Latvia

National report

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List of Acronyms and Abbreviations

AKIS - Agricultural Knowledge and Innovation Systems
CAP - Common Agricultural Policy
CF – conceptual framework
CSB - Central Statistical Bureau of Latvia
CSP - Conditions–Strategies–Performances
EC – European Commission
EU – European Union
GDP – Gross Domestic Product
LBLA - Latvia's Organic Agriculture Association
LOSP - Latvian agricultural organisation cooperation council
LRATC - Latvia Rural Advisory and Training Centre
NFQS - National Food Quality Scheme
NGO -Non-governmental organisation
NUTS – Nomenclature of Territorial Units for Statistics
RSS - Rural Support Service
SAPS - Single Area Payment Scheme
SRS - State Revenue Service
SWOT - Strengths, Weaknesses, Opportunities, and Threats
UAA - utilized agricultural area
USA – United States of America
VAT – Value-Added Tax

Executive summary

Introduction

This report is a part of the European research project SUFISA – "Sustainable Finance for Sustainable Agriculture and Fisheries" (2015-2019), which aims to identify practices and policies that support the sustainability of primary producers in a context of complex policy requirements, market imperfections and globalisation. The research in Latvia is carried out by the Baltic Studies Centre in close collaboration with *Zemnieku Saeima* (Farmers Parliament, an agricultural organisation).

Data collection methods

The report summarises findings from research conducted on the conditions that shape primary producers' actions, strategies, vulnerabilities and performances as well as the dominant frames that shape farmers' discourses and actions. The analysis has been based, firstly, on extensive review of scientific, policy, general and specialised agricultural media texts published over the past seven years and in particular during the last three years. In total, more than 140 texts from various sources were analysed. Secondly, this has been further complemented by more in-depth research on the nature of market imperfections, policy requirements and their implications for specific commodity groups, which for Latvia are represented by dairy and wheat sectors. For the exploration of primary producers' conditions and strategies in both dairy and wheat sectors our analysis applies to the whole country, yet in the case of the wheat sector we somewhat focus our case study a bit more in Zemgale region. The methods of data collection and analysis of the two case studies included: integrated and consolidating analysis of insights from the media analysis; review of policy and regulative documents; desk study of scientific publications and researches about dairy and wheat market and political regulation (due to rather small academic community in Latvia there were quite a limited number of relevant scientific studies available); scanning of websites and public documentation of agricultural organisations; interviews with a range of stakeholders who represent dairy farmers, crop farmers, agricultural cooperatives, agricultural associations and farmer organisations, policy makers, financial institutions, agricultural advisory services, state controlling and regulative institutions; two focus groups and a workshop per case study.

Dairy sector

The region of this case study is the whole country of Latvia, which corresponds to a NUTS 2 level. It is predominantly rural, but with some internal regional disparities when zoomed in at NUTS 3 level: there is also an urban area around the capital city of Riga, and an intermediate region in the western part (EC 2013a). The GDP per capita in the country is €12,100, which makes up 64 % of the EU average (Eurostat 2015). Agricultural conditions vary across the country: they are comparatively more favourable in the Southern part (Zemgale) where farms tend to be larger (28 ha on average), and less advantageous in the Eastern part (Latgale) where are the smallest farms (14 ha on average) (CSB 2010; see also Figure 1). One fifth of Latvian farms are specialised in milk production.

Dairy sector in Latvia has witnessed dynamic development during the last few years – the prices paid for milk has grown significantly and now are close to the price level paid in other EU countries, the sector has been centralising, new cooperatives have been emerging, etc. Because of the rapid changes sector is going through conclusions made in initial data collection period does not necessarily correspond to conclusions made in the second wave of data collection.

Dairy production in Latvia has deep historical traditions, given the suitability of the geographical and climate conditions of the country for cattle breeding (Lauku tīkls 2011). Presently dairy farming represents the major livestock farming sector in Latvia and the second largest agricultural sector. Its production value has been growing steadily. In 2014, the value of production for the dairy sector made up 24.1 % of the total Latvian agricultural output (Ministry of Agriculture 2015). The productivity is increasing (5.9 kg per cow in 2015, which is still less than EU average, though), and so does the total output (978,1 thousand tons in 2015) (CSB 2016b). Latvian self-provision with milk exceeds 135 %, and dairy products are a crucial export product: 60 % of the produced milk is exported.

The structure of dairy farms has been fragmented – dominated by small farms, thereby potentially contributing the comparatively low efficiency of the dairy sector in Latvia (Miglavs 2015). In 2014 there were 21,800 dairy farms with the average herd size of 7.6 cows and there were 40 competing milk processors (Ministry of Agriculture 2015). This fragmentation is considered by some to be responsible also for the producers' weak position in the milk food chain (dominated by big processors and retail chains), and overly high competition in the processing sector. However, it is also worth noting, that already in 2010 five biggest processors were processing almost 75% of milk volumes processed in Latvia (Latvijas Piensaimnieku Centrālā Savienība 2011).

Over the recent years there has been an ongoing consolidation and concentration in the sector, mostly at the expense of smaller farms – while in 2010 the number of dairy cows was more or less evenly distributed among large, medium-sized and small farms (33 %, 32 % and 35 %, respectively), in 2015 the share of dairy cows in small holdings had fallen to mere 17 % (49 % now owned by large ones) (CSB 2016b). There has also been a reduction in the total number of dairy farms (from 25,740 in 2012 to 19,048 in 2015) with a simultaneous increase in the average herd size (from 6.4 in 2012 to 8.6 in 2015) (Ministry of Agriculture 2015; CSB 2016b).

Policy and regulatory conditions

In the current period the dairy sector is adapting to the abolishment of the EU system of milk production quotas (introduced in the EU back in 1984). Latvian farmers had complied duly with quotas (Ministry of Agriculture 2015). Farmers were looking forward towards the abolishment of milk quotas with divided feelings. For bigger producers it meant expanding production, opening up of the world market but also increased competition; small farmers were worried how the abolishment of quotas, which they felt as a means of certain security, will influence them. Now the abolishment is considered as another major factor contributing to lowering milk prices and overall Latvian milk crisis. Encouraged by initial positive signs of agricultural policy makers, many milk producers had prepared in advance to the abolishment

of quotas by investing in production means. However, the actual market conditions of overproduction and low prices have slowed down the development and forced farmers to reconsider their development plans and reduce production.

The situation in the milk sector has been even further aggravated by the sanctions and trade bans between the EU and Russia. The Russian embargo has already had severe negative consequences on producers' performances. The embargo, together with other unfavourable conditions in the market, has hit particularly hard the milk sector, which has been left without a notable share of their former export market. The EU funding allocated as a compensation for farmers has not covered for their actual total financial losses caused by the trade ban. Dairy producers have been largely dependent on the capacity of dairy processing companies to find new markets, with many of those who used to have Russia as the main export market facing problems in this respect. This, in turn, has caused residue of finished products at processing companies forcing them to reduce the milk purchase price even below the prime cost (LSM 2015).

Presently there are several public (both EU and national) support measures that have been made available to dairy farmers either on a regular basis or as ad hoc solutions to help them adapt to the new system and tackle the crises. This support has helped to raise competitiveness of agricultural holdings which in times of crisis is particularly important. In general, farmers have adopted receiving-using public funding, or subsidy seeking strategy, as a part of their farm development or maintenance/survival strategy. However, there are also several critical points expressed about the public support, sometimes even contradicting ones, revealing the conflicting interests in the farming community.

There is a unanimity that the different amounts of direct payments that EU average and Latvian farmers are receiving are unjust and reducing the competitiveness of Latvian farmers. It is common belief that for dairy sector subsidies is the only reliable funding source that allows milk farmers to stay afloat. Thus lobbying for higher direct payments and other means of financial assistance is seen as a central task for NGOs representing farmers and for national governance representatives in EU level discussions. Sums farmers receive in direct payments have been rising. However single area payments are still significantly lower than in most other EU member states.

The organic sector in Latvia has developed rapidly over the last ten years. Latvia is among top five EU countries with the biggest share of agricultural land devoted to organic production (Tambovceva 2016). The rapid growth of organic farming has been made possible due to farmers interest and learning but also thanks to continuous public support policies. Dairy sector is benefiting from political support to organic agriculture. However 80% of organic milk is being processed and sold in conventional system and only 20% is processed and marketed as certified organic milk. Meanwhile, according to some estimations around 10 % of dairy farms (mostly small ones) in Latvia in face problems with ensuring adequate quality milk. Experts have noted that improved milk quality can be achieved by means of increasing the number of cattle in the herds; modernisation of farms by improving space for cows and equipment for milk storage; improving knowledge on milk quality and preparing specimens

for laboratory; improving credibility of the milk laboratories' data; promoting the use of the single data base of milk quality (Ugare 2012).

Market conditions

Price volatility in milk sector is more expressed than in other sectors (Strautiņš 2014). This poses considerable financial and operational difficulties to farmers: just recently they had difficulties to reimburse credits, pay taxes and do other payments; as well as farmers reduce feed amount to cows, fire employees and look for other ways to reduce costs. Now the prices are back on a rise. During the interviews we discovered that (before prices started to rise) there were no substantiated estimations when prices could get higher. In popular media this question was dramatized and frequently presented as the end of both Latvia's diary industry and as the end of the nation. Some farmers were looking for a way to leave the sector however, they were trapped in the sector by the conditions set by previous public financial support they have received. Meanwhile, some farmers continued working claiming that despite the low prices they manage to be profitable.

Cooperation has been identified as one of the solutions to crisis (in fact, cooperation is seen as a solution to almost all problems dairy farmers might have in Latvia). There are 21 milk cooperatives operating in Latvia in 2015. However, most of these cooperatives are small and weak. Furthermore, the few loud cases when cooperatives have gone bankrupt have reduced farmers trust in cooperation. Experts suggest that existing cooperatives are just too small to introduce a significant change in the sector. These cooperatives are expected to grow and possibly – create common response to market problems. However, so far each of the small cooperatives has been operating on its own and has not been able to find a common ground for discussions. Knowledge and advice is another of the key discerning factors which make a difference in farmers' market performance. There is a still great deficiency of agricultural knowledge among the farming community, particularly on the issues of strategic decision-making, financial literacy and financial management.

Experts claim that many of the problems sector is facing are related to the fact that the sector is fragmented. Fragmentation is one of the key factors of the low efficacy of the Latvian dairy sector (Miglavs 2015). The low market power of dairy farms is also responsible for the low milk prices (lowest in the EU). Furthermore the processing industry is characterized as uncompetitive in the EU single market as mass products with low added value dominate in the milk export structure. This limits also the income and development possibilities for primary producers (Miglavs 2015). Meanwhile the few note-worthy farmers' cooperatives that dairy sector has are small and are mainly occupying niches and thus has limits in the markets they have access to. Despite the weakness of farmers niche markets widely remain in the hands of local farmers. Policy sources see niche product development as a way to boost competitiveness of small farmers, closely linked to innovation. Some farmers see niches as a way out of prior. However, all of these markets remain marginal.

Finally, there is a list of other issues that the dairy sector faces. Firstly, various land issues are being widely discussed not only in the dairy sector but in agriculture more generally. The share of foreign land ownership is already considerable. Thus the present land market regulation, particularly liberalisation or opening the land market to foreigners demanded by the EU, is

not well supported by Latvian people. For local farmers this means more difficulties to get additional land and an increase in land prices. Secondly, human resources can be a problem. With ageing of farming population and gradual but consistent exit of small-holders from productive agriculture the issues of new entrants of various categories (young farmers, start-up farmers, farm managers, and specialists) become increasingly acute. However, there are also problems related to farms workers. The workers well-being, improvement of employment conditions so far have often been subjugated to other more important perceived priorities of farm development, like improving the quality of fodder, introducing new breeds for higher yields, making investments in productive capacities. Thirdly, farmers' access to finance in dairy sector is more difficult than in the wheat sector because of structural differences in industry and food chain organisation and also due to the current crisis which makes financial institutions extremely reluctant to credit dairy farms. In the last decade after joining EU the Rural Support Service has cofounded many farm development projects in dairy sector following technological modernisation and intensification paradigm. However, generous EU modernisation money coupled with bank credits were predominantly used by bigger dairies; some of them currently are technically insolvent (debts surpass the farm value).

Findings from focus groups and workshop

This part of the report is structured in five sub-sections discussing institutional arrangments related to: what does it means to be a dairy farmer in Latvia; policies and the role subsidies and sectoral liberalisation the sector has faced; characteristics of the dairy supply chain; outlet markets and market development directions; and a sub-section discussing resilience of the sector.

1) Dairy farming

The opportunities available to various groups of farmers differ. There is what could be described as two tracks of opportunities. Bigger farmers seem to be much better off than smaller farmers. These farmers have closer relations to processors and they have more resources to allocate to facilitate development. These farmers also frequently operate in other agricultural sectors as well thus diversifying their income. Meanwhile, most of the farms remain small and have only limited opportunities in Latvia. Being less structured than for example grain sector, dairy sector on its own poses more challenges to farmers.

2) Policy and management

Last few years have been particularly harsh on Latvia's dairy farmers. Similarly as elsewhere in Europe milk prices were low and farmers were forced to sell their product for a price that was well below costs of production. As one of the farmers stressed during the focus group – this milk price crisis was not the first one farmers operating in the sector have witnessed. However, it most definitely has been the longest and possibly – the deepest. In many cases development plans farmers had for their farm had to be halted. Furthermore, farmers were forced to make painful decisions about the future of their farm which resulted in that many of them slowly retired from the sector and farming in general. Farmers stressed that actors overseeing the supply chain (such as farmers' and governing organisations) have to take their share of responsibility for the recent crisis – they had been watching the desolation this crisis

were causing without actually stepping in to regulate the relations between actors buying and actors producing milk. Subsidies and intervention was the more persistent rescue rick farmers had. However, there were also those with a more sceptical interpretation of the role direct payments had. Some farmers argued that subsidies only create an illusion, distort market, and restrict implementation of proactive strategies. Bigger farmers and experts from workshop claimed that subsidies only encourage small farmers who would otherwise leave the market.

As many other sectors in Latvia, the dairy sector as well have witnessed a push towards ever more liberal trade relations during the last few decades. Many stakeholders were supportive of this change. For them open, non-regulated competition is the quickest route towards a more efficient agriculture. Efficiency has often been named as central aspect farmers should try improve in order to ensure better income from farming. The group supporting deregulation has been successful with lobbying their interests and thus so far the sectoral development has been going into direction this group has been pulling it. However, in some cases the hard stance these stakeholders took to support trade liberalisation were somewhat hypocritical – many of these actors seemed to be more lenient to bend their views on trade support when it came to the biggest enterprises in the sector. Meanwhile, on the other hand there are both farmers and number of other stakeholders demanding from government much more regulated market that would acknowledge that the scale and efficiency is not the only relevant criteria to assess the need for an enterprise. One of the most provocative ideas this group of stakeholders were pitching during the focus group discussions is to tie the price paid to the farmers to the milk prices consumers pay in shops.

Meanwhile, there were also other means proposed for national government to be used to help farmers to ensure higher income from farming. First, participants suggested that there is a need for some sort of agricultural land protectionism. Second, farmers were discussing suggesting that there are problems in how contracts are regulated in Latvia. The current legislative framework for contracts does not have a demand to ensure that the relations between processors and farmers are of a decent length that would allow farmers to plan their income better.

3) Dairy supply chain

Fragmented structure was once more a central theme farmers raised. This fragmentation is a result of distrust farmers have in group activities. On numerous occasions during the focus-groups farmers claimed that cooperatives are not working to protect farmers' interests. Instead cooperatives are fighting to raise income for small group of managers who are exploiting farmers work to boost their own profits. Cooperation is mainly about trust and shared responsibility. Yet from the discussions held it seemed that farmers had neither of the feelings. The pressure farmers felt during the period of low prices was pushing some farmers to leave the sector, some others were diversifying their activities in order to make both ends meet, while even others were internalising the costs. Few choose to invest during the crisis.

The fragmentation has led to the concentration of power in the hands of biggest processors and retailers. Farmers are speculating that processors are using their dominance to ensure impose rules on them however, they do not have any practical evidence that would prove it. Processors' dominance is also the reason why processors can impose contracts on farmers

that are clearly contradicting farmers' interests. This line of logic also suggests that it was foreign processors who managed to keep the local processors in check – their willingness to purchase the milk from Latvia forced local processors to raise the prices.

During the focus groups it was discussed that on an individual level farmers could enable themselves by becoming more efficient, modernising, and expanding their farms. Meanwhile, on a group level farmers' cooperatives were urged to look for horizontal and vertical integration: cooperatives should be merged and should look for possibilities to establish their own processing factories and maybe even their own shops. Development of strategic partnerships was contrasted with the lone fighters, questioning the latter's capacity to individually cope with the given pressure exerted by the present market conditions.

4) Markets and development

Overall, it was suggested by the participants of the discussions that the problems and solutions faced by dairy farmers should be approached on a sectoral level, thus giving preference to collective strategies (this claim was contrasting the somewhat limited scope of political interventions farmers were willing to discuss). Many of the adaptation strategies to policy and regulatory conditions were associated with product and organisational innovations. For example, participants were discussing in detail the possibilities and limitations dairy products would have in foreign markets (with particular interest in demand of dairy products created by China). Participants were discussing possibilities to create new partnerships (merging farmers' cooperatives, creating second level cooperatives), to reinterpret markets (it was argued that some of the problems are caused by the obsolete belief that cooperation should remain within the borders of one country; mentioned examples illustrate that farmers can successfully operate in cooperatives of neighbouring countries), and to diversify (to introduce supplementary activities ensuring regular income). However, there were also suggestions that farmers on their own could look for new opportunities. Some of these suggestions initiated extensive debates on the nature of the dairy market.

5) Resilience

Three strategies farmers use to solve challenges posed by low milk prices have been identified during the focus groups: 'enhanced cooperation', 'lone ranger', and 'contractualisation / price setting'. These strategies are oriented towards improving the strength of farmers and were mainly looking at the possible relations between farmers and processors. The most preferred strategy for the future was enhanced cooperation. The strategy suggests that in a near future neither farmers nor processors will be able to survive on their own. As long as the actors representing the local dairy sector do not mobilise to oppose these pressures, the major events defining the characteristics of the sector will be set by someone else. Thus farmers should come and act together.

Another strategy identified is Price setting / contractualisation. This strategy is suggesting that there should be long-term contracts between farmers and milk processors that should incorporate fixed prices. Finally, Lone ranger was a strategy which was admitted to be predominant in the actual behaviour of farmers. It suggests that for farmers having experienced shocks and crisis it is justified to look for their own short-term benefits when

selling milk. The core idea of the strategy is based on the current situation observed in Latvia – farmers are breaching their contracts with cooperatives or processors and are selling their milk to buyers ready to pay more.

Wheat sector

Crop production, and wheat production in particular, has been another traditional branch of agriculture in Latvia. Nowadays utilised agricultural area covers the second largest area after wooded area (38 % and 45 % respectively in 2010), and in the total cornfield structure cultivation of grain makes up around half of it (LLKC 2012). While crop production has been established to be suitable over the whole territory of Latvia, with variations in the chosen crop varieties and soil characteristics, the highest average yield capacity is usually demonstrated by Zemgale planning region (LLKC 2012). This region is the largest region in terms of crop growing in Latvia (31.5 % of all crops, 40 % of total crop yield in 2014), followed by Kurzeme region (23.8 % of total crop yield), Vidzeme region (12.8 %), Latgale region (12.5 %) and the greater Riga region (10.8 %) (Ministry of Agriculture 2015) (see Table 6).

Wheat is the main agricultural commodity produced in Latvia in terms of number of farms, cultivated area (402.5 thousand hectares or 2/3 of grain sowings), export volume – €304m in 2014 (import was €74m), and total farm income (Ministry of Agriculture 2015). Wheat growing is more developed in medium and large-scale specialised grain farms with intensive methods of cultivation and use of modern agro-technologies.

The structure of crop production in Latvia is largely influenced by the price levels in the world stock market (LLKC 2012). Crop prices both internationally and in the EU between 2012 and 2014 have been fluctuating notably, yet with mostly decreased price levels – on average minus 30 % for food wheat, food rye, and wheat forage (Ministry of Agriculture 2015). Wheat is the main crop in terms of both import and export in 2014 making up 62 % and 86 % of all crops respectively (Ministry of Agriculture 2015). Given the high capacity of crop production and the small size of the local market, export is of utmost importance in the grain sector. It has also been noted that export is crucial also given the low discipline of payments among buyers in the local market (Bahšteins 2015b).

Over the recent years export volumes have been increasing also due to the development of several rather strong cooperatives in the field of crop production in Latvia. Wheat sector is presently characterised by high degree of vertical market integration and globalisation of trade (Ministry of Agriculture 2015). Marketing is organised through a national wide cooperative *Latraps* which is the largest farmers' cooperative in Latvia uniting around 1,000 members from all regions.

A shift from selling plain grain to the development of processed innovative export products with high value added can be seen as a potential in future development trends (for example using grain to extract protein, producing bottles from grain starch) (Bahšteins 2015b). Another pressing need pertains to boosting the capacity of pre-processing, storage, and logistics of grain (Bahšteins 2015a) in order to level out the harvesting pace and reception capacity (*Latraps* 2015).

Policy and regulatory conditions

According to an assessment of the crop sector made by experts in 2012, critique has been voiced regarding the considerable differences in the EU support levels, leading to distorted competition and inequality between crop producers of different countries in the EU market (LLKC 2012).

While many public support measures are covering all agricultural sectors, there are selected schemes that are more relevant to crop producers. In terms of tax exemptions, a reduced rate of excise duty has been applied for marked diesel fuel used for production of agricultural produce and cultivation of agricultural land (Cabinet of Ministers 2015b). While this exemption shall be considered as beneficial for farmers, the positive effect is somewhat hindered by difficulties in meeting the accompanying requirements (allowed to be used only for work on field) and making the necessary practical (Matisone 2015).

Amendments made to the Law on value added tax (Cabinet of Ministers 2013a) in June 2016 stipulate the introduction of the special VAT regime (reverse VAT charge mechanism) also in the crop sector pertaining to deliveries of unprocessed crop and technical cultures (including wheat). Since the crop sector has been established to be among the ones with widespread use of fraudulent VAT schemes in Latvia (Fridrihsone 2016), the new provision is expected to serve as a terminated means for reducing the share of hidden economy in the sector

National government has also offered farmers funding for covering insurance policies for productive farm animals and cultivated plants (amounting to €1.5m) with support intensity of 50 %. The aim of this support was to promote engagement of farmers in reducing the risk of agricultural sectors. Yet, as of 2016 this support has been exempted from the list of support measures altogether. Crop producers have also benefited from extraordinary support for the sector (LSM 2016b).

Grain farmers' representing organisations, such as cooperatives, cooperative associations, but most notably agricultural associations / NGOs are actively involved in policy dialogue and lobbying. The governing actors like the Ministry of Agriculture are more open towards political interests of biggest economic actors due to their strength of representation and lobbying voice. Regulations are made as to be favourable to bigger farmers even though these farmers might not have been actively involved in policy making.

Market conditions

People spend high share of their income on food and beverages in Latvia – 27.5 % in 2014. Around 14% of this money is used to buy bread and grain products. In the last two decades consumption of wheat bread has dropped almost by half. Due to the size of the market and to the trends of consumption the inner market is not able to consume all the products grown by farmers. The grain sector in recent history has managed to successfully re-orient towards global markets. Internally farmers sell only limited amount of their produce. In overall, this has allowed the sector to organise and develop strong organisational structures that can organise farmers' presence in foreign markets. Grain farmers are much more active in global markets than they are in local markets. The grain sector's global success is at least partly owed to the strong and centralized actors operating in the sector and states willingness to introduce regulations ensuring transparency of the sector. Biggest grain cooperative *Latraps* has

introduced many new practices in the sector. The role of cooperatives in the grain sector is really significant. Most of them do not pose political changes to be their main objective and in most cases they do not become involved in the policy processes at all. However, due to the size of these actors most other stakeholders recognise them. Also, although they do not have direct representation in the policy making process, many of the people managing cooperatives are also in the top positions in farmers' organisations lobbying farmers' rights both in Latvia and in EU. Thus there are strong unofficial yet clearly visible ties. One of the most significant innovations the cooperatives have introduced is to connect local grain farmers to global stock market. This has improved farmers safety as well as has ensured that farmers hold more possibilities to control the price they receive for the product. This connection has illuminated other problems sector faces.

First, one of the recurrently emphasised market conditions for the grain sector in Latvia has to do with the increasingly insufficient capacity of pre-processing, storage, and logistics of grain (Bahšteins 2015a, *Latraps* 2015), which became particularly vivid in the context of the unprecedented high crop yield in 2015. The unresolved situation with pre-processing and storage presently acts as a bottleneck for crop production. During the periods of rapid harvesting, when making use of favourable weather conditions, the limited capacity of existing facilities notably slows down the harvesting process due to compulsory interruptions and long queues at the crop reception centres (BNS 2015). Since investments in these facilities are usually too high for individual farmers, solutions are sought in cooperation. Cooperatives are trying to strategically assess the location and crop volumes of their members thereby aiming to ensure efficient planning of reception capacity in different regions.

Second, the land availability is critically important for the operation of grain producers. There are dynamic processes taking place in both primary and secondary (lease) markets. The factors that determine land market dynamics are: farm concentration and enlargement tendencies that rise demand for land; competition for land between grain and biogas producers; foreign land acquisition; the government policies and interventions in land market; financial institutions crediting policies of land acquisition; behaviours of land owners who are not farmers. The primary land market in Latvia currently sees certain heating tendencies.

Third, in the grain sector, which is doing well in the last years there are signs of farmers' reluctance to learn new things. If a market is rising and business runs well, this might discourage farmers to learn and innovate. Fourth, sector also suffers from lack of qualified employees. The availability of human resources in the grain sector is characterised by demographic ageing of the population, outmigration from the countryside and the country (and general) depopulation tendencies in many rural areas. Depletion and drain of human capital cuts back farm businesses due to shortage of sufficient qualified labour. Farmers deal with this constraint in a different way: some offer competitive salaries, others attract workers with technologically up-to-date working environment and other job opportunities, some others are building long-term and trustful relations with their employees.

Finally, since grain quality adversely affects price and consumer acceptance of finished products it is important for crop producers to undertake measures in boosting the protein content and sedimentation value of cultivars (Liniņa and Ruža 2013). This can be influenced

by adequate pre-processing and storage, yet another major challenge in Latvia has to do with ensuring high quality seed material (Graudi.lv 2016). While presently major efforts are made by crop producers in boosting the total yield volumes, raising the crop quality remains an issue. It has been assessed that only 15 % of seed material presently used in crop production in Latvia has been certified.

Findings from focus groups and workshop

This part of the report is structured in six sub-sections discussing following issues: how grain farming is presented by the farmers; the political arrangements shaping farmers' strategies; relational arrangements enabling farmers' opportunities; support instruments available to farmers; and resilience of the sector.

1) Grain farming

Grain farming is considered to be the most successful agricultural sector in Latvia – with few successfully functioning cooperatives, strong farmers' organisations and several huge enterprises operating in the sector it has shown that it has the potential to grow as well as to protect farmers' interests. The focus groups demonstrated that there are different ways of organising farming that sets apart groups of farmers. To start with – there is a group of farmers who are operating on noteworthy plots of land and who have been investing in their farms hoping to increase their profits and efficiency. This is the group of farmers with diverse beliefs yet involved in communication, participating in the life of farmers' community and being relatively open to innovations (or at least willing to learn). Among them, there were both family farms as well as larger farms organised as enterprises. The second group is farmers who are significantly less involved in farming. Most of them decided to go into farming in the nineties yet have never made the jump to the next level – to more competent and more involved farming. This group of farmers are slowly leaving the sector.

2) Policy and management

Joining the EU was one of the turning points for the grain sector. For farmers this meant new regulations and markets. After joining the EU, farmers suddenly had constant access to finances and subsidies. Direct payments and access to funds have facilitated a rise in agricultural land prices (mostly land prices still continue to rise). This can also be explained by the other processes EU has caused – e.g., the open markets have allowed foreign investors to invest in land deals. The willingness of foreign investors to buy rural land and insufficient state regulation of the issue has caused the rise of the prices. The price in many cases is just too expensive (too risky) for farmers to continue investing in land. These changes have influenced land rent deals as well. After joining the EU, farmers suddenly had access to financial resources which allowed them to invest in machinery and land. According to some farmers, this support came much too late because much of the agricultural land was already distributed but the land that was still available suddenly was just much more expensive after Latvia joined the EU. Availability of EU funds also changed the way how the banking sector perceived farmers.

Although farmers don't feel that they can influence policy making at the EU level they feel that the sector's interests could be protected better at the national level. However,

representatives of the sector (at least farmers) do not have one single vision of what would be its political interests. In general, farmers do not think that they should be the ones dealing with the regulatory aspects of the sector and are happy to delegate their interests to farmers' organisations (which consequently are criticised for the slow pace of change). There were several discussions during the focus groups regarding the land availability, use of agro-chemistry, availability of subsidies, protection of national agricultural interests, investments in agricultural science – questions that would require stronger representation of farmers' interests at the national level. It was clear from these discussions that so far national government has not been doing a good job in protecting farmers' interests.

The lower level governance is conducted by local municipalities in Latvia. Many of the farmers have outgrown local municipalities and their fields are located in territories representing multiple administrative territories. Since these farmers do not have a clear connection to one municipality, they might decide to distance themselves from this level of governance. Despite this municipality could be the first natural partner for farmers. However, only a few farmers are trying to maintain relations with municipalities. Those who are trying to ensure that there are relations between them and municipalities are doing this to ensure that they are informed about local events.

3) Grain supply chain

The amount and the quality of grain produced have risen significantly during the last decades. In the same period, the principles used to set grain prices have become more transparent, and farmers have managed to get into a position where their voice is louder and better heard. However, most of these positive changes have been observed downstream the supply chain. The processes upstream the supply chain are not perceived as enthusiastically – lack of transparency in pricing, low quality of services, week competition are just some of the points of critique raised to reflect upon products and services sold to farmers.

Another important turning point that has been mentioned both in focus group discussions and in the stakeholder workshop is the emergence of grain farmers' cooperatives. Cooperatives have introduced several novelties that have allowed farmers to gain more control over the bargaining process. The major achievement of the cooperatives was introducing transparent pricing. Cooperation as a mechanism has also allowed farmers to benefit more from the collective bargaining. The current position farmers are in is much better than it used to be in the 90s – then prices were unpredictable and often processors imposed on farmers additional costs. Yet cooperatives offer clear set of pricing strategies farmers can choose from. Three strategies raised in discussions are i) daily prices (farmers follow the price fluctuations in stock market and set the deal whenever they are satisfied with offer); ii) bonus system (farmers agree with cooperative on the price they are willing to sell their grain for and receive bonuses if cooperative manages to sell it for a higher price); iii) futures (an agreement to sell for a specific price which can be bound to MATIF, specific formulas or to final price).

However, there are also other functions cooperatives have taken. Cooperatives have hired agronomists, have taken the role of mediator in negotiating the relations between banking sector and farmers, are investing in infrastructure, etc.

With many of the supply chain's down-stream problems being resolved many new up-stream problems have been manifesting themselves. These issues are seen as something to be resolved individually by each farmer. There have been multiple attempts to introduce common response to the challenges; however, these interventions have not resolved the problematic relations farmers have with upstream stakeholders. The principal problems that farmers identified during the discussions are unfounded price fluctuations, low quality services, lack of choice, etc. When discussing the services provided to farmers and products farmers have to buy, farmers and other stakeholders tend to agree that they have only limited possibilities to choose and thus they are forced to pay high prices. Meanwhile, the fluctuation of the prices also served as proof that prices are not representing the real production price. The overall agreement among the farmers and experts was that these fluctuations represent the availability of EU funds rather than the real price of production. Farmers are even more sceptical when it comes to maintaining the equipment. Most of the critique has been directed towards official mechanics whose services farmers are obliged to use if they have used credit to buy the machinery (which is most likely the case). The warranty repair can be long and often farmers are disappointed in the outcome.

4) Supporting organisations

Multiple issues were raised when farmers were discussing supporting organisations surrounding the sector. Knowledge availability is first issue that was raised. There are several fields of knowledge were farmers could use external help – access to finance and financial planning, soil quality and use of pesticides, properties of plant varieties and ownership of seeds, etc. Latvian Rural Advisory and Training Centre (LRATC) is one of the actors providing information to farmers. However, from the discussions in focus groups, it does not seem that the participants would be using the services of LRATC. LRATC is more involved in working with the smaller and less integrated farmers. The farmers participating in the groups relied on their knowledge, on the knowledge provided by neighbours and on the information shared by cooperatives. Experts participating in workshops felt sceptical about the knowledge level of the farmers. Furthermore, on many occasions, they expressed pessimism about the overall availability of the knowledge needed for farming in Latvia.

Another issue closely related to the knowledge availability is labour availability. During the groups farmers claimed that in rural territories there is a lack of motivated and educated people willing to work on the farm. Most of the rural population has left to cities or has left the country entirely. In most cases this means that the farmers have been relying on the family – the farm is run mainly on family labour. From discussions raised in focus groups, it seems that in such family farms farmers have clearly divided the responsibilities and everybody knows what he/she is responsible for. Also, it seems a common approach that at least one of the farmers' children tends to choose a profession related to the needs of the farm. This, of course, is also strongly related to farm succession.

However, this cannot be the response for all farmers – especially those who have outgrown family farm size. These actors have been hiring experts and ensuring that these employees have the motivation and loyalty to stick with the farmer. Farmers claim that the lack of employees is partly related to a rather poorly functioning educational system.

5) Resilience

Resilience is farmers' ability to adapt, recover and overcome shocks. As such resilience is both individual strategies as well as a communal adaptation. Some of the key challenges that have been raised by participants are: farm succession, shocks caused by climate change, challenges posed by relations with rural communities, and market posed risks.

Succession is among the central issues farmers are concerned with. Many of them have already involved their children in daily tasks around the farm, and in many cases children have become an important part of the strategy how farms solve the challenges the sector faces. Despite this, the uncertainty of successions remains – children are moving to the cities and making carriers in different sectors. For farmers running family farms it is much more painful to witness that their work will not be continued by their family members. It seems that much of the motivation guiding their activities are coming from the sense they have somebody to pass on their work and thus lack of the heir can be the reason why farmers reduce their involvement in the farm. In comparison some of the largest farmers interviewed during the first waves of the SUFISA fieldwork were using a much more business-oriented perspective to interpret their involvement in agriculture.

Climate change is another concern that has mainly been raised by the stakeholders participating in the workshop. However, on multiple occasions during the focus groups farmers also have been keen to discuss strategies that are meant to solve issues related to climate change (although, climate change as such has been named only occasionally). During the focus group discussions, farmers were discussing the future of farming in the light of climate change. For example, during both discussions, farmers on several occasions raised questions regarding farmers' possibilities to fight new plant diseases and pests. These conversations mainly were criticising the restrictions EU has posed on the use of specific pesticides, herbicides and fungicides. The general claim farmers were making was that the climate change is bringing to Latvia new challenges farmers will have to deal with. Obvious and quick solutions for farmers are to use stronger pesticides allowing them to protect themselves from emerging threats. However, farmers were not discussing the sustainability of the solutions they are offering.

However, the resilience of grain farming is not only about being able to adapt to the environment and climate change. It is also about being able to create constructive dialogue with communities. All through the focus groups and the workshop, participants were raising questions regarding the role of non-farming part of the rural population and their ability to set the rules for farmers. In the second focus group very early on participants came to the conclusion that farmers are blamed for many of the environmental problems Latvia environmentally faces today. For farmers, this of course was a mistake reflecting poor knowledge people have about farming. In both focus group discussions, farmers raised the same argument that processors have a much more pronounced effect on the environment. According to farmers, what happens is that people do not understand the practices farmers follow and consequently start to blame them for the environmental degradation caused by the previous political regime. However, what everybody could agree on is that farmers are misrepresented in public media as a lazy group demanding public support yet spending it on

unjustifiably expensive private cars and not caring about rural society or the environment. Such interpretation of farmers can be damaging to farmers, especially because demographic characteristics of rural communities have been changing. Many of the countryside houses are now inhabited by well-educated families from cities who do not see the countryside as a source of their income but rather as a place to relax and enjoy the rural nostalgia. These people are prepared to get involved in controlling institutions whenever they feel that their neighbours – farmers are violating any rules.

Quantitative survey

During the SUFISA project, a quantitative survey of dairy and grain farmers in Latvia was conducted. Due to the farm structure in the two sectors, it was decided that for this survey quota sample should be used. Quota sample was seen as the best option because of the polarised nature of the two sectors. Quotas were seen as a way to ensure that there is an analysable share of farms of various sizes in the final data set. Also, based on the research experience, BSC researchers early on realised that low response rate could be the main problem that could hamper successful data collection. To solve this challenge BSC hired local advisory service to collect the data for the survey. Strong linkages the advisory service has to the farmers representing the two sectors allowed them to collect 134 interviews with wheat farmers and 142 interviews with dairy farmers.

This section explores the main results of the survey comparing the results of the data gathered in the two sectors. Although the two sectors are completely different the dominating discourse in Latvia suggest that the two sectors should be learning from each other. Following this general idea, we offer here a joint analysis of the two sectors illustrating the structural differences between them. The comparison of the two sectors allows developing a deeper understanding of the structural arrangements behind the dairy and grain markets. The survey also reveals the significant differences between the two sectors and thus raises a question how valid the common attempt to copy strategies from one sector to another is. However, we can speculate that some of the differences observed between the two sectors can be used to explain differences in the level of success of these sectors.

As expected, the survey reveals that the sectors are inherently different. Many of the differences can be explained by the institutional characteristics tying actors operating in the sectors. However, although we know that the sectors inner characteristics can be used to explain the prevailing answers in each of the sectors, the survey also reveals, that most of the differences in the ways how farms representing the two sectors penetrate markets, interpret the need to evolve or were they see possible treats can be explained by the farms size and the farms level of intensification.

Dairy farms, no matter what size or how intensive they are, sell more than 90% of the milk they produce. There are some differences in how the grain farms penetrate the market. There are clear differences regarding involvement in the market related to the size of farms. Smallest farms and least intensified farms tend to sell a smaller fraction of their yields. However, even for the larger farms the share of a harvest that is sold never reaches 90%. This is not, however, true if the productivity of farms is taken into account.

Analysis data indicates that there is an important distinction between the size and efficiency of the farm. Growing and intensifying means two very different things between the grain farms as between the dairy farmers as well. Most likely this distinction can be attributed to the comparative cheapness of agriculture land in Latvia that allows farmers to increase their profitability by just increasing their size.

Much of the aspects that are negotiated in contract forms common in the two sectors can be explained by the differences in the product that the two sectors produce. However, farmers' answers to the questions regarding the contracts also reveal the relational standards, and common practices each of the sectors have adopted. The grain sector has been successful in improving transparency and in introducing an approach that typically there are a number of contract forms for farmers to choose from. The adapted forms are now widely accepted and copied by most actors in the sector, and this is reflected in the data. The dairy sector, on the other hand, could be described by unscrupulous diverse contracts that differ depending on the size of a farm the contract is referring to. The contracts commonly used in this sector does not protect the involved parties but rather agrees on the principles actors will use to organise their activities around.

The survey was also aiming at assessing the sustainability performance of the contractual relations farmers have. The results from both sectors illustrate that there are significant differences in where dairy and wheat farmers see the strengths of their contracts. Furthermore, as in previous cases, there were significant intra-sectoral differences between farms with various properties.

In overall, dairy farmers felt that their contracts are performing better when it comes to environmental and economic issues. Interestingly, dairy farmers have been assessing their economic opportunities higher than the farmers representing grain sector which is hard to align with reality where the dairy farmers.

If the three pillars of sustainability are compared, then it can be suggested that the grain sector illustrates that it is much more confident about their positive social and economic performance. Meanwhile, farmers are skeptical regarding the environmental performance. The differences in how the two sectors self-assess their performance is also clearly linked to natural characteristics of each of the sector.

1 Introduction

This report is a part of the European research project SUFISA – "Sustainable Finance for Sustainable Agriculture and Fisheries" (2015-2019), which aims to identify practices and policies that support the sustainability of primary producers in a context of complex policy requirements, market imperfections and globalisation. Latvia is represented in this research project together with 10 other countries. The research in Latvia is carried out by the Baltic Studies Centre in close collaboration with *Zemnieku Saeima* (Farmers Parliament, an agricultural organisation) and in consultation with other stakeholders in a Round Table Group established within the framework of SUFISA project and representing people interested in the project results and their practical application.

The aim of this report is to characterise the key policy and market conditions (and the sets of sub-conditions) that shape farmers' activities, strategies and performances across diversity of agricultural sectors in Latvia, but with a special attention on two commodity sectors, which contribute the biggest shares of value added in the Latvian agriculture – wheat and milk.

General characterisation of agriculture in Latvia

Agriculture has been a traditional occupation in Latvia for centuries. There are appropriate agro-environmental conditions (climate, agricultural land, water) and **there is a** well-developed socio-cultural capital (traditions, knowledge, skills) for farming and food production in Latvia. However, some experts estimate that these local conditions are much less advantageous when compared at European and also global scale, due to less favourable agro-climate, less developed technologies (Hansen and Vanags 2009) as well as discriminating EU agricultural support policies in new member states.

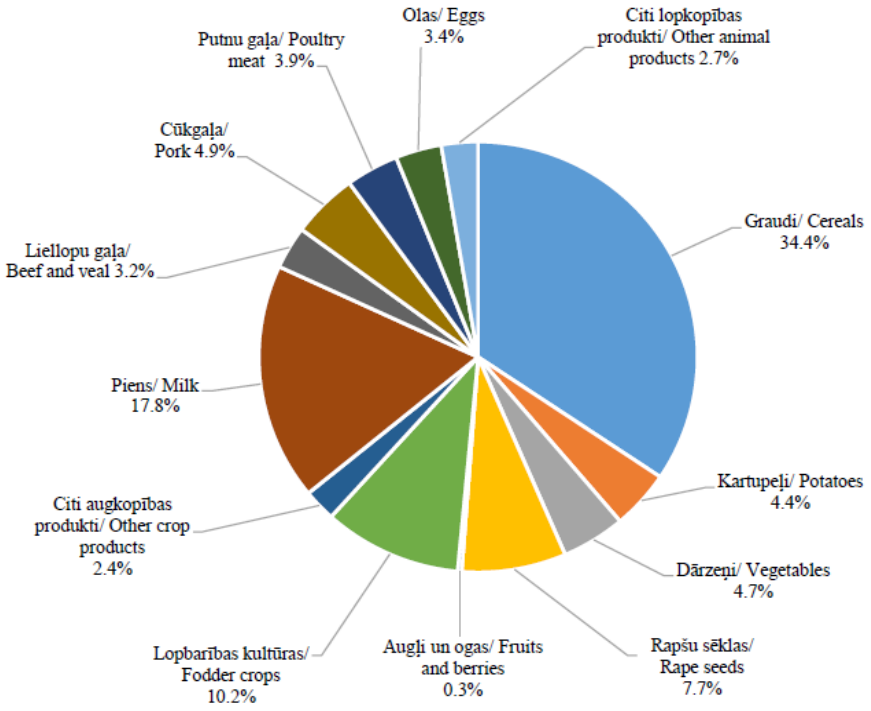
Figure 1. Location (among the EU Member countries) and map of Latvia (planning regions).

Source: https://en.wikipedia.org/wiki/Latvia,
https://en.wikipedia.org/wiki/Planning_regions_of_Latvia

With population of 1,986 million (32 % of whom are rural residents), concentration of population in greater Riga area, sparsely populated rural regions with small towns and the surrounding countryside Latvia is characterised by extensive rural and coastal areas where

agriculture, forestry and fisheries are important economic activities (see Figure 1).[1] Primary agricultural production contributes 1.6 % to GDP, forestry 1.6 % and fisheries 0.3 % (Ministry of Agriculture 2015). After decreasing tendencies during 1990s and 2000s, the share of agriculture in the national economy has stabilised in terms of employment (8 %, including forestry and fishery), contribution to GDP (~5 %) and share in gross added value (2.1 %). Agricultural output has been ever increasing with some minor decreases in less productive years (Ministry of Agriculture 2014a). The major products are milk and cereals, which compose respectively 17.8 % and 34.4 % of the total agricultural output (CSB 2016b) (see Figure 2). These are two sectors that are selected as cases for in-depth study in Latvia.

Figure 2. Final agricultural output in Latvia in 2015 (at base prices)



Source: CSB 2016b

The dynamics in agri-food sector in 2013–2014 have been characterised by increased crop and animal production, record grain harvest in 2014, falling crop and animal product prices, and increased producer subsidies (Ministry of Agriculture 2015). However, Russian trade sanctions on food products with EU countries have had negative effects on the food sector, in particular the dairy industry. Albeit agricultural productivity is increasing, it remains comparatively low. The existing production volumes meet local consumption, and food self-sufficiency can be reached in major product groups, except for pork and poultry (no data on vegetables and fruit, except for potatoes and legumes) (CSB 2014).

