introduction: very brief, stating the aim of the section**

The following section aims to present and describe the results of quantitative research conducted in the first quarter of 2018 in the Opolskie Province. The research was directed at wheat producers, who sell the cereal they produce outside the farm. The crucial questions that the authors of the survey tried to answer were the following: what are the characteristic features of marketing channels among the researched group and what factors are taken into consideration by orchard fruit farmers in making decisions regarding the type of farming management. The Opolskie Province has favorable natural conditions for agricultural production and this is one of the best regions to conduct agricultural production in Poland. Great soil quality, lowland terrain and mild climate of the province are quite beneficial to the development of agriculture.

The research sample was chosen at random, while strata and quotas were preserved. First, there was a selection of counties with wheat producing farms and then for these counties the names of towns were drawn, which later became starting points for interviews. As we did not have any prior knowledge whether the wheat produced in each farm was sold externally, we used the help of agricultural advisers, who had drawn a starting point in certain towns and then conducted interviews using the random round method. If the town that was drawn did not have any farmer that was selling his wheat externally, a different town was drawn. It was assumed that the research would include cooperative farms and farms that operated as business operation. Study was conducted in 66 towns of the Opolskie Province and 200 farmers participated. Those who participated in the research were natural people with individual farm property ownership (91%). The representation of family farms (7%) and private enterprise (2%) was rather small. To characterize the research sample it should be noted that the predominant majority consisted of farm owners (73%), followed by owners/managers of agricultural farm (24%, 2% managers of agricultural farms. Those who rented farm made only 1% of respondents.

Age was an important demographic variable that differentiated the respondents. There were 36% of respondents of 40 and less, 35% of them in the age group of 51-65, 23% between the

ages 41 and 50 lat. People over the age of 65 made 6% of the sample. Male participants prevailed (90% of research) people with education beyond high school or technical/vocational education made 52% of research participants. Exactly ¼ of respondents finished high school or secondary school and 17% had college education. Only 6% of respondents finished education at the level of grammar school. It is noticeable that a large percentage of respondents had special qualifications or agricultural education. Almost ¾ of respondents had such qualifications (74%) and 26% did not.

### **Sales channels: reporting the results of section B of the questionnaire**

The average size of the farm operated by respondents was 66.85 ha. It should be stated here that the sample included farms as small as 1.5 ha as well as 50 ha and 100 ha farms. One farm was particularly large - 3579 ha. Therefore it was rather problematic to point out the average farm size. Estimating the average production volume was also a problem. The largest production in the sample totalled 34000 tonnes and the smallest was 5.25 tonnes. The average production was estimated at 314.28 tonnes, which means a productivity of 5.7 tonnes from one hectare.

For the description of strategic perspective it seemed important to identify key purchasers and prevailing types of sales for the surveyed farms. Here, it should be stated that individual sales channels were the most common. As many as 87% of respondents declared this form of sales as prevalent. Collective sales channels were the dominant form of sales for only 13% of respondents. While reviewing the main types of sales it could be quite helpful to take a look at specific purchasers. In the collective sales channels, 12% of respondents used their membership in producer groups, 4.5% sold their merchandise through cooperatives, and only 1.5% through an inter-branch organization. The same percentage of respondents (1.5%) sold wheat through a farmers' union or wheat producer association. The analysis of sales through individual channels did not present large diversification. Selling to wholesalers and grain warehouses was the most popular market channel. This channel was used by half of the respondents (51%). Almost ¼ of respondents sold wheat individually, directly at local markets, including farmers' markets (21%). The remaining sales channels were used less frequently. 11% of respondents sold part of their production directly to wheat processors (grits processors, mills, breweries, etc.) and 8.5% through middlemen who did not store grains. Only 5% of respondents sold wheat to small wholesalers that later sold their purchases on the local market, and 3% exported their merchandise.