Still, in the global market and trade conditions, a considerable part of primary food stuff is imported, and the general dependence of local consumption on imported food has been even

[1] Latvia as a whole corresponds to NUTS 1 and NUTS 2 levels, with the five planning regions (Riga, Kurzeme, Zemgale, Vidzeme, and Latgale) corresponding to NUTS 3 level.

increasing, reaching 34 % in 2007 (Populga and Melece 2009). Šulca and Sproģe (2009) estimate that the share of imported foodstuff in consumption has increased even from 30 to 68 % in the time period between 2000 and 2007. In the meantime agricultural export is increasing as well, in recent years in a faster pace than import. But export does not exceed import and the foreign trade balance is negative. Milk, cereals and rape seed are major export products.

The low agricultural productivity is mostly associated to the fragmented small-scale farming structure. The average utilised agricultural area per holding was 20.7 ha in 2013 (CSB 2016b). Despite of on-going concentration trends in agriculture, there is a considerable prevalence of small farms in agricultural production – up to 90 % farms are considered as small. These farms maintain biological and agricultural diversity, therefore contributing also to food and nutritional diversity (Šūmane et al. 2014). Small farms apply fewer pesticides (CSB 2014a), which means also less polluted food delivered from these farms. It is also noteworthy that in the situation of scarce employment possibilities in rural regions, small farms perform the crucial role providing numerous farming families with income and food.

The agricultural development in Latvia has been considerably influenced by the country's joining the EU in 2004 and the subsequent enforcement of the EU Common Agricultural Policy. The decade following EU accession was marked by massive modernisation processes in agriculture and food sectors with lots of investment in farms and food businesses, introduction of new technologies and raising the competitiveness profile of farms and food companies and improvements in organisation of food chains. The main beneficiaries of these EU agricultural funds for modernisation have been predominantly the medium and large scale farms. These investments in modernisation also had an effect on farm concentration and spread of agri-industrial strategies. The rural development component although present in Latvia's Rural Development Plans and manifested through designated support to LEADER groups, agri-environmental action, farm diversification and more recently to small farms and young farmers have never been the political cornerstone of agricultural and rural development policies. Vice-versa – small scale farming, multifunctional agriculture, niche and alternative productions, short chains and other non-mainstream forms of agriculture have been largely left on the margins of mainstream development or even looked upon as backward residuals from the past with low contribution and growth potential (Mincyte 2011).

Some of the long term development trends exacerbated after joining the EU that epitomise agricultural and rural development in 2004-2016 have been: technological modernisation and growth of large farms; integration of mainstream agricultural production in global trade systems; concentration and foreign takeover of food companies; changes in land use and ownership structures with salient foreign land acquisition and rapid shrinking and in the meantime resilience of the segment of small farms (Tisenkopfs et al. 2015). On the other hand, agricultural policy discourse gradually started to acknowledge another, more balanced vision of agricultural and rural development revaluing the significance of diverse farming systems, the importance of small farms for local social life and food security, social, environmental and food security potential of alternative food initiatives powered by short chains, urban-rural linkages and activism of urban consumers. Diversified, multifunctional, sustainable and resilient agriculture was attracting the interest of agricultural community, policy makers and

civil society groups as an opposition to ever dominant and powerful competitiveness and growth discourse (Grivins and Tisenkopfs 2015). Currently the future of agriculture in Latvia is seen as a two tier process of continuation of modernistic, industrial growth and competitiveness pathway and continuation of a traditional occupation in rural areas which has to fulfil new roles with regard to food security, climate change mitigation and adaptation, ensuring smart growth, managing ecological sustainability and achieving quality of life in rural areas (Straujuma 2015).

Methodology

The report summarises findings from research conducted on the conditions that shape primary producers' actions, strategies, vulnerabilities and performances as well as the dominant frames that shape farmers' discourses and actions. Analysis follows the project's common guidelines and so-called Conditions–Strategies–Performances (CSP) model. This model covers the *conditions* faced by farmers in the business environment at different levels (global, national, regional, local, firm, individual); *strategies* allowing the producers to respond to and manage external conditions, including the factors that enable a farm business to respond to changes in these conditions; and performance of farm businesses resulting from these conditions and strategies.

The analysis has been based, firstly, on extensive review of scientific, policy, general and specialised agricultural media texts published over the past seven years and in particular during the last three years. In total, more than 140 texts from various sources were analysed. The media analysis has sought to establish and articulate conditions that influence the primary producers' situation and strategies under eight broader groupings of conditions: policy and regulative conditions; factors conditions; demand conditions; finance and risk management; socio-demographic conditions; technological conditions, socio-institutional conditions, and ecological conditions. These conditions are explained in the Table 2.

Secondly, this has been further complemented by more in-depth research on the nature of market imperfections, policy requirements and their implications for specific commodity groups, which for Latvia are represented by dairy and wheat sectors.[2] For the exploration of primary producers' conditions and strategies in both dairy and wheat sectors our analysis applies to the whole country, yet in the case of the wheat sector we somewhat focus our case study a bit more in Zemgale region (see Figure 1), which is famous for its traditional specialisation in crop production.

The methods of data collection and analysis of the two case studies included: integrated and consolidating analysis of insights from the media analysis; review of policy and regulative documents; desk study of scientific publications and researches about dairy and wheat market and political regulation (due to rather small academic community in Latvia there were quite a limited number of relevant scientific studies available); scanning of websites and public

[2] Note: *This (draft) national report summarises findings of SUFISA research in Latvia carried out in the first two years of the project. The next steps of research will deepen the analysis and include focus groups with milk and grain farmers, a representative farmers' survey, an integrated analysis of results, elaboration of policy recommendations, further consultations with Round Table members and other methods, research interactions and publications.*

documentation of agricultural organisations; interviews with a range of stakeholders who represent dairy farmers, crop farmers, agricultural cooperatives, agricultural associations and farmer organisations, policy makers, financial institutions, agricultural advisory services, state controlling and regulative institutions; two focus groups and a workshop per case study; a quantitative survey per case study.

Report structure

The report is structured in five chapters. An Introduction (Chapter 1) is followed by Chapter 2, which provides a summary of media analysis and describes media portrayal of conditions and sub-conditions influencing farms' businesses. The chapter includes also a summative overview of farmers' strategies according to specific conditions and sub-conditions. The chapter reviews also the frames or typical narratives used in media texts and public discourses to explain farming related issues and challenges and to mobilise farmers' action.

Table 1. Conditions analysed in chapters 3 and 4.

MILK	WHEAT
Policy and regulatory conditions	
EU milk production quotas	
Russian embargo	
Public support measures	Public support measures
Lobbying	Lobbying
Manure storage requirements	Greening requirements
Quality standards	
Organic farming	
Promotion of milk consumption	
Market conditions	
Price and income volatility	Infrastructure
Access to internal market	Access to internal market
Access to external market	Access to external market
Land market	Land market
Producers' cooperation	Producers' cooperation
Knowledge and advice	Knowledge and advice
Human resources	Human resources
Hidden economy	Hidden economy
Access to finance	Access to finance
	Produce quality

Chapters 3 and 4 are devoted to two commodity case studies in Latvia – dairy and wheat accordingly. These chapters first provide a case study context, then describe and analyse the main policy and regulatory conditions and market conditions providing evidence how these conditions specifically influence primary producers' situation, actions, strategies and performances in a given sector. The following table presents conditions that are analysed in the report (see Table 1). Chapters 3 and 4 contains SWOT analysis by sector and identification of key issues as emerging from media analysis, literature review, interviews and other methods applied. These chapters end with a graphical representations of institutional arrangements dominating in the sector. Chapter 5 analyses results of quantitative survey.

2 Media Content Analysis

This chapter summarises the results of a more extensive media analysis conducted in Latvia revealing the media portrayal of conditions (and sets of sub-conditions as more specific manifestations) influencing farmers' daily experiences as well as the types and scope of strategies used by farmers in coping with those. The chapter also provides an insight into the conceptual frames illustrating ways how farming and issues related to farming are presented in media. It illustrates typical narratives that are used to explain farming related issues.

2.1 Conditions and sub-conditions

Various conditions are interacting and creating a web of conditions or a complex general context for farmers' strategies and actions (see Table 2). Although we were able to distract how particular contexts provoke certain actions and strategies, often they are combinations of conditions in their complexity that farmers consider when developing their strategies.

Relations between conditions vary. They can be cumulative and mutually enforcing (for instance, political decisions provoking critical situations in markets which, in turn, demand new political decisions) or can be contradictory or conflicting (e.g. conditions suggested by recent technological or traditional knowledge; political support and discourses in favour of cooperation vs. socio-cultural resistance to formal cooperation in farmers' community).

Conditions are transforming, and their dynamics demand certain flexibility from farmers. However, this adaptation remains challenging, specifically regarding conditions that change rapidly and/or in unpredictable ways, as many strategies and actions mean long-term engagement with limited margins of manoeuvre (for instance, farmers who have chosen intensification and made considerable investments in milk production by enlarging herds and farm infrastructure). In these cases farmers have to be particularly innovative, entrepreneurial, and ready to take risks to cope with emerging new conditions challenging their previous choices.

When considering time dimension of conditions, also long-term effects of some conditions come into evidence. For instance, some issue areas in regulation and policy conditions are far from recent. The clearly fundamental for agriculture land ownership issues are to a great extent a consequence of policy decisions taken more than two decades ago. This highlights the long-term repercussions of certain policy decisions and strategies that may be taken to respond to them.

According to conditions relative importance some of them are more often and better articulated in media and are presented as more 'mighty' to induce farmer actions and yield consequences. Media attribute the highest relative importance to such conditions as: policies and regulation, financing, market demand, technological innovation. The other conditions examined (ecological, socio-demographic, institutional and even factors conditions) are also presented in farmer choices, but they act more like a baseline for dynamism or routine drivers.

Table 2. Conditions and Sub-conditions identified in the media analysis.

Conditions	Sub-conditions				
1. Regulatory and policy conditions	Regulatory and policy conditions cover all kinds of regulations and policies which shape farmers' strategies and performances. The analysed media documents focus primarily on agricultural, food production and distribution regulations and policies; other related domains, like taxation, rural development were less often referred to. The documents evoke regulatory and policy conditions formed mainly at national and European levels, but some references to policy developments at international scale are also present; no locally produced policy conditions were identified. Most of discussions on policy conditions originate in policy sources, also specialised literature and general media, and at a much lesser extent in scientific literature. There is no much difference in the range of regulatory and policy conditions addressed in each type of sources. However, one can observe that different actors approach these conditions and related strategies and performances differently.				
	1. Public subsidies	**2. Diverse and changing regulations to meet**	**3. Strategic policy planning**	**4. Abolishment of milk quotas & Russian embargo**	**5. Emerging regulations and policies for alternative agriculture**
	Important role in terms of regulatory and policy conditions is played by the availability, amount and distribution of public (EU and national) subsidies to agricultural producers. Direct payments are among the most debated ones in the media sources.	*There are various regulations and formal requirements that farmers have to respect in order to qualify for public support, to develop new on-farm activities or simply operate a farm (e.g. certification, veterinary and hygiene rules, standards of animal welfare, environmental requirements). Changes in these regulations can be both burdensome and beneficial for farmers.*	*The lack of long-term planning is seen to be the cause of many problems in agriculture. Although media feature some examples where long-term planning is associated with farmers, more often this aspect is attributed to governance. Policy makers are said to lack clear objectives for the future development thereby hindering long-term planning by farmers. Political decisions also exert direct effect on present and future trends in demand.*	*The most pertaining issue is the abolishment of the EU milk production quotas, and the special public support measures aimed to help milk producers to adapt to new market conditions and overcome the crisis. The situation in the sector has been even more aggravated by the sanctions and trade bans between the EU and Russia, which is the major international, extra-EU condition discussed in media.*	*A minor share of media documents refer particularly to regulations and policies in organic agriculture and food, greening, support to small farms, short food chains, also climate policy thus pointing to increasing attention being received by alternative agriculture from policy makers and producers.*

<table>
<tr><td>2. Factors conditions</td><td colspan="5">Factors conditions illustrate media reflection of conditions pertaining to resources necessary for primary production. It has been observed that among the analysed sources scientific articles provide very scarce representation of factors conditions. The most extensive representation of those are found in specialised media, that is, magazines and internet sources addressing the issues of specific agricultural industries, which often feature not only farmers' strategies but also performances. Most often the storyline is a discussion of the practices used by specific farms or industries, with a broad local context discussed. The texts generated by policy sources are also multiple, however they more often address issues in the form of recommendation, i.e. note the strategies that "should" be employed, to reach politically desired "performances".</td></tr>
<tr><td></td><td>1. Land</td><td>2. Labour</td><td>3. Fodder and supplements for animals</td><td colspan="2">4. Seeds, fertilisers and breeding animals</td></tr>
<tr><td></td><td>Issues of land are of primary concern to farmers with an emphasis on ownership, rent, quality/ suitability of land for specific agricultural activities. The availability of land is often closely related to opportunities to extend existing activities, or diversify. The quality of land and its location influence farmers' decisions to pursue a certain specialisation.</td><td>Important factor relates to the quality and availability of labour (both permanent and seasonal), optimisation of its use, the choices between human labour and technologies. Other concerns raised in media are the low status of agricultural occupations, the optimal number of workers and technology. Availability of workers may have regional differences and can also be limited by the farmers' capacity or willingness to pay competitive salaries.</td><td>Elements of the sub-condition, which is more relevant for cattle breeding, include availability, quality and optimisation of the sources/techniques for providing fodder and supplements for animals. In the case of dairy sector, fodder exerts direct impact on milk quality.</td><td colspan="2">Important elements pertain to the availability, quality, strategic planning and optimisation of resources with regard to the purchase of seeds, fertilisers and breeding animals. The issue of using certain seeds or availability of breeding animals, or experimenting with certain kinds of plant protection and fertilisers are less discussed.</td></tr>
<tr><td>3. Demand conditions</td><td colspan="5">Demand conditions reflect the conditions influencing demand for goods and services the farms provide or could provide. Media articles illustrate significant differences when it comes to portrayal of demand conditions and strategies associated with demand. For example, in some cases demand might be presented as related to changes in consumer behaviour or market characteristics, yet in other cases demand might be shown as led by processing enterprises or retailers. Media also identifies demand possibilities outside the commodity value chain introducing discussions regarding multifunctionality and demand for services provided by farmers. Demand is discussed in all article types and in many cases seems to be the central theme around which debate over other conditions revolves.</td></tr>
<tr><td></td><td>1. Consumption practices</td><td>2. Market concentration</td><td>3. Global demand</td><td>4. Price levels and volatility</td><td>5. Niche markets</td></tr>
</table>

	Consumption practices of the final consumer influence demand whereby consumers are not consuming a specific product in the amount expected, they might be switching to cheaper products, or just consuming the "wrong" products. Consumption practices also illustrate the shifting nature of demand between commodity groups as well as the price consumers are willing to pay. Media occasionally report about new consumer demands in food and services as a driver for organisational, marketing and product innovation pursued by farmers.	*Market concentration illustrates the trends of market centralisation and the resultant unequal possibilities for stakeholders to influence practices in the supply chain (incl. the price paid for the product). In media accounts these questions are discussed in the light of difficulties faced by dairy farmers.*	*Under the conditions of free competition the domestic market is open to foreign enterprises, and local farmers are encouraged to become global and start the fight for external markets. However, analysts often conclude that farmers are losing in this open competition for the consumer. They are either forced out of the market completely or are forced into producing raw materials with lower added value.*	*In the case of the dairy sector product price has been a widely discussed issue. Although there is a demand for the product, it is claimed that the price offered is too low for farmers to be profitable. Furthermore, there are no reliable estimations when prices could get higher. Not all of the sectors share dairy farmers' despair. For example, grain farmers search for best prices by investing in modern technologies.*	*Switching to niches is one of the common strategies how farmers are solving demand issues. However, niche markets are still unrecognized and weak. There is a lack of recognition among producers of possibilities of organic produce or other high quality products. Furthermore, there is no infrastructure that would allow producing organic products. Consumers are not ready to pay more for products of higher quality.*
4. Finance and risk management conditions	Finance and risk management conditions influence farm's investment decisions as well as the ways of dealing with uncertainties and vulnerabilities in the given practice area, from management of soil fertility and controlling plant diseases to finding reliable service providers and attracting skilled labour. Finance and risk management are among most frequently featured conditions in media coverage of primary agriculture in all sources.				
	1. Public project financing	**2. Bank credits**	**3. Cooperative financing**	**4. Cash flow dynamics**	
	Substantial role in supporting financial investments by farmers is played by the availability of EU and	*Credit policies of banks and availability of commercial loans is a topical theme in media sources debating the experiences of*	*An alternative source of funding discussed in media relate to the provision of loans and other financial*	*A key condition relates to the cash flow dynamics of the farm in order to ensure the availability of funds for meeting farmers' operating needs and the possibility of taking advantage of growth*	

	government project support from agricultural funds and programmes.	*farmers in managing their financial conditions.*	*services by agricultural cooperatives for their members.*	*opportunities. This includes routine and day-to-day management of cash flows and planning of income and expenditure at farm level.*
5. Technological conditions	Technological conditions cover those global, supranational, national, regional, and local conditions of farms that generally have to do with the application of traditional technologies and introduction of high tech innovation in food production, the development of basic and digital infrastructures as well as the use made of technological and agricultural extension services. The media uptake of issues pertaining to technological conditions has been a rather comprehensive one with a rather diverse range of related issues mentioned or more profoundly addressed in different types of sources. Yet, most attention has been devoted to those in specialised as well as generalist sources, with less pronounced representation of these conditions in scientific articles and policy documents.			
	1. Physical infrastructure and premises	**2. Agricultural technologies**	**3. Animal welfare and productivity**	**4. Knowledge assets**
	This sub-condition includes ways of developing on-farm assets to suit the production goals, and the quality of general infrastructure. Establishment of the basic physical infrastructure of the farm, which in the media accounts covers such elements as buildings and premises for agricultural production, processing, and storage, represents the first step in addressing the technological conditions of farming. The physical infrastructure in terms of the available space in the buildings acts as a strong limiting factor for the possibilities of any further expansion of farming activities. Issues of general infrastructure (roads,	*An important technological condition in farming activities is represented by agricultural technologies, which cover elements that pertain to both equipment and methods necessary for the execution of diverse tasks during the whole cycle of work on and off the farm. In a broader perspective, this technological sub-condition is also closely related to the kind of farming pursued (e.g. extensive vs. intensive).*	*A specific aspect of technological conditions is related to the issue of animal productivity and welfare, with the latter forming an important part not only of the regulatory conditions with regard to formal requirements, but also of the technological dimension of agriculture. Specifically it pertains to such elements of animal welfare as climate control, sleeping-place*	*Technological conditions and technological modernisation are strongly interlinked with the processes of information seeking and knowledge acquisition. These knowledge assets include elements pertaining to both formal and informal knowledge being obtained and used to meet specific technological needs. Inter alia, agricultural extension as the application of scientific research and new knowledge to agricultural practices through farmer education*

<table>
<tr><td></td><td>communication, energy, sewage, water supply) are much less discussed.</td><td></td><td>arrangements, fodder supply, milking technologies, etc.</td><td>is a rather visible theme in the analysed media accounts.</td></tr>
<tr><td>6. Socio-demographic conditions</td><td colspan="4">The socio-demographic conditions have to do with demographic changes, new lifestyles and values, urbanisation trends, migration, job availability, new social expectations on food and farms, education changes, farmers' ageing. In the Latvian media coverage of agricultural business these conditions do not feature as a prominent theme. The representation of socio-demographic conditions is found in general and specialised media articles about particular farm histories and experiences of modernisation and change.</td></tr>
<tr><td></td><td>1. Farm succession</td><td>2. Farmers' ageing and influx of young farmers</td><td>3. Outmigration and depopulation of rural areas</td><td>4. Farming values</td></tr>
<tr><td></td><td>Farm succession is depicted as one of the main issues of farm's long-term development whatever the farm size. It involves issues regarding family relations, business longevity, children education, innovation and reorientation of production, migration, agricultural and societal values. Succession is seen as intra-family transfer rather than a commercial business takeover with a strong cultural expectation that a farm should be handed over to descendants.</td><td>The ageing of farming population and influx of young farmers echo two different trends – the demographic decline and youth outmigration from rural areas and reinventing of agriculture as an appealing occupation for some young people invigorated by enthusiasm and government support programmes to young farmers.
.</td><td>Outmigration and depopulation of rural areas is one of the trendsetting limitations which puts constraints on agricultural and rural development in terms of availability of labour, the presence of manpower, the initiative of the population, purchasing capacity in the area and investment lucrativeness of the territory. Much of these processes are out of farmers reach and direct control, therefore their actions represent responses to the consequences.</td><td>Some media texts describe beliefs and values that characterise the farmers' philosophy, farming style and personal outlooks on agriculture (e.g. aesthetic, moral, psychological, and economic values). Values permeate farmers' actions in many ways as they connect business operation with farmers' life style. Values are also important to establish an emotional affection with farming be it professional occupation or more a life style farming.</td></tr>
<tr><td>7. Socio-institutional conditions</td><td colspan="4">Socio-institutional conditions cover social factors embedded in formal and informal institutions that influence farms' practices. Theoretically a rich diversity of social structures could be associated with this set of conditions. However, the articles analysed discuss the importance of only a limited number of social institutions. Most visible of these are cooperatives which are associated both with countless possibilities as well as with some disadvantages. Socio-institutional conditions are presented in all article sources. However, this group of conditions is more often discussed by policy</td></tr>
</table>

<table>
<tr><td></td><td colspan="5">documents and academic publications. Meanwhile, media and specialised articles mention issues that could be associated with this group of conditions yet tend to avoid deeper discussions regarding the properties of these issues.</td></tr>
<tr><td></td><td>1. Business cooperation</td><td>2. Knowledge exchange structures</td><td>3. Administration efficiency</td><td colspan="2">4. Farmers' NGOs</td></tr>
<tr><td></td><td>Media articles discuss various aspects of formal cooperation showing significantly less interest in informal mutual assistance. Cooperation is crucial in the portrayal of successful agriculture models – it is presented as a solution to almost all problems farms might have. However, success of cooperation differs among various sectors. Fragmentation is shown as the central aspect hampering competitiveness of agriculture.</td><td>Specialised articles are frequently discussing the significance of farms' access to knowledge. This is mainly done by illustrating activities of the Latvian Rural Advisory and Training Centre. In general, articles offer a positive view on educational events focusing on the possibilities these lessons offer the farmers. In other articles other information sources are discussed as well. Among these farmers' organisations, cooperatives and events organised by cooperatives, informal ties, and other state institutions are mentioned.</td><td>Administrative capacity and efficiency in general is appreciated by the farming community as are the procedures and services of agricultural policy implementing agencies. The main criticisms are not about rules and procedures in place, but excessively bureaucratic interpretations and enforcement of these. There have been very few incidences of reported cases of corruption.</td><td colspan="2">Farmers' organisations (NGOs) often are present in media articles as actors explaining processes in the given sector. Thus it is often their voice that illustrates the relevant conditions. However, some articles also stress the importance of these organisations in ensuring information exchange between the involved stakeholders, in protection of stakeholders' interests, and in creating international ties.</td></tr>
<tr><td>8. Ecological conditions</td><td colspan="5">Ecological conditions have to do with the context of farming regarding both global and specific local environmental issues such as weather conditions, diseases, soil and water quality, use of natural resources, etc. The specific elements cover both the impact of environmental characteristics on farming practices and the influence exerted by farming practices on the natural environment. Overall, the media uptake of ecological conditions in the different analysed sources can be assessed as a comparatively scarce one if compared to the coverage of other conditions. In terms of attention devoted to ecological conditions by different types of sources, ecology and environment-related issues have been taken up by all the analysed sources, yet with a more pronounced attention devoted to those in generalist newspapers as well as documents originating from farmers' organisations.</td></tr>
<tr><td></td><td>1. Climate zone of the country</td><td>2. Agrarian qualities of the given locality</td><td>3. Seasonal weather conditions</td><td>4. Wildlife</td><td>5. Climate change</td></tr>
</table>

	A rather fundamental impact on farming practices is borne by the characteristics of the local climate, implying such elements as the given climate zone of the country as well as the more nuanced climate-related features of specific regions within the country. According to media accounts, climate can influence such farming-related factors as the scope of climate-suitable plant varieties and animal breeds, the quality of the produce, the costs involved in the provision of different resources, etc.	*A specific ecological sub-condition relates to the agrarian qualities of the given locality, which include such basic elements as soil fertility and its composition, as well as local topography, and other specific territorial characteristics. In this light, every region is seen to possess its own strengths and weaknesses leading to region-specific advantages of natural competitiveness.*	*Farming is strongly influenced by the seasonal weather conditions that can be highly unpredictable - either conductive for various farming activities or devastating for the agricultural sector in a short-term, but, at times, also in a long-term perspective. Account has to be taken also of the global trends, whereby global warming can play a role in altering the optimal sowing period of crops, facilitating the invasion of new animal and plant diseases.*	*The elements covered by this sub-condition mainly include the potential damage made by both carnivorous and herbivorous feral animals as well as insects to both farmlands and livestock. An outspoken case in Latvia over the recent years with regard to this sub-condition has been related to the wide spread of African swine fever among farm pigs causing substantial financial losses to the farmers and the economy at large.*	*Negative environmental effects are produced by farming practices that increase levels of greenhouse gas emissions stemming from livestock breeding – the physiological processes of ruminants, the type of feed they are provided with and feeding technologies, as well as improper storage and dispersion of manure. Likewise increased gas emissions also result from crop cultivation (e.g., usage and improper dosage of artificial fertilizers, chemicals).*

2.2 Farmers' strategies

Media analysis established that among the six predefined **groups of farmers' strategies** (see Table 3) the dominant one in Latvia is represented by "Agro industrial competitiveness"[3], with the main emphasis on the specific strategies of Intensification and upscaling and Technological innovation, which frequently, though not necessarily, go hand in hand. To a much lesser extent media accounts report on the complementary strategies of Market orientation and Financialisation, which deal more profoundly with innovation in marketing and financial operations. This fact does not rule out the presence of this kind of activities among primary producers in Latvia, but rather tends to highlight underrepresentation of these strategies (as well as the specific conditions provoking those) in the public accounts.

The second more pronounced group of strategies is that of "Rural development", dominated by the strategies of Diversification and territorial integration and Multifunctionality, with far less pronounced presence of Pluriactivity as a way for responding to the diverse set of conditions faced by farmers. This group of strategies is especially common among smaller farmers and their concern and care over the viability and sustainability of their farming practices and the wider social and natural milieu in the locality.

Quite a few references in the analysed media accounts characterise also the presence of the group of strategies covered under "Blurring farm borders", with the main emphasis on building Partnerships of various scale starting from informal cooperation among closest neighbours to formal engagement in large farmers' cooperatives. The strategy of Externalisation as reliance on and use made of services provided by external actors in order to meet diverse farming-related needs of the farm is less visible in the media accounts and aside from being a positive asset on specific occasions tends to also be featured as a source of potential problems (see below on Insourcing). The strategy of Agricultural contracting and passive diversification is also only marginally mentioned in the analysed sources, though some references to it can be identified.

"Coping with farming decline" by means of either Downsizing or Abandoning farming business altogether is a group of strategies that is present in the media accounts, yet could be underrepresented given the sometimes prevailing focus of some media sources on success cases (especially those achieved on the verge of bankruptcy yet bypassing the negative scenario implied by these strategies). The topicality of this group of strategies is especially marked in the dairy sector given the conditions of prolonged and deep crisis in the sector (see Chapter 3).

The group of strategies dealing with "Political support", including activities in pursuing Public relations and Seeking subsidies, is also present, though frequently used as strengthening factor for the main strategy. Nevertheless, the main thrust of media accounts have been dealing with the various aspects of subsidies in terms of the decisive role of direct payments and also other public support measures and to a lesser extent with collective advocacy and lobbying activities by farmer groups. As in the case of the previous group of strategies, a particular media attention has been given to strategies and actions in response to different crisis situations (particularly in the dairy sector), which illuminates both the strengths and weaknesses of farmers' situation in a given sector.

[3] It should be noted that the frequencies of different groups of strategies is only a very rough estimation, especially given the differing number and scope of specific strategies listed under each group.

Finally, "Risk management" is the group of strategies that proves to be the least pronounced one in the analysed accounts, which could be partially attributed to the still comparatively limited penetration of different risk-shifting and risk-sharing contracts in the daily practices of farmers in various agricultural sectors in Latvia (with the grain sector, however, demonstrating increasing use made of these strategies, incl. insurance contracts and hedging (see Chapter 4)).

Given some re-emerging trends in the analysed media accounts at least four **additional strategies** that became evident across various conditions in the media analysis have been identified as deserving a specific naming:

- Insourcing – performing certain tasks on farm which previously may have been outsourced or provided by external commercial actors. This is related to issues of cost reduction, but also of trust and quality concerns, or deficiencies in the service market etc.;

- Protesting – while the strategy of public relations primarily refers to lobbying and long-term process of communicating and defending collective interests, using active protest as an ad hoc and instant reaction to a crisis situation related to for example market instabilities or radical policy changes can be treated as a separate strategy used by farmers and farmer organisations under critical conditions;

- Social responsibility – this is a value-driven strategy (as opposed to purely rational ones) that prioritises moral and ethical values over economic considerations in making decisions regarding specific domains of farming. This strategy features a psychological and cognitive dimension demonstrating various ethical, moral, cultural standpoints and considerations of farmers (like give-and-take, obligation to ancestors and to the nature (animals, land), aesthetic values, patriotism, etc.);

- Learning – while acquisition of new knowledge and skills can be treated as an inherent part of many other strategies in order to be able to pursue novel ways for dealing with certain conditions, at times it seems that it can be used as a dominant strategy on its own.

Complementary to definitions and aspects of strategies as described in CF, grounded media analysis suggests that farmer strategies are characterised by several **common traits**:

- Time dimension and orientation towards future. Some farmer strategies are rooted in the past actions and farmer experiences and are sustained over a longer period of time; such strategies might be robust or flexible. Even strategies which are emergent (especially in times of crisis or particular farm difficulties) should have a time dimension and stretch into a sequence of future planned unfolding activities.
- A set of actions. Farmer strategies have a cumulative nature both in terms of farm history accumulation and density of activities. A singular action or decision if it is not followed by coherent similar activities or supported by adjacent measures cannot be considered a strategy. This poses also a methodological challenge because media often report sporadic farmers' actions and it is difficult to ascertain whether these will be sustained over time. Therefore the use of case studies will be a more appropriate method to explore farmer strategies.
- A psychological and cognitive dimension. A prominent cross-cutting theme in outlining strategies in media is farmers' various ethical, moral, cultural standpoints and considerations – values, lifestyle components, psychological traits and emotions, etc. These are involved in rational responses to conditions, but form a specific strand of attitudes. Our research points that it is a set of intellectual, moral, and psychological traits – a farmer's wisdom – that permeate farming life

and form grounds for risk taking and business in a long run. Developing a specific strategy involves adaptation of certain attitudes, which are linked to knowledge and values. This should be considered when inducing certain strategies.

- Strategies are responses to multiple conditions. In media texts we observe situations when a particular farmer action (e.g. decision to shift production branches from milk to beef in response to milk crisis) responds to several changing conditions (in this case: lowering milk prices, closure of some export markets, weakening of farmer position vis-a-vis processing industry, refusal of financial institutions to credit milk farmers, etc.).

There are ongoing reciprocal **influences between conditions, strategies and actions**. Often conditions are presented in media as something given, although actually they are (re)constructed and influenced by humans – also farmers–, their actions, strategies and outcomes.

Farmers' influence on conditions was well illustrated regarding environmental ones, although they were presented rather as an unintended consequence of their actions not as their deliberate choice to shape certain environmental conditions. The most explicit example where farmers try to change or influence purposefully their condition was the regulatory and political one; but this happens at collective level through farmer organisations rather than individual farmers. Taking into account that conditions are also socially constructed, the question arises of why limiting, disadvantageous or otherwise perturbing conditions are reproduced and maintained. This can be linked to stakeholders' divergent interests and power positions and relations, which were evoked within the Demand condition and also Regulation and Policy.

The same condition can provoke different strategies and actions. The media analysis did not provide clear explanations why so, but we suggest that farmers' individual attributes (like capacities, values), family situations and their farm characteristics (like scale, level of modernisation, geographical location) create the diversity of responses.

Similarly, on a number of conditions, especially that of Regulation and Policy (but also Demand and Technology) media sources reflect divergent positions, expectations and assessments of key agents, also among farmers – i.e. demanding more or less of something, attributing negative or positive outcomes to certain actions. Thus, the same condition may be treated in opposing ways. It is relatively rare that media sources explicitly link farmer strategies described to any "condition"; these may also be several, and in many cases have to be extrapolated from the stories, as media stories tend to deal with "today" – what farmers do, not what they respond to (except if it is a crisis).

Performances are very rarely mentioned in most media sources, except if they are exceptionally positive or negative. In other cases it seems that it is implied that the outcomes sought are reached, without further comments.

Individual strategies and their aggregated sets or figurations are best understood as narrated strategies or farmers' own explanations of which conditions are most critical for them, how they react to external and internal pressures, what decisions they make and which strategies pursue by what kind of activities. Narrated strategies can be only vaguely elucidated from media, for that reason in-depth case studies and interviews are necessary.

Table 3. Identified farmers' strategies.

			STRATEGY GROUPS/STRATEGIES															
			Agro-industrial competitiveness				Risk manage-ment	Blurring farm borders			Political support		Rural development			Coping with farming decline		Other strategies identified
			Intensification & upscaling	Technological innovation	Market orientation	Financialisation	Risk management	Externalisation	Partnerships	Agricultural contracting & passive diversification	Public relations	Subsidies seeking	Diversification and territorial integration	Multifunctio-nality	Pluriactivity	Downsizing/ survival	Abandonment	
CONDITIONS/SUB-CONDITIONS	Regulatory and policy	Public subsidies	X	X		X						X		X				
		Diverse and changing regulations		X			X			X	X	X				X	X	
		Strategic policy planning									X	X			X	X	X	
		Abolishment of milk quotas & Russian embargo			X		X		X		X	X	X			X	X	Protesting
		Regulations and policies in organic agriculture	X		X					X		X	X	X				
	Factors	Land	X			X	X			X								.
		Labour	X	X				X	X				X			X	X	Social responsibility, Insourcing
		Fodder and supplements for animals	X	X				X	X	X			X					Insourcing
		Seeds, fertilisers and breeding animals	X	X		X	X		X									Insourcing

			STRATEGY GROUPS/STRATEGIES															Other strategies identified
			Agro-industrial competitiveness				Risk manage-ment	Blurring farm borders			Political support		Rural development			Coping with farming decline		
			Intensification & upscaling	Technological innovation	Market orientation	Financialisation	Risk management	Externalisation	Partnerships	Agricultural contracting & passive diversification	Public relations	Subsidies seeking	Diversification and territorial integration	Multifunctio-nality	Pluriactivity	Downsizing/ survival	Abandonment	
CONDITIONS/SUB-CONDITIONS	Demand	Consumption practices		X	X				X				X	X	X			
		Market concentration	X	X		X	X					X						
		Global demand	X	X								X				X		
		Price levels and volatility	X	X		X			X				X			X	X	
		Niche markets		X	X				X			X	X	X				
	Finance & risk management	Public project financing	X	X								X	X					
		Bank credits	X	X		X						X				X		
		Cooperative financing	X	X			X		X									
		Cash flow dynamics				X	X					X						Insourcing
	Technological	Physical infrastructure, premises	X	X														
		Agricultural technologies	X	X						X		X	X					Insourcing
		Animal welfare and productivity	X	X								X		X				
		Knowledge assets	X	X					X			X						

			STRATEGY GROUPS/STRATEGIES															Other strategies identified
			Agro-industrial competitiveness				Risk manage-ment	Blurring farm borders			Political support		Rural development			Coping with farming decline		
			Intensification & upscaling	Technological innovation	Market orientation	Financialisation	Risk management	Externalisation	Partnerships	Agricultural contracting & passive diversification	Public relations	Subsidies seeking	Diversification and territorial integration	Multifunctio-nality	Pluriactivity	Downsizing/ survival	Abandonment	
CONDITIONS/SUB-CONDITIONS	Socio-institutional	Business cooperation	X			X			X		X		X	X				Learning
		Knowledge exchange structures	X	X					X				X	X				Learning
		Administration efficiency	X	X					X		X					X		
		Farmers' NGOs							X									
	Socio-demographic	Farm succession	X	X				X						X		X	X	
		Farmers' ageing and influx of young farmers	X	X					X			X	X	X	X	X	X	
		Outmigration and depopulation of rural areas							X				X			X		
		Farming values											X					Social responsibility
	Ecological	Climate zone of the country		X								X						Insourcing
		Agrarian qualities of the locality	X	X									X					
		Seasonal weather conditions					X						X	X		X	X	
		Wildlife		X					X							X	X	
		Climate change	X	X									X	X				
TOTAL per strategy			**24**	**25**	**4**	**8**	**8**	**3**	**16**	**5**	**5**	**16**	**17**	**11**	**3**	**13**	**9**	
TOTAL per strategy group			**61**				**8**	**24**			**21**		**31**			**22**		

2.3 Conceptual frames

Narratives that could be traced in the media material about certain ways in which primary producers in Latvia respond to challenges and opportunities in their functioning demonstrate correspondence to three key ways of framing (see Table 4): neo-classic, economic sociology and political. These three also include some subsets reflecting the peculiarities of Latvia's cultural, social and economic landscape. A smaller set of neo-institutional and "transition" framings have been detected as well.

Table 4. Conceptual frames identified in the media analysis.

Frame	Essence	Key concepts	Key advocates
NEO-CLASSIC (rationality and market)	Market pressures are the core driver of farmer' s decisions	Modernisation, competitiveness, efficiency, flexibility, new markets, experience	Policy makers, owners of large farms and their organisations
ECONOMIC SOCIOLOGY (embeddedness and autonomy)	Farmer's decisions are primarily about own competence, consideration of local resources and relations.	Community, solidarity, social capital, responsibility, heritage	Small farmers
POLITICAL (public policy responsibility)	Responsibility of public bodies for primary production.	Protectionism, subsidies, vulnerability	Farmers' organisations
NEO-INSTITUTIONAL (transaction costs minimisation)	Farming organisation must reflect the primacy of minimising transaction costs	Externalisation, insourcing, cost reduction	Farmers
TRANSITION (niche developments)	Farming must develop new niches to be more resilient	New quality (organic, healthy, local) products, new on-farm activities and services (processing), niches	Smaller farms, policy makers

2.3.1 Neo-classic

This lens of viewing (primary producers') activities accentuates rational and skilful adaptation to **external, even global market pressures**, with the target of achieving optimal efficiency, productivity, and competitiveness.

The variations of the frame may range from more distinct advocacy of innovation, technologisation and modernisation, and up-scaling in **policy sources and among bigger farms**, to more moderate visions promoted by **farmers**, which tend to emphasize careful consideration, responsible calculation, considered risk-taking, and using opportunities, as in the statement that "*You cannot stand still in business, as downslide starts immediately*". The adoption of technologies is careful and balanced against one's own knowledge and experience

("*The basis for all is experience, knowing your industry, a clear idea about your product, market knowledge, and the aspiration to improve along with the spirit of the time*.")

A stronger **modernisation** component may be found in narratives by larger farm owners, with modern technology acquiring certain moral traits ("*in earlier times you worked slowly, now you can work much better and do it in a white shirt and not get tired, too*"). In this frame, EU support to modernisation is a good thing. Technology makes work easier for the farmer, but also more effective, and more efficient in terms of inputs.

Looking for **new markets** is also part of this frame, especially promoted by policy sources (both policy makers and farmer organisations) and becoming an acute necessity after closing down of the Russian market: "*Food producers now have to be active in their search for new markets; they have to take the challenge to be more flexible*". On the other hand, there is no unanimity about the location of these markets – within or nearby Europe, local consumers, or possibly Asia.

Interestingly, this market-centred frame may also be related to **patriotism**, bringing together rational considerations and a moral sentiment. With the number of crises plaguing Latvia's primary producers, the local market turns out to be an under-used opportunity (in many cases filled by imports). Thus policy sources and farmers express an expectation that consumers will give preference to local produce solely on the basis of patriotism (while producers themselves keep rational decisions and patriotic sentiments quite separate).

Bigger farmers who are large market players estimate the local market to be too small for their capacities and ambitions.

A less positive view on following the market and modernisation is provided by those who attempted to modernise and to be flexible, but chose an unfortunate moment (before the crisis in the milk sector), and whose cooperation with banks did not work out. In such cases the narrative uses the images of vulnerability, valiant struggle against indifferent prevailing forces, moral emphasis on providing employment in local communities – and still the strategies referred to are described as rational and based on belief in technology and effective growth.

2.3.2 Economic sociology

This frame does include awareness of the influence of external market forces; however it shifts the emphasis to reliance on self, on the local resources, and embeddedness in the local as primary considerations in farming decisions.

This may be considered a dominant frame in primary producers' narratives, which can be explained both by cultural factors (the Latvian "farmstead" identity) and economic ones (small farms account for majority of farms, and are slowly but increasingly recognised as a key to counter depopulation and monocentric development).

In this frame, farmers are relying on **self, family, and trusted peers**; act slowly and gradually; carefully diversifying ("*you cannot put all eggs in one basket*"). They tend to **rely on local networks** for marketing their produce ("*the locals are already familiar with our sweet cherries,*

but if we go elsewhere, people do not trust they are indeed local"), which also may hamper expansion beyond the locality ("*all our efforts stall at the size of the market – the closer to the capital, the less they buy*").

Reliance on the local may also be seen **as community service**, as in the following quote: "*I do not view this meat processing unit as a business; it is small, but it provides employment in the village, so I am letting it stay*". Of course, such considerations may be workable only with large-scale main business elsewhere, allowing to consciously maintaining almost a "charity" operation.

The *baddies* in the frame are often **banks** who fail to carefully attend to specifics of farming (=do their job well) and make decisions based on greed only. Bank loans are seen to hamper development: "*We had a loan and it hindered our growth; once we got rid of it we could again resume our work in fruit-growing.*"

A subset of the frame has to do with certain **moral sentiments**, which are an essential part of what it means to be a farmer: the pride in one's autonomy and perseverance, and own decision-making skills, grounded in years of local experience. Farmers express distaste at "hasty and radical" experimentation, also with those farmers who whinge/whine, or howl about difficulties instead of working ("*when I see on TV a farmer who has bought a new expensive tractor and whines that there is no one to work with it, I say – the problem is not the tractor or the worker, but this farmer*"). The pride in one's own stability (in the given local conditions) is expressed quite often: "*Agriculture is not for people with weak nerves. If you start to get nervous and count what is being lost under sudden adverse weather conditions, you may have a heart attack*."

Simultaneously, in this frame, agents keep in mind that cooperation must be beneficial for all; they avoid getting ahead at the expense of neighbours or clients.

An important theme there is to do with moral relationships with own assets – the land, the animals, also the predecessors. Within this frame farmers talk about "give and take" in their relations with the land and the animals ("*animals make it possible for me to give back to the land what I have taken from it*"), and the **moral duty** to develop the resources inherited from the predecessors – and to pass them to own offspring ("*to cultivate this land, people have shed sweat and invested so much energy, so there was no doubt that I will take it over*"). It is the **inheritability** of the trade that acts as a strong motivational factor for many farmers, be their small or large ones ("*What provides us with the impetus not to give up and do our job is our conviction that our work will see a continuation – our son is ready to take over what has been started").*

This mind-set involves keeping hold of what has been created and not giving up, but may also mean certain lock-ins (doing things as they had been done be predecessors).

2.3.3 Political

This frame illuminates farms' survival and development as a political concern or responsibility. It evokes the importance of various public support measures and regulations in shaping farming strategies and performances. The frame is certainly related to EU level-, but also

national policies and certain expectations for actions taken by **public actors**, often interchangeably or with references to unspecified public policy level.

Although the general ethos of this frame is that policy makers have to take care for farmers, there are differing presumptions on the optimal intensity of policy intervention and at what (which farmer groups, aims) it should be targeted.

Policy measures are seen as a life-buoy in crisis and other vulnerable situations. In particular, this is a frame seen in media sources about the dairy sector undergoing its prolonged crisis and the underlying vulnerabilities of the sector ("*If we are in a need for additional money, we will sell our bulls, they save us*. *[..] It is most important that we have enough money to cover our leasing payments. Subsidies will allow making both ends meet. One has to reckon with the fact that own capital of the farm decreases since no single cent is being invested*").

Farmers consider that the state and the EU must help them get out of this predicament, and they are prepared to protest actively, if this does not happen. Feelings of humiliation may be expressed, dramatic images evoked ("*I work hard, but the state policy is bringing me to the edge of elimination. I have not given up hope for survival, yet. But for how long?*").

More commonly, policy is perceived as setting frames and rules, both limiting and opportunities creating, for farming; outside of severe crises, farmers express much more moderate views on the need for state intervention; they do expect support but mostly they would appreciate a predictable regulatory environment and **effective and pro-active policy measures** when needed. One example is the policy response to the African swine fever where the relevant state bodies failed to make good use of EU compensations due to corruption.