The above data were consistent with farmers' declarations of membership in agricultural organizations. As many as 90% of respondents did not belong to any such organization, 7% were members of producer organizations, 2% had membership in farmers' union or association and only 1% of respondents were involved in cooperatives. The respondents who were members of agricultural organizations constituted 10% of the sample. Each of them was asked about the types of services that the organizations offered. Due to the small number of such respondents, their answers could only be presented in a qualitative manner, as a certain trend. All cooperative members reported that the cooperative bought their production and facilitated contacts with purchasers. Their opinions, however, were equally divided when it came to the cooperative helping with price negotiations with purchasers and cooperative support with designing terms of contract/negotiation. In the case of members of producer groups, the significant majority of respondents recognized that the organization bought their production, helped to facilitate contacts with purchasers, negotiated prices with purchasers and supported farmers when terms of contract/transactions were being designed. There were

some discrepancies (although not very significant) regarding help with making contacts with purchasers. The experience of members of farm unions or associations was a bit different. These organizations did not buy production from their members, did not support them when terms of contract/transactions were being designed. They did not negotiate prices with purchasers on behalf of farmers. But these institutions did help all of their members to make contacts with purchasers.

### **Characteristics of sale agreements: results of section C**

The research, which focused on wheat producers, was meant to characterize the sales channels. At first, the surveyed farmers confirmed that their sales were oriented towards individual consumers. Nearly 90% said that this was the case.

The next series of questions addressed the terms and conditions of contracts and transactions related to sales through individual or collective channels. The differentiation of contracts/transactions was noticeable even at first sight. The highest percentage of respondents (39%) reported that their sales were based on informal agreement (e.g., a situation in which a farmer sold the wheat he produced to warehouses without having prior agreement) made at the time of grain delivery (40%). The second most popular form of wheat sales (34%), were legal or oral agreements made right before the delivery of merchandise. Such agreements/contracts could be legally executed. The third popular form of wheat sales (14%) was legal or oral agreement made before or during the production phase. Here, legal execution of the contract was also possible. For close to 6% of respondents wheat sales were based on an informal agreement (e.g. situation, in which a producer continuously, based on oral agreement sold products to the same purchaser) made before or during the production. Only 2% of respondents said their sales were regulated by the statute of collective organization they belonged to, while 4% mentioned other forms of agreement. Besides the type of sales agreement, there were other aspects that differentiated the transactions, with the most significant being the duration of contract for sales/membership in collective organization that farmers had to abide. As many as 72% of respondents were involved in contract agreements pertinent to one concrete sale. For 15% the sales agreement was made for no more than six months. Close to 8% of producers sold wheat continuously to the same purchaser. Only 5% of respondents made sales agreements that lasted from 7 months to 5 years. The analysis of the distribution of answers suggested that the predominant majority of transactions were one-time transactions. The agreements for the most part were pertinent to one transaction.

Next, the respondent were asked to describe the characteristics of their formal or informal agreement, typical for wheat sales in the fully completed production year 2016-2017. The analysis of collected data was quite surprising, as it did not allow for determining the typical structure for the majority of contracts. What half of the 50% of contracts had in common was the possibility of receiving support with storage, transport and other services. In 40% of contracts there were clauses addressing the possibility to receive premiums for delivery of high quality product. In 26% of cases the agreements contained clauses which protected farmers against purchasers not keeping their terms of contract. Clauses addressing the possibility of farmers receiving interests in cases of purchasers being late with payments could be found in 23% contract agreements. Only 7% of contract agreements contained clauses on possible credit guarantees. 10% of agreements mentioned penalties that the producer could face for not delivering the agreed-upon volume of produce. For over 10% of agreements the possibility of receiving managerial support and technical assistance was

considered a standard. Only 9% of agreements stated the possibility of receiving special assets and help with production technology, 7.6% of contracts required exclusivity (e.g. obligation to sell 100% of production to particular purchaser) and 12.6% contained clauses regarding automatic extension of contract agreement. Other types of requirements and provisions were rather rare.