In particular, farmer organisations point to the various policy domains and regulations, which need amelioration to better suit farmers' needs. According to them, policy framework is something to be constantly monitored and intervened – possibly problematic, but modifiable. This perception is depicted also in their policy networking and lobbying activities. Individual farmers rather see the policy requirements as something given, to be complied with even if they disagree or disapprove of it.

2.3.4 Neo-institutional

The frame is close to the neo-classical one in that it recognises the primacy of the market, yet the emphasis is on mitigating the **transaction costs** by new ways of arranging farm activities, thus transferring part of these to external operators. In national media sources some examples of such practices could be identified where **externalisation** is viewed as a valid form of farm work arrangement. The examples are found especially in reports from the grain sector, where they are related to attempts to optimise costs/labour.

The decisions to externalise may be described as suiting own situation and purely rational (e.g., to contract workers with equipment to harvest crops – even from nearby countries of Lithuania and Poland), with equally valid other solutions possible ("*All these models work and are not incorrect*"). The decisions (e.g., to market the produce only through the cooperative and buy all raw materials through its trusted providers) may also be related to the more "social" aspect of long-standing cooperation and the feeling that it is part of "one's own"

business. With regard to specific categories of transaction costs, externalisation of search and information costs, for instance, can involve the use made of expert advice instead of trying to search for all the relevant information individually.

2.3.5 Transition (niche)

This is the frame evoked when discussing the need for developing alternative/innovative products or services, especially of higher quality (biological) or tailored to specific consumer needs.

Policy sources see niche product development as a way to boost **competitiveness** of small farmers, closely linked to innovation. Farmers may similarly see developing new kinds of activities as a way out of prior difficulties ("*on-farm food production turned out to be our lifesaver, allowing not only surviving but living reasonably well*"), or as a new interesting challenge to be taken after assessing the market trends ("*I felt we were in a sort of a rut, and when there appeared an opportunity to buy a nearly building, we decided to establish a beer brewery, people are interested in craft beers right now*").

Conclusions

Altogether five kinds of frames were identified in the media sources in Latvia, with the neo-classic and the economic sociology frames as more detailed/evolved ones. Tentatively, it could be possible to link certain sector strategies and frames, as in the case of the neo-institutional frame and the grain sector; also the strategies of small farmers and the economic sociology frame. The latter appears to be the most evolved, representing a whole "cosmology" of farmer's world, his/her relation with assets, predecessors and further generations, communities and own identity vis-à-vis the external conditions. An interesting trait of the framing is also the merging of the rational (in neo-classic) and the moral (patriotism).

3 Latvia's Case Study A: Dairy

Dairy sector in Latvia has witnessed dynamic development during the last few years – the prices paid for milk has grown significantly and now are close to the price level paid in other EU countries, the sector has been centralising, new cooperatives have been emerging, etc. Multiple methods have been used to obtain a comprehensive view of the sector. This has allowed to test ongoing hypotheses and to develop a deeper explanation of the processes underlying the sector. However, because of this data has been collected for an extensive time period: sub-chapters 3.2, 3.3. and 3.4 are based on in-depth interviews and analysis of scientific literature (data collected in 2015-2016); sub-chapter 3.5 is based on focus group discussions and workshops (these were organised in 2016-2017); sub-chapter 3.6 will be based on the quantitative survey (to be conducted in 2017-2018). Because of the rapid changes sector is going through conclusions made in initial data collection period does not necessarily correspond to conclusions made in the second wave of data collection. We can predict, that we will observe the same phenomenon during the analysis of quantitative data as well (that are still to be collected). The methods used to study dairy sector are still complimentary. However, rather than just allowing to move deeper into the analysis of ways how the sector is functioning, it is also illustrating the development of the sector. Thus, some of the conclusions made about the sector in these chapters might be slightly different.

3.1 Case study introduction and context

3.1.1 Dairy production in Latvia

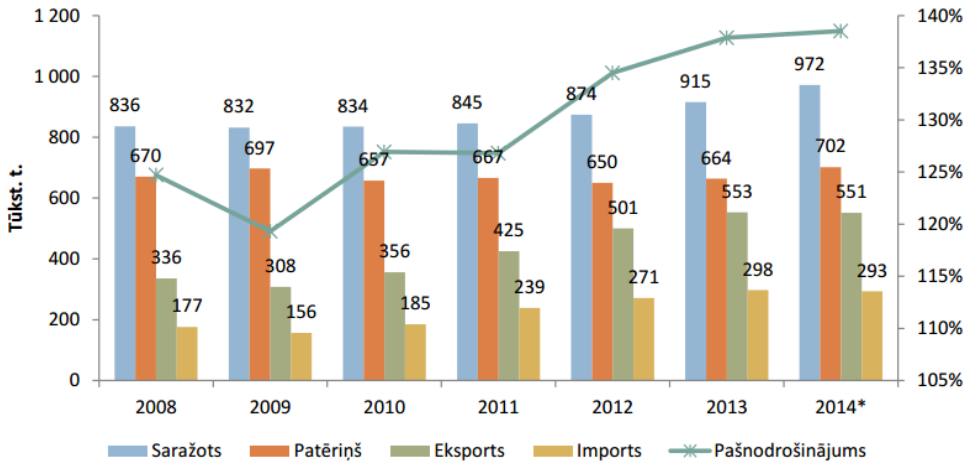
Dairy production in Latvia has deep historical traditions, given the suitability of the geographical and climate conditions of the country for cattle breeding (Lauku tīkls 2011). Presently dairy farming represents the major livestock farming sector in Latvia and the second largest agricultural sector. Its production value has been growing steadily. In 2014, the value of production for the dairy sector made up 24.1 % of the total Latvian agricultural output (Ministry of Agriculture 2015). According to expert estimations, the dairy business sector – milk production and processing together – in Latvia accounts for around 1 % of GDP (Miglavs 2015). Yet, in 2015 the share of milk in the final agricultural output dropped to 17.8 % (CSB 2016b).

The productivity is increasing (5.9 kg per cow in 2015, which is still less than EU average, though), and so does the total output (978,1 thousand tons in 2015) (CSB 2016b). Latvian self-provision with milk exceeds 135 %, and dairy products are a crucial export product: 60 % of the produced milk is exported and milk forms 13 % from the total food export making the dairy sector the second largest in terms of export value (Miglavs 2015) (see Figure 3). Latvia is among the top three EU countries that export the highest share of domestically produced milk. But this makes it also more sensitive to dynamics in external markets.

Latvia features rich land resources for growing herbivorous animals with 60 % of total agricultural land used for herbivore fodder crops. This could be sufficient for 550,000 cattle units, while in 2014 the actual number of cattle in Latvia made up 422,000 units, incl. 166,000

dairy cows (Miglavs 2015) (see Figure 4). In 2015, there were 162,000 dairy cows registered in Latvia, demonstrating a slight decrease in comparison to the previous years (CSB 2016a), which can be indicative of the difficulties the sector is undergoing. It should be noted that presently the number of dairy cows is four times smaller than it used to be back in 1938 (during the first independence period before the soviet occupation) and three times smaller than in 1990 (before separation from the soviet subsidised agricultural production system) (Miglavs 2015).

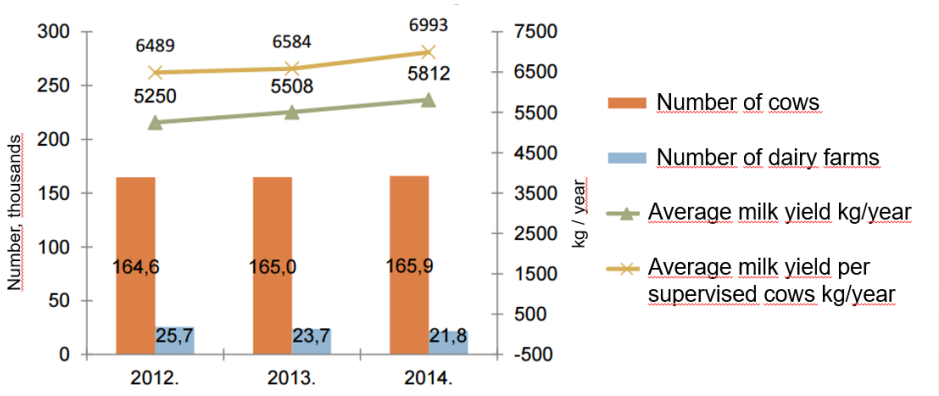
Figure 3. Balance of production and consumption of dairy products in Latvia (2008-2014).



[Produced, Consumption, Export, Import, Self-provision;
Tons, thds.]

Source: Ministry of Agriculture 2015

Figure 4. Characterisation of dairy sector in Latvia (2012-2014).

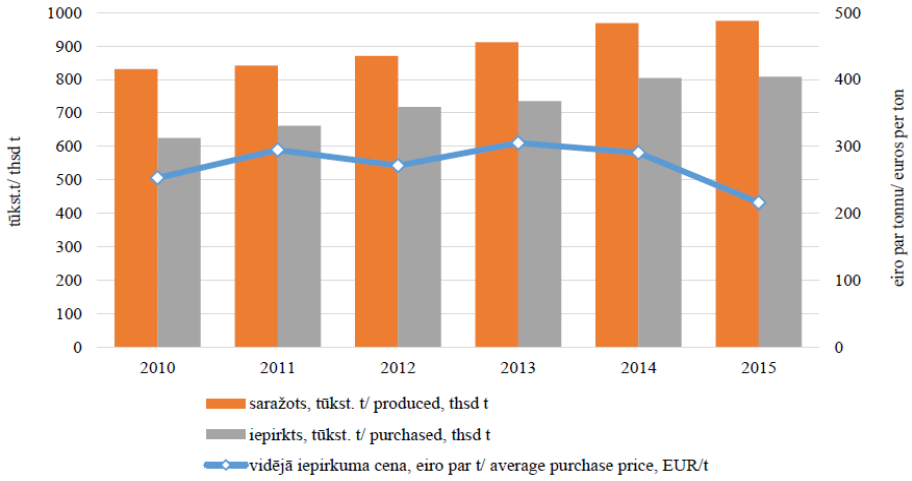


Source: Ministry of Agriculture 2015

The structure of dairy farms has been fragmented – dominated by small farms, thereby potentially contributing the comparatively low efficiency of the dairy sector in Latvia (Miglavs 2015). In 2014 there were 21,800 dairy farms with the average herd size of 7.6 cows and there were 40 competing milk processors (Ministry of Agriculture 2015). This fragmentation is considered by some to be responsible also for the producers' weak position in the milk food chain (dominated by big processors and retail chains), and overly high competition in the

processing sector. The weakness of the dairy sector is attributed also to the high dependence on the Lithuanian milk processing industry (Miglavs 2015). However, it is also worth noting, that already in 2010 five biggest processors were processing almost 75% of milk volumes processed in Latvia (Latvijas Piensaimnieku Centrālā Savienība 2011). Three of these factories processing 47% of the overall processed milk were owned by one owner.

Figure 5. Milk production, purchase and average purchase price in Latvia (2010-2015).



Source: CSB 2016b

It is assumed the volume of produced milk per farm and the corresponding market force of each individual producer has had an impact on the fact that Latvia is among the EU countries with the lowest milk purchase price in the common EU market (Miglavs 2015). The average purchase price for milk in Latvia decreased from €291 per ton in 2014 to €216 per ton in 2015 (drop of 25.7 %) (CSB 2016b) (see Figure 5). For some producers the present crisis is the most severe one ever (Krauze and Unāma 2015).

At the same time over the recent years there has been an ongoing consolidation and concentration in the sector, mostly at the expense of smaller farms – while in 2010 the number of dairy cows was more or less evenly distributed among large, medium-sized and small farms (33 %, 32 % and 35 %, respectively), in 2015 the share of dairy cows in small holdings had fallen to mere 17 % (49 % now owned by large ones) (CSB 2016b). There has also been a reduction in the total number of dairy farms (from 25,740 in 2012 to 19,048 in 2015) with a simultaneous increase in the average herd size (from 6.4 in 2012 to 8.6 in 2015) (Ministry of Agriculture 2015; CSB 2016b). In order to coordinate and consolidate their market force, farmers have joined cooperatives (20 in total). Some of those cooperatives operate as milk collectors; others have developed their own processing and retailing network.

On the whole, the dairy sector in Latvia has lately been characterised by the following factors (Miglavs 2015):

- Large potential of physical production with comparatively well accessible (presently unused) resources of grass fodder;
- Low labour productivity in dairy farms;
- Highly fragmented structure of dairy farms;

- Fragmented structure of small dairy processing companies;
- Predominance of few huge processors with comparatively low value added in the structure of dairy export (limited competitiveness in the EU);
- Totally unsuitable market strategy of the milk processing industry (in both Latvia and the Baltic countries) given the predominant orientation towards the Russian market;
- Elevated sensitivity towards inevitable crises in the world market of dairy products due to low competitiveness and limited market force.

It has also be noted that important issues for the future development of the dairy sector in Latvia have to do with rising efficiency (and competitiveness) of dairy farms (incl. increasing the size of herds and reducing the number of employees per cow), increasing cow productivity in terms of average milk yield, and improving milk quality, as well as promoting production and consumption of biological milk and dairy products (Ministry of Agriculture 2012). Equally important are measures to be taken in advancing the knowledge of farmers through specialist training, efficient information flow and popularisation of good practices, as well as promoting processing efficiency, value added of the produce, and export of milk and dairy products (Ministry of Agriculture 2012).

3.1.2 An introduction to the region

The region of this case study is the whole country of Latvia, which corresponds to a NUTS 2 level. It is predominantly rural, but with some internal regional disparities when zoomed in at NUTS 3 level: there is also an urban area around the capital city of Riga, and an intermediate region in the western part (EC 2013a). This internal regional structure is well reflected in various socio-economic characteristics. The GDP per capita in the country is €12,100, which makes up 64 % of the EU average (Eurostat 2015); it is higher in more urban areas, in particularly in Riga, whereas it is the lowest in the predominantly rural areas (CSB 2015a). The share of employment in the primary sector (agriculture, hunting, and forestry) has stabilised around 8 %, after a sharp decline during the 1990s. Again, this share is much higher in rural areas, where it is reaching 15 % (3 % in urban ones) (EC 2013b). The country as a whole, and in particular rural areas, faces depopulation (-1 % in 2014 in rural areas) (Ministry of Agriculture 2015), which negatively affects agricultural activities and the overall rural development.

Agricultural conditions vary across the country: they are comparatively more favourable in the Southern part (Zemgale) where farms tend to be larger (28 ha on average), and less advantageous in the Eastern part (Latgale) where are the smallest farms (14 ha on average) (CSB 2010; see also Figure 1). One fifth of Latvian farms are specialised in milk production. Dairy farming and also processing industry is evenly dispersed all over the country. Still most of cows are concentrated in the poorest region of Latgale, as the comparatively poorer agricultural land is less advantageous for other specialisation, but the productivity there is the lowest (Zvirgzdiņa and Tilta 2013). The sector has higher importance in Pieriga and Vidzeme regions where is the highest concentration of cows per UAA ha (10.5 and 9.2 cows/ha correspondingly) (Miglavs 2015).

3.2 Policy and regulatory conditions

The following analysis of policy and regulatory conditions reviews the present scope and nature of the respective conditions (recent, most important changes thereof) in the dairy sector in Latvia as well as reflects the perceptions and experiences of Latvian dairy farmers working in the given framework. This analysis is based on the review of recent academic papers, reports, market data, as well as additional expert/stakeholder interviews.

The analysed documents focus primarily on agricultural, food production and distribution regulations and policies. The documents evoke regulatory and policy conditions present mainly at national and European levels, but they also touch upon those at international scale; no locally produced policy conditions were identified. Sometimes it was difficult to distinguish between the national and the EU policies and regulations as general terms of "policy" or "support" are used without referring to national or EU level, thereby pointing to the close relation and complementarities of both.

Most of discussions on policy conditions originate in policy sources, also specialised literature and general media, and at a much lesser extent in scientific literature. Although the timing of the selected sources were limited to the last couple of years, they refer to much older political events and processes dating back even to the agricultural reform in the beginning of 1990s when Latvia regained independence, and Latvia's joining the EU in 2004. This shows the long-term implications of such comprehensive political processes.

The **main policy and regulatory conditions** regarding the dairy sector in Latvia addressed below cover the following:

1. EU milk production quotas;
2. Russian embargo;
3. Public support measures;
4. Lobbying;
5. Manure storage requirements;
6. Quality standards;
7. Organic farming;
8. Promotion of milk consumption.

3.2.1 EU milk production quotas

In the current period the milk sector is adapting to the abolishment of the EU system of milk production quotas (introduced in the EU back in 1984). 2014/2015 was the last year when quotas were applied to milk production. Latvian farmers had complied duly with quotas – in 2014/2015 they had fulfilled the quota for deliveries to dairies for 99.14 % and direct sales quota – for 96.34 % (Ministry of Agriculture 2015).

The abolishment of the system as of 1 April 2015 has removed the limits imposed upon the allowed amount of produced milk and has anticipated the market forces (especially the growing demand for dairy products in Asia) to regulate further developments in the dairy sector in the EU countries, including Latvia. Farmers were looking forward towards the abolishment of milk quotas with divided feelings. For bigger producers it meant expanding

production, opening up of the world market but also increased competition; small farmers were worried how the abolishment of quotas, which they felt as a means of certain security, will influence them. Now the abolishment is considered as another major factor contributing to lowering milk prices and overall Latvian milk crisis.

The accompanying special public support measures for milk producers aimed to help them adapt themselves to new market conditions and overcome the crises. Encouraged by initial positive signs of agricultural policy makers, many milk producers had prepared in advance to the abolishment of quotas by investing in production means, often using EU funding for modernisation, with the strategic aim of expanding and intensifying production. However, the actual market conditions of overproduction and low prices have slowed down the development and forced farmers to reconsider their development plans and reduce production. They lack means for further investments and paying off credits. In farmers' views, public support measures have not amortised enough the negative consequences of overproduction and low prices.

3.2.2 Russian embargo

The situation in the milk sector has been even further aggravated by the sanctions and trade bans between the EU and Russia, especially since Russia's announcement of the embargo on most food-stuffs (incl. milk and milk products) imported from the EU as well as USA and other western countries as of 7 August 2014 as a response to the economic sanctions enforced by these countries against Russia. The Russian embargo, which is presently set until the end of 2017, has already had severe negative consequences on producers' performances. The embargo, together with other unfavourable conditions in the market, has hit particularly hard the milk sector, which has been left without a notable share of their former export market. According to estimations made by the Ministry of Agriculture in mid-2015, the trade ban had caused losses for Latvian dairy producers in the amount of €50m and for the agricultural and food export – around €140m (LETA 2015). The Latvian primary milk producers (along with other Baltic countries) have witnessed one of the most dramatic fall of purchase price of milk in Europe (see section 3.3.1 on price and income volatility).

The EU funding allocated as a compensation for farmers has not covered for their actual total financial losses caused by the trade ban. Both farmers' and national policy makers insist on the need for a more active EU involvement in solving the crisis by political measures and compensating farmers' losses, and they consider the actions taken as insufficient. Farmer organisations (e.g. Latvian agricultural organisation cooperation council (LOSP)) demand to increase public support (see section 3.2.3 on public port measures). Also mobilisation of other actors is reported – for instance, the banks have initiated meetings with farmers and their representatives to discuss the related emergent problems and possible financial solutions. A proposition to Latvian and Lithuanian milk cooperatives has been expressed to cooperate in selling milk.

Dairy producers have been largely dependent on the capacity of dairy processing companies to find new markets, with many of those who used to have Russia as the main export market facing problems in this respect. This, in turn, has caused residue of finished products at processing companies forcing them to reduce the milk purchase price even below the prime

cost (LSM 2015), which has direct impact on the income levels and financial capacity of dairy farmers (see also section 3.3.3 on access to external markets). Since the embargo milk processors have diversified their export markets as well as they are looking to develop innovative products to keep their market positions and competitiveness. However, due to the saturation in the world milk market and administrative and logistic burdens to enter new markets, this does not bring immediate results.

3.2.3 Public support measures

Presently there are several public (both EU and national) support measures that have been made available to dairy farmers either on a regular basis or as ad hoc solutions to help them adapt to the new system and tackle the crises. The State support and the EU support to farmers under the Common Agricultural Policy (CAP) in Latvia are provided by the Rural Support Service.

Regarding the EU level policy, the main financial sources that have become available to Latvian farmers after Latvia joined the EU, cover direct payments and support to modernisation from EU financial instruments. Direct payments are granted directly to farmers under a support scheme – the Single Area Payment Scheme (SAPS), which has been applied in Latvia since 2004 and it involves the payment of uniform amounts per eligible hectares of agricultural area. As of 2015, the structure of direct payments by the shares of financial contribution is as follows: 1) single area payment (~50 %), 2) greening payment (30 %), 3) coupled support (13 % + 1 %), 4) support for small farmers (~ 6% - 2 %), and (5) support for young farmers (1.5 %) (Ministry of Agriculture 2015).

In 2014, a special support scheme for the modernisation of rural farms (€4m) aimed to modernising agricultural companies in order to improve their economic performance and competitiveness was launched (see also section 3.2.5). Along with other aids, since 2010 dairy farmers could also apply for specific aid in dairy sector in order to ensure transition and gradual adaptation to the new market conditions in the dairy sector following the abolishment of milk production quotas (€7m in 2014) (Ministry of Agriculture 2015). In 2014, the state intervention scheme for private storage of dairy products aimed at reducing the impact of Russian ban on the dairy sector was used in Latvia for storing 30 tons of cheese (Ministry of Agriculture 2015). As of 2015 the voluntary coupled support for dairy cows has also been made available for dairy farmers in Latvia in order to create an incentive to maintain current levels of production in the dairy sector.

In November 2014, the Latvian parliament approached the European Commission (EC) to provide support for milk producers in Latvia in the light of the Russian ban on agricultural produce import (Saeima of the Republic of Latvia 2014). Given the particularly adverse effects of the ban on dairy producers in the Baltic countries *"encountering liquidity problems in exceptional circumstances*", the EC provided temporary aid to milk producers in the three countries in the amount of €6.9m for Estonia, €7.7m for Latvia and €14.1m for Lithuania (EC 2014).

By means of the State support, competitiveness of agricultural holdings is being facilitated, providing support for a partial paying off of credit interest and in the form credit guarantees,

development of pedigree breeding in animal sector is ensured, as well as evaluation of plant breeding material, the use of certified seeds and implementation of research projects in agriculture[4]. In line with the last amendments (30 April 2016) to the regulations on the allocation of state and EU support for investments in agriculture (Cabinet of Ministers 2015a), in 2016 in total €10m is to be provided for partial remission of interest rates for primary producers, farmers' cooperatives and processing companies (inc. the dairy sector) as well as for advancing the material base for research activities and performing laboratorial analysis. In addition, the regulation on guarantees to agricultural and rural development credits presently in force provide for guarantees up to 80 % of the credit sum (Cabinet of Ministers 2015c). Support is provided also for covering administrative costs for breed dairy cows' productivity data (Cabinet of Ministers 2014a) as well as for registration of breeding farm animals, determining their genetic quality and assessing their productivity data (€19m in 2016, incl. €9.4m for dairy cows) (Cabinet of Ministers 2014e).

In May 2016, state aid of €6.2m was granted for dairy producers in Latvia (Cabinet of Ministers 2016a). Furthermore, on 13 September 2016, the Cabinet of Ministers adopted regulation on providing support for dairy producers for short-term voluntary reduction of milk production (at least for 3 months) allocated to all EU member states by the European Commission in the face of ongoing market difficulties. Yet dairy farmers have been critical of this new provision, especially given its short-term nature due to the difficulties in reducing the milking amount while maintaining the herd size (Ambote 2016). It is being argued that this support comes much too late – two years after the trade ban (LSM 2016b), and it does not provide an incentive for those farmers willing and ready to carry on their work in the dairy sector (LSM 2016a).

Nevertheless, EU sources are in quite a number of cases estimated to be the only funding opportunity in the dairy sector and the only way for farmers to survive *("State subsidies only cover for the losses"; "Area payments serve for patching the holes")*. However, there are also several critical points expressed about the public support, sometimes even contradicting ones, revealing the conflicting interests in the farming community. There is a unanimity that the different amounts of direct payments that EU average and Latvian farmers are receiving are unjust and reducing the competitiveness of Latvian farmers (*"Europe does not want Latvia to produce milk"* [dairy farmer]). Some farmers consider public subsidies that support also non-commercial farmers as distorting market principles, whereas others see public funding for the development and modernisation of big farms as a threat for small ones.

Farmer organisations demand to reduce bureaucratic workload when applying for public support and simplify the CAP. Environmental NGOs express more critical views on the CAP, claiming for the need to better balance production with other social and environmental needs (like biodiversity, maintenance of culture and traditions, quality of life, adaptation to climate change, etc.) and to harmonise it with other EU goals and policies. It has also been argued that the agricultural policy has contributed to the polarisation of regional socio-economic development and dairy farms in Latvia, as there is an increasing gap in income, competitiveness and modernisation possibilities between farmers in Latgale region (where

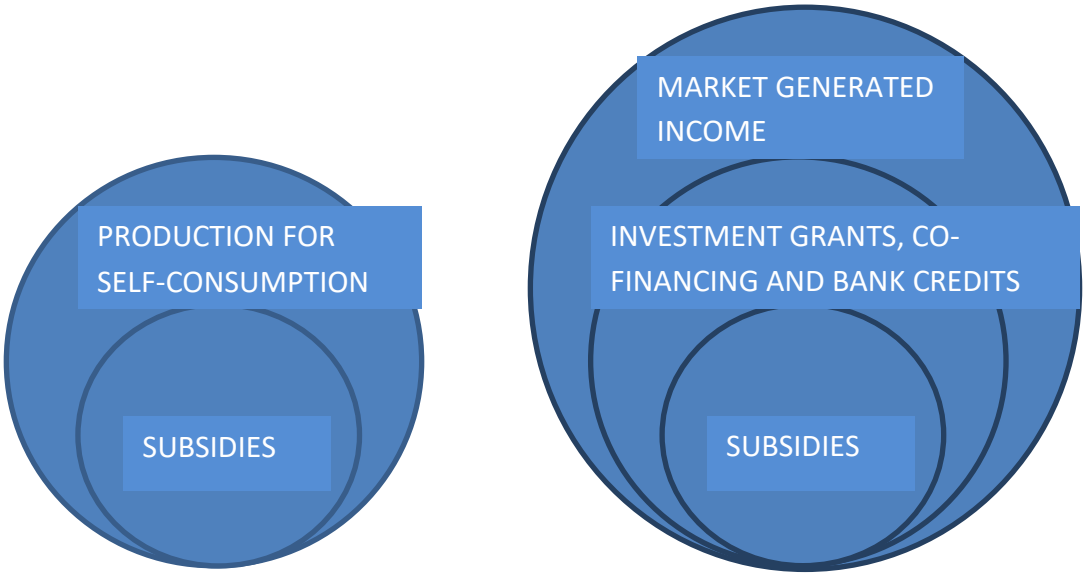
[4] http://www.lad.gov.lv/en/state-eu-support/state-support/

typically farms are smaller and less effective) and those in other regions of Latvia (Zvirgzdiņa, Vanags et al. 2014).

In general, farmers have adopted receiving-using public funding, or subsidy seeking strategy, as a part of their farm development or maintenance/survival strategy. Part of farmers use public funding to make investments and develop farms, while another set of actions within this subsidy-seeking strategy are more modest – farmers integrate public subsidies in their annual budget and count on them to survive from year to year. This dependence is reflected also in farmers' claims for more public support, in particular in the context of the milk crisis. At the same time not all farmers use EU funding as the procedure is considered too complicated and risky. In these cases farmers rely on their own resources giving preference to a slower, but stable growth.

According to media analysis and stakeholder interviews all groups of farms (subsistence, small, medium, big, young-farmer, older-farmer, dairy, wheat, etc.) incorporate subsidies in their portfolio as a very important stream of income, however the relative weight of subsidies in total farm income varies by structural groups of farms. Figure 6 illustrates the relevance of subsidies in different farms groups in comparison to other streams of income.

Figure 6. Subsidies in farm income structure.



Small / subsistence farm

Big, commercially viable farm enterprise

The figure takes typical cases of a small subsistence farm and a big commercially viable farm enterprise as two extremes to illustrate the importance and weight of subsidies in farm

income structure. In the case of an ideal typical small subsistence farm subsidies form a major part of farm income; a proportion of income is calculated in terms of production for self-consumption. There might be other sources of farm household income as well, like pensions, social transfers or off-farm employment. In the case of big farms subsidies are still highly relevant income stream, however in this group farms are much stronger involved in utilisation of the available EU agricultural investment funds and generate their main revenues from the market. There are variations in between.

3.2.4 Lobbying

Publicly farmers express their worries that the amount of the transitional national aid is lower than it is allowed by the European Commission. This is perceived as putting at risk their competitiveness and regarded as incompatible with other national policy aims for agricultural development – notably increasing the area of cultivated agricultural land and production efficiency. Furthermore, it is common belief expressed both in interviews with milk farmers as well as in media articles illustrating the situation of agriculture in Latvia that for milk sector subsidies is the only reliable funding source that allows milk farmers to stay afloat. With the milk prices dropping the reliance on the subsidies has become only more pronounced. Because of this lobbying for higher direct payments and other means of financial assistance is seen as a central task for NGOs representing farmers and for national governance representatives in EU level discussions.

For farmers it is common to demand assistance. The media frequently illustrates conflicts where farmers claim that the state and the EU must help them get out of their predicament. Furthermore, farmers are prepared to protest actively, if help is not received. During these discussions feelings of humiliation may be expressed and dramatic images evoked ("*I work hard, but the state policy is bringing me to the edge of elimination. I have not given up hope for survival, yet. But for how long?*").

So far sums farmers receive in direct payments have been rising. However single area payments are still significantly lower than in most other EU member states. Both of these aspects have been at the centre on debate and lobbying claims. The main argument used by farmers is that that due to lower than EU average single area payments farmers cannot compete equally with much more subsidized farmers from the old member states.

Farmers' organisations play an important lobbying role: they ensure information exchange between agricultural stakeholders and policy makers, represent and protect the stakeholders' interests and position in the dialogue with the Ministry of Agriculture and the government, network nationally and internationally with other interest and lobby groups and organisations. For example Farmers Parliament (*Zemnieku saeima*) is an influential agricultural organisation and the central actor in negotiating governmental support for farmers. Organisations often employ metaphoric rhetoric devices to exacerbate the depth of difficulties advocate for additional help from the government, for example – "*farmers are in despair*", "*agriculturalists need urgent support*", "*dairy farmers are in a slow agony before death*". This discourse of despair has turned out to be a rather successful strategy for lobbying and attracting additional funds (some of the support has national origins while other funding is coming from EU).

Meanwhile, not all farmers share the gloomy vision – during interviews some farmers admitted that current difficulties in dairy sector might be the moment of change which will differentiate "clever farmers from lay farmers". These actors claim that pronounced additional subsidies and help seeking as well as public whining might disguise inadequate economic performance of the farmers who are not adapted or skilled or willing to search for more efficient ways to farm. There are also arguments that farmers who exist only thanks to subsidies should be pushed out from the sector.

Milk sector has been quite active in publicly communicating its problems and searching for public support. Meanwhile a more provocative view expressed during the interviews claims that it could be that the real beneficiaries of the sector's search for funds remain hidden. According to these statements subsidies cause a mess which is beneficial to some bigger secondary processors that due to the fragmentation of the sector manage to steer the development into the direction that favours their own goals.

Lobbying for the raise of subsidies and introduction of additional measures of support to milk farmers is on the agenda of agricultural organisations and so far the organizations have been comparatively successful in making themselves heard – on the one hand, these organizations have managed to convince mass media to publish stories concerning difficulties of milk farmer. On the other hand, organizations have managed to secure multiple regulations that grant additional support for milk farmers, additional support for search of new markets abroad, additional funding for breeding, etc. However, recently there have been voices raising to discuss the equity and social justice aspects of subsidy receiving – such as fairness of maximum threshold of subsidies per farms (currently it is 300 thousand euros), ratio between subsidies received and taxed paid and relationship between business model efficiency, losses and compensation claims.

3.2.5 Manure storage requirements

Recent environmental regulation that conditions dairy production in Latvia has to do with new requirements for manure management and storage on farms (Cabinet of Ministers 2014b). The new regulation prescribing special environmental requirements for the performance of polluting activities in animal housing have replaced the former one (No. 628) with the aim of ensuring better conformity with EU directives, which implies stricter demands for farmers.

Year 2014 was to mark the end of the 10 year transition period granted for Latvia for building manure storage facilities also by those farmers who produce litter manure (with herds above 10 animal units or above 5 in highly vulnerable areas). Inspection of farms, however, had revealed that over 1/3 of farms inspected by mid 2014 were not in line with these requirements with manure still being temporarily stored on open fields (Ministry of Agriculture 2014a). As stated by the annotation of the new regulation, Latvian farmers had faced difficulties in meeting the defined requirements for manure management and storage due to the economic crisis and drop in the price of agricultural produce, which implied lack of free capital for many dairy farmers or limited possibilities for obtaining credit in order to ensure proper storage of manure.

Meeting these requirements has been problematic for many farms and especially for the smaller ones since the latter are required to arrange a special site with a waterproof foundation for manure storage. Stricter requirements apply also to the manure storage capacity of facilities. While public support for building and reconstruction of these facilities has been provided by the Rural Support Service from the Rural Development Programme for all eligible farmers, the support intensity amounted to only 40-50 % thus covering only part of expenses ("*If we wanted to continue with our work we were forced to design and construct the storage facility. Unfortunately, the requirements are rather drastic ones and the total costs could be around 160 thousand euros, which is a dreadful figure for the scale of Latvia*" (cited in Ambote 2014)). Besides, quite a few agreements have been terminated due to insufficient finances for the implementation of the project, problems with meeting deadlines, non-compliance with conditions of the given activity, etc. (Ministry of Agriculture 2015). Banks, in turn, have been reserved with regard to giving credits for this purpose since manure per se does not generate any income and the low milk prices serve as yet another factor for the rejection of loans for dairy farmers (Ozola and Ambote 2014; Migla 2014). The area payments, which are among the lowest in the EU, also limit the investing capacity of Latvian farmers. Additional problems, aside from ensuring finances, have been related to the ability of attracting a competent designer, adhering to the norms of construction and receiving all the permissions from responsible authorities.

Following intensive negotiations between the Ministry of Agriculture and the European Commission, the new regulation presently provides for an extended transition period for implementing the new requirements until the end of 2016 and 2017, depending on the herd size. The Ministry had also managed to retain the possibility of allowing manure storage in a pile on an open field on certain occasions and for making exemptions for deep cattle-sheds and free-grazing herds. Nevertheless, non-compliance with the new regulation involves both direct sanctions (penalty payments), prohibition to increase their herd size and build new cattle-sheds, as well as ineligibility for any further EU investments (e.g. for the purchase or agricultural equipment). This accordingly strongly limits the possibilities of further development of farms and potentially serves as a factor contributing to the abandonment of dairy farming by some farmers. Some farmers have considered re-profiling themselves from dairy farming to beef-cattle farming in order to avoid these requirements. Some others, who have managed to build the necessary facilities but are facing difficulties in running their farm presently struggle to carry on with former agricultural activities at least for the next five years in order not to have to pay back the amount covered by public funding.

It has to be noted that there has also been a new regulation regarding protection of water and soil from pollution with nitrates caused by agricultural activity in force as of 1 August 2015 (Cabinet of Ministers 2014c), which int. al. stipulates new prohibition periods and stronger limitations for manure dispersion in highly vulnerable areas as well as maximum permissible norms of nitrogen for cultivated plants.

3.2.6 Organic farming

The organic sector in Latvia has developed rapidly over the last ten years (the definition of what is organic in Latvia is based on European Organic Regulations (EC) No 834/2007,

889/2008 and 1235/2008). The number of organic farms has reached 3340 in 2016 and the total area of agricultural land cultivated under organic schemes is more than 200 000 hectares which is 10,6% of agricultural land in Latvia. Latvia is among top five EU countries with the biggest share of agricultural land devoted to organic production (Tambovceva 2016). Organic sector continues to grow and in 2016 more than 500 new applications for certification have been submitted (Kupčs 2016).

Organic farms in Latvia are mostly multi-branch and the main products are vegetables, fruit, meat, milk, honey. The products are sold direct, in specialist shops and also in the conventional retail food trade (Latvia's organic sector… 2014). The total volume of the organic market currently amounts to approximately €10m (according to the market report produced by *Ekoconnect*).

The rapid growth of organic farming has been made possible due to farmers interest and learning but also thanks to continuous public support policies. Several strategic documents have been adopted by the Ministry of Agriculture and the Association of Biological Agriculture organisations and used for guiding the sectors development since early 2000s, like the "Programme for the development of organic agriculture 2003-2006" and the "Strategy for the development of organic agriculture 2012-2014" (Latvia's Organic Agriculture Association (LBLA) 2011). Since 2014 the guiding policy document in the area of organic agriculture is Latvia Rural Development Programme 2014-2020 (Ministry of Agriculture 2013).

The Latvian government introduced organic guidelines and a certification regime in 2007. Currently certification is provided by two certification institutions (*Sertifikācijas un testēšanas centrs* and *Vides kvalitāte*). Support to organic farms is dependent on acquisition of a certificate. Certified organic producers can apply for one of the existing two support schemes – BL1 (for starting organic farmers) and BL2 (for operational organic farms). The programmes are managed by the Rural Support Service and the financial support is provided in a form of premium single area payments for grassland areas. In addition organic farmers may apply for periodically opened various other targeted support programmes and measures like: support to cooperation in organic sector, support to market promotion activities in organic agriculture, special funding for investment projects of producers groups, assistance for conversion to organic production.

Dairy sector is benefiting from political support to organic agriculture. The total volume of produced milk in 2014 was 52 000 tons according to Central Statistical Bureau, however there is no exact data available about the volumes of produced organic milk. 80% of organic milk is being processed and sold in conventional system and only 20% is processed and marketed as certified organic milk. There are three dairies in Latvia offering separate processing and branding – *Tukuma Piens*, *Talsu Piens,* and *Lazdonas Piens* (Norkārklis 2015). Farmers receive approximately 30 % price premium for organic milk if to compare with conventional milk (ca 30 and 20 eurocents accordingly in 2016).

3.2.7 Promotion of milk consumption

As has been stated by one of the interviewed milk farmers – development of milk sector is cyclical; every decade or so the sector goes through crisis that forces sector and farmers to

change. Each of these cycles is followed by new instruments meant to (1) widen the spectre of possibilities for milk farmers, to (2) introduce new ways how farmers can access costumers and to (3) market the consumption of local products. Broadly speaking these are three ways how national governance have tried to support milk sector. Each of these directions should be inspected little closer.

First, national level government is usually looking (or is pushed by milk farmer lobby to look) for new means to financially support milk farmers. For example, after the trade embargo with Russia was introduced many claimed that the most severe consequences of this decision will be felt by milk sector. This sudden loss of an important market left producers with high share of unsold products and forced them to look for new markets. This process influenced milk prices and Ministry of Agriculture announced that in 2014 milk farmers would need approximately €13.9m to overcome their losses. National government at that point decided that it could allocate €6m for the needs of the milk farmers (though we have to admit that national government have been quite generous and uncritical in supporting enterprises facing financial difficulties over the last years). Another example can be found in recent EC decision to introduce voluntary supply reduction scheme. This scheme is trying to solve the problems of milk sector by supporting reduction of production scale.

Second, the crises (in this case both Russia trade embargo as well as Latvia's economic crisis) were forcing governing actors to look for ways to create new channels for producers to reach consumers. In many cases this also meant that state was looking for a way to introduce new food chain arrangements (by introducing possibilities for farmers and consumers to involve in transactions without the support of retailers or processors). This illustrates that there is at least partial support to the idea that some of the sectors problems might be emerging from the unbalanced power relations among different actors involved in the sector. For example, retailers and biggest processors is more centralized and in some cases much better prepared for the future challenges than farmers and predominantly weak farmers' cooperatives.

One of the examples of this is the School milk programme which has been implemented since 2004 and is funded by the European Commission and co-funded from the state budget. The primary goal of the programme is to promote milk consumption among school-children. Important requirements for the milk sold through the programme include being produced in accordance with the requirements of biological agriculture scheme or those of national food quality schemes. Besides, transporting distance from the production site cannot exceed 250 km (Cabinet of Ministers 2011) which basically excludes foreign suppliers. According to the Ministry of Agriculture the milk volumes and the number of schools and pupils taking part in the programme are constantly increasing (Ministry of Agriculture 2015). In 2013, the milk distributed via this programme made up around 3-4 % from the total milk sold in Latvia (Krieviņa 2014).

Another example how new outlet channels are created is the discussions initiated during the economic crisis claiming that some farmers could sell small amounts of raw milk (if it is properly packaged and labelled) directly to consumers. Some milk farmers have been using this opportunity and are selling a small amount of their product on their own. However, this solution remains a part of niche markets and has never become a common market practice.

There are pros and cons to this practice which at least partly will be discussed in sub-chapter 3.5.

These activities are oriented to ensure that farmers receive higher price for each litre of milk and were design as an emergency response to conditions dairy farmers were facing. In many cases during the interviews farmers were not particularly eager to sell their product on their own. Some of them were selling a part of their produce directly to consumers, however, as they claimed – the share of income generated by these activities were relatively small if compared to overall scale of activities. Because of this farmers were proposing that sector's regulations should be steered in a different direction – instead of allowing farmers to access their customers directly governance should regulate the price processors pay to farmers (the idea was popular among farmers, however, other groups felt less enthusiastic or even openly hostile towards this solution). According to farmers the outcome would be the same – farmers would receive fair price for their milk. Farmers were speculating that currently fair price is an exception. This would not be so if the prices were fixed (regulated).

Finally, various "*non-governmental*" (in many cases behind the non-governmental front there are very clear businesses funding these campaigns) actors are once every while lunching campaigns promoting consumption of local products. Most visible of these actors is the Latvian Federation of Food Companies – the NGO managing national food quality scheme Green Spoon. However, there are also other examples – as campaign "Don't buy foreign" which claimed that global trade is similar to modern occupation; campaign "Stop playing food circus" which among other claims stated that local products should be the logical choice for consumers. Milk consumption has also been promoted by means of the Programme for the marketing communication of cheese and other dairy products (2009-2012), which was funded by 10 cheese processing companies, the Ministry of Agriculture and the EU. The project has contributed to an increased consumption of dairy products, especially among young people, as well as more diverse sorts of cheese (Siera klubs un…). Positive impact was also observed during the "Month of milk" organised in November 2014 by the Latvian chamber of commerce and industry in the framework of the campaign "The Latvian good". Another initiative was planned to be implemented in 2015, yet the application on the Public information and market promotion campaign on milk and dairy products elaborated by the Central Union of Latvian milk manufacturers was rejected by the EU (Focus.lv 2015).

3.2.8 Quality standards

Milk quality is a rather fundamental issue in the dairy sector and has been an important topic also with regard to regulatory conditions in Latvia. According to some estimations, in the light of the stricter requirements set by the EU for monitoring milk quality as of 1 July 2013, around 10 % of dairy farms (mostly small ones) in Latvia in 2013 faced problems with ensuring adequate quality milk (measured by the levels of bacteria and somatic cells) (Farming.lv 2013). Also in 2016 it has been acknowledged that part of small milk producers are still facing problems in this respect, while milk processing companies are demanding increasingly stable and defined milk quality, which might force those dairy farmers unable to meet the requirements to shift to own consumption or to terminate their business (BNS 2016). One informant was claiming - "*Everybody working in dairy industry knows about the quality*

problems. However, nobody wants to talk about it and some of the people involved are actively hiding the quality issues milk delivered to processors have… Revealing the real situation might be damaging to farmers and to processors."

Experts have noted that improved milk quality can be achieved by means of increasing the number of cattle in the herds; modernisation of farms by improving space for cows and equipment for milk storage; improving knowledge on milk quality and preparing specimens for laboratory; improving credibility of the milk laboratories' data; promoting the use of the single data base of milk quality (Ugare 2012). As for the latter, in 2007 "Programme to improve milk quality" was elaborated and the decision was made to establish a single electronic data base of milk quality. The data base is operating since 2012, and it improves the monitoring of milk quality, as well as reduces disputes on the milk quality between producers and buyers. Primary milk producers are bound to follow the quality of the raw milk they supply via the database and to cooperate with milk buyers in improving milk quality, if needed (Ministry of Agriculture 2014b).

In March 2014, amendments to the regulation governing the veterinary, hygiene and safety requirements for raw milk elaborated by the Ministry of Agriculture were approved (Cabinet of Ministers 2010). These amendments pertaining to the sphere of pubic standards were made in order to reduce the administrative burden for buyers of raw milk and to ensure automatic calculation of the quality indices (requirements have not been changed) of raw milk with the help of the data base (Ministry of Agriculture 2014b). The data base shall also ensure information on the producers that have received a warning regarding lack of conformity with the quality requirements or have been prohibited to sell raw milk. This regulation will be in force until 1 March 2017, afterwards to be replaced by a new one. The major changes are expected to affect the provision of raw milk samples, its frequency and defrayment of expenses.