Another aspect of the research was the formula according to which the price of wheat was set through a signed agreement. In 84.8% of contract the merchandise price was subject to change, connected to the market price at the moment of product delivery, and for 62.1% quality of delivered produce was quite important and had an effect on price. In every third contract agreement the volume of delivered production played an important role (32%). Among the factors that rarely influenced the price levels for wheats were costs of production (3%) and shares in organization profits (3%). For 12% of contracts the price was stable (not subject to change) and it was set at the moment of sale. It was inferred from farmers' declarations that the average price for the tonne of wheat fluctuated between €131 – 184.3 per tonne. For 50% of surveyed farmers the average price for wheat did not exceed €152.4/t. The remaining farmers received prices in the range of €153-184.3/t. For over 82% of farmers the costs of production consumed over 50% of the sales price. For every third farmer in the survey the costs of production absorbed 51-70% of wheat sales price (33%), and for 18% of them took up to 50% of sales price of wheat. Finally, for 22.7% of farmers production costs gobbled up 71-100% of wheat price. Interestingly, 26.3% of respondents were not able to estimate what percent of their sales price was consumed by the costs of production on their farm. The cause of that could stem from the fact that accounting on agricultural farms is rather rare in Poland. Production of wheat in this part of Poland is strongly tied with the market. Farmers do not engage in long-term contracts to sell wheat. The most popular model of sales had the following scheme: the farmer made a call to the purchaser (warehouse owner) and then brought the merchandise to the warehouse making an agreement on the spot and during the sale (74%). A situation in which there were no sales price guarantees and the institutional support was rather weak, wheat production was a very risky type of economic activity.

In most cases farmers received the entire payment for their product after delivery (77%) and less often they received the entire payment during product deliveries (9%). Every tenth farmer (10%) received their entire payment before delivery. The most unusual were payments received at regular time intervals (i.e. daily, weekly, monthly) (7.5%), and at less regular time intervals, with some percent in the middle of the season, and the rest at the time of product delivery or later (2%). The data presented above could be compared with answers to questions in which respondents were asked to name the costs, which producer had to incur based on sales agreement. The costs that farmers reported the most frequently were related to storing, transport, servicing etc. (43%) and the costs of quality testing (10%). The remaining costs such as organization membership fee, costs of marketing and promotion commission/profit margin were rarely mentioned by respondents and did not exceed 3% answers. The data inferred from these two questions indicated market model of organization of wheat sales, where the risk of market game is shared by producers and purchasers. There is some imbalance connected with the larger risk on the side of wheat producers. Comparing the situation of wheat producers with apple ones, it can be said that the former did not incur much costs while selling wheat at the market.

These findings were confirmed by the data showing what kind of requirements purchasers had for producers regarding production quality standards. The analysis showed that the requirements were mostly related to food safety standards and hygiene standards related to

human consumption of the final product (80.5%) and the quality of organoleptic characteristics of the final product (taste, colour, etc.), which was reported by 66.2% of respondents. Further down the list other standards were present but their popularity was significantly lower than the number of answers referring to the two most popular standards, which were mentioned earlier. Over ¼ of respondents named requirements connected with preservation of natural resources and environmental protection such as biodiversity, agricultural conservation, integrated management of pest protection (27,3%), and 4.5% pointed to the alleviation of, and adaptation to, the effects of climate change (minimization of carbon footprint, minimal number of food miles/kilometres in merchandise transport). For more than one fifth of farmers the purchasers made requirements for GMO free wheat.

The described disproportion of the market force between the purchasers and apple producers could indicate that apple growers were not be satisfied with their position and would try to change the existing conditions. This was not the case, which could be seen in the distribution of answers to the question about the level of satisfaction from sales agreement. On the scale from 1 to 5 the respondents were to mark their level of satisfaction and their prevailing majority was satisfied with the sales contract. There were a total of 72,4% respondents who expressed their satisfaction, of which 44.4% of respondents said they were completely satisfied, 28.3% somewhat satisfied). The percentage of respondents who were unsatisfied from their sales agreements was low – 1.5% with 0.5% of respondents who were completely unsatisfied and 1% of farmers somewhat unsatisfied. A relatively large percentage of respondents expressed neutrality on the matter (20.7% of respondents were neither satisfied nor unsatisfied).