Dairy products have also been part of the different national food quality schemes (NFQSs) – e.g., National food quality scheme "Zaļā karotīte" (indication mark for products meeting heightened quality, produced in Latvia and using 75 % of domestic raw materials; introduced in 2004) and "Bordo karotīte" (indication mark for products meeting heightened quality requirements and with the whole production cycle carried out in Latvia; introduced in 2014), which have been developed with the major goal to promote production, processing and consumption of local quality food in the local market. These can partly be considered as private standards since these are optional for producers who voluntarily decide to comply with those in order to have access to additional marketing channels. In 2014, 10 922 t of milk and milk products have been sold within NFQSs. State support is provided to the participants of the scheme (Ministry of Agriculture 2015). The regulation on public procurement states that preference has to be given to food products of NFQSs, as well as to organic products. In July 2016 amendments to the regulation governing requirements of NFQSs (Cabinet of Ministers 2014d) were passed, yet these did not cover any notable issues pertaining specifically to dairy products.

Certain public quality standards apply also to dairy cows. As of 2016 new regulation governing control of dairy cows (and goats) has come into force (Cabinet of Ministers 2016b). This

regulation stipulates the procedure for gathering data on milk productivity and exterior to be registered in the data base of breeding and monitoring information related to targeted animal breeding and improvement of their genetic and economically valuable characteristics (incl. proper accounting, selection, pair selection, feeding, keeping and rearing). The Law on breeding and animal production (Saeima 2011, amended in 2015), which underlies this regulation, threats the development of breeding and animal production as essential for promoting sustainable development of the livestock sector and rearing of herds of good quality and economic production of animal produce as well as retaining and improving the productivity and competitiveness of farm animals, promoting creation of highly productive herds, and retaining and protecting the diversity of genetic resources as national value.

In order to mitigate the impact of the Russian trade ban, in 2015 state support (€7.6m) to primary milk producers was provided covering up to 70 % of costs related to carrying out tests for the assessment of productivity data of breed dairy cows (Cabinet of Ministers 2014a). It should be noted that differentiated support was envisaged with larger sum applied for cows with higher productivity levels.

3.3 Market conditions

The following analysis of market conditions (in the form of product markets) reviews the present scope and nature of the respective conditions (recent, most important changes thereof) in the dairy sector in Latvia as well as reflects the perceptions and experiences of Latvian dairy farmers working in the given framework. It should be noted that several issues related to policy and regulatory conditions reviewed above (e.g. milk quota, Russian embargo) have direct implications for or interrelations with market conditions. This section on market conditions in the dairy sector focuses on the main market trends and access to markets, commodity prices (price volatility, etc.) and the role and impact of financialisation (e.g. hedging) in relation to dairy products. Access to finance/credit and methods to generate capital investment and working capital is another issue (e.g. bank loans).

The main market conditions regarding the dairy sector in Latvia addressed below cover the following:

1. Price and income volatility;
2. Access to internal market;
3. Access to external market;
4. Land market;
5. Producers' cooperation;
6. Knowledge and advice;
7. Human resources;
8. Hidden economy;
9. Access to finance.

3.3.1 Price and income volatility

Price volatility in milk sector is more expressed than in other sectors (Strautiņš 2014). The instability in the world markets, overproduction, and especially the Russian embargo to EU

products set in August 2014, all have led to a severe drop of milk price. In July 2015, the raw milk price in Latvia has decreased to €21.16 per 100 kg, which was the second lowest rate in the EU and was among the three sharpest price drops (by 28 %) in one year period (EC 2015). In June 2016, the raw milk price has decreased further till €18.2 per 100 kg (Milk Market Observatory 2016). The prices that local processors pay to farmers vary between 14 and 33 euro cents, which often do not cover production costs (estimated around 24 to 30 euro cents), even if complemented by subsidies. This poses considerable financial and operational difficulties to farmers: with such a small income, or even loses, they have difficulties to reimburse credits (many have credits invested to prepare for the abolishment of milk quotas or to comply with regulations), pay taxes and do other payments; as well as farmers reduce feed amount to cows, fire employees and look for other ways to reduce costs.

The price of the milk has been widely discussed in national media. Although there is a demand for the milk and processors are still operating and are able push their product in the market, the general claim is that the price offered is too low for farmers to be profitable. Furthermore, there are no substantiated estimations when prices could get higher. In popular media this question is dramatized and frequently presented as the end of both Latvia's diary industry and at least in one case – as the end of the nation (dairy industry by many is perceived as a symbol of nation – an interpretation related to historically dominating agrarian activities). Meanwhile, not everybody shares this grim sentiment. Some farmers continue working and claim that despite the low prices they manage to be profitable. During the interviews these farmers claimed that the crisis milk sector faces will separate successful farmers from those who are in the sector by accident. It has not done so yet and seemingly most of the farmers are still hoping that they will manage to overcome the crisis. However, some of the farmers are trapped in the sector by the conditions set by previous public financial support they have received. The strategies these farmers use to overcome their financial struggles differ – some might decide to diversify their activities (pursuing strategies "Diversification and territorial integration" and "Multifunctionality"), some others cut their spending and try to come up with clever solutions that allow them-selves supplying the needed products (pursuing strategies "Downsizing/ survival" and "Insourcing"), etc.

Finally, there are price differences between organic and non-organic milk. In general, the non-organic farmers have been hit by the price drops more severe than the organic farmers. The price of organic milk is significantly higher than the one paid for non-organic milk. However, none of the interviewed milk farmers where considering to switch to organic farming and all claimed that they have some limitations why they would not be able to change the way they are farming.

3.3.2 Access to internal markets

Inner structure of milk sector has been criticized by many involved actors. The main critique states that the sector is fragmented (small farms are dominating in the sector, having little individual market power, higher costs for transport and logistics). Fragmentation according to some experts is one of the key factors of the low efficacy of the Latvian dairy sector (Miglavs 2015). The low market power of dairy farms is also responsible for the low milk prices (lowest in the EU). Furthermore the processing industry is characterized as uncompetitive in the EU

single market as mass products with low added value dominate in the milk export structure. This also limits farm income and development possibilities for primary producers (Miglavs 2015).

Similarly, respondents claim, that local dairy farmers and processors currently are being outcompeted by foreign competitors. According to respondents, dairy farmers lack strategic vision – they are much more likely to try to get a small increase in milk price today rather than look for an opportunity to regain control over the market tomorrow (however, respondents also suggest that the price farmers receive differs from farmer to farmer and some bigger farmers manage to negotiate much higher prices for their milk than the smaller neighbours).

Miglavs characterizes processing industry as uncompetitive in the EU single market as mass products with low added value dominate in the milk export structure. This limits also the income and development possibilities for primary producers (Miglavs 2015). However, those that are strong are enjoying their market dominance and in multiple interviews respondents have been claiming that these actors have been using this power to influence prices. Meanwhile the few note-worthy farmers' cooperatives that dairy sector has are small and are mainly occupying niches and thus has limits in the markets they have access to. Furthermore, with some exceptions, cooperatives are not fully trusted by their members. The few loud scandals related to cooperatives in recent years have made everybody hesitant when it comes to cooperation in milk sector. The weakness of cooperatives is also used by retail chains, which, because of milk farmers' lack of mutual trust, manage to raise their bargaining power. Thus, dairy farmers have the means to access local conventional markets; however, the conditions under which they accomplish this are unfavourable to them.

There have been some discussions concerning the possibility to advertise milk consumption and thus grow the domestic market and hopefully, by doing that increase the prices. However, farmers do not have instruments to ensure that the increased consumption of dairy products would end in higher milk prices. This is because average dairy farm is still small, farmers' cooperatives are weak and farmers are uninvolved. Thus, this suggestion most likely would not ensure higher income for farmers. However, niches could be a totally different story – there are small farmers' cooperatives dominating in particular market segments. However, the opportunities raised by these segments are limited.

The described situation explains why many farmers are happy with a possibility to sell their milk to foreign processors. This solution offering short time security has proven to be popular. Meanwhile, milk processing enterprises from the neighbouring countries are happy to pay more and by doing so have just deepened the problems local dairy sector is facing. Same processors are then importing milk to Latvia and are quite successful in competing with the produce of local processors. Foreign actors become ever more important in local dairy sector.

Meanwhile, niche markets widely remain in the hands of local farmers. Policy sources see niche product development as a way to boost competitiveness of small farmers, closely linked to innovation. Farmers may similarly see developing new kinds of activities as a way out of prior difficulties ("*on-farm food production turned out to be our lifesaver, allowing not only surviving but living reasonably well*"), or as a new interesting challenge to be taken after assessing the market trends ("*I felt we were in a sort of a rut, and when there appeared an*

opportunity to buy a nearly building, we decided to establish a beer brewery, people are interested in craft beers right now"). Milk farmers have been quite successful in operating in school meal programme, in supplying box schemes all around the country, in producing local artisan cheeses. However, all of these markets remain marginal.

An exception is market of organic milk. The interviewed farmers are rather sceptical about the possibility to produce organic milk. And that is even despite the higher price paid for organic milk. Currently, other experts are hesitant when assessing the possibilities of organic milk market as well. The hesitation of experts is explained by small pool of customers willing to pay more for organic milk. Meanwhile, according to some this could be an opportunity for the sector.

3.3.3 Access to external markets

As Latvia is producing more milk than consuming, exporting is a necessity. Closeness to large external markets and good transport connections are beneficial (Strautiņš 2014). Untill 2014 the volume of exported milk has steadily increased thanks to increasing demand in the world market. However, since then, Russian embargo and the decrease of the demand in China have provoked a considerable decline in the external trade (Ministry of Agriculture 2015). In particular the Russian embargo. Russia being one of major export country for Latvian producers, has largely influenced the price decrease and altogether it has badly influenced the Latvian milk sector. Since the embargo milk processors have diversified their export markets as well as they are looking to develop innovative products to keep their market positions and competitiveness. However, due to the saturation in the world milk market and administrative and logistic burdens to enter new markets, these do not bring immediate results. The fact that most of exported milk (65 %) is raw, unprocessed does not help to compete (Miglavs 2015).

In 2015 dairy products worth €155.9m has been exported. The value of exported dairy products has dropped by 28 % and in fact – this is the lowest level of export in last five years. Historically among the biggest importers of Latvia's dairy products has been Lithuania. In 2015 Lithuania imported dairy products worth almost €60m. Amount of dairy products (most of which is raw milk) exported to Lithuania has witnessed significant drop (in 2014 Lithuania imported €99.9m worth dairy products). Historically another significant importer has been Russia. However, the trade embargo has closed this market which is often mentioned as one of the reasons why Latvia's milk farmers are currently going through difficult times. The situation in milk sector is usually presented as grim. However, due to the sanctions and trade bans between the EU and Russia the situation has been even more aggravated. The Russian embargo was the major international, extra-EU condition discussed in media. It has severe negative consequences on producers' strategies and performances. The embargo, together with other unfavourable conditions in the market, has hit particularly hard the milk (and also meat) sector, where several farms and processing companies have bankrupted.

However, Latvian milk producers have received €7.7m from the EU to partly compensate for the Russian embargo; there has been also national support of €6m delivered to help producers to overcome the crisis, there are launched new negotiations about additional support from

the EU. This challenge points to the intervention of global forces and the role of public support in critical moments.

Meanwhile amount of imported dairy products has been dropping as well. In 2015 Latvia has imported dairy products worth €101.3m (comparing to 2014 it is 17 % drop). The biggest importers of dairy products are Lithuania (importing €30.5m worth dairy products), Estonia (responsible €26.5m worth import) and Poland (importing dairy products worth €23.4m).

Under the conditions of free economy farmers are expected to be competitive in the global market. The domestic market are open to foreign enterprises yet local farmers are encouraged to become global and start the fight for markets located abroad (media discusses farmers' possibilities to penetrate with its products other EU states, Russia, Asia, etc.). However, the media articles and policy documents often conclude that farmers are losing in this open competition for the consumer. They are either forced out of the market completely or are forced into producing ingredients with lower added value. Example of this is well documented competition between Lithuanian and Latvian dairy enterprises. Due to the fragmented dairy sector many of local cooperatives struggle to remain competitive. For these small processors practically everything poses a challenge – they are operating on a small scale, in relatively small farms with low productivity cattle. This makes it difficult to compete for Latvia's price sensitive consumer. In order to remain competitive they are forced to cut down the share of expenditure paid for ingredients. In this situation farmers in the search for higher price for their product turn to the foreign processors. However, during the interviews respondents raise other interpretation of the process as well. Some of them have been critical when discussing the price paid for milk stating that the real problem is fragmentation of sector in all levels which leads to lack of power which in its turn allows some actors benefiting by pushing down the prices.

A little bit different example how competition can suddenly restructure market can be found in grain case. This case illustrates that competition might come from unexpected directions as well. For example, modern technologies have introduced some new players in global grain market that are willing to compete for global demand that are now putting pressure on the historically recognized markets.

Switching to niches is one of the common strategies how farmers are solving demand issues. However, there are articles claiming that niche markets are still unrecognized and weak. For example, in some sectors there is lack of recognition among producers of possibilities of organic produce or other high quality products. Furthermore, there is no infrastructure that would allow producing organic products (as it has been already discussed in this report). Finally, often consumers are not ready to pay more for products of higher quality – they are just looking for mainstream product. Niches in many cases are insufficiently developed.

Finally, we have to stress here expectations market and governance actors are associating with Asia. After the trade ban with Russia market experts identified that Asia could be one of the potential markets where milk sector could look for its customers. The expected growth in milk demand in China was seen as a fruitful soil where Latvia's dairy producers could reach their potential. During the last years these suggestions have become more pronounced and recently some of the dairy processors have managed to penetrate the market. Most notable

case is that of Food Union – one of the biggest food producers in the country. The enterprise had already established its exporting markets in several states both across European Union and Commonwealth of Independent States. It could be that this newly established market is not as easily accessible to everybody and that only some of the biggest food producers of Latvia can benefit from the economic ties country has created.

3.3.4 Land market regulation

Land market regulation: Regarding the national level policy and regulations, various land issues are being widely discussed not only in the dairy sector but in agriculture more generally. The issues of land are understandably a primary concern to farmers, especially in the somewhat complex situation with land ownership in Latvia, where the share of foreign ownership is considerable, and the re-structuring of land ownership (inherited land, privatisation of collective farms) happened more than 20 years ago, leaving current farmers with somewhat limited options.

The present land market regulation, particularly liberalisation or opening the land market to foreigners demanded by the EU, is not well supported by Latvian people. For some local farmers this means more difficulties to get additional land, for those willing to sell land – a chance to receive a better price. The availability of land is often closely related to opportunities to extend existing activities, or diversify. For instance, the recommended policy strategy to expand the average scale of herds can only be implemented if there is suitable land available. Therefore there is considerable competition for land (about 30 % is rented) for various kinds of agricultural activities, and between local and foreign owners.

State land crediting programme has been opened in 2015 to help local farmers, in particular small and medium ones, to buy land. This goes in line with the national policy goal and farming community's concern to increase the utilisation of agricultural land (the proportion of unutilised land is quite high) and to improve production efficiency.

The land market situation in dairy sector is conditioned by the same structural and policy factors as in the grain sector: rising prices for agricultural land; lack of free lands in the regions with intensive agriculture; competition for land among agricultural sectors (dairy, meat, grain, biogas production), types of farms (medium and big family farms, agricultural share companies and investor farms), and national and foreign owners; farm concentration tendencies; government and bank intervention in land market. However, land availability in dairy sector is perceived as less critical issue comparing with the grain sector where claims to expand production are more expressed.

In a current setting of milk crisis many market conditions in dairy sector are considered as acting with negative valence towards farmers. According to the study of CERTUS Think Tank (Miglavs 2015) the most critical factors determining the depth of crisis are related to market imperfection (external price drop, limited domestic market), ineffective internal organisation of the dairy sector (absence of strong cooperatives, fragmented processing industry) and inadequate marketing strategy (insufficient innovation, slow development of new markets, poor communication with consumers). The study does not determine land availability as critical vulnerability driver in dairy sector.

Relationship with the land in dairy farms is attuned to historical and geographical traditions of agriculture and structural size of dairy farms which are predominantly small to medium size and pursue gradual growth pathways with no excessive demands for land expansion. The process of amalgamation of dairy farms in a medium size segment (50+ and 100+ cows) though is continuous and accelerating according to data of Latvia Rural Advisory and Training Centre. It has been only very recent trend to develop very big dairy farms with 500 to 2000 cows. Geographically dairy farms are distributed in the regions with less fertile and hillier landscapes (e.g. in Vidzeme and Latgale) where dairy farms coexist with other forms of diversified and multifunctional agriculture like organics, horticulture, sheep and goat farming, rural tourism, on-farm processing and other relative niche activities. These activities and productions do not necessarily compete for land among each other but can develop rather symbiotic land use patterns at wider territorial scale. In interviews we noticed reinforcing cooperation in land use and input provision between dairy farms and mixed branch multifunctional farms. Dairy farmers' cooperation in land use is even more successful than their cooperation in marketing: "*I have 104 hectares of land which is just enough for my 135 cows. I do not have any additional branches. Therefore I buy grain and some fodder from my neighbour, and he also comes time to time to help me out with spraying manure with his big machine*" [dairy farmer].

Statistically there are almost 20,000 small dairy farms with less than 10 cows; approximately 2,500 farms with a herd from 11 to 50 cows, and only few hundred of farms in the size categories 51-100 cows and 100+ cows respectively. Small and very small dairies tend to exit active agriculture for demographic ageing, economic inefficiency, and incompliance with sanitary requirements or other reasons. Their land is often taken forward by neighbouring medium-size farms that pursue enlargement strategy. The very big dairy farms (500+ cows; 1+ million euros investment) have been built in the last years with strong EU financial support in various places of Latvia but with a tendency to concentrate in the regions with intensive agriculture where many of them are developed by big grain or biogas producers as complementary branch business of scale.

In our case study region a typical professional, competitive and future oriented dairy farm would have 100 and more cows and would be a twin or triple branch business specialising also in grain and cattle production. Such a farm would typically own or lease several hundreds of hectares of land and would develop rather multifunctional land use practices with positive environmental effects (cultivating natural pastures, practicing open or partly open grazing, diversifying production, introducing new breeds and genetics together with preservation of native breeds). Such a farm would be engaged also in greening activities, use less intensive land cultivation methods and would produce a part of fodder itself.

Like the grain farmers, also dairy farmers are rather sceptical towards foreign land acquisition and expansion of investor farms: "*My neighbour is a big land owner. He is German and he owns 3000 hectares. He produces grain and is not thrift on chemicals; every square meter is sprayed up. The government should have put limits for foreigners to buy up land*" [dairy farmer].

3.3.5 Cooperation

Media articles as well as other sources analysed are keen to discuss aspects related to formal cooperation (showing significantly less interest in informal assistance farmers might be giving to each other). Cooperation (mainly represented through examples of cooperatives) is crucial in the portrayal of successful agriculture models – it is presented as a solution to almost all problems farms might have. However, success of cooperation differs among various sectors and in overall there are two very different examples that can be observed in Latvia. On the one hand, there is grain sector where some of the biggest and most successful cooperatives can be found. These cooperatives are often shown as examples of what can be achieved with cooperation. On the other hand, there is the dairy sector where attempts to cooperate have often resulted in poorly functioning social structures. The few loud cases when cooperatives have gone bankrupt as well as examples when cooperatives have not been facilitating farmers' empowerment and have not helped farmers to receive higher payments for supplied goods have reduced farmers trust in cooperation. Science articles have just enhanced the bad image of cooperation in milk sector with a statement that there is evidence suggesting that milk cooperatives are slower in attracting funding than private enterprises. However, despite this central idea – cooperation as the answer seems to be prevailing – there are 21 milk cooperatives operating in Latvia in 2015.

There are some cases when media articles talk about informal collaboration, however – these mainly are unstructured and short-term solutions without long-term benefits for actors involved.

Fragmentation is shown as central aspect hampering competitiveness of agriculture. Thus, in policy documents and in science articles cooperation is seen among the most credible solutions to problems farmers might face and thus country is expected to assist emergence of new cooperatives. Similar perspective regarding the milk sector is taken by most of the interviewed actors. In general actors claim that lack of strong farmers' cooperatives have created a power vacuum that has been successfully filled by processors and retail chains operating in the sector. Also, according to interviewed experts existing cooperatives are just too small to introduce a significant change in the sector.

These cooperatives are expected to grow and possibly – create common response to market problems. However, so far each of the small cooperatives has been operating on its own and has not been able to find a common ground for discussions. These difficulties to come up with common solutions could be at least partly explained with the fact that even farmers seem to be lacking willingness to trust in each other. Many of the cooperatives have gone a long way to destroy the mutual trust: there have been scandals revealing that some cooperatives have been significantly delaying payments, there have been cases when management of the cooperative is cheating with taxes and frankly – many of the cooperatives has proved to be quite short-lived. Thus it could be possible to suggest that in many cases cooperative is seen as a tool to survive rather that a tool to develop.

This lack of trust has also transformed in lack of long-term relations. Farmers tend to switch cooperatives and follow the best prices offered for the milk. This then leads to unpredictable product flow. And while cooperatives can blame farmers in their short-sightedness, the same reproach according to some could be associated with cooperatives. As claimed by some – in a

recent business deal when grain cooperative *Latraps* (commonly quoted good example) invested in dairy processing premises the cooperative was played by one of the dairy cooperatives. After *Latraps* invested in the upcoming project (a dairy processing factory) its partner from the dairy sector left the project taking with it farmers that could supply the factory with milk it would need to function.

3.3.6 Knowledge and advice

Knowledge and advice is one of the key discerning factors which make a difference in farmers' market performance. The issues of agricultural knowledge become apparent in in-depth interviews. A limited number of interviews conducted preclude us from generalisation however allows to hypothesise that there are four kinds of knowledge and skills relevant for a farmer to become 'a successful farmer': i) technical knowledge related to various technical aspects of production; ii) strategic thinking elated to key decisions about innovation and farm's long-term development; iii) financial management skills related to farmers' risk assessment, management of financial flows and short and long term crediting; and iv) general management skills (the latter includes also 'soft' personnel and relationship management skills. Some of this knowledge can be accessed through formal AKIS organisations like Latvia Rural Advisory and Training centre (LRATC) or other institutional sources (cooperatives, input industry companies), some other skills are learnt in practice, by doing or acquired from other farmers in informal communication.

Some of the interviewed and critically thinking farmers pointed to a still great deficiency of agricultural knowledge among the farming community, particularly on the issues of strategic decision-making, financial literacy and financial management. An interviewed farmer made an observation: "*There is still a lack of knowledge in agriculture. Strategic thinking does not characterise all farmers. Some seek opportunistic price advantages outside the cooperative.*" Financial planning and long term investment skills were also mentioned as a problem: "*The effect of misunderstanding or ignorance is also over-investment in farms and its long term feasibility*" [farmer]. Critical remarks about farmers' insufficient business skills and wisdom were shared also by a bank's manager: "*Perhaps, farmers have been too un-precarious and optimistic about their investment plans assuming heavy long term liabilities. Even we do not know the future of financing. Currently the EURIBOR is 0 % but what if money becomes expensive? The farmer who invests today should bear in mind an eventual rise of interest costs in the future*" [banker].

Latvia Rural Advisory and Training Centre (LRATC) is the leading farmer advisory organisation in Latvia with 26 regional branches, 1,500 permanent clients and 26,000 performed consultative actions a year. LRATC distinguishes itself from the commercial advice segment as more independent: "*Our main clients are strong family farms from all realms of agriculture*" [director of LRATC]. Consultations regarding subsidies, government support, taxes are provided also by state controlling and regulative institutions, like Rural Support Service and State Revenue Service. By large farmers are satisfied with these organisations and services they provide: "*The latest information about subsidies and support programmes is always made available online .Sometimes the officer of Rural Support Service calls me up and reminds about approaching deadlines*" [farmer]. The State Revenue service was prised for establishing

clear and transparent taxation procedures and introducing a reverse VAT payment procedure which helps to prevent from fraud and speculation. In both wheat and milk sectors farmers were somewhat complaining about difficulties and bureaucratic obstacles they have encountered in receiving construction permits.

In dairy sector the farmers' strategic thinking was more associated by our informants with farmers' awareness and capacity to establish efficient cooperation. Informal farmer peer-to-peer learning is taking place both in dairy and wheat sectors, however it has perhaps a greater value for dairy farmers who may suffer from the lack of professional expert advice from formal AKIS organisations (e.g. University of Agriculture, LRATC). In the dairy sector there are no strong cooperatives which could mediate such advice. To compensate the deficit of professional advice dairy farmers use to collaborate informally in learning, for example they organise (sometimes with the assistance of LRATC specialists) field visits to pioneering dairies and demonstration farms in other regions of the country. Study trips are organised also abroad. However, most of informal learning and knowledge sharing takes place in the farmer's vicinity, among neighbours, especially at times of crucial decisions: "*I visited and consulted my neighbour before I decision to by a milking robot*" [dairy farmer].

Farmers' advice connections with supply industry companies and their specialists might work well and be beneficial and may also lead to disputes and controversies. Media reports cases and law suits related to damages and losses caused by inappropriate advice or poor quality service received from the input companies.

3.3.7 Human resources

There is a generational shift in agriculture and a recognition that new entrants (both demographically and professional even from outside agricultural sectors and backgrounds) are needed to vitalise the agriculture. With ageing of farming population and gradual but consistent exit of small-holders from productive agriculture the issues of new entrants of various categories (young farmers, start-up farmers, farm managers, and specialists) become increasingly acute.

The recently introduced support scheme for young farmers – once a life-time grant of €40,000 has been positively received by the farming community albeit also criticized for its implementation as farms are being artificially divided among family members to receive such grant.

The Land Foundation has been appreciated as another appropriate instrument to support new entrants in agriculture and improve access to land for starting and young farmers.

Although ageing along with overwhelming share of small scale and subsistence farms are pictured as gloom diagnosis of Latvian agriculture by 'pessimistic discourse' leaders, some younger farmers and managers of agricultural organisations admitted in interviews that there is another side of the coin – the reviving interest of young people in agricultural occupations: "*Young people start to value agriculture as a good professional choice with good employment prospects and salaries*" [cooperative manager]. The dramatic drop in student numbers at

agricultural colleges and the University of Agriculture seen few years ago has subsided and enrolment rates tend to stabilise.

New entrants and younger generation employees come with higher level expectations and demands regarding working conditions, salaries and prospects for professional growth. Whereas in wheat sector professional farms are quite strongly reliant on hired labour, in comparatively less intensive and more family farm oriented dairy sector most of the farm work is done by farmers and their family members themselves. Dairy farms though might employ also permanent and seasonal workers.

The working conditions, wage levels, working environment, attitudes towards workers, paying social security taxes in dairy farms have been discussed tacitly and rather reluctantly among agricultural organisations as difficult and rather hidden issues. The workers well-being, improvement of employment conditions so far have often been subjugated to other more important perceived priorities of farm development, like improving the quality of fodder, introducing new breeds for higher yields, making investments in productive capacities. There is an implicit modernisation set-back to presume technology in the first place, and working people in the second. It is also a common opinion among agriculturalists that dairy sector is not as 'white' (meaning paying taxes) as the grain sector. Currently in dairy sector modernisation, smart farming with knowledge and wisdom is valued higher than socially responsible farming, which are not supposed to be opposites. This attitude cuts back some bigger dairy farms as high turnover of workforce.

Some dairy farmers complain about unavailability of skilled and reliable workers or refer to bad experiences with employees: "*Salary levels do not influence quality of labour. When we did hire workers in 2008 cows started to get ill. Workers should not ask for high salaries if they have no qualifications. Dairy farm workers rotate all over Latvia, they change jobs*" [medium-size dairy farmer]. Farmers with less stiff attitude towards workers try to build long term labour relations with their employees, hire known persons from the community, pay social taxes, although in current times of crisis many dairy farmers have reduced workers' salaries to the minimum wage.

3.3.8 Hidden economy

In general, farmers obey and follow regulations for farming. This obeying-the-law approach, related to subsidy seeking strategy, happens through such actions as informing oneself on policy updates, understanding and fulfilling requirements through respective adjustments on farms.

There are just a few cases when corruption has been clearly indicated as possible explanation of certain practices within certain agriculture sectors. Most clear case where it is done is the article concerning states response to African swine fever. It is supposed that response to the disease has been unstructured due to specific business interests associated with the sector. Problems with transparency and presence of practices incompatible with market economy has been observed in milk sector as well.

During the media analysis we found articles suggesting that certain situations have been influenced by value systems incompatible with open and equal market opportunities. For example, it is claimed that some farmers never got paid for their produce because the processors were not willing to use more strict approach when they had to collect debts from their long-term collaborators. This final statement can have reversed effect as well – when farmers are willing to aid their long-term partners even when they are going through short term difficulties. Some of these problems have been raised during the interviews as well.

3.3.9 Access to finances

Farmers' access to finance in dairy sector is more difficult than in the wheat sector because of structural differences in industry and food chain organisation and also due to the current crisis which makes financial institutions extremely reluctant to credit dairy farms. Like in the wheat sector also in dairy the main channels of farm financing are: 1) EU Agricultural and Rural Development funds; 2) credits of commercial banks; and 3) financing from the governmental agricultural development agency ALTUM. The major difference, however, in milk sector is the absence of cooperative financing segment which is determined by the fact that there are no strong dairy farmers' cooperatives. This narrows financial options for dairy farmers and increases their dependency on favourable evaluation of investment projects if a farm proposes one to access EU money, the bank crediting conditions (which are stricter for dairy farmers comparing to wheat farmers) and the favour of processing industry (which is in position to dictate milk prices and may also delay with payments).

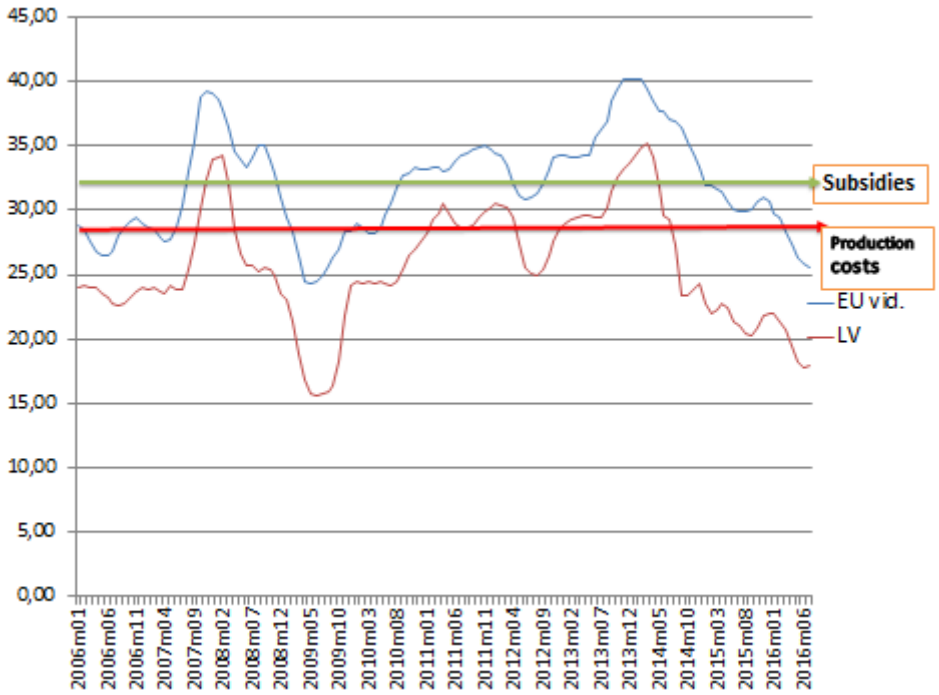
In the last decade after joining EU the Rural Support Service has cofounded many farm development projects in dairy sector following technological modernisation and intensification paradigm. Investments needed to build a technologically up-to-date dairy farm with huge capacity cattle-shed, manure storage, milking robots or carrousel, etc. are estimated even higher than investments required for comparable modernisation of a grain farm.

Milk prices in Latvia follow the EU trends with the highest peak in 2008 (when farmers received up to 37 cents per litre) and the deepest fall in 2009 (see Figure 7). Prices hardly cover production costs, especially in 2014-2016, and dairy farms are largely dependent on subsidies from various programmes, including compensation measures introduced in the fall of 2016. Subsidies triumph the income generated from milk sales and public support is extremely important stream of income in all kinds of dairy farms (small, medium, big). Public support allows farmers to break even.

However, generous EU modernisation money coupled with bank credits were predominantly used by bigger dairies; some of them currently are technically insolvent (debts surpass the farm value). On the other hand, very few modernised dairies actually go bankrupt, and in most cases financial difficulties are somehow negotiated with banks and arrangements made. Farmers also seek every possibility to reduce costs (cost saving is a salient strategy among milk farmers), or they cross-subsidise losses from milk production from the income generated in grain production.

Small and medium dairies are less exposed to bank credits. In these groups of farms we observed barter and corporate borrowing as kinds of access to finances. In one case a farmer was pre-financed by a construction company which built manure storage; in another case a farmer exchanged surplus hay with neighbouring cattle farmer for the assistance with machinery. Smaller dairy farmers are very smart on inventing new ways to reduce costs which often is related to learning new skills, for example, an interviewed farm lady learned to do artificial insemination to save costs of veterinarian services.

Figure 7. Milk prices in the EU and Latvia (2006-2016).



Source: LVAE/CERTUS 2016

3.4 Key issues identified in the literature, media and interviews

The analysis of the regulatory and market conditions through literature review, media analysis and stakeholders interviews for the case study on dairy in Latvia provided a list of key issues that are discussed in this section. The key issues are summarized through a SWOT analysis (see Table 5), which permits to identify positive or negative effects that the different issues can have on the dairy sector.

The dairy sector in Latvia is a historically significant one with strong cultural roots. Even now it is one of the main agricultural sectors in the country. Its development route and faced difficulties during last two decades have posed a lot of questions and have initiated long discussions on possible ways to improve sector's competitiveness. It has also attracted significant interest from researchers. However, so far none of this has helped to overcome the problems the sector is facing.

Despite the problems the dairy sector is facing, it also has several noteworthy **strengths**. The sector is historically deeply rooted in rural economy and is seen as a major farming system. Due to this historical significance farmers are willing to operate in the sector even under high stress conditions and thus we could say that cultural significance has raised sector's resilience. Even despite multiple shocks during the last decade sector has managed to survive and even modernise. After joining the EU many dairy farms underwent technological modernisation, improved quality and volume of production. The changes happened also in processing sector with improvement of quality standards and recently concentration of dairy companies. There is a big segment of relatively small dairy farms and some 500 medium to big size dairies in the country and about 30 processing companies. It would not be precise to claim that the dairy sector has been left alone in its struggles. On the contrary – several actors can be identified that have provided support to the sector: national level governance is looking for ways to support dairy processors for entering new markets; sector is represented by lobby groups that have been successful in negotiating support for milk farmers; finally, general public is keen to reflect about the processes in the dairy sector. Clearly, sectors' importance is recognised on many levels by many stakeholders – after all, it is among the biggest and most important agricultural sectors in Latvia. Currently there is a wide diversity within the sector and good examples can be found almost for every type of business model farmers take up – there are small and diversified farms selling their products locally and developing new artisan products. Meanwhile, there are also efficient, highly modernised farms with market strategies allowing penetrating global markets. From this diversity many locally known brands of dairy products recognised by customers in domestic markets have emerged.

Table 5. SWOT analysis of the dairy sector in Latvia.

Strengths	**Weaknesses**
- Historically significant sector - One of the main agricultural sectors - Development of many locally known brands of dairy products recognised by customers in domestic markets - State support for entering new markets (financing explorative studies, marketing activities, fairs, collaboration agreements) - Presence of good examples of efficient, highly modernised dairy farms with promising specialisation and market strategies - Presence of good examples of small and diversified farms with high capacity to develop new artisan products - Relatively high systemic resilience despite economic shocks (such as trade embargo with Russia, etc.) - Strong lobby, explicit protest and demand discourse often resulting in additional support measures	- Poor farmers' cooperation - Foreign takeover of dairies - Abolition of production quotas - Falling prices - Recent investments in dairy farms and difficulties to repay credits - Low labour productivity - Domination of few processing companies which orient themselves towards export of raw milk or industrial produce - Unequal productivity of dairy farms - Strong reliance on state subsidies - Overproduction of milk - High share of small farms - Russian trade embargo - Structural disparities between farmers, their productive capacities, leading to fragmentation and concentration - Lack of transparency
Opportunities	**Threats**

- High share of small farms - Development of short supply chains (direct sales, widely applied school milk programme) - Possibilities to develop strong farmers' cooperative with professional management - Cooperation with grain sector to strengthen cooperative capacity and financing of cooperative processing enterprise - Maintenance of small and medium size dairy farms as a part of multifunctional agricultural systems - Development of strategy of growth for small farms - The need to recognise and to appreciate specific strategies for the development of bigger and smaller dairy farms - Crisis serving as a stimulus for farmers learning, innovation, cost reduction activities, mutual knowledge exchange and other dynamic processes - Intensive discussions how to improve sector's competitiveness - High public interest - Search for new markets - Growth of organic dairy production and market	- More efficient and competitive dairy sector in neighbouring countries (LT, PL) - One-dimensional interpretation of the dairy sector presupposing only one development model - Structural boundaries limiting access to advice, finances, input markets and sales channels resulting in farmers' lock-ins - Strength of some lobbying actors representing biggest processors

Meanwhile, as it has been indicated by the SWOT, there is also a range of **weaknesses** sector is suffering from. What has often been raised as a key weakness of the dairy sector is a high share of small farms. It is claimed that these small farms have low labour productivity and low production efficiency and few channels for accessing the market. For many analysts cooperation is the key to success in the sector (that could also help to overcome sector's fragmentation). However, there is certain distrust in this solution among the farmers. Partly this is due to historical experience with cooperation. Yet there are also more recent cases when cooperatives have been caught in participating in unfair practices. This has reduced farmers' trust in cooperation even further. The fragmentation of the sector has allowed few big processors to emerge. These big processors hold unequal market power and can impose disadvantageous conditions on farmers. Yet even among these big processors only few have shown that they are globally competitive.

The problems the dairy sector is facing have been known for a long time. However, all of those have become more apparent during the last years mainly due to multiple shocks the sector has faced. First, the sector was hit by the Russian trade embargo. This was followed by the abolition of production quotas and a continuous fall in prices, which has led to situation where for many farmers their survival depends solely on public subsidies. However, subsidies are not a solution to those who have tried to modernise their farms and now have difficulties to repay

credits. These farms become an easy target for wealthier local or foreign investors who can use the situation to push out local farmers.

High public interest in the dairy sector ensures that there is constant debate on how to improve it. The debate and the interest are the resources sector's actors can tap into. However, these are not the only **opportunities** sector has. To start with, what is considered as a central problem of the sector – high share of small farms, could also be seen as an opportunity. Recognition and appreciation that both big and small farms can strengthen the sector could be a fruitful soil to create a mix of strategies farms could pursue. These farms could look for greater diversity of artisan products and re-orient their activities towards local customers. This would require strengthening short supply chains. Clearly this is not an option for all small and medium farms. For the remaining farmers development of strong farmers' cooperative with professional management could be an option. Also – new cooperation models and partners could be a possible opportunity. Recently created partnership between grain sector's biggest cooperative and milk sector's cooperative is one of the examples how this could work. Small and medium size dairy farms could also benefit from being a part of multifunctional agricultural systems. There are also unused opportunities related to upscaling. First of all, it could be helpful if there were clear strategies offering pathways that small farms could use to grow and to improve their competitiveness. Apart from the mentioned, there are overarching opportunities that could be an opportunity to all dairy farmers. For example, all farmers could benefit from discovery of new markets (one example might include being more active in organic market). Also recent shocks have shown the importance of learning, innovation, cost reduction activities, mutual knowledge exchange, and other dynamic processes. These could be facilitated more actively in the future.

Finally, some words should be said about the **threats** or risks sector faces. First of all, these are more efficient farmers and processors located in neighbour markets (such as Lithuania or Poland). These actors are looking for a way to expand their activities and Latvia is among their natural expansion areas. Although this is a threat, this is not the only one. However, governing actors and strongest representatives of the sector have been so overwhelmed by this that they risk losing all the other possible opportunities the sector could use. So we can suggest that such a one-dimensional interpretation of the dairy sector is one of the key threats. This one-dimensionality party emerges from the strength of the few big actors who can allocate significant share of their resources for lobbying. This rise of influence of few actors could be interpreted as a threat as well. Finally, what we call "farmers' lock-ins" should be considered as a possible threat. This means that certain market structures and farmer's historical decisions can impose significant limitations on their future decisions. In some cases this means that farmers do not have any workable options to change the situation – they are locked-in hostages who can only carry on with what they have been doing.

If we move to more general conclusions the research suggests that in terms of the dairy sector's general **performance**, it currently it experiences a minimal growth, even stagnation, and many farmers are worried and uncertain about their future. The coinciding abolishment of EU milk quotas and introduction of the Russian trade embargo on food products have caused huge financial stress for dairy farmers (falling milk prices, difficulties to pay back credits, difficulties to obtain new loans, problems with attainment of project indicators

necessary to receive full EU investment funding and avoid penalties). Many dairy farms suffer losses or are insolvent.

At farm level, the adaptation **strategies** and related actions and attitudes in face of the crisis and farming decline in the dairy sector has involved, for instance, shifting branches, reviewing and optimising existing practices, diversification, adopting a wait-and-see policy, future-oriented planning in case of positive developments, abandonment or farm business, as well as political protesting. One can observe also continuous search for new export markets of dairy products – an activity mainly undertaken by food companies and assisted by the government. There is also a quiet shift from milk production to beef production increasingly taking place in Latvia. Contradicting to pessimistic forecasts some dairy farmers continue investing in new dairy premises, milking robots and productive breeds looking for quality production and niche markets worldwide. More recently (autumn 2016) many dairy farmers have applied for the EU funded government compensation programme to reduce milk production. However the effects of this programme still have to been seen. Media texts and interviews signal that professionally managed and market oriented dairy farms rather look forward to preserve their production capacity during the crisis and look forward to further modernisation and growth..

The revised documents report various regulations and formal requirements that farmers have to respect in order to qualify for public support, to develop new on-farm activities (like, on-farm selling) or just to operate a farm. For example, organic certificate, certificates of the State Plant Protection Service, requirements of the Food and Veterinary service, hygiene rules, standards of animal welfare, environmental requirements in milk cattle breeding. In general, farmers obey and follow these requirements. This obeying-the-law approach, related to subsidy seeking strategy, happens through such actions as informing oneself on policy updates, understanding and fulfilling requirements through respective adjustments on farms. Regulations clearly make farmers choose certain farm development strategies over other, sometimes even despite their limiting effects on farms' strategies and performances. However, there are also failures and disobediences. Sometimes these result from a mixture of unfavourable conditions that limit farmer's action.

3.5 Dairy sector in Latvia – focus groups and workshop

This section of the report is based on two focus group discussions with dairy farmers and one workshop the stakeholders representing the dairy sector. The section discusses structural characteristics of the dairy sector.

The 1st focus group with Latvian dairy farmers took place on 1 December 2016 in a cultural house 'Loja' in Sējas pagasts, Murjāņu novads (a small town located in Vidzeme region, 40km from Riga). The focus group was part of a wider gathering of dairy farmers from all over Latvia who came to a seminar "Current situation and future perspectives in dairy farming" organised by *Zemnieku Saeima* (Farmers' Parliament, a leading farmers' organisation in Latvia). The second focus group were held on 21st of February in Tukums (a city located in Pieriga region, 70 km from Riga) and was organised in collaboration with Latvian Rural Advisory and Training Centre. 13 people were participating in this discussion – seven farmers, three consultants and

three researchers. The third discussion – stakeholder workshop was held on 21st of April in Riga. 24 people participated in this discussion representing various groups of stakeholders. List of stakeholders participating in these discussions is presented in the attachment of this report. The sector has gone through number of changes during the last few years. Because of this – there might be some contradictions in the chapters based on in-depth interviews (which were conducted earlier) and the chapters based on discussions.

This part of the report is structured in six sub-sections. It starts by discussing what does it means to be a dairy farmer in Latvia. It continues by discussing policy issues participants raised during the discussions mainly looking into the processes related to subsidies and sectoral liberalisation. Next sub-section is used to discuss characteristics of the dairy supply chain in Latvia. This part mainly looks at roles cooperatives and processors have in terms of shaping the supply chain. This is followed by a sub-section looking at the outlet markets and directions of development farmers and workshop participants identified during the discussion. Finally, the remaining two chapters are discussing resilience of the sector and institutional arrangements dominating in the sector.

3.5.1 Dairy farming

The discussions with farmers and stakeholders reveal that the opportunities available to various groups of farmers differ. There is what could be described as two tracks of opportunities. Bigger farmers seem to be much better off than smaller farmers. These farmers have closer relations to processors and they have more resources to allocate to facilitate development. These farmers also frequently operate in other agricultural sectors as well thus diversifying their income. Meanwhile, most of the farms remain small and have only limited opportunities in Latvia. Being less structured than for example grain sector, dairy sector on its own poses more challenges to farmers. However, representing small or medium sized farm can be the reason farmers are forced to deal with an additional list of problems. As for example, respondents report, that smaller farmers might have less opportunities to get a loan, might face more problems if they were to decide acquire additional agricultural land, might have less opportunities to discuss their role in the supply chain.

3.5.2 Policy and management

The two focus groups and the workshop illustrated that farmers were keen to discuss political arrangements shaping the sector. Still, the spectre of themes farmers and participants have been willing to discuss has been rather limited. The themes that have been raised are – support farmers receive, protectionism farmers expect from national government, support to various development projects, etc. These are the same themes that were identified as important in previous stages of the report. Yet at this stage of the study some of the themes that were indicated as important in the previous research phases were not discussed at all. For example, participants were showing only limited interest in the role of EU and how it has shaped the sector (some farmers were claiming that EU is mainly lobbying interests of the biggest member states, however, there were limited interest in EU level regulations), farmers were not discussing the role quotas have had on the sector, farmers were not discussing issues related to milk quality (which, as interviews with other experts has shown, can be a controversial issue) and farmers spent little time to discuss the trade ban with Russia. We

could conclude that at this stage farmers had less interest in structural characteristics of the sector and were paying even more attention to the individual wellbeing. Probably this is also related to the profile of farmers participating in these discussions.

3.5.2.1 Subsidies

Last few years have been particularly harsh on Latvia's dairy farmers. Similarly as elsewhere in Europe milk prices were low and farmers were forced to sell their product for a price that was well below costs of production. As one of the farmers stressed during the focus group – this milk price crisis was not the first one farmers operating in the sector have witnessed. However, it most definitely has been the longest and possibly – the deepest. In many cases development plans farmers had for their farm had to be halted. Furthermore, farmers were forced to make painful decisions about the future of their farm which resulted in that many of them slowly retired from the sector and farming in general. The discussions illustrated that farmers had diverse views on what actually caused the crisis. However, in the two focus groups farmers reached an agreement that processors have to take at least partial responsibility for the crisis. Farmers also stressed that actors overseeing the supply chain (such as farmers' and governing organisations) have to take their share of responsibility for the crisis as well – they had been watching the desolation this crisis were causing without actually stepping in to regulate the relations between actors buying and actors producing milk.

Still, despite this, in both focus group discussions farmers stressed that the support instruments was what saved those farmers who decided to continue to farm. Participants portrayed **intervention** as an important way the government could hold the prices of milk high (by creating artificial demand with milk powder reserves). Now, when the crisis has passed farmers were stressing the importance the intervention had and feared the moment when the stored milk powder will reach the market. Farmers also discussed the need to look for new arguments that could be communicated to public authorities. Current model of argumentation is adapted to evaluate the efficiency of farming. Most of the official data is collected holding this principle in mind. Some participants claimed that there is a need for **independent information sources** with regard to the provision of statistical and stock exchange data used for various calculations and support instruments.

However, subsidies were a more persistent rescue rick than intervention. Farmers were suggesting **subsidies seeking** to be as a viable strategy, emphasising not only the monetary but also the moral support embodied by state subsidies. Participants stressed the importance of single area payments and other schemes the European Union and the national government have used or introduced in 2015-2016 to support dairy farmers, like market intervention (e. g. buying milk powder to stabilise prices), market promotion (e. g. assigning 1.5 m EUR for exploring new markets), and market stabilisation (e. g. compensation subsidies for farmers to reduce milk production).

The general belief was that during the recent price drop, milk price went well beyond the level covering the farming expenses. Direct payments in this situation were one of the few income sources farmers had left. Yet even these in many cases were not enough to cover all the needs farmers had. Consequently farmers additionally looked for ways to save and to identify new

short term income sources. Still, none of this would have been viable if they did not have access to official support mechanisms.

However, there were also those with a more sceptical interpretation of the role direct payments had. Some farmers argued that subsidies only create an illusion, distort market, and restrict implementation of proactive strategies. Bigger farmers and experts from workshop claimed that subsidies only encourage small farmers who would otherwise leave the market. Subsidies in this perspective just distort the market slowing down the development and more efficient farming. Also, subsidies create unfair conditions for farmers originating from different EU countries - direct payments in Latvia remains significantly lower than in the "old" member states. Thus, abolishing direct payments, according to this group of experts, would be beneficial to everybody.

3.5.2.2 Trade liberalisation

As many other sectors in Latvia, the dairy sector as well have witnessed a push towards ever more liberal trade relations during the last few decades. There is a stark contrast in how various stakeholders were interpreting this process. Many of the workshop participants (such as groups of scientists, processors, representatives of Ministry of Agriculture and others), as well as the biggest farmers, in overall were supportive of this change. For them open, non-regulated competition is the quickest route towards a more efficient agriculture. Efficiency has often been named as central aspect farmers should try improve in order to ensure better income from farming. Still, it is also worth noting that mostly stakeholders lobbying for deregulation were much more to gain from liberalisation than those feeling critical about such possibility. The group supporting deregulation has been successful with lobbying their interests and thus so far the sectoral development has been going into direction this group has been pulling it. However, in some cases the hard stance these stakeholders took to support trade liberalisation were somewhat hypocritical – many of these actors seemed to be more lenient to bend their views on trade support when it came to the biggest enterprises in the sector.

Meanwhile, on the other hand there are both farmers and number of other stakeholders demanding from government much more regulated market that would acknowledge that the scale and efficiency is not the only relevant criteria to assess the need for an enterprise. Although some of the propositions this group has been suggesting during the discussions cannot be achieved, others beg to question why they have not been resolved already. One of the most provocative ideas some farmers were pitching during the focus group discussions is to tie the price paid to the farmers to the milk prices consumers pay in shops. Farmers suggest that this would ensure that when it comes to next crisis - all stakeholders are in the same boat and everybody carries at least some load of losses.

Meanwhile, there were also other means proposed for national government to be used to help farmers to ensure higher income from farming. First, participants suggested that there is a need for some sort of agricultural land protectionism. Dairy farmers who typically are less successful than grain farmers claimed that they cannot compete with the price paid by the more successful counterparts or by the foreign investors. According to farmers, national government should look for a way limit the access of foreign investment funds to the land

deals. So far national government has been slow with following these suggestions and only under a heavy pressure of farmers' organisations found a way to ensure farmers' have advantages in accessing agricultural land. However, most likely this has not been done to support the needs of the dairy sector (and it is also an open question whether dairy farmers actually feel land access difficulties). Yet the irony of this clash between farmers and foreign investors is that the farmers who serve as a poster-face (small rural family farms) of why it is needed to ensure that farmers have access to land, most likely will not be able to pay the price and thus the biggest farmers are the only winners in this situation.

As an interesting side note it is worth mentioning the initial response governing bodies offered to the problem. An agency was established to invest in agricultural land and to rent it to farmers who cannot currently afford the land yet who are willing to buy it later, when their financial situation will be better. However, there have been discussions, that this well intended initiative is not serving its original purpose. Instead it has become an additional player in the land market thus being among the actors who are causing the heating of land market.

Finally, some of the better informed farmers were also suggesting that there are problems in how contracts are regulated in Latvia. As one of the farmer claimed – EU offers a possibility to member states to either make contracts mandatory or voluntary. Latvia has not made the contracts mandatory and this has been strengthening processors positions in the supply chain. The current legislative framework for contracts does not have a demand to ensure that the relations between processors and farmers are of a decent length that would allow farmers to plan their income better (and on their own farmers does not have the strength to impose on processors long-term contracts). Because of this farmers lose any opportunity to predict prices they will be paid for the milk they deliver – the processor can always just switch the farmer he is buying milk from.

Finally, these problems have been mainly named by medium and small farmers. However, on multiple occasions it was mentioned that it is possible that very big farmers do not face the same problems and they could be working with long-term contracts.

3.5.3 Dairy supply chain

The dairy supply chain consists of line of different stakeholders. However, the discussions about the dairy supply chain tend to focus on just two of them. On the one hand, these discussions speculate about the possibilities of cooperation. On the other hand, actors tend to discuss the role processors have in the chain. This just shows the limited circle of issues stakeholders representing the sector are addressing.

3.5.3.1 Cooperation

On the whole, the low milk prices that were just recently part of farmers daily reality was characterised by focus groups' participants in an expressive and emotional manner. Farmers opinions were incorporated reflections on constant struggle farmers are forced to live with, feelings of anxiety, fear, exhaustion, and bitterness. This experience low milk prices initiated – loss of the savings farmers had, often need to sacrifice parts of family farm and sometimes

– loss of the health (many farmers were using insourcing as a strategy to overcome crisis which mean that ever more tasks were carried out by farmer him/herself) has made the sector vulnerable and weak. The recent situation in the sector was characterised as a "*crisis*" and even "*two years of hell*" with sharply decreased prices and closure of the Russian market as an effect of the abolishment of milk quotas and the Russian trade embargo. On the other hand, since summer of 2016, the milk prices have gone up again – from 20 eurocents to 30-32 eurocents per litre. This price upsurge was characterised by some participants as a "*new price bubble"* and explained by the intervention of foreign raw milk (Polish, Lithuanian) buyers.

A significant share of the debates during focus-groups and workshop were dedicated to discussing the problems dairy farmers were facing due to the **fragmented structure of the sector**, e. g. – there are 18,000 dairy farms in Latvia; 7,000 of them sell milk on the market; 1,000 of them sell through cooperatives; there were 64 organised milk purchasers and 30 processors in 2015; and there are two main retailers in Latvia who increasingly introduce their own brands for dairy products. This fragmentation is a result of distrust farmers have in group activities. On numerous occasions during the focus-groups farmers claimed that cooperatives are not working to protect farmers' interests. Instead cooperatives are fighting to raise income for small group of managers who are exploiting farmers work to boost their own profits. Cooperation is mainly about trust and shared responsibility. Yet from the discussions held it seemed that farmers had neither of the feelings. This distrust and predominance of small farmers have led to emergence of number of small cooperatives serving just as a middle man among farmers and processors. These cooperatives are helping farmers to sell their milk for a better price, yet does not require from farmers permanent and deep engagement. Meanwhile, among the experts, cooperation is seen as the only real solution considered when it comes to discussing sector's future.

The pressure farmers felt during the period of low prices was pushing some farmers to **leave the sector**, some others were **diversifying their activities** in order to make both ends meet, while even others were internalising the costs. Few choose to invest during the crisis (a some were saying that the crisis forced them to put their projects on halt). Meanwhile, that was what the experts were proposing. The fragmentation has led to the concentration of power in the hands of biggest processors and retailers. **Centralisation** of the sector and **upscaling** of farming emerged as central strategies that could facilitate a shift in the distribution of market power. It was discussed that on an individual level farmers should become more efficient, modernise, and expand their farms. Meanwhile, on a group level farmers' cooperatives were urged to look for **horizontal and vertical integration**: cooperatives should be merged and should look for possibilities to establish their own processing factories and maybe even their own shops. Development of strategic partnerships was contrasted with the lone fighters, questioning the latter's capacity to individually cope with the given pressure exerted by the present market conditions. **Concentration and new cooperativism** were seen as ways for boosting the sector's capacity of steering and managing the situation under crisis conditions. On the other hand, the participants admitted that whereas farm concentration is happening almost inevitably, cooperation in dairy sector at large still remains a wishful option, with the farmers mostly opting for individualistic and opportunistic strategies following the higher price.

Some of the strategies were a reflection of the specific East European context. Participants argued that there are too many small cooperatives and processing companies in Latvia. Because of this there are too many **middlemen** taking their share of profit within the supply chain (implying that number of middlemen should be reduced). However, even more importantly, participants discussed that there is an unequal pricing for products originating from the Eastern Europe. In one of the focus group discussions experts claimed that export products from Latvia are sold for the price that is on average by 20% lower than that for similar products produced in the old EU member states. **Reducing** this **price gap** was seen as one of the major tasks to be accomplished in order to improve the situation of the dairy sector. At the same time the common East European context does not rule out internal regional complexities having to do with the role played and market rules (incl. price levels) set by the neighbouring Lithuanian and, more recently, Polish dairy companies in Latvia.

Despite these elaborate strategies illustrating structural problems faced by the dairy sector, participants indicated that in many cases the strategies farmers are using to solve their daily problems are in contrast/conflict with the strategies just mentioned. Most of the dairy farms are unprofitable, and many are close to bankruptcy. In this context farmers struggle with their day-to-day payments and are more interested in **instant individual survival strategies** rather than long-term plans concerning sectoral development. The future of dairy farmers was described as being at the crossroads with two key options highlighted: developing new cooperation to strengthen farmers' position, or adjusting to dependent milk producers' role in whichever chain organisation (national or international).

Meanwhile many farmers keep selling their milk to the highest bidder and therefore tend to **switch partners** often, provoking considerable discontent with peers among those in favour of collective action, loyalty, and solidarity. This is a short-term individual strategy that allows to earn more today but does not resolve problems in the long run. However, to understand the motivation of the farmers it should be placed in the context: due to the low prices many of them were facing bankruptcy which would mean losing family farm, house and land. Some farmers reported having left cooperatives, others – temporarily adapting a **wait-and-see** strategy prior to committing themselves to new collective arrangements.

Last, but no least, **mutual learning,** use of extension services (e. g., expert advice, network of demonstration farms) and actual application of science-based knowledge on land management, fodder composition and dosage, choice of breeding stock, their keeping conditions, etc. in advancing and implementing solutions for boosting productivity and ensuring cost-effectiveness is another strategy that still has quite some untapped potential.

3.5.3.2 Processors

Closer cooperation among dairy farmers is proposed as the best future scenario. Meanwhile, the current situation has allowed processors to grow and to gain ever more strength in the supply chain. Dairy market is dominated by few big processors that are tightly connected (three of the five biggest processing factories have same owners). Farmers are speculating that processors are using their dominance to ensure impose rules on them however, they do not have any practical evidence that would prove it. Yet according to farmers – processors dominance is one of the reasons why prices were remaining low. Processors were well aware

that farmers will not have other channels to sell their product and thus jointly kept the prices low. Processors' dominance is also the reason why processors can impose contracts on farmers that are clearly contradicting farmers' interests. This line of logic also suggests that it was foreign processors who managed to keep the local processors in check – their willingness to purchase the milk from Latvia forced local processors to raise the prices.

However, while farmers are critical towards processors, national government has somewhat different opinion about this group of actors. Government has been desperately looking for competitive products to export and strong dairy processors could come up with such products. Thus, investing into processing is seen as a promising way to sustain dairy sector and to raise its global competitiveness. Although government has supported cooperatively owned processors as well, only privately owned processors have managed to succeed in establishing stable foreign demand. Meanwhile, the biggest cooperative project government used to support once more illustrated that stakeholders operating in dairy sector distrusts cooperation – the project dismantled.

Still, despite this there are some smaller cooperatively owned niche processors that have successfully occupied niches in local market and recently there is one growing cooperative that has found an outlet market abroad as well. Still, despite these attempts privately owned processors remain to be most promising actors if global competitiveness is considered. This has convinced national policy makers to support the processors.

3.5.4 Markets and development

Overall, it was suggested by the participants of the discussions that the problems and solutions faced by dairy farmers should be approached on a sectoral level, thus giving preference to **collective strategies** (this claim was contrasting the somewhat limited scope of political interventions farmers were willing to discuss). Many of the adaptation strategies to policy and regulatory conditions were associated with **product and organisational innovations**. For example, participants were discussing in detail the possibilities and limitations dairy products would have in **foreign markets** (with particular interest in demand of dairy products created by China). Participants were discussing possibilities to create **new partnerships** (merging farmers' cooperatives, creating second level cooperatives), to **reinterpret markets** (it was argued that some of the problems are caused by the obsolete belief that cooperation should remain within the borders of one country; mentioned examples illustrate that farmers can successfully operate in cooperatives of neighbouring countries), and to **diversify** (to introduce supplementary activities ensuring regular income). However, there were also suggestions that farmers on their own could look for new opportunities. Some of these suggestions initiated extensive debates on the nature of the dairy market.

3.5.4.1 Niche markets

In the second focus group farmers were particularly keen to discuss possible alternatives/ niches dairy farmers have. Two main options farmers identified as solutions were either to start to sell milk directly to the customers or to switch to organic agriculture. However, both strategies were also heavily criticised.

When discussing pros and cons of organic farming, farmers in general agreed that farmers who have certified as organic were better off during the recent price crisis. While most farmers were struggling to raise sufficient income, organic farmers received around 10 cents more for litre of milk. Furthermore, organic farmers receive higher subsidies which also served as a foothold in difficult economic situation. Many of the farmers participating in the focus group who were discussing these issues were comparatively small (less than 100 cows) and still had to decide how to develop their farm (or whether to develop at all). For them – organic farming was still an option. However, they were scared from official transition period farmers willing to switch to organic farming had to go through (when they will have to follow the practices common to organic farming yet were paid as if they were conventional farmers). The common claim was that would be unable to carry this out (mainly, because they did not had any savings and already were cutting down all possible farm expenses).

However, an additional problem was the general sceptical perception of organic farming among farmers. Claims like – "*I am doing everything organically, I just don't want to pay to prove it.*", or "*We are consuming in the family the milk we produce… it's good… we don't feed our cows coal*", or "*Organic farmers use the same chemicals we do – they just do it at night-time*" illustrate the general scepticism and disbelief in organic farming. Strangely enough – choosing the route of organic farming could have helped many of these farmers. However, this disbelief was used as an argument why farmers do not have to change. Thus – from the focus group discussions it seem that farmers are very passive when it comes to the question what is that they could do in order to improve their situation. The same passivity was observed when possibility of direct sells was discussed. It almost seems that significant share of farmers expect that somebody else will solve their problems.

Another way to raise farmers' profits was looking for a way to operate in short food supply chains. And again – since most farmers participating in the focus group were comparatively small, this strategy could have been viable to them. However, again, as in the case of organic farming, general attitude towards this possibility was sceptical. The assessment offered by farmers who have been selling milk directly to consumers was that by selling directly one could sell a litre of milk for a price five times as high as processor would pay. Yet farmers also stressed the expenses associated with direct selling – going to the city, looking for customers, packing the milk. As one of the farmers suggested – it actually becomes a viable strategy if you manage to find a rather large circle of customer in the city. Otherwise, it is not worth the investment. Furthermore, farmers stated that they do not have the time to go away from farm just to sell their milk.

Despite this critique there were farmers who had tried to sell their milk directly. Surprisingly, these were not the smallest, neither the least developed farmers. These were representatives of mid-sized family farms. Also it is worth noting that two of the farmers who had their experience in direct selling also were operating both in dairy and in grain sector. Thus, we could suggest that they were diversifying their income and looking for new opportunities. For them, this was one more opportunity to ensure that there is a steady flow of cash that in many cases remained undocumented (unseen by governing actors). However, even they claimed that this is not easy – direct selling requires dedication and understanding of the market.

3.5.4.2 Access to finances

Any kind of development requires investments. However, not all farmers were sure that banks would be ready to lend them. Clearly, in terms of how farmers felt regarding their possibility to get money there were differences between bigger and already modernised farmers, and those, who were still thinking to develop their farms. From the discussions taking place during focus groups it could also be concluded that there are differences in how the two groups perceive possibility to take loan and to guarantee the loan with some of their property. For smaller farmers it seems that there are certain taboos of what should and should not be done, namely – their family farm is contemporary activity, yet the land is their connection to their ancestors. As a proposal for future discussions, we can propose an interpretation, that risk of losing the land was perceived as more severe than the risk of losing farm.

Farmers suggested that recent years have brought all their development projects to a halt. They would not be able to pay the loans with the milk prices that were paid and thus they were not looking for loans. Meanwhile, they were struggling to repay the loans they had taken before the price drop. Thus, currently it was a fight for existence rather than a fight for better life. Meanwhile, more successful farmers who were continuing using loans to develop were claiming that there is a natural five year circle – where you take a loan, pay at least part of it back and then get a possibility to take a new loan. Once the milk prices were rising again – these farmers were just continuing with the same circle.

The perception of who should be given loans once again was closely tied to the perception experts had in how the farming structure should look like in Latvia. Loan availability question was also discussed in the context of rural problems agriculture could solve. While not addressed in great detail, the social function of farms in rural areas was also reflected upon by the participants. It was argued that alongside the production function dairy farms (both large and family farms) provide **employment** in the region. In particular, medium size family farms emphasised their contribution to rural employment, treating expert recommendations to reduce labour-intensive on-farm activities as inhuman with respect to employees. While an opinion was voiced that small stagnating farms should exit the market in order to allow larger players to flourish, counter arguments pointed to the resulting pressure placed on social budget by those quitting their former trade.

3.5.5 Resilience

As an input for discussion and based on their profound knowledge of reality in one of discussions the *Farmers' Parliament* proposed three strategies farmers use to solve challenges posed by low milk prices: 'enhanced cooperation', 'lone ranger', and 'contractualisation / price setting'. These strategies are oriented towards improving the strength of farmers and were mainly looking at the possible relations between farmers and processors. These strategies reflect upon a wider debate on how to overcome problems dairy farmers are facing and how to maintain the possibilities for national dairy industry to develop and grow in an ever more globalised market. Seminar participants were invited to vote for their preferred strategies that could serve as a basis for sectoral development in the future.

The most preferred strategy was **enhanced cooperation**. The strategy suggests that in a near future neither farmers nor processors will be able to survive on their own. There are several strong pressures that national dairy sector is facing: (1) open markets allow more efficient Lithuanian and Polish processors to set the rules for the market; (2) the fragmented structure of the dairy sector in Latvia conditions that a notable share of profit is scattered among small, weak, or disinterested actors; (3) sectors' inner struggle reduces its strength in negotiating with retail chains. As long as the actors representing the local dairy sector do not mobilise to oppose these pressures, the major events defining the characteristics of the sector will be set by someone else. Thus the sector should reconsider the prevailing scepticism towards the forms of cooperation – farmers should come and act together, they should look for ways to cooperate or fund processing, and they could look for their own retail channels.

Price setting / contractualisation is a strategy that is oriented towards predictability. This strategy is suggesting that there should be long-term contracts between farmers and milk processors that should incorporate fixed prices. There are several possible interpretations of how this could be done: prices could be fixed without the possibility to change them, or – prices could be renegotiated after a certain period and could have a predefined fluctuation corridor. Prices could be guaranteed by farmers themselves who then at the end of each period would receive or would pay the difference between the market and the set prices. Prices could be also assured by producers who would then bear the main risks posed by the market. Finally, the government could promise interventions in case milk prices suddenly drop and by doing so ensure a certain price range for raw milk. In the core of this strategy is income stability for farmers.

Lone ranger was a strategy which did not get any vote for preferred future, but which was admitted to be predominant in the actual behaviour of farmers. It suggests that for farmers having experienced shocks and crisis it is justified to look for their own short-term benefits when selling milk. The core idea of the strategy is based on the current situation observed in Latvia – farmers are breaching their contracts with cooperatives or processors and are selling their milk to buyers ready to pay more. The strategy claims that this is a viable approach how farmer can get the best out of the dairy market. Currently this means that a share of milk is sold to Lithuania and Poland. Yet it is expected that at the end the market processes will adjust the prices paid by local processors which will allow local processors to convince local farmers to cooperate. However, even if the strategy forces processors out of business – from the perspective of this strategy it will mean that these processors were not efficient.

All three strategies identified by farmers can overlap and coexist – they are not mutually exclusive. However, they have a different perspective on **who should be responsible for the farmers' well-being**. In enhanced cooperation strategy a farmer is seen as responsible for the sector and willing to shape it. Cooperation strategy represents a far-reaching vision of the future where farmers are shaping their own future possibilities. Hypothetically, participants recognised this strategy as the most promising one. However, in practice two other strategies seemed to hold strong grounds as well. In the price-setting strategy a farmer acts for him/herself and the broader sectoral development is not of much concern. This strategy takes account of a wider time frame acknowledging that there will be changes but hoping that farmers will be able to negotiate their position even under the new circumstances. In the lone

ranger strategy the responsibility is shifted to somebody distant – a farmer is just a passive market actor. This strategy reflects upon what is here and now and is not making strategic assumptions about the future.

Support to these different strategies and time frames can be explained by something one of the farmers said: "*When you are in the crisis and under huge financial pressures there is a change in how you interpret what it means to be sustainable… if you are able to pay all your bills that you have for today and manage to survive until the evening – then you are sustainable*."

3.5.5.1 Farm succession

Farm succession was not an issue that was discussed in detail – yet it emerged again and again as a viable factor explaining how farmers were their strategy to overcome the challenges market was posing. In the dairy sector family farms dominate and for family farm a successor is one of the motivations to develop the farm. Thus, if there is not a clear successor, owners at some point just stop to look for ways to improve their farms. With farming community getting older and many of farmers lacking successors, many of the farms are just waiting for the moment when farmer will decide to leave the trade.

3.5.6 Table 6. Understanding dairy farmers institutional arrangements

Guiding question		
1. Can you please explain where and how (channels) you commercialize your products?	Most of the milk produced is sold to few big processors located in Latvia. Some of it also goes to Lithuania, Estonia and even Poland. Although most of the milk is sold directly to processors, some of the product is also sold through small cooperatives that are helping small and very small farmers to keep higher prices. Meanwhile, some farmers have been searching for other ways to sell their milk. This has led to emergence of direct links to consumers, farmers' participation in school milk program as well as has facilitated collaborations with small food businesses.	Markets and marketing
2. What are the main challenges you have with your customers and the demand for your commodities?	Biggest outlet market for milk has been through processors. However, processors have been growing and currently market is dominated by few processing factories owned by the same owner. Thus, farmers are losing their possibilities to choose whom they want to sell their milk to. Meanwhile, other channels (such as the cooperatives processing milk or small food businesses processing milk) are underdeveloped and cannot process the amount of milk farmers would want to sell.	
3. What marketing strategies do you have in order to secure better deals?	The short answer could be – none. Some of the farmers have expanded significantly and that has given them more strength in the communication with processors. However, this is insignificant share of the total number of dairy farmers in Latvia (and even in number of cows – this is still an insignificant share). There have been attempts to create cooperative processing factories. However, this attempt was not orchestrated by farmers but rather by actors supporting the dairy sector.	
4. Is certification part of your strategy?	Yes. Some farmers choose to certify their farms as organic. This route has proven to be a viable way how to improve farmers' position in the market. However, most dairy farmers remain skeptical about this route – farmers are critical regarding the transition period certification implies.	
5. Has there been any recent contextual change that has influenced your current business model?	Low milk prices have significantly influenced how farmers operate. Many of them have internalized their costs and have cut down on their activities. Meanwhile, others have diversified their income sources or introduced new outlet channels. Farmers were not discussing the issues related to abolishment of milk quotas.	

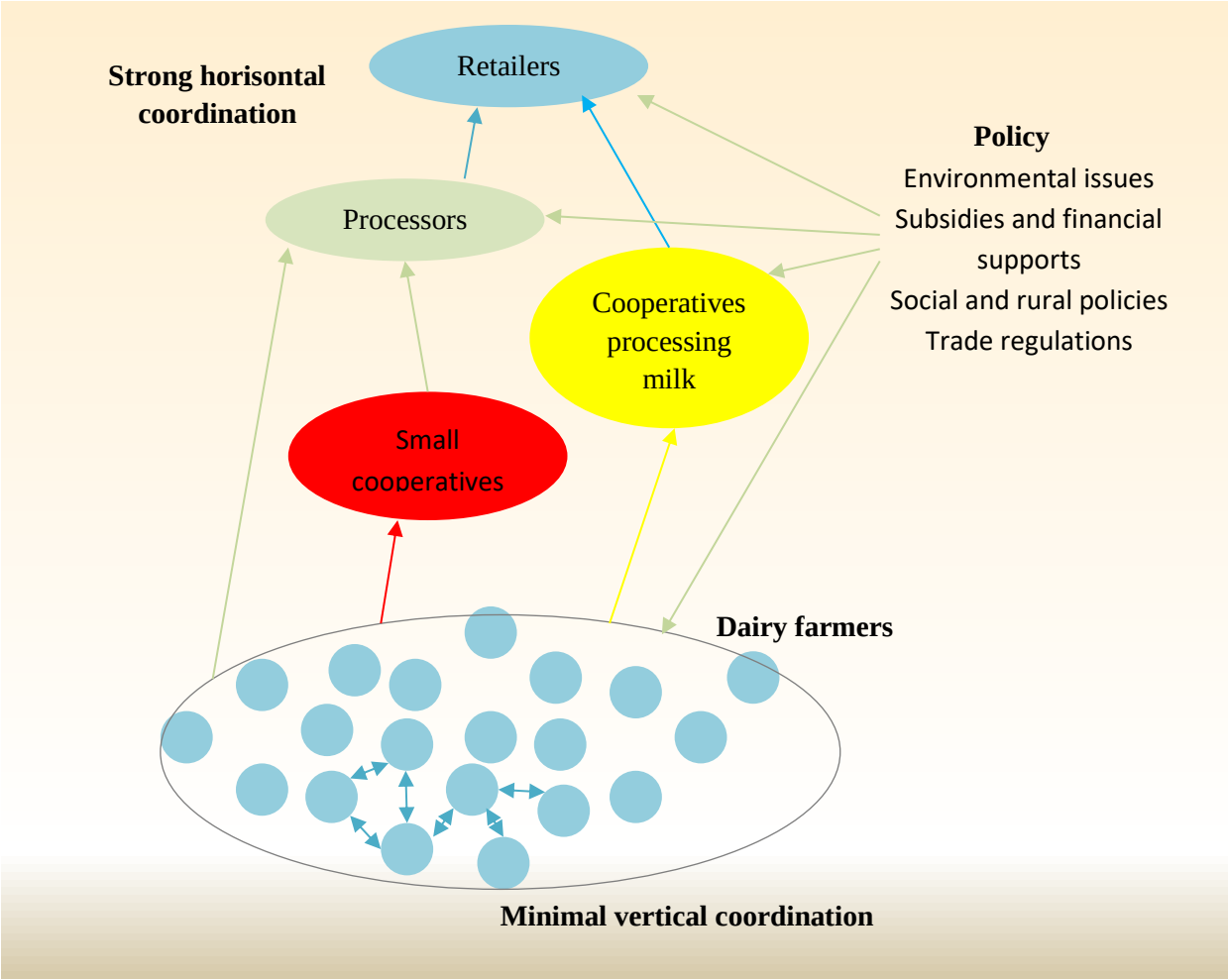
6. How do you finance your activities, and what would you require to change this?	Most of the finance is coming from subsidies or from the banks. Farmers are active in using EU funds. There are differences between bigger and smaller farmers – while the first group is reporting that banks are looking for them to lend the money; the latter is skeptical about their possibility to convince banks to lend them.	Financing
7. Do you work with other farmers? How did this start? How is it going? Will you continue in the future?	Dairy sector has long been criticized for lack of cooperation. Cooperation is seen as the only answer to all problems sector faces. There are some examples of successful cooperation – these cooperatives have been owners of some locally well-known brands. However, their outlet market is limited and they can collaborate with only a relatively small fraction of farmers. Bigger cooperatives, however, have been struggling. Farmers do not trust in these bigger cooperatives and accuse them of protecting the interests of managers and processors rather than serving to farmers. Despite this, there have been few attempts just recently to establish few new bigger cooperatives.	Horizontal coordination
8. Do you collaborate with others in the value-chain? How did this evolve? Will you continue with this in the future?	There are some successful cooperatives that also own the processing. Some of these cooperatives have been successful in illustrating that cooperation can be an instrument to improve farmers' position in the supply chain. However, for the most cases value is generated and remains with private processors. Meanwhile, other farmers are trying to find new retail channels.	Vertical cooperation
9. Do you feel that the current policy context helps you to improve your business performance?	The existing policy was praised for its willingness to step in and to help farmers in the time of need. Farmers appreciated all the support measures that were taken when the milk prices were low. However, the general attitude towards government was skeptical. Farmers claimed that policy makers do not have a plan what they should do and that their activities are often playing into the hands of processors. Neither farmers nor stakeholders were discussing EU common agriculture policies.	Policy and regulations
10. What environmental constraints and social challenges do you need to address?	Farmers were hesitant regarding environmental challenges. The overall claim farmers were making was that farmers are operating very responsibly and if they were willing – they could easily fit under the organic certification schemes. Meanwhile, there was less talk about the social issues farmers' face, namely, about the decay of rural communities and lack of labor to be involved in farming activities. However, clearly, this was an issue.	

11. How do you deal with current policies and regulations? What are your main strategies?	The general interpretation farmers followed is that policy makers are not interested in the issues farmers have. In the discussions policy makers where presented as representing distant world not really related to the struggles of farmers. Thus, farmers were continuing their overall practices with paying little attention to the processors at the national level. As it was suggested in one of the groups – farmers can just stand and watch and try to survive while others are building the sector. The situation was different for the biggest farmers.	
12. What is the impact of your farming activities on the sustainability of the sector; furthermore, how would you define this impact?	For farmers sustainability was mainly related to their ability to survive.	Financial Sustainability

3.5.7 *Figure 8. Understanding dairy farmers' institutional arrangements, diagrammatically*

SUFISA project methodological guidelines propose using diagram to graphically explain the arrangements underlying each of the sectors analysed. The following diagram is based on this suggestion and represents arrangements associated with the dairy farmers in Latvia. The most significant aspect to note for this sector is that farmers have minimal vertical coordination.

Dairy farmers' institutional arrangements



4 Latvia's Case Study B: Wheat

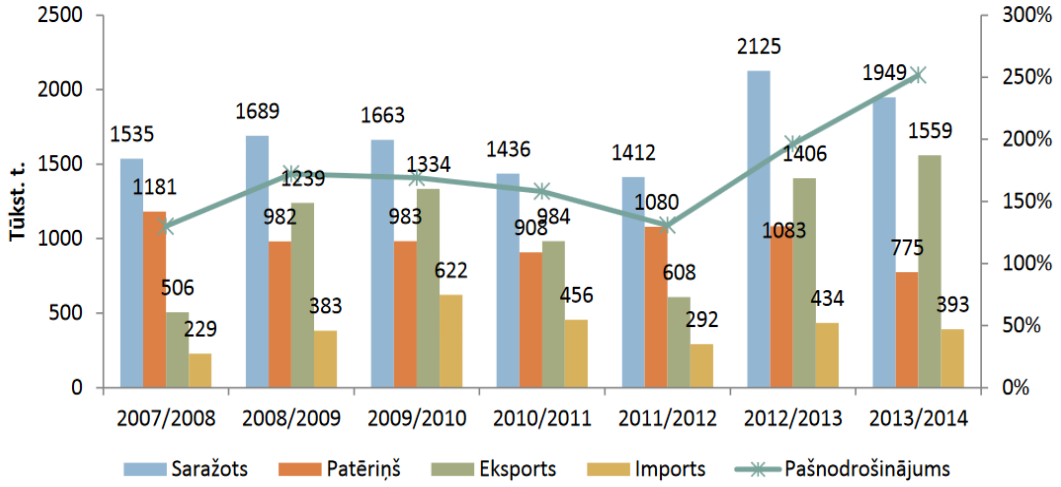
4.5 Case study introduction and context

4.5.1 Wheat production in Latvia

Crop production, and wheat production in particular, has been another traditional branch of agriculture in Latvia. Nowadays utilised agricultural area covers the second largest area after wooded area (38 % and 45 % respectively in 2010), and in the total cornfield structure cultivation of grain makes up around half of it (LLKC 2012).

In 2014, different **crop varieties** made up 57 % (655,200 ha) of all cornfield area in Latvia, and there were 23,253 farms involved in grain production (Ministry of Agriculture 2015). Summer and winter wheat populated almost 2/3 of the whole cornfield area of crops – 36.4 % and 25 % respectively. These were followed by summer barley (17.8 %), oats (10.2 %), and rye (4.9 %). Minor areas were used for buckwheat (1.6 %) and triticale (1.6 %), as well as winter barley (0.5 %) and others.

Figure 9. Balance of produced and consumed crop products in Latvia (2008-2014).



[Produced, Consumption, Export, Import, Self-provision;
Tons, thds.]

Source: Ministry of Agriculture 2015

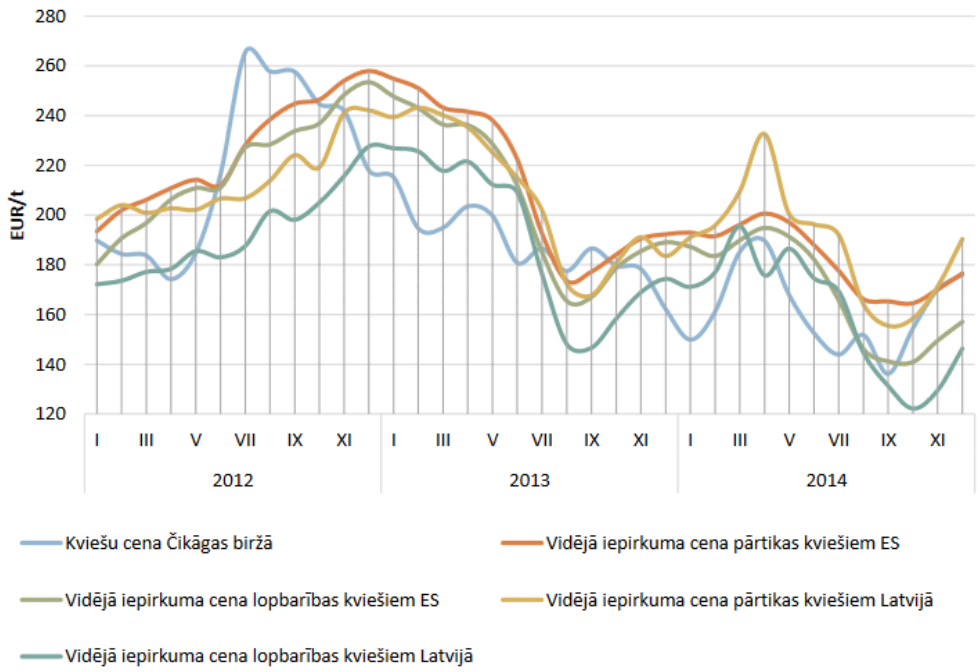
Wheat is the main agricultural commodity produced in Latvia in terms of number of farms, cultivated area (402.5 thousand hectares or 2/3 of grain sowings), export volume – €304m in 2014 (import was €74m), and total farm income (Ministry of Agriculture 2015). Wheat growing is more developed in medium and large-scale specialised grain farms with intensive methods of cultivation and use of modern agro-technologies. Year 2014 turned out to be a highly successful one for grain producers in Latvia in terms of the gross **yield** (over 2 million tons; average yield – 39.5 t/ha), with yield of spring crops exceeding that of winter crops due to less favourable climate conditions for the latter and the following sowing of spring crop cultivars as a replacement for the ones not having managed to winter (Ministry of Agriculture 2015). Winter wheat, which usually takes around 40-45 % of all cornfield area of crops, was among

the ones to suffer the most notable losses. At the same time summer wheat was the most productive crop cultivar with the highest average yield. Weather conditions bear a notable impact not only during the growing but also at the harvest time – if crops are harvested after the period of incessant rain they no longer meet the requirements for high-grade food and can only be used as grain forage.

In 2013/2014, there was an 8 % decrease in the crop production volumes, a 28 % decrease in crop consumption, and a 9 % decrease in crop import, while there was an 11 % increase in crop export. Self-supply had increased by 28 %, reaching 252 % (Ministry of Agriculture 2015).

The structure of crop production in Latvia is largely influenced by the **price levels** in the world stock market (LLKC 2012). Crop prices both internationally and in the EU between 2012 and 2014 have been fluctuating notably, yet with mostly decreased price levels – on average minus 30 % for food wheat, food rye, and wheat forage (Ministry of Agriculture 2015). Between 2012 and 2014 the average purchase price for food wheat in Latvia decreased by 21 % (190.40 EUR/t) and in the EU by 32 % (176.61 EUR/t) (see Figure 9).

Figure 10. Purchasing price of wheat in EU, Latvia and Chicago stock exchange (2012-2014).



[Top down from the left: Wheat price on the Chicago stock exchange; Average purchasing price of fodder wheat in the EU; Average purchasing price of fodder wheat in Latvia; Average purchasing price of food wheat in the EU; Average purchasing price of food wheat in Latvia]

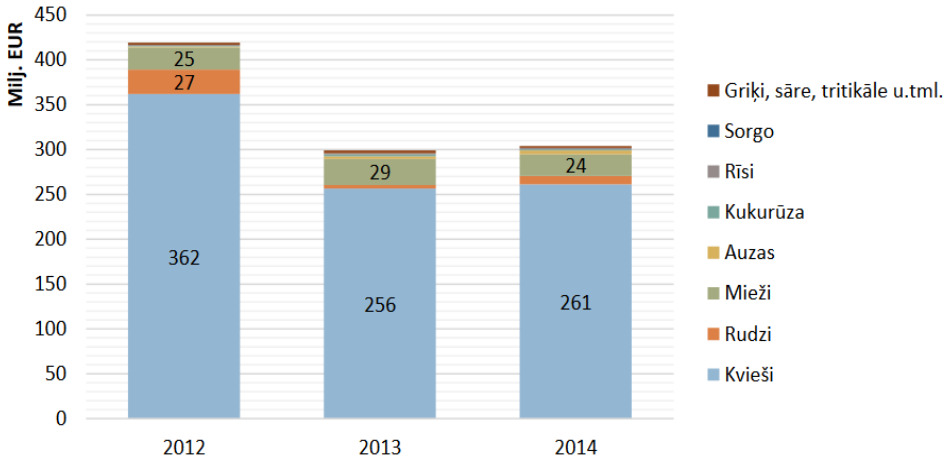
Source: Ministry of Agriculture 2015

Wheat is the main crop in terms of both **import and export** in 2014 making up 62 % and 86 % of all crops respectively (Ministry of Agriculture 2015) (in 2011 the respective shares were 39 % and 75 % (LLKC 2012)). Latvia is a net exporter of grain. Given the high capacity of crop production and the small size of the local market, export is of utmost importance in the grain

sector. It has also been noted that export is crucial also given the low discipline of payments among buyers in the local market (Bahšteins 2015b).

Over the recent years export volumes have been increasing also due to the development of several rather strong cooperatives in the field of crop production in Latvia. Wheat sector is presently characterised by high degree of vertical market integration and globalisation of trade (Ministry of Agriculture 2015). Marketing is organised through a national wide cooperative *Latraps* which is the largest farmers' cooperative in Latvia uniting around 1,000 members from all regions. The cooperative has well developed collection, primary processing and marketing infrastructure and provides also advice and finances to farmers. Its turnover in 2013 was €167m, which ranks *Latraps* among the biggest enterprises in Latvia. The cooperative mainly unites specialised professional farmers; however, their services are also available for small producers.

Figure 11. Crop export in Latvia by crop varieties (2012-2014)



[From the bottom: Wheat, Rye, Barley, Oats, Corn, Rice, Sorghum, Buckwheat and others]

Source: Ministry of Agriculture 2015

Wheat is strategic cash crop for farmers' income. Production, marketing and export capacities in the sector are well developed (see Figure 10), which in case of small farmers generate also positive local development effects. However, in the recent years **controversial developments** have affected the wheat sector: there is an on-going farm concentration process; competition for land aggravates between grain and energy crop producers; agro-ecological management of large farms is increasingly questioned; unstable weather conditions and climate change (warmer summers, rains, mild winters) require adjusting cultivation methods and reformulating sustainable intensification approaches.

Some of the specific problems in the field of crop production include the following (LLKC 2012): (1) reduced land areas for crop production due to increased production of biomass for power stations (biogas); (2) damage made to crop fields by wild animals (especially wild boars) and birds (especially cranes); (3) expansion of weeds such as silky bent grass and wild oat reducing crop yields; (4) notable share of grey economy in the agricultural sector leading to unfair competition and reduced tax collection.

A shift from selling plain grain to the development of processed innovative export products with high value added can be seen as a potential in future development trends (for example using grain to extract protein, producing bottles from grain starch) (Bahšteins 2015b). Another pressing need pertains to boosting the capacity of pre-processing, storage, and logistics of grain (Bahšteins 2015a) in order to level out the harvesting pace and reception capacity (*Latraps* 2015).

4.5.2 An introduction to the region

As already noted above, the region of this case study is the whole country of Latvia, which corresponds to a NUTS 2 region (see section 3.1.2). While crop production has been established to be suitable over the whole territory of Latvia, with variations in the chosen crop varieties and soil characteristics, the highest average yield capacity is usually demonstrated by Zemgale planning region (LLKC 2012). This region is the largest region in terms of crop growing in Latvia (31.5 % of all crops, 40 % of total crop yield in 2014), followed by Kurzeme region (23.8 % of total crop yield), Vidzeme region (12.8 %), Latgale region (12.5 %) and the greater Riga region (10.8 %) (Ministry of Agriculture 2015) (see Table 6).

Table 7. Area of crop fields, total yield and average productivity by regions in 2014*

Reģions	Sējumu platība		Kopraža		Ražība, t/ha
	tūkst.ha	*%*	*tūkst.t*	*%*	
Pierīgas reģions	73,5	11,2	250,3	10,8	3,41
Vidzemes reģions	108,3	16,5	332,9	12,8	3,07
Kurzemes reģions	149,6	22,8	496,8	23,8	3,32
Zemgales reģions	206,3	31,5	843,0	40,1	4,09
Latgales reģions	117,5	18,0	304,2	12,5	2,59
Kopā:	655,2	100,0	2227,2	100,0	-

[Region; Crop area; Total yield; Productivity]

* "tūkst.ha", "t/ha" - thousand hectares, "Ražība" – "Productivity"

Source: Ministry of Agriculture 2015

The case study on the wheat sector in Latvia has generally been carried out with the whole territory of the country taken as the point of reference, with the Zemgale planning region at times serving as a specific unit in an embedded case study.