In the final questions related to terms and conditions of contract agreements respondents had the occasion to express their opinion on the circumstances and effects of such a contract. For 11.1% of surveyed farmers entering into such a contract was the only possibility to sell their products but 71.6% did not agree with such a statement. The percentage of neutral answers amounted to 14,6%, which could suggest a lack of knowledge on this matter and therefore a lack of willingness to explore the possibilities of sales diversification. Here, it can be noted that over 26% of respondents could not estimate what percent of their sales was consumed by production costs of the farm. Similar percentage of neutral answers was given to the question, whether the contract agreement provided higher price for merchandise than prices of other potential purchasers (12.6%). It is worth emphasizing that, 66.1% of respondents gave positive answers to this question and the percentage of negative answers was 4 times lower amounting to 17,6% .

The question whether or not a sales agreement granted more stable prices from year to year than the prices offered by other potential purchasers generated quite diverse opinions. 44% of respondents agreed with this statement and 17.1% did not. Every fourth respondent (23.7%) did not have a clear-cut opinion on this matter. The distribution of respondents' answers on having the ability to negotiate prices within the contract agreements was quite interesting. 19.7% of respondents did not agree that they were able to negotiate prices and 50.6% said that they had such ability. 25.3% of respondents did not express an opinion on the matter. It is worth noting that the respondents emphasized that their contractors were honest and trustworthy. As many as 85.8% of respondents did not agree with the statement that there were delays with receiving payments 6.6% agreed with such statements and 7% did not have clear-cut opinion. Prevailing majority of respondents did not agree with the statement that the costs related to sales agreement were too high (84%). Only 1% of respondents agreed with such statement and the remaining 15% did not have any opinion on this matter. Similar



distribution of answers could be seen in regards to the question involving opinions on required production and quality standards being very strict. Almost 60% of respondents did not agree with this statement, while 20% chose a neutral answer. 16% of surveyed farmers agreed with the statement and 4% chose “I don’t know” as the answer.

The above data distributions of answers indicated positive experience in farmers’ perception of their market position and market power. It was observed that the respondents had rather positive evaluation of terms of contracts/transactions they were involved in.

### **Sustainability: results of section C1**

The next section of questions in the survey dealt with potential influence of sales agreement/transaction described above on sustainable development. The respondents were asked to express the opinion whether the agreement related to membership in organization had any clauses that could be seen as conducive to sustainable development and especially its environmental, social and economic aspects. The most frequent answers that the respondents chose indicated that membership in and/or agreement with collective organization had influence on maintaining profitability of agricultural production (68%), investing in agricultural business activity (59.9%) and creating good networking connections with buyers and input providers and establishing connections with other farmers (in both cases 53.8%). Less than half of respondents thought that agreement with/ membership in collective organization had influence on their ability to deal with changing marketing conditions and 37.8% and increasing the prestige of farmer’s profession. Slightly over 1/3 of respondents (34.2%) said that thanks to this agreement with/membership in collective organization they were able to create good relations and networking with purchasers and suppliers, and every fourth respondents said (25.9%) that it influenced sales in periods of time when prices of wheat were low. Only 19.7% of surveyed farmers said that because of agreements with/membership in collective organizations they secured the succession of agricultural farm and 18.7% reported that they were able to maintain the biodiversity of the farm. For the respondents’ agreements with/membership in collective organization had the least influence on maintaining good quality of water (7.3%).

### **Strategies and drivers of farming: results of section D**

Towards the end of the interview the respondents were asked to express their opinion on wider strategies that the farmers implemented in agricultural endeavours. They were to use the 5-point scale to evaluate whether particular factor had any influence on their decisions regarding farm production. The factors that played a role in respondents’ decisions had the following order of importance: (1) unfavourable climate conditions (e.g. hail, drought, floods, diseases) with 68.2% of respondents recognizing their importance. For 31.3% of respondents the influence of these factors was very strong, for 36.9% it was strong and for 5.1% it was low. 19.2 % of respondents reported lack of influence while 7.6% of respondents recognized this influence to some degree; (2) year to year fluctuations of prices of production means (seeds, fertilizers, pesticides, gas, energy, etc.) - 66.7% of respondents thought that this factor was meaningful, of which 25.8% recognized its importance are very significant, 40.9% recognized it as significant, 16.7% of respondents did not think there was such influence, 5.3% said it was of low importance and 10.6% recognized this factor as influential to some extent; (3) severe drop in market prices (63.6% of respondents said this factor was important,