4.6 Policy and regulatory conditions

The main policy conditions regarding the wheat sector in Latvia cover the following:

1. Public support measures;
2. Lobbying;
3. Greening requirements.

4.6.1 Public support measures

As in case with other agricultural sectors in Latvia (see section 3.1.1 on public support measures for dairy producers), public support is made available also to crop producers.

According to an assessment of the crop sector made by experts in 2012, critique has been voiced regarding the considerable differences in the EU support levels, leading to distorted

competition and inequality between crop producers of different countries in the EU market (LLKC 2012).

While many public support measures are covering all agricultural sectors, there are selected schemes that are more relevant to crop producers.

In terms of tax exemptions, a reduced rate of excise duty has been applied as of 1 July 2015 for marked diesel fuel used for production of agricultural produce and cultivation of agricultural land (Cabinet of Ministers 2015b). The amount of this fuel per farm is based on quota system depending on the type of production and the size of the managed land area. While this exemption shall be considered as beneficial for farmers, the positive effect is somewhat hindered by difficulties in meeting the accompanying requirements (allowed to be used only for work on field) and making the necessary practical arrangements (e.g. distinguishing the use of marked and unmarked fuel in a single vehicle for different purposes, there is a need for separate storage) (Matisone 2015).

Amendments made to the Law on value added tax (Cabinet of Ministers 2013a) in June 2016 stipulate the introduction of the special VAT regime (reverse VAT charge mechanism) also in the crop sector pertaining to deliveries of unprocessed crop and technical cultures (including wheat). Since the crop sector has been established to be among the ones with widespread use of fraudulent VAT schemes in Latvia (Fridrihsone 2016), the new provision is expected to serve as a terminated means for reducing the share of hidden economy in the sector by limiting the possibilities for different illegal practices undertaken by intermediary companies and promoting fare competition (Petrāne 2016). While representatives of the sector are generally supportive of combating tax-dodgers, concerns had been voiced at the rapid pace of passing these amendments, which does not allow for a sufficient adaptation period (Fridrihsone 2016). There is also a lack of common belief that the new regime will solve the underlying problems.

While until 2015 the grain sector was performing well and the financial situation was by far much better than in the dairy sector, the period of incessant rain during the harvest time in August 2016 caused notable damage to the volumes and quality of the crop yield, whereby 41 % of the total wheat yield only meet the quality standards of fodder (LETA 2016). This has pushed crop producers to approach the government in request for extraordinary support for the sector (LSM 2016b).

Amendments of September 2015 to the Regulation on state aid for agriculture (Cabinet of Ministers 2013b) provided for increased funding for covering insurance policies for productive farm animals and cultivated plants (amounting to €1.5m) with support intensity of 50 %. It has been observed that in the grain sector following the considerable damage made by the black frost to winter crops in 2014 farmers had become much more serious about and active in insuring their corn-fields and state support was seen as essential in promoting this practice (Saimnieks.lv 2015). The aim of this support was to promote engagement of farmers in reducing the risk of agricultural sectors. Yet, as of 2016 this support has been exempted from the list of support measures altogether, allocating only €540,000 for covering the already approved applications.

4.6.2 Lobbying

Grain farmers' representing organisations, such as cooperatives, cooperative associations, but most notably agricultural associations / NGOs are actively involved in policy dialogue and lobbying. One of the most influential organisations is Zemnieku Saeima (Farmers Parliament) which represents the interests of grain farmers. The governing actors like the Ministry of Agriculture are more open towards political interests of biggest economic actors due to their strength of representation and lobbying voice. Regulations are made as to be favourable to bigger farmers even though these farmers might not have been actively involved in policy making.

The grain farmers represent a point of view that the state should create a predictable regulatory framework and policy measures and intervene in the case of crisis with additional financial support upon the request of farmers representing organisations.

During interviews actors from the grain sector indicated that grain farmers have strong organisations fighting for their interests. Farmer organisations point to the various policy domains and regulations which need amelioration to better suit farmers' needs. According to them, policy framework is something that should be constantly monitored. This perception is depicted also in their policy networking and lobbying activities. Individual farmers rather see the policy requirements as something given, which must be complied even if they disagree.

Farmers' organisations operating at national level also have experience of participating in policy dialogue and lobbying at the EU level. Grain farmers feel politically well represented and protected mainly due to the centralisation of the sector, close links to the leading national agricultural organisations and their professional management.

Comparing with the dairy sector, the wheat sector is more powerful in the face of state authorities because it is more concentrated, better represented and managed. The dairy sector is more fragmented, there is intense competition among various groups of dairy farmers and they are less organized in lobbying their interests because of internal conflicts.

4.6.3 Greening requirements

As of 2015 farmers with arable land area of at least 10 ha have to meet new EU greening (climate and environment friendly) requirements in order to be eligible for single area payments under the Common Agricultural Policy reform of 2014 (single area payment 70 % + greening payment 30 %). In accordance with the new provision farmers have to (1) grow at least two or three (depending on the area of arable land) cultivated plant varieties as part of crop diversification (the main variety cannot exceed 75 % of all crops), (2) if arable land exceeds 15 ha – allocate 5 % of land for ecological focus areas (introduction and/or maintenance of fallows, green cover, catch crops, nitrogen fixing crop, landscape features, strips along forest edges, buffer strips, etc.), and (3) preserve permanent grassland.

More than 10,000 farmers in Latvia are subject to the new environmental rules (EC 2015). While it has been assessed that most farmers are to receive the greening payment automatically with 88 % of beneficiaries of direct farm payments not being subject to neither requirement of diversification nor the one regarding the development of ecological focus

areas, part of farmers will be required to introduce changes in their farming practices in order to become more environment-friendly (Ministry of Agriculture 2015). These requirements had been expected to affect most radically the smaller farmers used to grow single varieties causing objections for accepting this regulation without considering the individual conditions of each EU country (Migla 2015; Graudi.lv 2015). The level of greening already present in Latvia (with over 50 % of the territory covered by forests) has been seen as sufficient in order to allow Latvian farmers to be exempted from the new obligations. It has also been argued that for Latvian farmers the greening requirements are neither producer-friendly nor environment-friendly due to the complicated calculations for ecological focus areas, the high associated costs for smaller farms, reduced productivity as well as the need to find ways for selling the newly introduced crops (Lazdiņš 2014). At the same time the greening requirements are seen as conductive for the development of organic farming with certified farms being automatically eligible for receiving the respective payments. It has also been acknowledged that up to a 20 % increase in the yield of winter wheat can be achieved if sown in fields where beans have been grown beforehand (Graudi.lv 2016).

Although the new requirements are not by definition sector-specific, according to expert interviews and other accounts they seem to have a larger impact on the grain sector (than for dairy) where more substantial changes have to be made by farmers to their former practices. Aside from the initially voiced objections the actual strategic responses by farmers trying to adapt to the new regulation include introduction of different varieties of leguminous plants (e.g. field peas, beans) as a practical solution. For crop production it has been beneficial that winter and summer wheat are treated as two different cultivars thereby mitigating the scope of the required adjustments. At the same time there is also likelihood for smaller farms to take the decision to discontinue production or change their specialisation to avoid excessive expenses.

According to the views voiced by individual farmers from Latvia (n=38) in the framework of the survey of stakeholders on the first year experiences of implementing the greening requirements (EC 2016), most of the respondents agreed that the environment in agricultural areas should be protected. Nevertheless, the level of difficulty in the implementation of the greening requirements has been assessed as easy and difficult in approximately equal shares. As argued by the Latvian agricultural organisation cooperation council (LOSP), the impact of the obligations depends strongly on the farm's structure, which accordingly defines the scope of limitations imposed by the new requirements on individual farms. The main burden is seen to be faced by producing farmers who have to reduce the area of productive arable land thereby decreasing their production potential (rising the cost of production) as well as by those farmers with limited land resources that strongly reduce the available greening options. Individual farmers, on the one hand, note the positive contribution of crop diversification for mitigating market risks as well as reducing the resistance risks of plant diseases and insects and the use of agrochemicals. On the other hand, they voice discontent at the loss-making effect of greening measures (reduced profits and competitiveness, increased prime cost of produce, reduced rural employment) due to the high costs of land in certain regions, limited possibilities for expanding production, limited market for, utilisation of and knowledge about the newly introduced leguminous plants (especially for crop farms) as well as the risk of overgrowing of the uncultivated areas with weeds and bushes of limited economic value.

4.7 Market conditions

The main market conditions regarding the wheat sector in Latvia cover the following:

1. Infrastructure;
2. Access to internal market;
3. Access to external market;
4. Land market;
5. Producers' cooperation;
6. Knowledge and advice;
7. Human resources;
8. Hidden economy;
9. Access to finance;
10. Produce quality.

4.7.1 Infrastructure

One of the recurrently emphasised market conditions for the grain sector in Latvia has to do with the increasingly insufficient capacity of pre-processing, storage, and logistics of grain (Bahšteins 2015a, *Latraps* 2015), which became particularly vivid in the context of the unprecedented high crop yield in 2015 (3m tons – a 36 % increase in comparison to 2014). Given the limited harvest period determined by the geographical and climate profile of the country (maximum 20 days available for threshing) the availability of adequate storage facilities are of utmost importance for the development of the sector. While in 2007-2013 quite considerable investments have been made by farmers in purchasing agricultural equipment, which strongly boost the harvesting capacity. The unresolved situation with pre-processing and storage presently acts as a bottleneck for crop production. During the periods of rapid harvesting, when making use of favourable weather conditions, the limited capacity of existing facilities notably slows down the harvesting process due to compulsory interruptions and long queues at the crop reception centres (BNS 2015). Under such conditions farmers might be forced to temporarily place part of the yield on an open field or sheds until proper storage can be ensured.

While some farmers tackle this situation by developing their own capacities ("*Queuing up and waiting for a long time in order to deliver grain is very critical for a farmer since machinery is in the field and the time is passing. I think that all larger farmers have to think about developing their own bases and about the possibilities of reducing costs – storing and preparing crops on their own farms. This really makes life easier")* (Vidzemes TV 2016), this is not a universal solution for all crop producers. Since investments in these facilities are usually too high for individual farmers, solutions are sought in cooperation. Individual farmers' cooperatives are making efforts in expanding the infrastructure needed for pre-processing (crop refinement and drying) and storage facilities (storehouses, barns, towers, elevators), which are collectively used by cooperative members. Following the annually expanding crop areas and high yields, €37m from public funding (Activity "Investments in tangible assets" of the Rural Development Programme for 2014-2020) are planned to be invested in the development of infrastructure by crop producers in Latvia (Bahšteins 2016).

Cooperatives are trying to strategically assess the location and crop volumes of their members thereby aiming to ensure efficient planning of reception capacity in different regions. For instance, in 2015 the largest cooperative of crop farmers *Latraps* built a new pre-processing complex in the city of Aizkraukle in order to ensure further development of the company, using the proximity of railway to reduce costs of transportation (Patmalniece 2015). Solving the further stages of logistics in managing efficient transportation of grain to the ports and buyers is another challenge since not all crop buyers have ensured adequate and timely supply of ships in order to export the produce.

4.7.2 Access to internal market

The grain sector in recent history has managed to successfully re-orient towards global markets. Internally farmers sell only limited amount of their produce. In overall, this has allowed the sector to organise and develop strong organisational structures that can organise farmers' presence in foreign markets. In 2014 grain farmers exported 1.6 million tons of grain (increase by 22 %). Meanwhile processors in the same year imported 0.4 million tons of grain (14 % increase). Both for export and import wheat held a major share of overall amount – 83 % of export and 65 % of import. Lithuania is a major grain importer accountable for around ¾ of the overall import. This could be related to the fact that many of the biggest grain processors are related to Lithuania.

People spend high share of their income on food and beverages in Latvia – 27.5 % in 2014. One fourth of this money (27.5 %) is used to buy meat and fish and almost one fifth is used to buy dairy products and eggs (18.2 %). The third biggest category is bread and grain products. The category constitutes 14.1 % of expenditure for food. However, daily meals of Latvia's inhabitants have become more diverse during the last decades and grain processors are among the producers who can witness the consequences of this diversification most clearly. In the last two decades consumption of wheat bread has dropped almost by half (from 30.7 kg per capita in 1996 to 15.9 kg in 2014). The same has happened to consumption of rye bread – the consumption has dropped from 43.6 kg in 1996 to 21.5 kg in 2014 (CSB 2015b). The drop has been witnessed by other flour products as well. The representative of one of the biggest mill and grain product producers in the Baltic States claimed in a recent interview that the trend can be observed all around the Baltic States. However, according to him, it is not related to growing recognition of healthy lifestyles or to changes in dietary preferences. According to this enterprise, the drop in grain product sells that an enterprise has witnessed should be rather associated with the characteristics of market – outmigration and negative birth rate is causing drops in consumption (TVnet 2016). However, while bread is witnessing a drop in consumption, other products such as cereals are witnessing rise in consumer interests.

However, a more sceptical point of view is expressed by producers of traditional rye bread. Due to the properties of the bread it is difficult for the producers of this traditional rye bread to compete with wheat bread. Because of this competition historical recipes are improved so, for example, the bread would become lighter. Despite these efforts the traditional bread is facing the same difficulties as the bigger producers. Meanwhile, there are innovations and new rye bread products emerging in niches. For example direct marketing initiatives (such as

box schemes and farmer markets) are offering consumers innovative bread types supplemented with dried fruits, smoked meat, etc.

Thus due to the size of the market and to the trends of consumption the inner market is not able to consume all the products grown by farmers. However, as has been indicated by some observers – this is not the only reason why local farmers might hesitate to operate in the local market. It is mentioned in some media articles as well as in at least one interview that the local market has problems with mutual payments. Namely, it is hard to predict when the farmer will receive payment for the product he has sold. This unpredictability is in sharp contrast to predictability provided by global markets.

4.7.3 Access to external market

Grain farmers are much more active in global markets than they are in local markets. This has not always been the case and as it is explained during the interviews – the grain sector's success is at least partly owed to the strong and centralized actors operating in the sector and states willingness to introduce regulations ensuring transparency of the sector. The most visible and the biggest actor in the sector is cooperative *Latraps* who has managed to raise its turnover in 2014 to almost €170m.

Latraps has introduced many new practices in the sector. First of all the cooperative has managed to unite a significant share of Latvia's grain farmers thus raising their common strength in the market. Second, the cooperative has invested in infrastructure increasing farmers' access to it. Third, by uniting a large group of farmers *Latraps* has managed to cut down the logistics costs thus ensuring that the higher share of the price paid for the grain reaches the farmer. Finally, the cooperative has connected local grain farmers to global stock market. This has improved farmers safety as well as has ensured that farmers hold more possibilities to control the price they receive for the product.

Currently it seems that in many ways access to external markets is less of an organisational question where for most grain farmers everything is solved and it is more of a logistics and market insights question. In case of logistics the main problems raised are related to the necessity to have access to the cheapest transport possible and to be able to charter the cheapest ship. Both of these questions might pose a challenge. First of all there is only one port in Latvia that can service the bigger ships that allow reducing transportation costs. Thus getting the farmers grain to this port is one of the problems. However, planning the transactions in a way that would allow charter specific ships is an even more complicated task.

An additional question that should be discussed is: "What concerns market insights?" Selling their grain in stock requires that farmers have knowledge of the overall trends of grain prices. The interviewed farmers seemed seemed to be happy with the system where they can decide on their own when to sell their product and which price would satisfy them. However, this does not mean that they are always successful in predicting the price shifts and at least in one interview the respondent claimed that some of the decisions have led to disadvantageous sells, which, in turn, have led to losses for the farm.

Documents on the grain sector do not inform on specific direct impacts from the Russian embargo, although sector's representatives suggest that it may have influenced world prices. Also they suggest that access to some markets could be currently restricted due to their saturation with nowadays cheaper Russian grain.

4.7.4 Land market

According to the study of the Ministry of Agriculture, the total agricultural land area in Latvia is 2,3 m hectares, of which 1,56 m ha are cultivated areas and 700,000 ha are abandoned agricultural lands. The further expansion of grain production in Latvia (the aim of the sector set by some of its leading organisations is to rise production from the current 3 million tons a year to 6 million tons) is dependent on long-term land availability and its sustainable use. The land availability is critically important for the operation of grain producers. There are dynamic processes taking place in both primary and secondary (lease) markets. The factors that determine land market dynamics are: farm concentration and enlargement tendencies that rise demand for land; competition for land between grain and biogas producers; foreign land acquisition; the government policies and interventions in land market; financial institutions crediting policies of land acquisition; behaviours of land owners who are not farmers.

The primary land market in Latvia currently sees certain heating tendencies. The prices for arable land suitable for crop cultivation have doubled in the last five years, reflecting the general rise of productivity and income in the wheat sector. In 2016, the price for a hectare of arable land in the most fertile region of Zemgale was on average 6,000 EUR/ha. Farmers and banks report deals for up to 10,000 EUR/ha. In agro-technically less favourable regions the prices were lower (2,000–4,000 EUR/ha). The land prices in Latvia are higher than in the neighbouring Estonia and Lithuania.

Land privatisation and the distribution process is finished in Latvia; according to many interviewees there are no free lands and land availability is very limited. This is in particular a limiting factor for farmers who want to expand. Some economic assessments of grain cooperatives suggest that an economic size of a grain farm in Latvia in order to be profitable and capable to develop starts from 200 hectares (which is much bigger than the average size of farms in Latvia – 30 hectares). An optimal size for a grain farm is calculated at 1,500 hectares. The average size of membership farms in the largest agricultural cooperative *Latraps* is around 250 hectares. There is an overwhelming sentiment among medium and medium to large farms to grow bigger and become more profitable.

On average only 60 % of land used for grain production is in farmers' ownership, the rest is being leased from private land owners who might be small farmers in the neighbourhood or in many cases persons who are not related to agriculture at all. This is the result of land privatisation in rural areas in the beginning of 1990s. The lease price for agricultural land in Zemgale in 2016 was €150-160 per hectare per year; in other regions it was lower and it is normally coupled to the level of single area payments per hectare (which is about €70-90). The processes in the lease market are rather challenging for grain farmers who in general have short or medium term (1-3-5 years) lease contracts. The lease market in the last years has become more vibrant because of land competition. With the increased demand for land from biogas producers and foreign investors the land prices are pushed up and many leased lands

are put on the market at rather high asked prices. An interviewed farmer told an episode: "*The other day a neighbour came in and said – I am going to sell my land next Thursday, do you have 200 000 euros?*" (the neighbour obviously owned 20 ha, which he rented to the farmer.) Farmers have to calculate the shakiness of the lease market in their business plans and banks do not provide loans upon collateral of leased land.

Land is an object of competition mostly among medium and large farms. As put by a farmer from Koknese district: "*Our region is difficult in land availability as people are diligent here and no one wants to give up. The tougher the competition, the stiffer the people are. Land prices are high and there is no offer. We are eight farmers above 300 hectares struggling among ourselves and there is no place for anyone else*" (cited in Valdmanis 2015).

The issues of land availability for active farmers have been addressed by the establishment of a government funded Latvia Land Foundation, which became operational in 2015. The objectives of the Land Foundation are to safeguard that at least 2 million hectares of agricultural land are maintained for agricultural production needs and 0,4 million hectares of abandoned agricultural land are returned to agricultural production. The Land Foundation is operated by the state owned development financing institution ALTUM and the Ministry of Agriculture. The Land Foundation buys up properties from owners who for various reasons discontinue farming or want to sell their land, and it leases or sells it to private or legal persons under condition that it is used for agricultural production. There have been debates to include additional criteria for land buyers, for example, to require agricultural education and Latvian language proficiency to ensure that agricultural land is retained in hands of 'active farmers' and the Latvian nationals and to prevent land drain in foreign ownership. The government has introduced an additional legal instrument of pre-emption purchase rights for the farmers with valid land lease contracts.

Preliminary assessment of the first year of operation of the Land Foundation suggests that it is an agricultural policy instrument that works better in less developed agricultural regions where the land market is relatively inactive. The credits and services of the Land Foundation are used by organic and other niche market producers who extend farms and enlarge production gradually. In the regions where there is high concentration of intensive agricultural farms and no free lands are available for sale the role of the Land Foundation is more negligible.

4.7.5 Producers' cooperation

The grain sector is more centralised as compared to the milk sector. On the one hand, there is a bunch of cooperatives in the sector. In the official list of cooperatives provided by the Ministry of Agriculture there are 18 cooperatives mentioned that are registered to be operating in the grain sector (for the milk sector the number is 21). However, most of them are small and only few really large cooperatives exist. Among them three should be specifically highlighted: *Latraps* (with around 1,000 members); *VAKS* (with around 400 members); *Durbes grauds* (with around 150 members). We do not have precise information concerning the farming scale of the members. However, during the interviews it has been indicated that in cooperatives like these there typically is a mix of members of various sizes..

These larger cooperatives have their main territories where they historically are more popular among the farmers and consequently more successful. Also, the visions of the future for these cooperatives differ and while some are more oriented toward cooperation even among cooperatives, some others choose to remain independent and separated from neighbours. These, at least according to some of the respondents, might influence the possibilities that the members of cooperatives will have. The interpretation of the largest grain cooperative *Latraps* suggests that closer cooperation of larger groups of farmers might help them to secure the best prices for their product, best deals for joint purchases and best representation both in the market and in political discussions. However, the experience of *Latraps* suggests that not everybody is willing to cooperate.

The role of cooperatives in the grain sector is really significant. Most of them do not pose political changes to be their main objective and in most cases they do not become involved in the policy processes at all. However, due to the size of these actors most other stakeholders recognise them. Also, although they do not have direct representation in the policy making process, many of the people managing cooperatives are also in the top positions in farmers' organisations lobbying farmers' rights both in Latvia and in EU. Thus there are strong unofficial yet clearly visible ties. It would be a mistake to underestimate the political significance of cooperatives.

However, a more pronounced role of cooperatives could be related to all sorts of practical needs farmers might face. As one respondent puts it – in the Baltic region, for unknown historical reasons, grain cooperatives are involved in practically all daily activities of farmers. We cannot give a definite answer why this is the case. However, one of the possible explanations could be that it is related to historical experiences farmers had in Soviet Union with kolkhozy. Clearly, as has been stated in numerous parts of this report – cooperatives are helping to find the customer for farmers' products and help farmers with organising logistics connecting farmer and customer. However, grain cooperatives are also providing financial assistance. Cooperatives can open credit lines supplying goods for farmers in loan. *Latraps* estimates that 90 % of products they provide are paid with open credit (it could be around €40m). *Latraps* also offers long-term loans allowing farmers to make more significant purchases.

Most of the cooperatives also offer consultations concerning agronomical issues, planning, marketing, bookkeeping, etc. For many, especially smaller farmers, this might be an important relief to find such assistance. Cooperatives are also operating as a partner through which most of the agricultural products can be bought. Although it is not necessarily always cheaper than elsewhere, in most cases it is. And as has been indicated by some of the interviewees – these transactions are helping farmers, yet they are also beneficial for the cooperative. Farmers' purchases ensure that the cooperative has constant cash flows.

Finally, some of the cooperatives have tried to do something in secondary processing as well. However, as it has been stressed by *Latraps* – for the farmers' cooperative it would be hard to compete in secondary processing of grain – the competition in this sector is too high.

4.7.6 Knowledge and advice

Learning is always related to a need to know. Interestingly, in the grain sector, which is doing well in the last years (e.g., good harvests, good prices, good collective marketing, seemingly unlimited demand on the world market, continuously improving storage, transportation and logistics infrastructure, etc.) there are signs of farmers' reluctance to learn new things: "*Grain farming is profitable and this reduces motivation to learn and do things differently*" [farmer]. If a market is rising and business runs well, this might discourage farmers to learn and innovate. For example, the largest grain cooperatives are satisfied with wheat bulk supplier's role for the global markets; they strive for quantity rather than distinctive quality. The cooperatives have not discussed possibilities to develop their own or adhere to the existing sustainability standards in grain production, which would allow positioning the Latvian grain differently and appealing to higher market segments. For comparison, dairy farmers under pressures of decreased milk prices and fallen incomes demonstrate many novel ways how to economise, save costs and rationalise their businesses.

In the wheat sector agricultural consultations are provided mainly by cooperatives and input industry companies. The leading grain cooperatives mediate consultations through their services to farmers and the industry companies include advice in their marketing strategy.

4.7.7 Human resources

The availability of human resources in the grain sector is characterised by demographic ageing of the population, outmigration from the countryside and the country (and general) depopulation tendencies in many rural areas. Depletion and drain of human capital cuts back farm businesses due to shortage of sufficient qualified labour. Farmers deal with this constraint in a different way: some offer competitive salaries, others atract workers with technologically up-to-date working environment and other job opportunities, some others are building long-term and trustful relations with their employees. There are farms that have experienced two decades of growth and modernisation with the same core group of workers: "*We started 20 years ago straight after the kolkhoz split up with 40 hectares and an old Russian tractor. Now we have grown to 6000 hectares and 30 people working on the farm"* [farm worker, a tractor driver].

Work force availability is a less constraining factor in wheat production than it is in the dairy sector because wheat production is more profitable and farm owners or managers can offer higher salaries. For example, an interviewed mixed crop and dairy farmer pays qualified tractor drivers and machine operators €1000 net salary a month plus social taxes; for comparison an average gross salary of school teachers in Latvia in 2016 was €764.

In wheat production the farmers who have already stabilised their business and pursuit long-term goals increasingly pay attention to the labour part of the business with an aim to secure high qualification and motivated workers. They look forward to raise employment standards: "*If a worker feels discomfort at a workplace even if the salary is good, he will leave soon. The wage level expectations of workers are rising, especially among young people. This is good for agriculture and rural development in general. Farmers should stop experimenting with finding the lowest possible wage level"* [owner of a large grain farm and a country restaurant].

Some farmers may lack competence and skills to manage employees in a responsible and motivating way. Treating workers responsibly has been a blind spot in agricultural discourse and practice for too long. The interviewed farmer continued with observations in this regard: "*Managing people is much more difficult than managing agro-technical things. We lack the personnel management culture. Managing workers is even simpler in hospitality business than it is in grain production; I have to be very careful and clever in logistics and planning the workers' task assignments, especially in the harvest period*" [crop farmer and hospitality businessman].

4.7.8 Hidden economy

In overall, the grain sector is transparent and well organised. However, some respondents claim that recently several enterprises in the grain sector were operating in a way that could have been associated with tax frauds. That has been an issue up to recently when the Cabinet of Ministers introduced changes in Value Added Tax Law (Saeima 2012) stating that the grain sector should be a subject of reverse tax charges. According to State Revenue Service fraud schemes in the grain sector are similar to those in other sectors – there are entrepreneurs charging each other for fictive deals or there are entrepreneurs vanishing when they have to repay taxes.

4.7.9 Access to finance

For commercial wheat farmers the main cost categories that require finance are: investment in productive capacities (mainly grain storage facilities building), the land acquisition, machinery purchase and buying seeds, fertilisers and fuel.

The capital for farm modernisation is provided through four main kinds of sources: i) Agricultural and Rural Development funds (EU money); ii) credits of commercial banks; iii) cooperative financing; and iv) financial support from the governmental agricultural development agency ALTUM (more recently). These capital sources differ by conditions, procedures and effects on farm performance. The EU agricultural modernisation money has been abundantly available for farmers in the last decade and more than 60 % of project applications have been funded and successfully implemented. The public support intensity though has dropped from 75 % to 40 % in the latest programmes.

Wheat farms are rather large (200+ hectares, the largest farms reaching the size of 4,000-6,000 hectares). The harvest season due to climatic conditions is relatively short (from the end of July till mid-August). This means that farmers need big machinery to manage short sowing and harvesting seasons. Availability of financial resources from various sources in the last two EU programming periods has made such investments possible. Many grain farms now are equipped with modern tractors, latest satellite and precision technologies and up-to-date primary processing and storage facilities all worth millions of euros.

The commercial banking sector views agriculture as a reliable business for long-term investment and crediting. An interviewed banker admitted: "*Even after [financial] crisis of 2008 agriculture was the sector which continued to repay loans whereas many businesses in trade and services went bankrupt*." The top three banks by size of their agricultural portfolio

in Latvia are: *Swedbank*, *SEB Bank* and *DNB Nord*. These banks somehow divide agricultural crediting market so that no one is in dominant position to reduce bank risks. In general banks tend to work with commercially viable farm businesses, agricultural cooperatives and established processing companies and avoid crediting start-ups and niche productions although an interviewed agricultural crediting specialist said: "*We do finance all categories of farms – large, medium and small, except start-ups*". In practice, though, credits are more easily accessible for larger farmers.

Commercial banks' internal procedures, conditions and requirements vary and are not always disclosed; in general there are several kinds of financial products offered to farmers: i) land crediting, normally for up-to 10-15 years upon collateral of purchased land. Some banks have set internal rules and limits of crediting, for example, maximum loan per hectare in a given region (e.g. €3,000 per ha in Zemgale although land may cost €6,000); the requirement that 60 % of farmland is in farmer ownership in order to receive a loan; etc. ii) matching of EU funds and crediting farm modernisation projects supported by the Rural Support Service. The typical financial portfolio in such projects would be 10 % farmer's own financing, 30-75 % EU support, the rest is commercial credit; iii) leasing services for agricultural machinery, typically upon collateral of a lease object; iv) long-term investments in farm infrastructure and productive capacities (in the grain sector these are mainly storage facilities); v) commercial banks finance current assets for buying seeds and fertilisers upon fixed land collateral depending on region (for example, in Zemgale region a farmer may receive €30,000 credit for current assets upon a collateral of 30 hectares of land); vi) some banks provide an overdraft service, especially for small farmers, on condition that farmers are the bank's clients. An overdraft limit may reach the annual turnover of a farm but the interest is high (more than 10 %).

There are also some more recent financial instruments applied by the banks. For example, the interviewed banker appreciated the European Guarantee Fund programme COSME which covers 50 % of bank losses in case a farmer fails to repay the loan. This programme reduces bank's risk and lowers the interest for farmers. Some banks consider integrating sowing risk assurance in their products; however, this would require specific agronomic knowledge and monitoring capacity (of crops, weather conditions, etc.) and banks may not have human capacity for this. In addition, sowing risk assurance is offered by the largest grain cooperatives (e.g. *Latraps*).

The leading banks have special divisions and trained staff to work with agricultural clients. They have elaborated risk assessment procedures and standardised grids of criteria for financing farmers and agricultural companies. Banks increasingly offer their services online, although credit managers spend a substantial part of their time to visit farms and consult and discuss with farmers in person. As agricultural market is lucrative for banks, they compose data-basis of farmers – both actual and potential clients.

Cooperative financing is yet another important financial source for grain farmers. The largest agricultural cooperatives in the grain sector (e.g. *Latraps*, *VAKS*, *Durbes grauds*) offer two kinds of financial services to their members: i) financial crediting for buying machinery, seeds, fertilisers, fuel, and ii) postponed payments. The applied interest rates vary depending on the service from 4 % to 7 % to 12 %. The chief executive of *Latraps* cooperative acknowledges that

a cooperative plays an intermediary role in farmers' financing as liquidity is borrowed from the bank in bigger loans and distributed to farmers. The cooperative financing is evaluated as more flexible towards farmers as the repayment schedule might be negotiated and adjusted to various changing conditions (especially weather conditions were mentioned in relation to farmers' credit risks). *Latraps* issues €40m in loans a year and an absolute majority of credits are repaid.

The state financial agency ALTUM is intended to finance relatively more innovative farmer projects and business start-ups as well as it operates the state Land Foundation and issues loans for land acquisition.

There is also competition among financial institutions and there are certain advantages and disadvantages of their services to farmers. The banks tend to prioritise professional businesses and work with larger farms. This makes commercial loans hardly accessible for the vast majority of small farms. The adjacent positive aspect of bank crediting is increased transparency of agricultural businesses (including obligation to pay taxes). However, many farmers and cooperative representatives consider that banks' policies have been too severe towards farmers in times of financial crisis in 2008-2009. The cooperatives are perceived by farmers as a reliable source of financing since they act for member farmers as one-stop-shop agency providing inputs, offering a marketing channel and also providing credits. The role of the government funding agency ALTUM has been evaluated ambiguously by the interviewed farmers, bankers and cooperative representatives because this financial institution issues land loans for almost a double long period comparing with commercial banks (20-30 years and 10-15 years respectively) which pushes up land prices and increases farmers long-term financial liabilities and costs.

4.7.10 Produce quality

Since grain quality adversely affects price and consumer acceptance of finished products it is important for crop producers to undertake measures in boosting the protein content and sedimentation value of cultivars (Liniņa and Ruža 2013). This can be influenced by adequate pre-processing and storage, yet another major challenge in Latvia has to do with ensuring high quality seed material (Graudi.lv 2016). While presently major efforts are made by crop producers in boosting the total yield volumes, raising the crop quality remains an issue ("*Presently the market trends demonstrate a diminishing difference in price levels between the various levels of grain quality and since elite quality crops have lower yields there is no longer the stimulus to place the emphasis on quality*" [crop farmer]).

It has been assessed that only 15 % of seed material presently used in crop production in Latvia has been certified, thereby gradually aggravating problems with the accessibility of varieties and the questionably quality of the available seed material along with the accompanying spread of invasive weeds and plant diseases (Graudi.lv 2016). As recognised by experts already in 2012, the shortage of certified seeds grown in Latvia (suitable for local climate conditions) represents a notable weakness of the crop sector (LLKC 2012). Some of the contributing factors to the low share of certified seed material are attributed to the lack of adequate knowledge among crop farmers, lack of incentives from the state for promoting the use of certified seed material by farmers, as well as high copyright payments (Graudi.lv

2016). One strategy used by farmers in ensuring quality seed material without having to bear excessive costs or risking to obtain off-grade material is the use of self-grown uncertified seed material.

4.8 Key issues identified in the literature, media and interviews

The analysis of the regulatory and market conditions through literature review, media analysis and stakeholders interviews for the case study on wheat in Latvia provided a list of key issues that are discussed in this section. The key issues are summarized through a SWOT analysis (see Table 7), which permits to identify positive or negative effects that the different issues can have on the wheat sector.

Table 8. SWOT analysis of wheat sector in Latvia.

Strengths	Weaknesses
- Presence of strong cooperatives - Largest agricultural sector in Latvia - Highly successful internal organisation - Generates high profits - Availability of technologically sophisticated machinery on farms - Increasing transparency of market arrangements and financial flows in the sector - Market power in hands of producers and their cooperatives - Well-organised supply chain and effective use of global market stock exchange and broker services ensuring stable cash flow - Possibilities for farmers to set a target price - Recognition of weaknesses and strategic actions to overcome them - Strong lobbying capacity - Availability of knowledge and advice through cooperatives and input industries and advisory services - Availability of diverse sources of finance (EU funds, bank credits, corporative financing and special emergency governance support measures) - Increasingly client-oriented civic services (rural support service, State Revenue Service, etc.) - High demand on global markets - Good soil quality for crop production in certain regions	- Harvest and price volatilities - Lack of local grown certified seeds, dependence on certified seed import - Lagging behind capacities of primary processing, pre-processing and storage - High dependency on seasonality of operation and long-term utilisation of productive capacities - Limited logistics and transportation capacities
Opportunities	**Threats**
- Searching for ways to expand cultivated land area - Development of joint quality standards and procedures to produce products for high value markets	- Potential conflict and competition for land between food and bioenergy production - High dependence of crop yield on climate conditions

- Wider engagement of the sector in advancing professional education in agriculture (support to vocational schools, University of Agriculture) - Strengthening managerial skills and financial literacy of individual farmers - Development of technology research and innovation for improved productivity, work efficiency and competitiveness - Entry of young farmers and newcomers in agriculture	- Outmigration of labour force from rural regions endangering availability of labour - Rising global competition in crop markets relating to expansion of crop production in Russia - Global speculation with grain as an investment object

In the following paragraphs we explain the key issues as emerging from the analysis of wheat sector along the SWOT dimensions. This is followed by summary points related to the producers' main conditions and main strategies.

Strengths: As the largest agricultural sector in Latvia wheat production has been highly successful in terms of integration in global markets and generating profits for farmers. It is one of the few agricultural sectors that is well organised; there are effective and professionally managed marketing cooperatives. This enhances farmers' power position in the market chain. There is also knowledge and advice available from various sources. The sector has been successful in attracting financial resources from various sources. The production capacity has been continuously strengthened through investments and technological improvements in farms. The grain sector is often put as a model how a successful agricultural sector in Latvia should be organised.

Weaknesses: The sector is oriented towards bulk production for international markets, therefore exposed to price volatility and fluctuations. The sector is also highly dependent on weather conditions and seasonality of operation (very short and compressed sowing and harvesting periods, which make much of production capacity unutilised in the rest of the year). The logistics and primary processing capacities are still lagging behind the production capacity. As bulk producers of wheat for fodder and industrial buyers farmers are relatively less responsive to new consumer demands in food.

Opportunities: Currently wheat farmers and their cooperatives are pursuing improvements in logistics and strengthening the pre-processing capacities on cooperative basis. Farmers are also searching for ways to expand production and are enthusiastic for acquisition of new arable land. The availability though is strictly limited. Development of joint quality standards and procedures to produce wheat for high value markets is an opportunity recently being considered by the leading cooperatives and grain farmers' associations. This endeavour would require mobilisation of new knowledge and joint action for innovation. Strengthening the managerial skills and financial management skills of farmers is a continuous concern and effort of the sectors' leading organisations. Recently the largest cooperative *Latraps* has acquired a bankrupt dairy farmers' cooperative and seeks to develop a new kind of cooperative in the dairy sector building on the experience of grain farmers. This offers an opportunity for cross-sectoral cooperation between grain and milk producers and transfer of cooperation knowledge and skills with further invigorating effects on the dairy sector in crisis. Grain farmers both individually and collectively support vocational education in agriculture by

organising field training for students and helping agricultural colleges with buying demonstration machinery. Farm succession and influx of young farmers and employees are also seen as opportunities by wheat farmers.

Threats: The crop yield is highly dependent on weather and climate conditions. Farmers are experiencing tough competition for arable land between food and bioenergy producers. Shifts in global demand might cause significant difficulties for the sector. Rising global competition in crop markets related to expansion of crop production in Russia and global speculation with grain are external threats out of farmers' control. There are financial risks involved as well: substantial financial investment in farms pays back under conditions of market growth; however, it is shattered at times of price volatility, market shocks, or unfavourable seasonal weather conditions. Many farmers who have chosen salient financialisation strategy are highly exposed to financial risks. The wheat growing is largely a monoculture with associated environmental sustainability threats. Growth and consolidation of larger farms above 500 hectares pose also social and rural development challenges. The grain sector has reached certain maturity in economic, technological, and organisational aspects. This poses a relative risk of losing incentives to learn, improve, and change.

Main conditions: Regarding production factor conditions for the grain sector, the key sub-conditions are land availability, with additional relevance of labour and scale/timing sub-condition. The responses are focused on intensification/upscaling and technological innovation. In market demand conditions the central sub-condition is global competition. With regard to human resources conditions the grain sector as highly intensive in terms of capital investment and production technologies is also largely dependent on the employment of high skilled workers. Therefore one of the main socio-demographic factors for long-term viability of wheat production has also to do with demographic processes in the countryside and the availability of educated and skilled workers.

Main strategies: Farmers mainly pursue agro-industrial competitiveness and intensification strategies and are quite successful in these. Farmers' finance and risk management is associated in particular with neo-institutional frame as conducive to financialisation path, commercial borrowing and farm investment, to a lesser degree – subsidies seeking. The farmers' ability and skills to manage financial resources and deal with risks is of key importance for farm's long-term development. Navigating in finance and risk markets is helped by prudency and farmer wisdom – a combination of intuition, intelligence, and precariousness. Personal qualities of a farmer, his/her values and outlooks on agriculture are an inherent component of profound farming knowledge and skills. Under the same macro-economic conditions there are farmers who go bankrupt and who innovate and expand production. Strikings differences in performance are often determined by farmers' wisdom, knowledge, long-term planning, and financial planning skills.

4.9 Grain sector in Latvia – focus groups and workshop

This section continues to discuss the peculiarities of the grain sector in Latvia using the data gathered during two focus groups and one workshop.

The two focus group discussions took place on 17th of February and on 16th of March. The first focus group discussion was organised in collaboration with Farmers Parliament and was held in the building of Ministry of Agriculture. 10 farmers and one representative of farmers parliament were participating in the discussion (the list of all participants taking part in all discussions and their evaluation of the discussions they were involved in is available in the appendix of this report). The second discussion was organised in collaboration with Durbes Grauds (a farmers' cooperative) and was held near Durbe (a small town 200 km away from Riga). 8 farmers and one agronomist were participating in this discussion. Finally, the workshop was organised on 21st of April in the building of Ministry of Agriculture. 24 people were participating in the workshop. Among them there were people representing farmers' organisations, grain processors, cooperatives, Ministry of Agriculture, banks, scientific institutes and many others.

During the two focus group discussions farmers were invited to discuss the strategies they use to overcome issues they have faced and how these strategies are related to particular structural characteristics of the sector (detailed structure of the discussions is presented in the appendix). Each of the discussions was summarised in a brief overview that was used to inform the workshop. Furthermore, the results of the two discussions were summarised in a table (see appendix) that was used as a handout to the workshop participants and as a conversation starter to initiate discussion about current problems the sector faces and the structural role various stakeholders operating in the sector have.

This part of the report is structured in six sub-sections. Each of the sections illustrates theme reoccurring during the discussions. The sections are discussing the key issues farmers associate with the theme and the strategies they have undertaken to overcome these issues. The sections also discuss structural arrangements that have been the cause why one or another strategy has been adapted. The first section is discussing grain farming as it is presented by the participants – the differences between groups of farmers and the main peculiarities of the sector. The second section – "4.9.2 Policy and management" discusses the political arrangements (as they are presented by participants) shaping farmers' strategies. The third section discusses the principal relations within the supply chain identifying the relational arrangements that both limits and enables farmers' opportunities. The fourth section takes a deeper look into the support instruments farmers have access to. This section discusses the role support mechanisms have had in improving farmers' position in the supply chain. The report is continued by a section that looks at key resilience issues the grain sector faces. Finally, this part of the report ends with a section looking at the institutional arrangements dominating in the sector.

4.9.1 Grain farming

Grain farming is considered to be the most successful agricultural sector in Latvia – with few successfully functioning cooperatives, strong farmers' organisations and several huge enterprises operating in the sector it has shown that it has the potential to grow as well as to protect farmers' interests. This is what also focus groups and workshops illustrated – that there are successful farmers operating in the sector being able to make farming a profitable activity.

The focus groups also demonstrated that there are different ways of organising farming that sets apart groups of farmers. To start with – there is a group of farmers who are operating on noteworthy plots of land and who have been investing in their farms hoping to increase their profits and efficiency. This is the group of farmers with diverse beliefs yet involved in communication, participating in the life of farmers' community and being relatively open to innovations (or at least willing to learn). Presumably, this drive has allowed them to grow. Investments and loans taken from banks forced this group to learn and to adopt new and more responsible practices. Among them, there were both family farms as well as larger farms organised as enterprises. The second group is farmers who are significantly less involved in farming. Most of them decided to go into farming in the nineties. The kolkhozes were dismantled at the period, and that allowed many farmers to acquire cheap machinery. Meanwhile, agricultural land was being redistributed which ensured that some rural inhabitants had easy access to land. Thus this group of farmers had all the resources farmer needs. However, they never made the jump to the next level – to a more competent and more involved farming. This group of farmers are slowly leaving the sector. However, for now, they are still playing a role by being less environmentally aware, less efficient as well as being less aware of the risks their practices might pose to other farmers.

Meanwhile, another distinction between farmers can be made along the lines of loans and financial reserves farmers have. Those who are in debt or have to open any credit line to pay the current expenses are bound to less risky involvement in the supply chain. It means that these farmers have to use at least some of the services provided by insurance, are required to use official technical services (support services that are recognised by lenders) and have to choose safer strategies when it comes to selling their harvest. This means that these farmers often have to choose harvest-selling strategies that offer lower prices. These farmers cannot take any risks. The group of farmers who have managed to climb out of the debts and can cover their expenses without using a credit line have more options to benefit from diverse ways how grain can be sold and thus at the end – this group is better off. This is, of course, assuming that the grain is of the right quality.

4.9.2 Policy and management

4.9.2.1 Joining the EU

During the discussions, a number of turning points was identified that presumably have had enormous effects on the characteristics of the sector. Most likely the same processes have had an effect on other agricultural sectors as well (for example, it was clear from the discussions that many of these events have had an effect on the dairy sector). One of such events that according to farmers had a tremendous effect on the grain sector was Latvia joining the EU. For farmers this meant new regulations and markets.