with 24.2% reporting it as highly important, 39.4% noting that it was important. 3.5% chose the answer indicating its low influence. Lack of influence was noted by 15.7% of respondents and some influence was stated by 16.2% of surveyed farmers (4) changes in functioning of Common Agricultural Policy (e.g. changes related to direct subsidy payments and agri-environmental payments – 50.8% of respondents thought this factor was meaningful, with 7.7% of respondents recognizing its importance as significant and 43.1% agreeing it was important. 11.8% stated this factor was of low importance. Lack of influence was reported by 13.8%, and 21% of respondents recognized the influence to some degree); (5) access to credits and loans for means of production - 33.7% of respondents recognized this factor as influential, with 9.2% of respondents reporting its very significant influence, 24.5 recognizing its influence as significant. 24 % of respondents thought that this factor had low influence and 20.4% said this factor did not have any influence. 16.4% of respondents recognized this influence to some extent; (6) changes in regulations on agricultural activity such as regulations connected with water directive or regulations on plant protection products – 18.9% of respondents thought such changes were influential, with 5.1% recognizing its influence as very important 13.8% saying their influence was important and 19.9 reporting the these changes as having little importance. Lack of influence was stated by 16.3% and 39.3% of respondents recognized these changes of having some influence; (7) access to loans and capital investments (18.4% of recognized this factor as important with 3.1% saying it was very important, 15.3% noting it was important. 24.5 of respondents evaluated the importance of this factor as low and 28.1% said it was none. Another 21.4% of respondents recognized the importance of this factor to some extent. (8) Changes in consumer behaviour and preferences – 13.6% of respondents said these changes had important influence, with 2.4 % assessing these changes as very important and 11.2% saying that they were important. 14.8% of respondents reported low of influence of this factor and 34.3% said it was not at all influential. 36.7% of respondents said that these changes were influential to some degree.

The above data presented the array of factors that farmers had to consider while making strategic decisions on their production and their future activities were based on them. The main strategies of agricultural production development are oriented at maintaining the existing scale of operation of agricultural farm (70%), and almost one fourth of respondents planned to increase the existing scale of production of agricultural farm. Despite so many factors that farmers had to take into consideration in farm management, only 3% of respondents were planning to quit farming altogether, while 2% wanted to decrease the scale of agricultural operation. 1% of respondents did not have precise plans of farm development in the next 5 years.

Respondents, who declared such plans on farm development, were asked in the survey about specific activities they were going to take up in order to reach the goals they set. Respondents were asked to declare whether they will take or not take various activities directed at production changes and market changes. Analyzing the answers on activities oriented at production changes it should be stated that the most popular one involved investments on the farm (65%) and the second popular involved ensuring the wheat production (52%). Too much lesser degree farmers were planning to contract out some activities related to production of

wheat such as drying of wheat, spraying, wheat transport etc. (13.5%), or to specialize the production (i.e. only production of durum wheat) (2%). Not a small percentage of respondents (12.5%) did not have any precise plans on their production development.

Somewhat wider and more diverse actions farmers planned to conduct in regards to the market in the next 5. The largest percentage of respondents expressed interest in gaining new channels of selling wheat (57%), and almost half of respondents (49.5%) planned to develop new networks of cooperation with producers, processors and sales people. Relatively, the large part of the respondents planned to increase the value of the merchandise they produced by switching to ecological production or by producing new wheat varieties. Roughly, very fourth respondent (23.5 %) was planning to diversify the agricultural portfolio of the farm to include new crops and only 4.5% were going to be insured against volatile prices and costs, to avoid loss of income. There were also 8.5% of respondents who did not declare any plans of market activities to ensure farm development.

At the end the respondents were asked what expectations and plans they had on succession of the farm. Lack of expectations was expressed by 68% of respondents and 2% of surveyed farms chose “I don’t know” as their answer. Among those who had plans and expectations 26% wanted their successor to be a family member.

## Annex – Apple Case

### *List of legal acts regulating the functioning of Main Inspectorate of Plant Health and Seed Inspection*

Lp.	Date and publication	Name of the legal act
1	December 18, 2003 (Journal of Laws from 2016 position 17 with later changes)	Law on plant protection
2	March 8, 2013 (Journal of Laws from 2015 position 547)	Law on plant protection products
3	November 9, 2012 (Journal of Laws from 2012 position 1512)	Law on seeds
4	June 13, 2013 (Journal of Laws from 2013 position 865)	Law amending the law on seeds
5	October 1, 2013 (Journal of Laws from 2013, position 33)	Announcement of the Minister of Agriculture and Rural Development on the list of plant species which have to be registered and whose seeds material can be produced, evaluated and inspected
6	May 7, 2009 (Journal of Laws No. 98, position 817)	Law repealing or amending some authorisation to issue executive orders The law contains changes to the law on plant protection and

		law on seeds
7	November 21, 2008 (Journal of Laws, position 1505)	Law on civil service
8	June 25, 2015 (Journal of Laws from 2015 position 497 )	Law on ecological farming
9	April 20, 2004 (Journal of Laws, No. 96, position 959)	Law on amending and repealing some laws due to acquiring membership in the European Union by the Republic of Poland
10	June 22, 2001 (Journal of Laws from 2015 position 806)	Law on microorganisms and genetically modified organisms
11	January 12, 2007 (Journal of Laws No. 35, position 216)	Law amending the law on o Agricultural Market Agency and organization of some agricultural markets
12	July 2, 2004 (Journal of Laws from 2015 position 584 with later changes), uniform text, unofficial	Law on freedom of economic activity
13	November 16, 2006 (uniform text, Journal of Laws from 2015, position 783)	Law on stamp duty
14	May 22, 2009 (Journal of Laws No. 95, position 792)	Law amending the law on o Agricultural Market Agency and organization of some agricultural markets
15	January 9, 2009 (Journal of Laws, No. 20, position 106)	Law on amending the law on chemical substances mixtures and some other laws
16	March 4, 2010 (Journal of Laws, No 47 position 278)	Law on providing services on the territory of the Republic of Poland
17	June 29, 2010 (Journal of Laws No. 136, position 914)	Law on food safety and feeding
18	February 4, 2011 (Journal of Laws No. 54, position 278)	Law amending the law on payments of direct support schemes and some other laws
19	June 5, 2014 (Journal of Laws from 2014 position 1104)	Act on the manufacture and bottling of wine products, trade thereof and the organization of the market in wine.

Source: <http://piorin.gov.pl/prawo/ustawy/>, access on May 16, 2016.

*The list of laws regulating the functioning of the Research Centre of Cultivar Testing (COBORU)*<sup>50</sup>

Research Centre for Cultivar Testing conducts its statutory tasks according to the following legal acts:

-Law from November 25, 2010 on the Research Centre for Cultivar Testing (Journal of laws No 239/2010, position. 1591, amended by art. 130 of the Law from November 9, 2012 on seeds, Journal of Laws position 1512)

1.Regulation of the Minister of Agriculture and Rural Development from December 21, 2010 on granting statute to the Research Centre for Cultivar Testing (Journal of Laws No 254/2010, position 1708)

2.Regulation of the Minister of Agriculture and Rural Development from December 24, 2010 on the remuneration policy for Research Centre for Cultivar Testing and granting other work-related benefits (Journal of Laws No 257/2010, position 1739)

3.Regulation of the Minister of Agriculture and Rural Development from November 7, 2011 on determining the surplus of financial resources for Research Centre for Cultivar Testing (Journal of Laws No 257/2011, position 1542)

4. Act of November 9, 2012 on seeds (Journal of Laws from 2012, position 1512; changes Journal of Laws from 2013, position 865)

5.The Announcement of the Ministry of Agriculture and Rural Development from September 27, 2013 on the list of plant species that require official registration and which seed material can be produced, evaluated and inspected (Journal of Laws of the Ministry of Agriculture and Rural Development from 2013, position 33)

6. Regulation of the Minister of Agriculture and Rural Development from November 27, 2013 on dates of application of the entry to the national register of varieties (Journal of Laws 2013, position 1574)

7.Regulation of the Minister of Agriculture and Rural Development from September 19, 2013 on the list of vegetable and orchard species, for which examinations of economic value are conducted (Journal of Laws from 2013, position 1179)