After joining the EU, farmers suddenly had constant access to finances and subsidies. According to farmers', direct payments have had a long-term effect on the land market. Direct payments and access to funds have facilitated a rise in agricultural land prices (mostly land prices still continue to rise). This can also be explained by the other processes EU has caused – e.g., the open markets have allowed foreign investors to invest in land deals. The willingness

of foreign investors to buy rural land and insufficient state regulation of the issue has caused the rise of the prices. The extent to which prices has increased is not similar in all regions. However, in case of the territories with a most fertile land, experts are claiming that the prices have reached a level which cannot be justified anymore. The price is just too expensive (too risky) for farmers to continue investing in land. Changes have influenced land rent deals as well. As property prices rose, the rental prices rose as well. However, it was also claimed by farmers that the rental prices were just not reflecting the overall increase in the market value of agricultural land but rather mirrored shifts in subsidies available to farmers. Farmers also claimed that the shifts in land prices and rental prices have facilitated that in rental deals short-term agreements are used more often. The general claim made by farmers is that the rental prices so far have been only going up. People owning the land do not want to miss out on opportunities to earn more, and thus the land is leased to shorter periods hoping that if the prices will rise, the owner will have a possibility to raise the rent as well.

Farmers also suggested that access to EU funds have affected farming models as well. After joining the EU, farmers suddenly had access to financial resources which allowed them to invest in machinery and land. According to some farmers, this support came much too late because much of the agricultural land was already distributed but the land that was still available suddenly was just much more expensive after Latvia joined the EU. However, availability of EU funds changed the way how the banking sector perceived farmers. This according to farmers was among the most longstanding effect EU accession facilitated. Farmers had access to funds and could rely on a constant flow of income generated by direct payments. This ensured that banks as well became more interested in the possibility to issue loans to farmers.

Apart from this historical significance of EU, farmers felt that now as well there is a very real influence of the EU policies. The current model how subsidies are distributed among member states has been discriminating countries like Latvia offering newcomers lower direct payments. Both farmers and experts felt that there is an insufficient representation of Latvia's interests in the EU agriculture policy-making and policy-planning. Some of the experts representing farmers were especially harsh suggesting that Latvia's government cannot defend the interests of farmers because it does not know what would benefit Lativa's farmers and - so far government has not shown that it has any interests on its own. Thus, Latvia's politicians do not know what to lobby. Consequently, farmers felt that many of the EU regulations were beneficial to the larger EU countries while interests of other territories (such as Latvia) were often forgotten.

4.9.2.2 Political involvement

From the discussions, it seems that representatives of the sector (at least farmers) do not have one single vision of what would be its political interests. However, there is clear agreement that farmers should be involved in national level policy-making, and there are reoccurring problems that according to participants would require a new form of regulatory intervention. In general, farmers do not think that they should be the ones dealing with the regulatory aspects of the sector and are happy to delegate their interests to farmers' organisations (which consequently are criticised for the slow pace of change). Still, there are some farmers

who have also been engaged in at least some political activities. However, to discuss the political involvement, different levels of governance need to be considered.

The lower level governance is conducted by local municipalities in Latvia. Municipalities have only a few real instruments to facilitate change. Still, they are performing several important functions that could be of importance to all farmers – for example; local municipalities are registering all land deals, they can plan the land use and can step in to solve minor local problems (such as - repair local roads). Also, municipalities can introduce strategical decisions regarding the overall practices allowed in municipalities. For example, almost all municipalities have chosen to ban the use of GMOs in their territories in Latvia. Meanwhile, municipalities are also the only political entity that could be interested in each particular farmer. All other political actors are rather interested in the sector in general. Thus, a municipality could be the first natural partner for farmers. However, only a few farmers are trying to maintain relations with municipalities. Those who are trying to ensure that there are relations between them and municipalities are doing this to ensure that they are informed about local events. As one of the farmers summarised it – he has been open to local level governance, and because of this, he knows that he will receive a phone call from municipality whenever anything that could be of interest to him happens. However, this is not the case for all farmers. One of the participants recalled a case when he was forced to wait for several weeks just to be informed afterwards that the question he asked municipality was resolved long ago and representatives of the municipality have just forgotten to inform him. This again is one more reason to maintain the relations with municipality – so that you are not forgotten. Another farmer explained that he has resolved this by becoming a municipality deputy. It does not take a lot of his time and he has an opportunity to serve the community. But he is also involved in decision-making and can protect farmers' interests at the municipal level when needed.

Many of the farmers have outgrown local municipalities and their fields are located in territories representing administrative territories. Since these farmers do not have a clear connection to one municipality, they might decide to distance themselves from this level of governance.

This brings the discussion about the representation of farmers' interests to the national level. There were several discussions during the focus groups regarding the land availability, use of agro-chemistry, availability of subsidies, protection of national agricultural interests, investments in agricultural science – questions that would require stronger representation of farmers' interests at the national level. It was clear from these discussions that so far national government has not been doing a good job in protecting farmers' interests. Farmers' organisations have been nominated to represent farmers' interests, however, not everybody has been happy about their success. This was even stronger expressed in the second focus group which was conducted outside of Riga. In this group, regional farmers were participating. This does not mean that rural farmers felt hostile towards farmers' organisations. Neither does it means that these organisations are representing the interests of only some farmers. The scepticism rather is proof that the goals pursued by these organisations are not explained sufficiently to farmers located in regions and that farmers are not aware of what these organisations are working on. Furthermore, as it appears, despite the criticism, at least some

of the organisations are a clear opinion leader in the grain farmers' community. During the first focus group discussion, the representative of the Farmers Parliament joined for the final part of the discussion. After hearing farmers' thoughts on the use of pesticides she used the opportunity to explain the farmers her interpretation and what would be the best political development for everybody. With no objections from farmers, this was the end of the discussion about pesticides. On the one hand, this stopped the information exchange among the farmers. However, on the other hand, this just showed the role some of these organisations play and the strength they have.

Furthermore, organisations like Farmers Parliament are also well integrated into the European level decision-making. Thus, representatives of the organisation are better informed about EU trends, and global drivers' farmers have to react to. They are passing this knowledge to farmers facilitating a more global perspective on what is happening in the grain sector. Having this knowledge they do not restrain themselves to use it to criticise local level government – mainly about their passivity to solve problems farmers face and government's inability to represent farmers' interests at the EU level. During the time when the field work one of the central concerns of farmers' organisations was to ensure that the interests of Latvia's farmers are represented in EU Common Agriculture Policy. A representative of Farmers Parliament stated, during the workshop, that most of the countries are investing to understand their own interests in CAP and to ensure that people are lobbying their interests in the discussions at the EU level. For Latvia, however, it seems that nobody knows what these interests would be – government does not have a strategy to follow (apart from the claim that the direct payments should be higher). Furthermore, even if they had a strategy, they are failing to participate in the crucial events that will set the principles behind CAP. Although it is claimed that agriculture is one of the priorities of the national government – this belief was not translated into clear policies or political actions.

What has to be added is that many of these accusations are not necessarily representing just the grain sector. It is highly likely that they can be ascribed to the other agricultural sectors as well. However, they have been raised in discussions held for the grain sector while they were absent in discussions for the dairy sector. Most likely this is because the grain sector is much more globally oriented and it is seen that some farmers organisations are firstly representing the grain sector and only then – all other agricultural sectors.

4.9.3 Grain supply chain

The amount and the quality of grain produced have risen significantly during the last decades. In the same period, the principles used to set grain prices have become more transparent, and farmers have managed to get into a position where their voice is louder and better heard. However, most of these positive changes have been observed downstream the supply chain. The processes upstream the supply chain are not perceived as enthusiastically – lack of transparency in pricing, low quality of services, week competition are just some of the points of critique raised to reflect upon products and services sold to farmers. To resolve issues that arise downstream, farmers mainly rely on collective strategies. Meanwhile, the upstream issues seem to be more efficiently resolved with individual solutions or with regulatory interventions.

4.9.3.1 Cooperation

For farmers, joining the EU was one of the turning points that opened new markets and brought new investments to grain farmers. Another important turning point that has been mentioned both in focus group discussions and in the stakeholder workshop is the emergence of grain farmers' cooperatives. Participants use cooperation to explain many of the processes observed all across the supply chain. Founded in the early 2000s the largest cooperatives have grown and now represent a notable share of farmers. Furthermore, the leading cooperatives are closely collaborating which allows them to gain even more bargaining power. Finally, the cooperatives have introduced several novelties that have allowed farmers to gain more control over the bargaining process.

The major achievement of the cooperatives was introducing transparent pricing. Being transparent about the prices quickly became a standard in the sector. Cooperation as a mechanism has also allowed farmers to benefit more from the collective bargaining and – cooperatives have managed to connect the product pricing to prices set in stock exchange. Much of the cooperatives' capacity has been allocated to improve the prices farmers receive for their product (next section will discuss pricing principles cooperatives propose in detail).

However, there are also other functions cooperatives have taken. Cooperatives have hired agronomists (presumably, mainly to facilitate the competitiveness and more thoughtful farming through addressing the smallest and least involved farms), have taken the role of mediator in negotiating the relations between banking sector and farmers (again, mostly to assist smaller farmers that might lack information or might have difficulties to communicate with bank), are investing in infrastructure, etc. During the discussion, some activities are mentioned that cooperatives have been doing just out of good will. After discussing the low quality of professional agricultural schools, one of the participants recalled that the cooperative was involved in resolving this and on one occasion gave the professional farming school tractors for students use. In overall, cooperatives have been a help to farmers on many fronts, and this can be felt in all the discussions held. It seems a common belief that the sector is where it is due to the successful cooperation.

Although silently, during the discussions some critique has been raised as well. For example, while discussing possible modernisation of grain farming in Latvia cooperatives were unexpectedly attacked by agro-scientists who claimed that cooperatives do not communicate the needs of farmers to Latvia's scientists which limits their ability to come up with relevant studies. On a different occasion, farmers agreed that they are not happy with the margins their cooperative collects from each ton of grain sold through the cooperative. Many of them are under constant financial pressure and felt that the payment to cooperative is unfair. As one of the farmers suggested – 4 euro per ton might seem like a small amount to be paid to support cooperative. However, she is selling around 3000 ton through cooperative which means that cooperative withholds 12 000 euros.

During the discussion, farmers suggest that they understand very well why cooperatives need these payments – however, it is the size of these payments they are complaining about. Still, the experts participating in the workshop were fully supportive of cooperatives and had a different take on how to interpret farmers discontent. Proper cooperatives are a rather new

phenomenon in Latvia. All grain cooperatives are young and just accumulating experience and developing best models to operate. Furthermore, cooperation is the only way how farming can be economically sustainable in Latvia. Participants of the workshop were sceptical whether farmers understand the wider grain market processes and the role the cooperatives have been playing in the sector.

Much of the discontent with cooperatives is also an illustration of the different levels of involvement farmers have in the sector. While some farmers and experts are trying to strengthen farmers' position within the sector, others farmers are just tagging along. These others do not want to be involved or to change things – but they want to enjoy the fruits of the improvements.

Finally, it seems that there could be a need to look for other ways to cooperate, other things to cooperate about and other roles cooperatives could take. Currently, cooperatives are functioning and are successful in dealing with the issues they have been built to solve. However, they could be more involved in pushing farmers to insure their harvests, to look for ways to certify the modes of production, to invest more in the risk assessment. All of these suggestions are illustrating genuine problems farmers have faced.

4.9.3.2 Pricing

The current position farmers are in is much better than it used to be in the 90s. When asked, almost all of the farmers who were farming back then had some story to share illustrating the unpredictability of prices and powerlessness farmers experienced. The way to the selling site was long and expensive, and many of the farmers rented the equipment needed to transport their harvest. Once they got to the sales point, they were never sure what price they would get for their grain. However, their farming and transporting expenses was very real. If they chose to go and to sell their harvest they knew that they cannot return home with grain – they had to sell it. Processors buying the grain knew that as well, which ended in unproportioned power relations. The common situation was that in the selling process conflict emerged about the quality of grains and with all the power cards in the hands of the buyer, the farmers could never win the argument. Farmers also shared stories how processors have refused to buy grain at the common site for transactions appointing them to carry the grain to other facilities, thus imposing on farmers additional transportation costs.

Farmers recall that during the period there was no information about the average prices paid for grain. Nowadays cooperatives put their prices on the wall in their offices as well as publish price related information on the web so that everybody could see what they could get for the produce. Back then it was different and as farmers see it – their lack of knowledge about the pricing of grain was used as an instrument to force farmers to sell their produce cheaper. This limited their ability to invest and to become more independent.

These stories, however, belongs to the past now. The cooperatives have managed to impose their practices on the whole sector, which means that although there are a number of large enterprises buying grain, they all are forced to follow transparent pricing. And as it appears from what stakeholders have claimed during the workshop – most of the produce is sold to these enterprises. In some cases, this is because these enterprises are geographically closer

than some others or this can be because they offer better prices. The price difference can emerge from investments cooperatives have made that are now paid off. And cooperatives have been investing massively in their development.

Price differences also emerge from pricing strategies farmers have chosen. Cooperatives offer multiple pricing strategies farmers can choose from. Three strategies raised in discussions are i) daily prices (farmers follow the price fluctuations in stock market and set the deal whenever they are satisfied with offer); ii) bonus system (farmers agree with cooperative on the price they are willing to sell their grain for and receive bonuses if cooperative manages to sell it for a higher price); iii) futures (an agreement to sell for a specific price which can be bound to MATIF, specific formulas or to final price). Farmers using these strategies have to be well informed about the quality of their produce, about the amount of grain they will harvest and about costs they have had. Also, to receive optimal price farmers have to be well aware of global conditions and actors shaping the price.

Farmers sign contracts enrolling them in bonus system as early as half a year before the harvest. This allows cooperatives to reduce costs by operating in bulk and this gives farmers some proof of the deals they will make and thus access to money that can be used to cover ongoing expenses. However, this also means that farmers have to gamble on how much they can sell at each period. During the focus groups, farmers claimed that it is typically around 1/3 which is sold in this way. The remaining product is either sold immediately after the harvest or is stored hoping that prices will rise. This, however, is a risky business – storing the grain results is additional expenses, and the grain storage might be needed which can force the farmer to sell the stored harvest for a low price.

Farmers and other stakeholders reached an agreement that cooperatives were the principal reason for improving farmers' position in the supply chain. A collective strategy was needed to resolve this issue. However, as it will be shown later on, not all of the problems can be solved by joining in groups. Some of them demand an individual response.

4.9.3.3 Problems with suppliers

One of the issues that are seen as something to be resolved individually by each farmer is farmers' relations to the actors upstream the supply chain. Of course, there have been multiple attempts to introduce common response to the challenges farmers face with upstream actors; however, these interventions have resolved the problematic relations farmers have with upstream stakeholders. The principal problems that farmers identified during the discussions are for example unfounded price fluctuations, low quality services, lack of choice, etc.

When discussing the services provided to farmers and products farmers have to buy, farmers and other stakeholders tend to agree that they have only limited possibilities to choose and thus they are forced to pay high prices. However, even more discontent is caused by the pricing strategies upstream actors have chosen. As one of the farmers recalled – when he was buying a harvester he was given tens of thousands of euros discount that served to him as proof that the products sold to farmers are overpriced. However, farmers do not have the means to influence these actors. They cannot buy the machinery they need abroad because

there is a territorial divide between certified dealers. Thus, the foreign dealer will redirect the farmer back to the local dealer. Because Latvia is a small market, there is insufficient competition between the dealers. The discussion regarding pricing strategies suppliers choose went so far that some farmers started to discuss whether or not the prices were agreed among dealers.

The fluctuation of the prices also served as proof that prices are not representing the real production price. The overall agreement among the farmers and experts was that these fluctuations represent the availability of EU funds rather than the real price of production. The same claim was made about other resources farmers have to acquire – for example, price to rent agricultural land is also strongly linked to subsidies. Consequently, financial support meant for farmers ends up in the pockets of those providing resources to farmers. It was suggested that individual negotiations might help to agree on the pricing of this or that service. Meanwhile, in some cases, cooperatives have stepped in and now serve as a moderator agreeing for the price directly with the producers. However, there is a diversity of products farmers use and a long list of products farmers need. Cooperatives cannot provide all of them.

Farmers are even more sceptical when it comes to maintaining the equipment. Almost all of the farmers had a horror story to share. Most of the critique has been directed towards official mechanics whose services farmers are obliged to use if they have used credit to buy the machinery (which is most likely the case). The warranty repair can be long (partly because the possibility for machines to break for all the farmers is the same) and often farmers are disappointed in the outcome. Firstly, farmers conclude that mechanics working on their tractors seem to be unaware of the issues related to farming (thus they can solve issues related to machinery, yet are unable to look at these issues from farmers' perspective). Second, according to farmers, in many cases, these mechanics were unable to resolve the issue farmers had. Farmers were speculating that this could be due to frequent changes in staff which farmers see as a sign that these experts were underpaid.

Due to this, farmers were looking for other ways to repair their machinery. This means that some farmers during the discussions were prising older tractors without electronics. They could repair these themselves. Other farmers (who had already paid off the debt on their machinery) suggested that the farmer should know at least some specialists who can deal with the common issues of their tractors and ask for their help directly. In this way, the farmer will know that he is hiring an expert who will resolve the issue. Meanwhile, the hired expert will know that he will be paid adequately for his job. The payment will be unofficial (which on the farmers' side could be perceived as a way to oppose the large suppliers). Still, other farmers suggest that they are helping their children to acquire the knowledge needed to do the maintenance of machinery. From the discussions, it seems that this is one of the most common strategies farmers are using. In fact, it is a part of a broader response to issues farmers might face – whenever there is a costly problem farmer are looking for a possibility to internalise it. This means that a farmer asks help from a family member or somebody close to the farm rather than hiring a specialist. In one of the focus groups, there was a participant whose son was helping neighbours with their machines and was highly praised for his skills.

Farmers choose to work with upstream issues individually or in small groups – helping each other and exchanging favours. During the discussions, farmers were repeating that due to many ways how the problems with suppliers can manifest themselves, cooperatives cannot be used to resolve these issues. However, when a different issue was discussed a participant revealed that at least one of the cooperatives initially emerged from mutual assistance farmers provided each other. They shared infrastructure and machinery they had to be able to get better prices for the grain. Now they are sharing competencies to reduce costs.

4.9.4 Supporting organisations

Farmers are operating in the supply chain. The relations emerging in the supply chain have been illustrated in the previous section. This section moves forward and looks at the actors supporting farming and their role in facilitating certain farming practices. During the discussions, farmers only marginally discussed the role of organisations supporting farmers' interests. Meanwhile, a significant amount of time was spent on discussing the problems farmers have had while searching for competent employees. These discussions facilitated a broader conversation about the functioning of higher and vocational schools preparing agronomists, zoologists and farmers. However, it also led to discussions about the knowledge availability and the role of various forms of knowledge exchange and what knowledge needs there is. In all communication events, a perception dominated that knowledge needs among farmers differ significantly and that there are pronounced differences between larger and more sophisticated farmers and smaller less involved farmers.

Farmers were also discussing the role of financial institutions and changes in relations farmers have experienced with the actors representing the financial sector. On the one hand, this has been a discussion regarding the financial services that are available to farmers. On the other hand, this was a discussion once again raising the issue of how well farmers are informed about the services they have access to and their experience in using these instruments. Finally, there was also a discussion about how reliant various groups of farmers are from these services.

4.9.4.1 Knowledge needs

Knowledge is a broad topic raised in all discussions. Furthermore, there are several fields of knowledge were farmers could use external help – access to finance and financial planning, soil quality and use of pesticides, properties of plant varieties and ownership of seeds, etc. Latvian Rural Advisory and Training Centre (LRATC) is one of the actors providing information to farmers – at least that is the goal of the organisation. However, from the discussions in focus groups, it does not seem that the participants would be using the services of LRATC. It is worth noting that farmers participating in focus groups could be considered as rather more successful (more involved in the sector). Thus, the discussion did not reflect the perspective of less successful or less integrated farmers. From discussions, it seemed that LRATC is more involved in working with the smaller and less integrated farmers. The farmers participating in the groups relied on their knowledge, on the knowledge provided by neighbours and on the information shared by cooperatives. The latter is particularly interesting because larger cooperatives had hired agronomists who advised farmers and kept them informed about the main events concerning new varieties, plant threats and other relevant issues. Partly these

experts had a role in solving smaller immediate problems and helping farmers to solve more complicated problems by navigating him/ her through the process. However, in the discussions, farmers stressed that the presence of agronomists is more important for the less aware farmers who are less involved in farming. The agronomist could help keeping their fields on track thus reducing the possible threats diseases, and pests pose for their neighbours. Larger farmers were hiring their consultants.

Meanwhile, cooperatives also emerged as a stage to address farmers. Cooperatives with certain regularity organise well-attended seminars that give banks, scientists, NGOs and other stakeholders an opportunity to talk to farmers directly. Since these events are organised through cooperatives, they are well attended and might seem as more trustworthy than other platforms that could be used for discussion.

During the focus group discussions, farmers were talking about knowledge issues in an impersonal way – these are problems that in general should be solved; however, participants were not affected by them. However, experts participating in workshops felt less optimistic about the knowledge level of the farmers. Furthermore, on many occasions, they expressed pessimism about the overall availability of the knowledge needed for farming in Latvia (for example lack of locally based tests on plant productivity, locally adapted plant varieties, independent research on agro-chemistry). Thus from the discussions during workshops, it seems that many of the knowledge needs remain unresolved.

For stakeholders participating in the workshop, one of the reasons why farmers lack sufficient knowledge about the problems they face is their passivity and lack of motivation to learn and improve the way they are farming. Often short-term thinking dominates among farmers, and thus the models of activities they choose are unsustainable (and that is considering all three pillars of sustainability. Still, most of the critique was dedicated to economic sustainability). To illustrate this locally well-known and maybe overused example was given –farmers prefer to buy a big car today rather than invest the money they have or to save it in case of unexpected crisis. According to experts, many of these farmers lack strategic vision and planning skills. A low number of insured agricultural land served as an example of this. However, this, of course, is not the case of all farmers – some of them show excellent planning skills.

When possible solutions to these challenges are discussed, workshop participants mainly were suggesting that there is a need for collective action and new regulatory framework. For some aspects the viewpoints differed – for example regarding the question – can Latvia's scientists provide the information needed by farmers? Regarding the information concerning planting, experts agreed that most likely cooperatives would not be able to provide all the information farmers could need. Thus other information exchange ways should be facilitated. Among these new modes of information, exchange demonstration was particularly underlined as for its potential and insufficient use. Participants also suggested that everybody could benefit from stricter regulations on agro-chemical use. Currently, farmers have to participate in a short course to obtain the licence allowing him/ her to use agro-chemicals. However, the chemicals change and so do the contextual situation which means that the information the

farmer receives quickly loses relevance. Furthermore, one has to consider that the list of allowed agro-chemicals is updated each year.

Despite this, the common belief was that the problems related to knowledge availability would naturally disappear. The future will bring ever fiercer competition, the environmental awareness and consequential public interest in agricultural practices will bring stricter control of what the farmer is doing on his field, and the climate change will make it more difficult to farm without a clear well thought through plan to survive. This is the situation where only farmers who are planning and learning will be able to remain profitable.

4.9.4.2 Labour availability

One of the key issues farmers have been willing to talk about during the discussions is labour availability. Farmers claim that in rural territories there is a lack of motivated and educated people willing to work on the farm. Most of the rural population has left to cities or has left the country entirely. According to one of the farmers participating in the discussions – the available workforce could be trusted to pick rocks from the fields; however, cannot be trusted with expensive machinery. For the most part, farmers' need to have additional hands around the farm is seasonal, which additionally complicates farmers' situation: most of the potential employees who could work are already employed by somebody else and most likely won't be ready to switch their current employer for a part-time job on the farm. Still, most of the farmers have found some way to overcome challenges associated with employment.

To start with, the fact that these farmers are already farming means that they have already managed to overcome the labour issues. In most cases this means that the farmer has been keeping all the important tasks in the family – the farm is remaining a family farm. However, this also means that during harvests family members have to work long hours. Also, the strategies they have taken suggest that they cannot expand. Still, as it was put by one of the respondents – they have reached the level where they feel comfortable with the farm's size and where income from farming is sufficient to provide for a family. These farmers have enough and do not plan to expand their farm. From discussions raised in focus groups, it seems that in such family farms farmers have clearly divided the responsibilities and everybody knows what he/she is responsible for. Also, it seems a common approach that at least one of the farmers' children tends to choose a profession related to the needs of the farm. This, of course, is also strongly related to farm succession. Even without education, as it has been illustrated in numerous examples – farmers' children basically grow up while operating heavy machinery. In farmers' stories, some of their children were operating with smaller tractors before they were 10 and thus it is natural for the family that these kids uptake the task and follow the steps of their parents.

However, this cannot be the response for all farmers – especially those who have outgrown family farm size. These actors have been hiring experts and apparently ensuring that these employees have the motivation and loyalty to stick with the farmer. From the stories told, it seems that highly qualified employees mainly stick to one farm and develop strong relations with their employer. This is not the case for relations with seasonal workers, who were hired for less important tasks. In case of seasonal workers, the farmers will use different strategies.

However, the common theme uniting these strategies is the difficulties farmers have when looking for staff.

Farmers claim that the lack of employees is partly related to a rather poorly functioning educational system. The vocational and higher education institutions do not attract the part of the population that is interested in agriculture, but rather have gathered people that, according to farmers, are unmotivated and unwilling to learn. It is difficult to find out how reliable these claims are. However, there is another claim that has been repeated in all discussions. That is – that the curriculum of the vocational schools does not reflect the knowledge modern farmers need. According to the critics, the curriculum does not correspond the farmers' needs, it is outdated, and it is taught in a way that does not inspire students to use the knowledge in practice. One of the farmers recalled that students had been sent to take exams on his farm. Their task was to operate heavy machinery. Most of the students, who were taking the exam, did not have a basic understanding of the tractor they had to operate with and those few that did have were originating from farmers' families. According to farmers, the institutional way to prepare farmers has been failing. Despite the scepticism of farmers, the stakeholders were keen to discuss during the workshop the ways how they could enable the quality of education.

The question that has been raised only marginally is the salaries farmers receive and are willing to pay to their employees. This question could be the key to solve many of the issues related to labour. For the most part, farmers participating in the discussions and workshop were happy with the income they could make from farming. The questions regarding the salaries of their employees were received with strong opposition where two major ideas were expressed. First, everybody agreed that if they had a highly qualified expert working on the farm, they were looking for ways to motivate him and to constantly search for a way to pay a competitive salary. Still, it is important to remember that in many cases the highly qualified work is done by the family members. Second, farmers also claimed that the on-farm employees should not be motivated by salary; they should want to work with the land and to live in the countryside. This statement most likely indicates that for many employees it is highly likely that they receive salaries that are not so competitive. This could be one of the reasons why farmers cannot find the right employees. Most likely this is especially true for the seasonal workers.

4.9.4.3 Finance

The role of finances and knowledge about finances has been mentioned already in previous sub-sections. Everybody involved in the sector recognises the importance of financial institutions. However, the different services that the financial sector provides to farmers are perceived ambiguously. Same can be said about the actors representing the financial sector: while work of some actors has been perceived as mutually beneficial and successful, others are regarded with scepticism. Farmers also stress the change in the way how the financial sector sees agriculture.

Farmers recall difficulties to receive loans and complicated conversations with banks. During the 90s a farm was not a promising investment for banks to make. According to farmers, this was a reflection of the lack of strength farmers had in the supply chain and the limited support

from the government. This of course complicated farmers' position even further. This time also coincided with the time when still a lot of agricultural lands was sold for available prices. Unfortunately for farmers, many of them were excluded from the land trade due to the lack of access to finance. Relations between farmers and funding actors changed in the early 20th century with two important events almost coinciding: the emergence of cooperatives and Latvia joining the EU. Higher farmers' income and access to subsidies made farming a more attractive sector for financial actors to operate in. The interest of banks in farming grew even more during the economic crisis when the grain sector continued to bring profits to farmers, and thus these farmers were less influenced by the shocks everybody else was experiencing.

Two main financial services that farmers were discussing are the possibility to take loans and insurance. During the focus group discussion farmers were discussing the differences in farming when you have loans versus when you don't have loans. There were few participants who have managed to pay off their debts and could risk more in selling their harvests. For other farmers, the loan was a pressure that forced them to stay with tested operational models.

Most of the farmers who owed something had taken their loan from a bank. For these farmers, the challenge was to stay below the debt level that could be paid off in the foreseeable future. Workshop participants, however, were more critical about the relations between farmers and banks. Two questions were asked by the workshop participants: First, how well do farmers understand differences between various financial instruments and how well do they plan their finances? Stakeholders were raising questions regarding what these loans were spent on. However, even more they were worried about the ways farmers search for cash before they have received payment for the harvest. Need for quick cash might push farmers to accept risky loans – relatively small loans with high interest rate. The second question raised by stakeholders is: how well thought through are the conditions that are used to give loans? An example that was discussed is the length of the offered loan meant for farmers to buy land. Experts were concerned that offering loans that can be paid off in a long period of time allows farmers to remain inefficient and reduces his future possibilities to invest. Furthermore, such loans could eventually drive the growth of land prices. Thus, the general attitude experts had was that financial services might cause the development of grain farming that is not competitive in global markets.

Participants also discuss the questions concerning various services related to insurance. Again, the way how this insurance was discussed in focus groups differed from the way it was addressed in workshops. During the focus groups, farmers admitted that none of the participants had insured their crops. This was mainly due to disbelief in the insurance system as such. Farmers' general claim was the insurance they are offered does not cover the risks they face, and it could be that the compensations are small. Farmers suggested that it makes more sense to keep extra seeds that could be planted in case of emergency rather than pay for insurance. Meanwhile, workshop participants had the opposite idea. The general belief among participating stakeholders was that distrust in insurance is one of the central problems of Latvia's grain farming. With the ever-growing frequency of extreme weather conditions, insurance is one of the ways how farmers can still protect themselves. However, the growing threats also meant that the price of insurance was going up.

Finally, during the workshop, there was a discussion regarding the land availability in Latvia and what can be done to protect agricultural lands so that they are continuously used for agriculture. This question could not be solved by farmers of the grain sector, and the common agreement was that there is a need for state intervention – a financial institution that could operate with the deals where agriculture land is sold and at specific moments it cannot be bought by the farmers for one reason or another.

4.9.5 Resilience

Resilience is farmers' ability to adapt, recover and overcome shocks. As such resilience is both individual strategies as well as a communal adaptation. This section looks at resilience related to challenges participants of the workshop and focus group discussions have identified. Some of the key challenges that have been raised by participants are: farm succession, shocks caused by climate change, challenges posed by relations with rural communities, and market posed risks. As it has been illustrated in previous sections of this part of the report, the perspective on which key aspects they should focus on differs depending on who is giving the assessment.

Farm succession as one of the key issues faced by agriculture in Latvia seems to be a less of a problem for successful grain farmers. Same can be said about the environmental threats; larger farmers have better offers of insurance and are better aware of the threats. Thus, in many ways, it seems that in case of grain farmers larger farmers are more resilient than small and medium farmers.

4.9.5.1 Farm succession

Basing on themes raised by farmers and stakeholders during focus groups and the workshop it can be suggested that succession is among the issues farmers are concerned with. During the discussion, farmers are frequently getting back to the question who will continue to operate in their farms once they decide to retire. From the stories farmers tell one can conclude that the members of the focus group discussions predominantly have large families. Many of them have already involved their children in daily tasks around the farm, and in many cases children have become an important part of the strategy how farms solve the challenges the sector faces. Despite this, the uncertainty of successions remains – children are moving to the cities and making carriers in different sectors.

As was pointed out earlier, the participants of the focus groups predominantly represent successful medium-sized family farms. From the discussions, it seems that for this group of farmers farming is their source of income and also the way of life. Thus for this group it is much more painful to witness that their work will not be continued by their family members. It seems that much of the motivation guiding their activities are coming from the sense they have somebody to pass on their work and thus lack of the heir can be the reason why farmers reduce their involvement in the farm. In comparison some of the largest farmers interviewed during the first waves of the SUFISA fieldwork were using a much more business-oriented perspective to interpret their involvement in agriculture (we can just presume that the family had a smaller role in ensuring that the farm functions).

Meanwhile, three focus group participants had taken over family farms just recently. Motivated by the support young farmers receive families operating in the farms decided that the young generation could officially take over the farm. However, these discussions also illustrate that these farmers (in many cases not so young anymore) have been involved in farms daily life already before the official act of taking over the farm. And now – after the succession, their parents remain strongly involved in farming. However, there was also a different strategy on how to ensure that the farm has a successor. Two farmers participating in the focus groups pointed towards this strategy when parents entrusted their children full responsibility relatively early. In practice, it meant that parents officially entrusted part of farms land to the heir who then had full control over the particular plot. In both cases, this meant that still all of the decisions families were making together. It also seemed that parents continued to play the leading role in deciding what will be done and how it will be done. However, from what we observed we can conclude that this act of trust in giving their heir a piece of family activity was motivational enough to keep children in the grain farming. In both of the mentioned cases the young farmers were also pulled into official farmers' networks and events. In the first case, for example, the farmer was representing his family in the gatherings of farmers' organisation "Farmers' parliament". However, this can also result in awkward situations. For example in one of the discussions, both the old farmer (mother) and the new farmer (son) participated. In the introductory part of the discussion farmers were asked to give an approximation of their farm size. The young farmer had difficulties to answer this question, and so the mother helped in naming the precise size. This most likely indicates that although the young man has taken over the practical things of farming, he is not involved in the bookkeeping of the farm which is still done by the parents. Splitting up the farm is also motivated by higher subsidies and other benefits which young farmers receive.

There can be other ways how farmers can involve children and make them responsible for specific aspects of farming without handing over the ownership of the farm. The discussions illustrated that farmers tend to allocate specific fields of responsibilities to their children. For example, this report has mentioned cases when farmers' children are responsible for machinery used on the farm or when they are given the responsibility for a crop that is grown on the farm. Apparently, for farmers, a gradual involvement seems like a promising way to involve the younger generation and ensure that there is somebody who can continue farming after current farmers decide to retire.

4.9.5.2 Climate change

Climate change is a concern that has mainly been raised by the stakeholders participating in the workshop. However, on multiple occasions during the focus groups farmers also have been keen to discuss strategies that are meant to solve issues related to climate change (although, climate change as such has been named only occasionally).

It is worth noting that in the time when this section is written, Latgale (region of Latvia) has been hit by the heaviest rainfalls it has ever witnessed during the last century. Due to the following floods state of emergency was introduced in 27 municipalities and it is estimated that 7500 ha of agriculture land has been flooded. Although different sources offer different numbers, experts tend to agree that only a few of the flooded farms were insured (one source

even claims that in the particular region less than 1% of sow crops are insured while other experts claim that only 18 farms have been insured in Latgale). This brings forward the question of risk management; this time as a way to improve farmers' resilience. In case of the floods, the government has announced the state of emergency in the region that will make it easier for the government to support farmers. However, otherwise, the example illustrates how unprepared farmers might be for climate change and how unsustainable current responses to the challenges of climate change are. To be fair, we also have to note that insurance would not have helped farmers because as both farmers and experts suggest insurance does not cover harvest loss if they have occurred when the crop is ripe.

During the focus group discussions, farmers were discussing the future of farming in the light of climate change. For example, during both discussions, farmers on several occasions raised questions regarding farmers' possibilities to fight new plant diseases and pests. These conversations mainly were criticising the restrictions EU has posed on the use of specific pesticides, herbicides and fungicides. The general claim farmers were making was that the climate change is bringing to Latvia new challenges farmers will have to deal with. Obvious and quick solutions for farmers are to use stronger pesticides allowing them to protect themselves from emerging threats. However, farmers do not discuss the sustainability of the solutions they are offering. Their interest in and support to agro-chemistry is perfectly understandable. For them it is not the long-term future that poses problems – it is rather this specific season that has to bring profits. Thus, as it has been pointed out earlier, it is not climate change that is considered to be the real problem but possible threats to lose the harvest and the income. Furthermore, on one occasion a participant expressed an idea that was welcomed by other farmers, namely it is not farmers that cause the real climate problems but rather processing industries.

In this context, farmers had a lengthy discussion about what kind of devastation the diseases leave on sectors nowadays. Global markets and open borders might cause a quick spread of diseases and there are some examples in other sectors where this has happened. For example, the African swine flu, carried by wild boars, has seriously crippled the Latvia's pig sector. The grain sector should not consider that it is protected. However, it is impossible to predict when, where and how such threat will materialise. Thus there is a certain ambiguity about such possibility.

A different tone was notable in the discussion about seeds and the specific crop cultures farmers are planting. This discussion took two directions – on the one hand, it discussed the copyrights on the different varieties; on the other hand, farmers were discussing the properties grown varieties need in current weather conditions (or what varieties can be used to minimalize loses from less predictable weather conditions). This is also a question which forces farmers to look at scientists and consultants and hope that they will have the answers to the questions farmers are raising.

Workshop participants were more inclined to discuss the climate change. Partly, this is because in the workshop some of the participants were representing environment organisations (see Appendix) trying to introduce new discourses offering alternatives on how to think about farming. However, it is also because farmers' organisations are more aware of

the climate change. These organisations suggest that farmers have to change the way they think about farming and the role they play in causing global warming. First of all, they have to do this to protect themselves. Additionally, they have to do it to build closer relations with society, which has been sceptical about the role of farmers.

Finally, in the context of resilience, it is important to ask how durable the current supply chain in which farmers operate is. Farmers' wellbeing is mainly dependent on strong cooperatives yet the cooperatives are dependent on the demand in the global markets.

4.9.5.3 Communities' support

The resilience of grain farming is not only about being able to adapt to the environment and climate change. It is also about being able to create constructive dialogue with communities. All through the focus groups and the workshop, participants were raising questions regarding the role of non-farming part of the rural population and their ability to set the rules for farmers. In the second focus group very early on participants came to the conclusion that farmers are blamed for many of the environmental problems Latvia environmentally faces today. For farmers, this of course was a mistake reflecting poor knowledge people have about farming. In both focus group discussions, farmers raised the same argument that processors have a much more pronounced effect on the environment. Another argument raised was that the current environmental problems are caused by lack of environmental policy in the Soviet Union. According to this argument, it is only now that society begins to feel the full extent of environmental heritage the Soviet Union has left behind. According to farmers, what happens is that people do not understand the practices farmers follow and consequently start to blame them for the environmental degradation caused by the previous political regime. Still, despite this in all three discussions, participants raised doubts about the soundness of practices of other farmers – especially if these were smaller and less involved farmers.

However, what everybody could agree on is that farmers are misrepresented in public media as a lazy group demanding public support yet spending it on unjustifiably expensive private cars and not caring about rural society or the environment. Such interpretation of farmers can be damaging to farmers, especially because demographic characteristics of rural communities have been changing. Many of the countryside houses are now inhabited by well-educated families from cities who do not see the countryside as a source of their income but rather as a place to relax and enjoy the rural nostalgia. These people are prepared to get involved in controlling institutions whenever they feel that their neighbours – farmers are violating any rules. Thus they can become quite a nuisance for the farmer who consequently has to communicate with inspectors and explain the situation. This causes tensions among the two groups.

For the most part, this was somewhat an unresolved issue. Farmers had noticed that there is such a problem. However, they did not have an immediate solution that could be used to mitigate these tensions. Furthermore, many of them were looking at agro-chemistry as the only way that could help them to overcome the issues related to climate change. Thus for them, the sensitiveness of rural inhabitants to farming practices and the demand of environmental organisations to ban or limit certain ingredients felt like a very real threat

possibly reducing their income. The only demand farmers could suggest was that farmers' organisations communicate more actively to facilitate the spread of different perspectives.

Some of the farmers had taken this issue into their own hands and introduced their ways to communicate with local communities. Thus they were supporting local schools, participating in local events or went in local politics which presumably had a positive effect on how these farmers were perceived. Farmers reported that this also resulted in simpler relations were farmers could directly communicate their needs to local governments while on the other side local governments were more open to communicating to farmers.

This rather egocentric perspective on relations with local communities was not shared by the experts participating in the workshop. First of all, as was said before among the participants there were several representatives of environmental organisations and agencies monitoring farmers' use of pesticides. However, this is also because farmers' organisations were disagreeing with the vision presented by farmers. As one of the key experts summarised the issue, farmers will have to change, and it does not matter if they like it or not. This is because environmental issues won't be something to build negotiations around. It is rather that farmers will have to look for ways to improve their environmental performance and to search for ways how to communicate their achievements to the broader society.

4.9.5.4 Diversification of product

Finally, the competitiveness of the grain sector has to be discussed. In this case, the main component of competitiveness participants was discussing is farmers' ability to supply a product that is different or a product that has a high demand. Although the farmers have been mainly working with the dominant cultures (wheat and barley) during the discussions they revealed that they had a diversity of animals on their farms and they were planting a variety of crops. On the one hand, diversification served as a way to optimally use their resources. As one farmer told that he decided to introduce goats in his farm because he had a piece of land that was unusable for grain farming. On the other hand, diversification is a response to the risks farmers are facing. For example, many of the grain farmers were also involved in dairy farming which ensured that they have a regular income. Farmers were also experimenting with new cultures that could be sold for a higher price and had high market demand. From the discussions during the focus groups, it appeared that farmers actively discuss among themselves their experience in this regard and thus neighbours are informed what experiments have proved to be competitive.

However, this openness to new products was not shared in higher levels of the supply chain. As it was pointed out during the workshop, grain from Latvia is a trademark on its own, and the quality of this product will ensure that there will be clients willing to buy it. Representatives of cooperatives also recognise risks emerging from the lack of instruments to influence prices and the global competition. However, neither of these has been perceived as a sufficient threat for cooperatives to invest in diversification. Cooperatives were claiming that they would not be able to compete with prices if they were going into the processing side of the farming.