8.Regulation of the Minister of Agriculture and Rural Development from July 22, 2014 on evaluation of identity and varietal purity of seeds (Journal of Laws from 2014, position 151)

9.Regulation of the Minister of Agriculture and Rural Development from December 15, 2015 on subsidies related to research on varieties and keeping the register of varieties (Journal of Laws from 2015, position 2169)

10.Regulation of the Council of Ministers from January 2, 2013 on the ban concerning the use of seed of the MON corn varieties (uniform text Journal of Laws from 2014, position 1085; changes Journal of Laws from 2015, position 688)

11.Decision No 1/N/2013 of the Director of Research Centre for Cultivar Testing (COBRU) from May 10, 2013 on form specimen for the national register and to be submitted to the Director of COBORU.

12.Decision No 1/N/2013 of the Director of Research Centre for Cultivar Testing (COBRU) from March 2, 2015 on agricultural and vegetable plants species, for which the examinations of distinctness, stability and uniformity are conducted according to the methodology adopted by Community Plant Variety Office (CPVO) or the guidelines of The International Union for the Protection of New Varieties of Plants (UPOV).

13.Decision No 1/N/2013 of the Director of Research Centre for Cultivar Testing (COBRU) from March 2, 2015 on orchard plant species, for which the examinations of distinctness, stability and uniformity are conducted according to the methodology adopted by Community Plant Variety Office (CPVO) or according to the guidelines of The International Union for the Protection of New Varieties of Plants (UPOV).

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<sup>50</sup> [http://www.coboru.pl/Polska/Podstawy\\_prawne/podstawy\\_prawne.aspx](http://www.coboru.pl/Polska/Podstawy_prawne/podstawy_prawne.aspx), access on May 25, 2016

14. Decision No 7/N/2015 of the Director of Research Centre for Cultivar Testing (COBRU) from March 2, 2015 on maximum quantity of seed material of agricultural plant varieties, submitted to the national registry and approved for official research and authorized to be used for testing or experimental fields.

15. Decision No 1/N/2016 of the Director of Research Centre for Cultivar Testing (COBRU) from January 7, 2016 on the quantity of seed material of varieties reported to the national registry and necessary to conduct examination of distinctness, stability and uniformity, research on economic value and the time of their delivery to experimental stations of the Research Centre for Cultivar Testing.

16. Law from June 26, 2003 r. on legal protection of plant varieties (Journal of Laws No 137/2003, position 1300; changes: Journal of Laws No 126/2006, position 877; Journal of Laws No. 99/2007, position 662; Journal of Laws No. 186/2011, position 1099)

17. Regulation of the Ministry of Agriculture and Rural Development from March 5, 2004 on specimen application for granting of a right to protect a cultivated or newly developed or newly derived variety, as well as its use for commercial purposes and the template of technical questionnaire (Journal of Laws No 60/2004, position 569)

18. Regulation of the Ministry of Agriculture and Rural Development from February 17, 2004 on application fee regarding the submission of application for granting a right to protect a cultivated, newly developed or newly derived variety, as well as its use for commercial purposes, examination of distinctness, stability and uniformity, granting and maintaining of the exclusiveness right (Journal of Laws 60/2004, position 567)

19. Regulation of the Ministry of Agriculture and Rural Development from December 15, 2015 amending the regulation on application fee regarding the submission of application for granting a right to protect a cultivated, newly developed or newly derived variety, as well as its use for commercial purposes, examination of distinctness, stability and uniformity, granting and maintaining of the exclusiveness right (Journal of Laws from 2015 r., position 2166)

20. Regulation of the Ministry of Agriculture and Rural Development from March 1, 2004 on the quantity of seed material necessary to conduct examinations of distinctness, stability and uniformity as well as time of their delivery (Journal of Laws, No 60/2004, position. 568)

21. Council Regulation No 2100/94 of 27 July 1994 on community plant variety rights (Official Journal of the European Union from L 227 from 1.9.1994; with amended regulations.)

22. Commission Regulation (EC) No 637/2009 of 22 July 2009 establishing implementing rules as to the suitability of the denominations of varieties of agricultural plant species and vegetable species (Official Journal of the European Union from 23.7.2009).

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