4.9.6 Table 9. Understanding grain farmers institutional arrangements

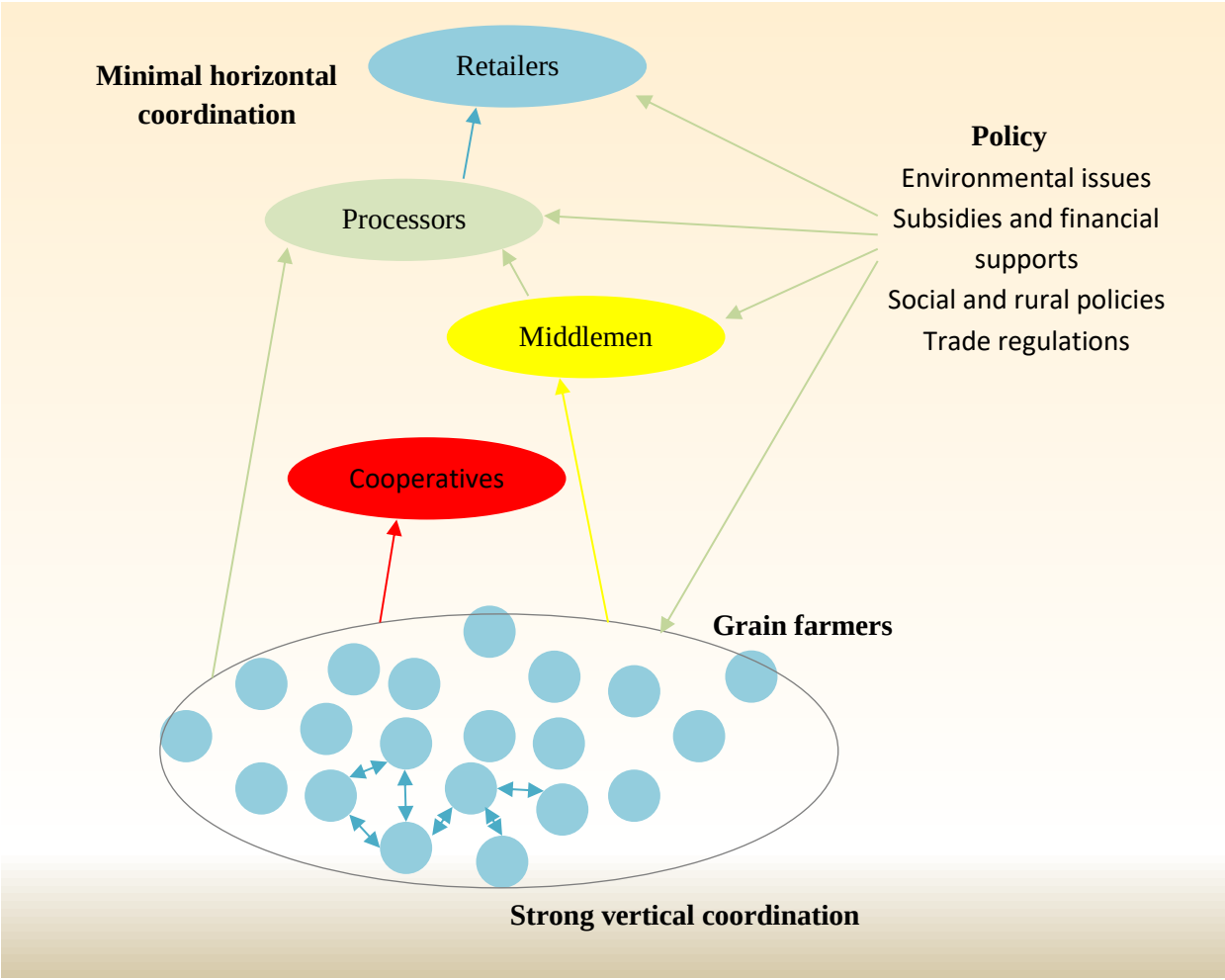
Guiding question		
1. Can you please explain where and how (channels) you commercialize your products?	Most of the farmers sell their product either to cooperatives or enterprises buying grain. Many of these enterprises and cooperatives have taken multiple roles in the supply chain (including issuing loans, supplying farmers with agro-chemistry and machinery, organising seminars, etc.).	Markets and marketing
2. What are the main challenges you have with your customers and the demand for your commodities?	Farmers have to ensure a specific quality for the product they are selling, have to be able to predict the amount of grain harvested and have to have at least some understanding of the grain price shifts. This knowledge allows individual farmers to receive a higher pay for the product they sell.	
3. What marketing strategies do you have in order to secure better deals?	Farmers do not use marketing strategies. However, they tend to split the harvest into smaller chunks that are then sold under different conditions. A typical example of this is when the farmer sells a third of the harvest before the season, a second third is sold after the harvest using different agreement yet the remaining third of the harvest is used to gamble on the stock market.	
4. Is certification part of your strategy?	No. None of the actors operating in the sector has reported using certification.	
5. Has there been any recent contextual change that has influenced your current business model?	Two events that have been mentioned as significant for the sector are entering the EU and the emergence of cooperatives. EU introduced new rules and facilitated farmers' access to finance. Meanwhile, cooperatives have facilitated pricing transparency.	
6. How do you finance your activities, and what would you require to change this?	Most of the farmers participating in the focus groups were currently in debt. According to farmers banks and other actors lending money felt that farmers were a trustworthy investment. Furthermore, there seemed to be competition between different financial actors. The loans were mainly guaranteed by agricultural land.	Financing
7. Do you work with other farmers? How did this start? How is it going? Will you continue in the future?	There are three central cooperatives shaping the sector. Around 1/3 of national harvest is sold through cooperatives. There are also occasions of informal collaborations, some of which have managed to become established organizations. Furthermore, there are also farmers' organizations that have been working to protect farmers' interests. Still on occasions farmers have expressed skepticism about cooperatives.	Horizontal coordination

8. Do you collaborate with others in the value-chain? How did this evolve? Will you continue with this in the future?	Cooperatives are mainly operating as middleman ensuring that farmers can sell their produce and receive transparent prices. However, participants were not enthusiastic about the possibility to collaborate vertically. Much of the skepticism towards processors was guided by the historical experience farmers have had.	Vertical cooperation
9. Do you feel that the current policy context helps you to improve your business performance?	The discussions were taken place in the time when next CAP was negotiations were starting. Workshop participants felt critical about the way how local government was promoting the interests of local farmers in these discussions. The common claim was, that national government does not have a plan or a vision of what it should do. Meanwhile, farmers were discussing the discriminatory conditions under which they had to operate if they are compared to old EU member states.	Policy and regulations
10. What environmental constraints and social challenges do you need to address?	The views on environmental challenges were different between farmers and workshop participants. Farmers repeatedly expressed their concern that the environmental constraints posed by EU legislations limit their ability to fight spread of new diseases, pests. Meanwhile, experts in general agreed that farmers will have to come up with more sustainable solutions and will have to create ways to rely less on agro-chemistry.	
11. How do you deal with current policies and regulations? What are your main strategies?	In general farmers were endorsing existing policies. From the discussions it seemed that although controlled, farmers felt relatively free. They were better informed and if they disagreed with something they had ways to dodge at least some of the rules. Also, and this is just a guess, it seemed that they were thinking that there could even be stricter regulations in the future and thus they should keep silent about of their concerns.	
12. What is the impact of your farming activities on the sustainability of the sector; furthermore, how would you define this impact?	Cooperatives and farmers' organizations were seen as the main warranty for the sustainability of the sector. What concerns farmers activities – these were not seen by farmers as environmentally harmful. Farmers were rather the scapegoat for the environmental failures of other sectors. Meanwhile, some other farmers were willing to recognize the role large farmers have played in rural depopulations. Without rural populations farmers could have a difficult time to continue to manage the land they have.	Financial Sustainability

4.9.7 Understanding grain farmers' institutional arrangements, diagrammatically

SUFISA project methodological guidelines propose using a diagram to graphically explain the arrangements underlying each of the sectors analysed by the project. The following diagram is based on this suggestion and represents arrangements which are applied to the grain farmers in Latvia. The most significant aspect to note for this sector is that farmers have strong vertical coordination. Farmers have strong cooperatives and strong representation in policy making. Vertical coordination is mainly taking place through few well established cooperatives which has forced the sector to adapt practices used in cooperatives. Furthermore, in order to gain strength the cooperatives are also mutually collaborating, which offers them even more possibilities to shape processes within the sector. There is also a type of coordination occurring among neighbours that allows them to cut down expenses and assist each other in case of problems.

Figure 12. Grain farmers' institutional arrangements



5 Results of quantitative survey

During the SUFISA project, a quantitative survey of dairy and grain farmers in Latvia was conducted. Due to the farm structure in the two sectors, it was decided that for this survey quota sample should be used. Quota sample was seen as the best option because of the polarised nature of the two sectors. Quotas were seen as a way to ensure that there is an analysable share of farms of various sizes in the final data set. Also, based on the research experience, BSC researchers early on realised that low response rate could be the main problem that could hamper successful data collection. To solve this challenge BSC hired local advisory service to collect the data for the survey. Strong linkages the advisory service has to the farmers representing the two sectors allowed them to collect 134 interviews with wheat farmers and 142 interviews with dairy farmers.

This section explores the main results of the survey comparing the results of the data gathered in the two sectors. We realise that the two sectors are completely different. However, dominating discourse in Latvia suggest that the two sectors should be learning from each other. Following this general idea, we offer here a joint analysis of the two sectors illustrating the structural differences between them. The comparison of the two sectors allows developing a deeper understanding of the structural arrangements behind the dairy and grain markets. The survey also reveals the significant differences between the two sectors and thus raises a question how valid the common attempt to copy strategies from one sector to another is. However, we can speculate that some of the differences observed between the two sectors can be used to explain differences in the level of success of these sectors. Many of the farmers in Latvia choose to be involved in both dairy and grain farming which allows them to diversify their income and improve their ability to overcome sudden shocks. However, despite the fact that often these are the same farmers that operate in both sectors, the survey reveals that farmers from the two sectors tend to choose different strategies when it comes to selling their product. Still, the reader should also bear in mind that the data is not representative. The quota sample was used to obtain the diversity of strategies farmers have and thus – the results are well suited to illustrate the variety of approaches farmers have as well as how the strategies farmers choose are connected to other activities they pursue. It should not be seen as the proof of the prevalence of certain solutions in the grain and dairy sectors.

While interpreting the results, it was also observed that confronting the data from the two sectors can help to build a deeper understanding of the processes that shape farmers daily experiences. The two sectors are very different, and the comparative perspective allows underlining these differences.

For analysis, additional variables and additional categories were introduced in the data. First of all, new categories for the size of the farm were introduced. For the analysis, grain farm size categories were introduced - 50ha or less, more than 50ha, but less or equal with 100ha and more than 100ha. In the dairy sector, the farm size categories introduced were - up to 50 cows, 50 to 99 cows and hundred and more cows. These categories are what is meant when it is referred to farms size in this chapter. Additionally, a new variable to describe farms

efficiency was introduced - farms that are operating below average efficiency level and farms that are operating above the average efficiency level. The variable was calculated as amount of annual productivity per unit (milk per cow or grain per hectare) compared to national average productivity. For the average efficiency level in the wheat sector, the average efficiency in the country in 2016 was chosen. A similar procedure was repeated for the dairy sector.

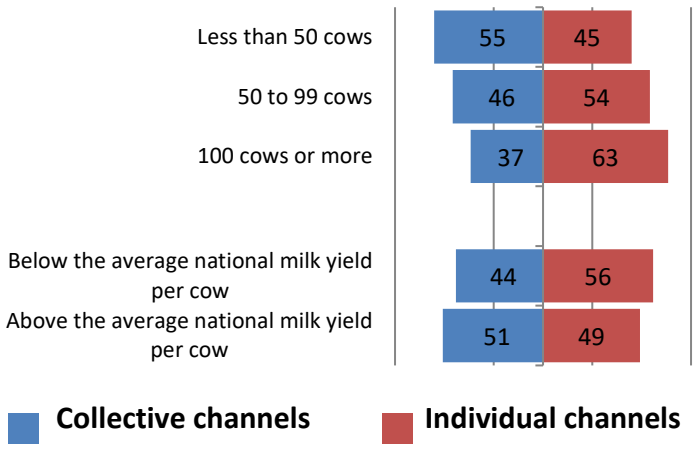
5.1 Sales channels

As expected, the survey reveals that the sectors are inherently different. Many of the differences can be explained by the institutional characteristics tying actors operating in the sectors. However, although we know that the sectors inner characteristics can be used to explain the prevailing answers in each of the sectors, the survey also reveals, that most of the differences in the ways how farms representing the two sectors penetrate markets, interpret the need to evolve or were they see possible treats can be explained by the farms size and the farms level of intensification.

Dairy farms, no matter what size or how intensive they are, sell more than 90% of the milk they produce. If very small farms are excluded (farms with less than five cows), than the variations between the remaining dairy farms seem to be insignificant (around two percent). For most farms, there are no differences in regards the share of milk farms chooses to sell. Small dairy farms tend to consume at least some share the milk on their own. Also, very small dairy farms tend to be less involved in the official markets and more often operates informally (and based on informal agreements (see Figure 13).

There are some differences in how the grain farms penetrate the market (see Figure 14). There are clear differences regarding involvement in the market related to the size of farms. Smallest farms and least intensified farms tend to sell a smaller fraction of their yields. This is especially pronounced in cases of farms cowering less than 50ha. In these farms, farmers choose to sell less than 50% of annual yield. However, if the size of the farm is considered, even for the larger farms the share of a harvest that is sold never reaches 90% (and this is true even in case of farms larger than 100ha). This is not, however, true if the efficiency of farms is taken into account. The data illustrates a clear trend that the more efficient the wheat farm is, the higher share of its harvest it will sell. The farms with average yield per ha below 3t per ha on average sell around half of their harvest. Farms with productivity between 3t and 4.5t per ha on average sell a little bit more than 3/4 of the harvest. And the farms exceeding 4.5t per ha on

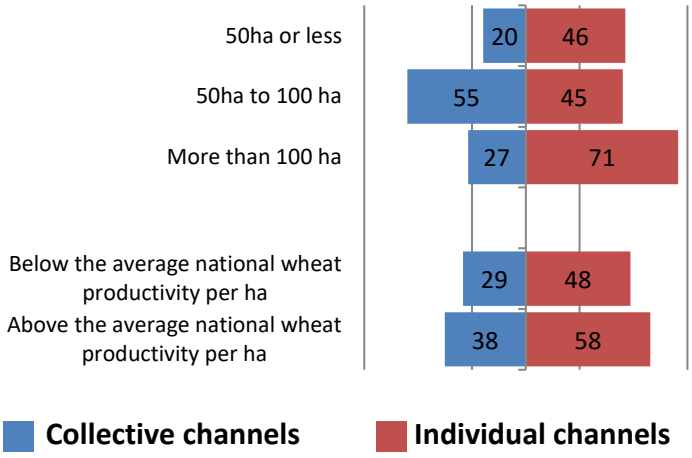
Figure 13. The share of milk sold through collective and individual channels



average sell more than 86% of their harvest. In case of the wheat sector three conclusions from previous stages of the research could help explain the variation in share of harvest sold: 1) smaller farms tend to use grain as a feed for farm animals; 2) in smaller farms farmers tend to preserve their seeds rather than buy them; 3) smaller farms invest less in chemistry, machinery and knowledge that could help to maintain certain level of quality of yields. These are arguments that could be associated with the intensification of the farm as well. It could be concluded that lower level of involvement in the market is partly related to an inability of many farmers to meet market standards and partly related to a variation in farm management strategies.

Still, what is even more important - already in this early stage of analysis data indicates that there is an important distinction between the size and efficiency of the farm. Growing and intensifying means two very different things between grain farms (and as we will later show - between dairy farmers as well). Most likely this distinction can be attributed to the comparative cheapness of agriculture land in Latvia that allows farmers to increase their profitability by just increasing their size. Despite the fact, that it is commonly stressed that dairy cooperatives are weak in Latvia, the share of dairy farmers claiming that they sell their products through collective channels and those claiming that they use individual channels were practically similar. The collective channels were used more commonly among the smallest farms - 55% of farms with less than 50 cows where using collective mechanisms to sell their milk. However, the use of collective distribution channels is decreasing with the increase of farms size, and from the farms, with more than 100 cows just 37% sells their milk collectively.

Figure 14. The share of wheat sold through collective and individual channels



Somewhat similar conclusions can be made about grain sector as well. The difference is that in this sector smallest farmers (with less than 50ha) represents quite a separate group with a separate set of practices. As was mentioned - smallest farms tend to sell a smaller share of its products in general. However, when wheat farmers sell the wheat they have grown, they are more inclined to use direct individuals channels.

In overall, if compared to the dairy sector a smaller share of grain farmers use collective channels to sell produce. What is even more surprising - data illustrates that the strategy for selling their product that prevails among the largest wheat farmers is widely similar to those observed in the dairy sector. The dominating collective channel in both cases is cooperative. In previous waves of the study representatives of cooperative indicated that around 30% of the overall national grain produce is sold through cooperatives. The difference between the two sectors is in the number of cooperatives operating in each of them: the grain sector has

only three major cooperatives while the number of cooperatives operating in the dairy sector exceeds twenty. Thus, despite the fact that grain farmers are selling less to cooperatives, the centralisation of cooperatives have allowed them to secure strong positions in the supply chain. With that being said, the low share of grain sold through collective channels is surprising and probably reflects the growing discontent with few dominating cooperatives, and the success of individual selling channels in copying the trade models cooperatives have been giving to farmers. As an expert commenting on the data suggested - it is clear that cooperatives will have to look for new ways to become more attractive to farmers because otherwise, they will lose their competitive edge.

Although the largest farms from both sectors choose individual sales channels, there are differences in their relations to cooperatives. When farmers, where asked, are they members of any cooperative in the dairy sector participation in cooperatives was much higher among small farms, yet it lower if the group of larger farms is considered. For example, if farms with less than 30% cows are regarded, then the participation rate exceeds 50%. Meanwhile, among the farms with more than 100 heads, less than 30% of farmers indicate that they are members of a cooperative. The situation is opposite in grain sector - larger farms are more likely to be members of a cooperative than small farms. Thus, although the large grain farms are selling less to cooperatives, they are still supporting the organisation with their involvement (almost 60% of farms with more than 100ha indicated that they are members of a cooperative. Furthermore, large grain farmers were more likely to be involved in other farmers organisations). Thus, we could speculate that the problem of dairy cooperatives is not the unwillingness of dairy farmers to cooperate, but rather the particular behaviour and lack of interest from that can be observed among the largest dairy farmers.

Finally, the preference of sells channels can be explained with the efficiency of the farm. In both sectors, farms whose productivity was above the national average were much more likely to sell their product through collective channels than those with harvests below the national average. In the dairy sector - 51% of the farms above the national average milk yield were selling milk collectively (while only 44% of farms below the national average were using collective channels). In the grain sector, 38% of productive farms were selling grain through collective channels while only 29% of the farms with yields below the national average were doing that.

This is an important difference that separates the largest and the most productivity farms which once more underlines that the two concepts should not be used as synonyms. As the evidence already presented and as will be shown later in this analysis - on general farmers from the two groups tend to choose different strategies. This observation allows us to suggest that there are different mindsets behind the two approaches. On the one hand, there are those farmers who are investing in agriculture and must have a predictable income to repay the loans they have. This need to have stable income flow could be the reason why they pursue collective strategies. Also, observations in previous stages of the study allow indicating that this group of farmers are much more aware of the overall way how the market operates. On the other hand, there are large farmers who can benefit from the opportunities that are available to him/her at the moment without worrying about the future. These two mindsets at least partly will be explored in the chapter dealing with contracts.

5.2 Characteristics of sale agreements

Much of the aspects that are negotiated in contract forms common in the two sectors can be explained by the differences in the product that the two sectors produce. However, farmers' answers to the questions regarding the contracts also reveal the relational standards, and common practices each of the sectors have adopted. As has been illustrated earlier in this report - the grain sector has been successful in improving transparency and in introducing an approach that typically there are a number of contract forms for farmers to choose from. The adapted forms are now widely accepted and copied by most actors in the sector, and this is reflected in the data. Not to copy these forms would mean to lose the competitiveness. The dairy sector, on the other hand, could be described by unscrupulous diverse contracts that differ depending on the size of a farm the contract is referring to. The contracts commonly used in this sector does not protect the involved parties but rather agrees on the principles actors will use to organise their activities around. This is also reflected in the data.

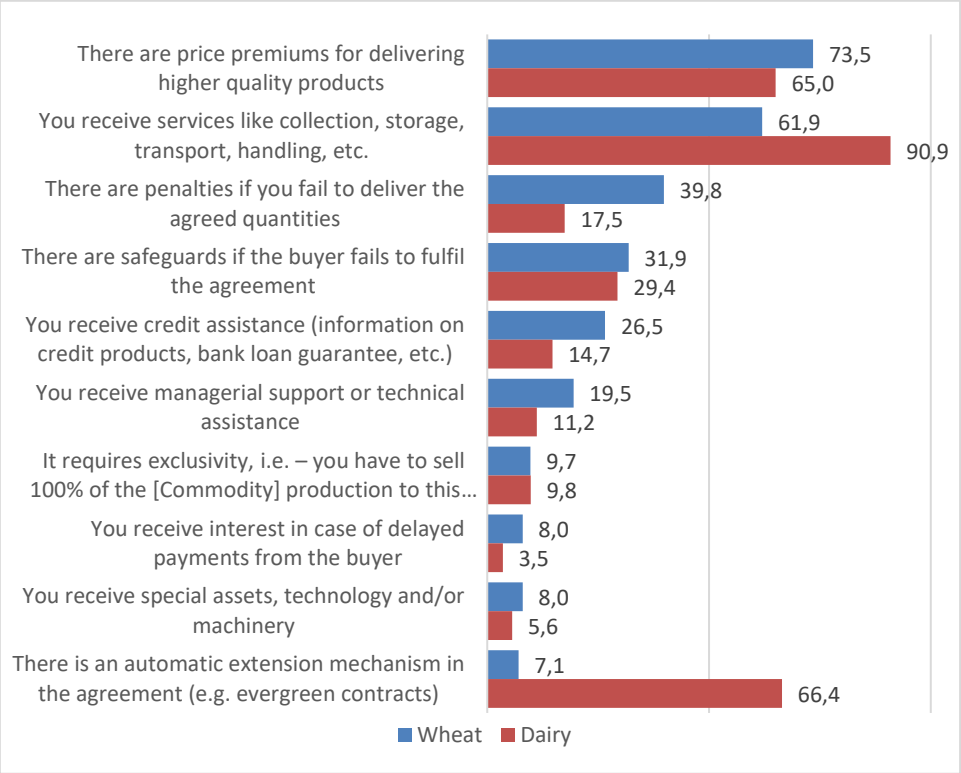
In the grain sector, two main contract lengths dominate - contracts are either covering just the period of a particular transaction, or they are covering the period of 7 to 12 month. These two choices most likely represent two most typical forms of contractual relations dominating in the sector: either farmer follows the price fluctuation in the stock exchange and sell the product when the price seems right to them (which would mean that contract is bounding to a particular moment of a transaction) or farmer signings the futures contract. Deals for futures contracts are usually made in spring when farmers are in need of finances to invest. Thus a typical bounding period for these contracts is somewhere around half a year. The previous stages of research revealed that following the prices in stock exchange can be a way for a farmer to get a better price. However, since most of the farmers do not have free resources, they have to use futures contracts. The main benefit of these contracts is the access to credit lines it provides.

The data illustrates that the use of futures contracts is much more common among the largest and more intensive farms. The form is used by 16% of farmers with yields below average and by the 16% of the farmers with farms smaller than 50ha. In comparison, the contractual form is used by 36% of farmers with farms larger than 100ha and by 39% of farmers with yields above the national average. The situation is opposite for one-time contracts - these are used by almost 3/4 of farmers with farms smaller than 50ha and farms with low efficiency. Only half of the large and efficient farms use this option.

Partly these differences can be explained by the fact that more efficient and large farms are in a greater need for finances during the active season - these farms have to pay loans for the machinery they have bought and are investing in agrochemistry. However, this can also be explained by farms ability to predict its yields. Futures contracts demand to be able to predict the size of harvest and the quality of the grain. And this is something small farmers might have difficulties with. It is also important to stress here that the channels used by very small farmers differ from those used by the larger farms - local markets most likely lack an opportunity to make long-term commitments.

A different situation can be observed in the dairy sector. In the dairy sector, the two contract lengths that dominate are seven months to 12 month long contracts and contracts longer than five years. It is also in the dairy sector that the smaller and less productive farms tend to have shorter contracts. However, in the dairy sector, there is much more pronounced linkages between productivity and length of the contract - the more productive farmers are choosing to have longer contracts. Again, this is most likely connected to the need to repay loans most productive farmers most likely have. It should also be attributed to the willingness to maintain the stability. The need for stability is most likely motivating productive farmers to search for longer contractual relations. However, to fully understand the differences between contracts a deeper look at the aspects that are negotiated in the contracts needs to be taken.

Figure 15. The characteristics of the sale agreement



The two sectors have quite notable differences in what is regulated by the contracts (see Figure 15). In both sectors, contracts are not forcing a farmer to sell all his products exclusively to one customer. Low share of the contracts presupposes that farmers should receive special assets, technology and machinery from the consumer. Finally, the practice to set interest in case of delayed payments from the buyer is almost absent. However, it might be that in some sub-groups of farmers these otherwise absent themes might appear as very important (still, even if these cases are described in the remaining part of this chapter, one has to take in consideration, that the basis for these calculations is fairly small). All the other aspects that can be negotiated by contracts must be regarded for each sector separately.

In the grain sector, almost three-quarters of the contracts presuppose premiums for delivering higher quality produce. This is especially common (true for 81%) if collective sells channels are used. In this regard it has to be indicated that in the grain sector contracts farmers have with cooperatives are much more elaborated - they are more involved to help the farmer and to protect his/her interests. However, on the other hand, the same contracts are also more clear

about the fines to be paid if farmer violates the agreement. Other central aspects that are described in contracts are - receiving services like collection, storage, transport, handling (62% of the grain farmers) and penalties if the farmer fails to deliver the agreed quantities (40% of the grain farmers).

In overall, contracts of larger and more efficient wheat farmers seem to be much more complex than contracts with smaller farms. Also, it seems that larger and more efficient farms are receiving more from potential buyers. To start with, it is much more common than large and efficient farmers will have penalties if they fail to deliver the agreed quantities (60% of large farmers and 51% of the most efficient farmers). This is most likely to do with the length of contracts - as has been mentioned this group of farmers tend to have longer contracts. Again, most likely this is related to longer contracts this group has, but larger and more efficient farmers tend to receive price premiums for delivering higher quality products more often (this is true for almost 83% of largest farmers and 79% of the most efficient farmers). The two characteristics also allow farmers to 'receive services like a collection, storage, transport, handling, etc.' (mentioned by 81% of largest farmers and almost 73% most efficient farmers); 'receive managerial support or technical assistance' (in overall being introduced in contracts less often than the previously mentioned aspects, this notion is still more widespread among the two mentioned groups than among other farmers - this answer is mentioned by around 1/4 of largest and most efficient farmers); and finally, almost 1/3 of the most prominent farmers indicate that they 'receive credit assistance' from the buyer.

For dairy farmers the typical contracts, if compared to the grain sector, is much simpler - it negotiates just the price and the delivery of the product. However, it leaves everything else outside of these relations. Three main principles are set in the contracts of dairy farmers. First, 91% of respondents suggest that they 'receive services like a collection, storage, transport, handling, etc.' In reality, this most likely means that milk is collected by the buyer. Second, 66% of farmers suggest that 'there is an automatic extension mechanism in the agreement (e.g. evergreen contracts)'. However, since there is no clear set agreement on the amount sold or bought and since there is lack of any other serious involvement between the two actors, it is safe to suggest that the extension mechanism does not represent any serious benefits for the farmer. It means that the truck collecting milk will continue to stop to collect farmers milk. Finally, the third aspect common in the contracts (noted by 65% of farmers) suggests that farmers will receive 'price premiums for delivering higher quality products'. In overall, these contracts are simple and are rather should be perceived as an agreement that the two sides will continue business relations. However, if compared to the grain sector, it can be observed that there are little opportunities and benefits farmers can receive from their relations with buyers.

This is even more true for farmers who are selling through collective channels. For this group of dairy farmers contracts and sales channel is mainly about setting the price, and thus the contracts do not negotiate even the before mentioned aspects. Still, there can be some other benefits from collective sales channels. Although these practices are still really marginal, some dairy farmers selling in the collective channels do manage to get contracts promising farmer more support than any it is provided to other dairy farmers. Interestingly enough, this group

of farmers, whose contracts presuppose 'penalties if you fail to deliver the agreed quantity', have 'safeguards if the buyer fails to fulfil the agreement'.

these farmers 'receive credit assistance (information on credit products, bank loan guarantee, etc.)' does not have some particular traits that would allow to recognise it. These farmers are equally scattered among various size and efficiency groups. We could probably conclude from that that there are just some cooperatives that are more responsible towards their members and, basing on the data gathered during the previous stages of the study we probably can make some educated guess which cooperatives are these. Most likely candidates would be the couple of cooperatives that have been successful in operating in niches. However, more research would be needed to talk about this phenomenon in detail.

Finally, price formation has to be discussed here as well. Differences between the two sectors in this regard are quite pronounced. For the dairy sector, three clear models how the price is set dominates while all the other options farmers could choose from in the survey seems to be non-existent in the sector. These three models are - 'variable price based on delivered quality' (the answer selected by 75% of the interviewed dairy farmers), 'variable price linked to the market price at the time of delivery' (the answer was chosen by 50% of respondents), and 'variable price based on delivered quantity' (chosen by 46% of respondents). In general larger and more efficient farms tend to agree less with all three of these options. Especially pronounced the difference is if the share of large and efficient farms is regarded who say that the price they receive is tied to fluctuations in global prices. Among the third of least efficient dairy farms in the sample, 63% suggest that this is the case. Meanwhile, among the third of most efficient farms, only 38% tend to agree that this is the case. Thus, it is possible to suggest that the farmers that have invested more in the sector tend to choose (or have an option to choose) more stable solutions in their relations with buyers. Their relations to a buyer are less dependent on global shifts. This most likely is related to their investments and high importance, these farms play in the sector.

The grain sector is much more diverse in a way how the prices for the delivered product is set. Again, the dominating category chosen by 78% of respondents is 'based on delivered quality'. 57% of respondents suggest that price is 'linked to the market price at the time of delivery'. For 45% of respondents, grain price is 'is fixed at the beginning of the agreement and does not change'. Finally, 24% of respondents suggest that the price they receive is 'based on delivered quantity'. In the grain sector, it is the largest and more efficient farmers who indicate more options how their prices if formed. Partly, this is most likely due to the fact, that in the same instance a farmer might hold a number of contracts to the same buyer using different contracts to get the best price for its product. As has been explained on multiple occasions in this report - it is typical for farmers to split its harvest and to sell a share of it using futures contracts while another share is sold later when farmer feels that the market price is the highest. Thus, the more serious farmers having more grain to sell are skilled in reading grain price trends and have more options to benefit from the trends and Latvia's grain market's peculiarities. Still, despite what has been said, some traits remain crucial in price setting - as for example, grain quality.

5.3 Sustainability

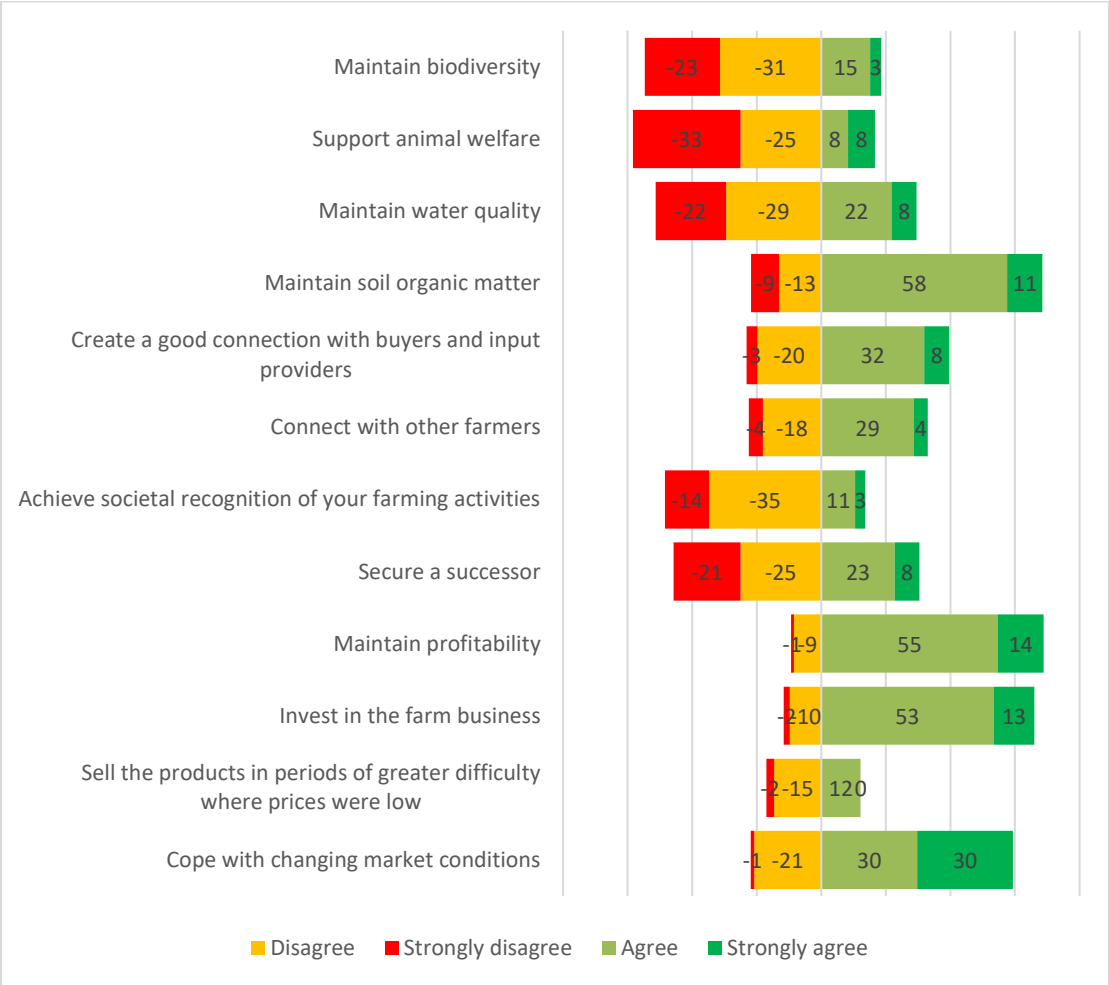
The survey was also aiming at assessing the sustainability performance of the contractual relations farmers have. The results from both sectors illustrate that there are significant differences in where dairy and wheat farmers see the strengths of their contracts. Furthermore, as in previous cases, there were significant intra-sectoral differences between farms with various properties.

In overall, dairy farmers felt that their contracts are performing better when it comes to environmental and economic issues. Interestingly, dairy farmers have been assessing their economic opportunities higher than the farmers representing grain sector which is hard to align with reality where the dairy farmers, as previous stages of the study have shown it, are facing much more threats. Particularly well the difference can be seen in the farmers' evaluation of the statement 'Sell the products in periods of greater difficulty where prices were low'. Only 12% of the grain farmers agree or strongly agree with this statement. Meanwhile, among the dairy farmers, 38% are supporting the statement. Another peculiarity of this particular statement is that while only 17% of the grain farmers disagree to the statement, among the dairy farmers this number is 33%. So the real difference between the two sectors is that the grain farmers were neutral more often on the issue. This higher level of neutrality is something that on a lower scale can be observed in practically all questions - the grain farmers more often do not have an opinion about the consequences of their contractual relations. If compared to the dairy sector - the grain sector much more often remains neutral. To get a broader understanding of the overall perception farmers have of the sector, we counted the positive and the negative answers farmers from both sectors gave. The share of occasions when farmers disagreed with the twelve given statements is practically identical between the two sectors. However, the share of occasions when farmers agree with the statements raised by the questionnaire is significantly lower among the grain farmers than among the dairy farmers. This lack of positive sentiment regarding the aspects created by the contracts is especially interesting if it is considered that grain sector, in general, is perceived as more successful than the dairy sector. This observation offers an opportunity to speculations regarding the discourses dominating in the two sectors. As has been already indicated in previous chapters - not everybody in the grain sector is happy about the common dominating arrangements, and it also seems, that not everybody can equally benefit from these arrangements. Also, the same structures operating in the sector that promises farmers profitable access to markets are also the structures that limit their ability to improvise and look for their own best solutions. The power that cooperatives have concentrated on helping farmers is mainly remaining in cooperatives and cannot be harnessed for individual needs. However, there are two other explanations that could allow speculating about the differences between the two sectors. First, recent years have shown how exposed the grain farmers are to ever more unpredictable weather changes. This has forced at least some farmers to realise the vulnerability of their activities. And once again, previous chapters of this report illustrate that the grain farmers are struggling to identify alternative strategies that could help improve their resilience against the ever more apparent threats. Second, we could speculate that the dairy sector being constantly under pressure has developed a more explicit interpretation of what it represents and what problems farmers face. Thus, the constant shocks might have

helped farmers to formulate their strengths and weaknesses. With that being said - there is an additional note that needs to be made here. In the previous stages of the study, we have indicated that the dairy farmers seem to be less confident and more passive about their views. The survey offers an additional insight that shows that this question might be much more complex.

If the three pillars of sustainability are compared, then it can be suggested that the grain sector illustrates that it is much more confident about their positive social and economic performance (see Figure 16). Meanwhile, farmers are skeptical regarding the environmental performance. The differences in how the two sectors self-assess their performance is also clearly linked to natural characteristics of each of the sector.

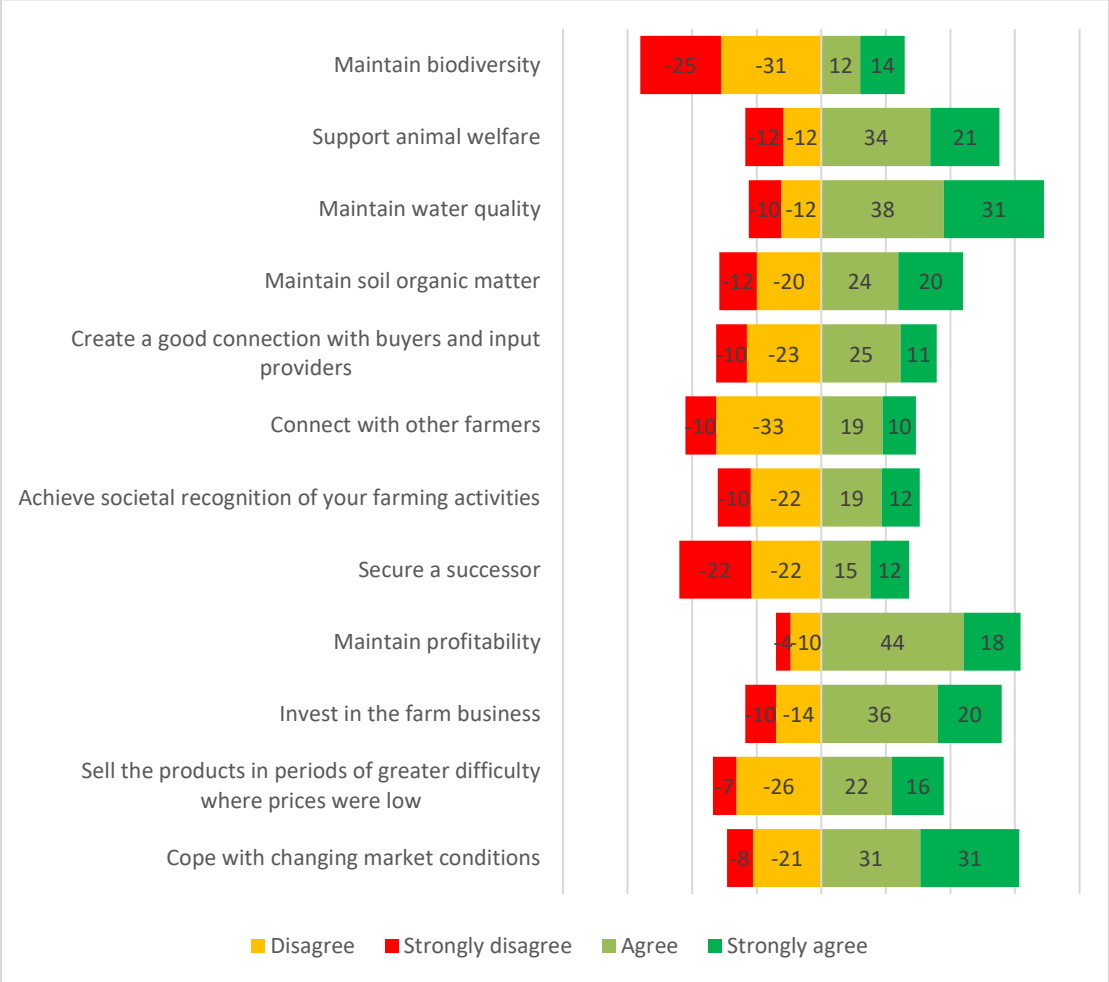
Figure 16. The wheat sector: The production choices you made in relation to your main sale agreement/membership in collective organization helped you to…:



Little bit different picture can be drawn if a more in-depth assessment of groups of farmers holding different views is conducted. The results from the grain sector allow suggesting that again the size of the farm is the main factor that allows explaining differences in farmers opinions. Meanwhile, characteristics like farmers age, gender, farms prospects and even contractual characteristics only partly explain the farmers' views.

If questions related to sustainability pillar are assessed than for almost all of the questions, mid-sized farmers tend to be more skeptical about their performance. Almost 70% of these farmers whose farms' size varies between 50 and 100 ha and whose productivity represents the mid third of the overall grain farmers productivity are skeptical about their ability to maintain biological diversity. This group is also much more critical about its ability to maintain water quality. Although it is hard to explain this spike in negative opinion in the particular group, it is possible to raise some possible explanations. First of all, as is illustrated by the data gathered in previous stages of the study, it is the smallest farmers who are frequently associated with irresponsible practices. However, it is also claimed, that many of these smallest farmers are poorly educated and unaware of the damage their practices are causing to the environment. Thus, it could be that the midsized farms are better informed about the ways how their practices can harm the environment. Meanwhile, the largest farms are more prone to involve themselves with practices that could help them to maintain a positive public image.

Figure 17. The dairy sector: The production choices you made in relation to your main sale agreement/membership in collective organization helped you to…:



Although the grain farmers are more positive about the social aspects of their activities than the dairy farmers still - the overall perception of their social performance is comparatively low. This is especially true for two questions - 'Achieve societal recognition of your farming

activities' and 'Secure a successor.' Interestingly enough, in case of questions measuring social aspects once more, it can be observed that it is the mid-sized farmers who hold the lowest opinion of their performance. However, in this case, it is the smallest farmer who is of highest interpretation of what is their social performance. It could be that these farmers by being small are closer to local communities which grants them a feeling of better understanding the societal needs and holding stronger relations with surrounding communities.

Particular interest should be paid to the two statements that are particularly poorly assessed. In case of public perception - it is even the largest and most efficient farmers who claim that they have not managed to change the public perception. We know from previous stages of this study that grain farmers feel that public representation is a very important issue that might have productive on the farming practices. Meanwhile, in case of a successor, all groups had a high share of farmers disagreeing with the statement. Even the largest farms report that they might have problems with farm succession.

Finally, the questions related to economic performance received very high approval rate from farmers representing both sectors. With few exceptions, the dairy farmers from all groups felt that they were getting a good deal in the market that allows them to maintain profitability, invest and to sell products in time of difficulties. However, in both sectors in particular, these were the largest and the most efficient farmers who expressed their agreement with these statements the most. Yet data illustrates that even among the evaluation of economic performance there is one particular exception - the feelings farmers held towards possibility to cope with changing market conditions. In particular, the largest and most efficient farms from both sectors felt that they could have difficulties in coping with changes. Most likely, this is related to the investments these farmers have made and financial dependency they are in. They might have difficulties to change their farming practices. However, recent unpredictable weather conditions, as well as unpredictable global prices, allows suggesting that farmers might have to reconsider their farming practices in the future.

It is more difficult to provide a comprehensive explanation of the attitudes dominating in the dairy sector (see Figure 17). In overall, the sector is more homogenous in its views if compared to the grain sector. However, even in the dairy sector, some differences between farms with various characteristics can be identified. In many cases, there is not a particular aspect that could help to explain the differences.

In case of the questions assessing the environmental performance of the sector, it is common than farmers representing smaller farms feel more skeptical about their activities. For example, while only 21,5% of the farms with 100 or more cows disagrees that they can support animal welfare, among the farms with less than 30 cows the number grows to 34,5%. Also, it seems that the largest farms are slightly more positive about their ability to 'maintain water quality' and to 'maintain soil organic matter'.

There was a clear divide between various groups of farmers when the social performance of the contracts was assessed. In essence, this difference can be observed through the fact that smaller farms and larger farms seemingly had different experiences in the sector. For example, smallest farms felt that the contracts help them to connect with other farmers, while more than 50% of the farmers representing the largest farms disagreed with this statement.

Meanwhile, smaller farms were much more convinced that they do not have public support and - most of them claimed that the current contractual relations do not help them to find a successor to their farm. There are also some marginal changes related to the efficiency of farms. Most notably this can be observed when farmers assess the contracts helping them to 'create a good connection with buyers and input providers'. The most efficient farmers claimed that this is true. Most likely this is related to the aspects that are negotiated in the contracts because, as has been indicated earlier - for the most efficient farmers' contracts are more complicated than for other farmers.

Finally, when economic performance of the contracts was assessed, surprisingly, in most cases there was no clear distinction between the farmers of various sizes.

In overall, the analysis of grain and dairy sectors' farmers' attitudes allow suggesting that farmers of different sizes have different challenges to face.

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6.2 Appendices

6.2.1 List of people participating in focus group discussions and workshops

6.2.1.1 Dairy sector

	Group 1					
No	Name	First name	FGD	Organisation	email	subgroup
1	Confidential	Anita	1	farmers' cooperative, processor	confidential	food chain representative
2	Confidential	Anrijs	1	farmers' cooperative, processor	confidential	farmers and farmer representatives
3	Confidential	Rigonda	1	governance	confidential	farmers and farmer representatives
4	Confidential	Mārtiņš	1	advisory services	confidential	farmers and farmer representatives
5	Confidential	Dainis	1	advisory services	confidential	farmers and farmer representatives
6	Confidential	Ieva	1	farm	confidential	farmers and farmer representatives
7	Confidential	Juris	1	farm	confidential	farmers and farmer representatives
8	Confidential	Andris	1	farm	confidential	farmers and farmer representatives
9	Confidential	Aldis	1	farm	confidential	farmers and farmer representatives
10	Confidential	Guntis	1	farmers' cooperative	confidential	farmers and farmer representatives
11	Confidential	Mirdza	1	farmers' cooperative	confidential	farmers and farmer representatives
12	Confidential	Viola	2	farm	confidential	farmers and farmer representatives
13	Confidential	Elza	2	farm	confidential	farmers and farmer representatives
14	Confidential	Ilvars	2	farm	confidential	farmers and farmer representatives
15	Confidential	Laila	2	farm	confidential	farmers and farmer representatives
16	Confidential	Tālis	2	research	confidential	researcher
17	Confidential	Jana	2	advisory services	confidential	farmers and farmer representatives
18	Confidential	Zinaida	2	farm	confidential	farmers and farmer representatives
19	Confidential	Mairis	2	farm	confidential	farmers and farmer representatives
20	Confidential	Ginta	2	farm	confidential	farmers and farmer representatives
21	Confidential	Sarma	2	advisory services	confidential	farmers and farmer representatives

22	Confidential	Silvija	2	advisory services	confidential	farmers and farmer representatives

Participatory workshop : dairy Latvia

	Name	First name		Organisation (eng)	email	subgroup
1	Jaunbirze	Sabīne	PW	The State Environmental Service	sabine.jaunbirze@ventspils.vvd.gov.lv	Governance
2	Feldmane	Mirdza	PW	Latvian Agricultural. Cooperatives Association	zalieatvari@inbox.lv	NGO
3	Zelčāns	Normunds	PW	LPPKS Raibaļas	nz@apollo.lv	Cooperative
4	Puntiņa	Sanita	PW	Latvian Agricultural. Cooperatives Association	sanita.putnina@llka.lv	NGO
5	Grudovska	Iveta	PW	Farmers Parliament	iveta@zemniekusaeima.lv	NGO
6	Jakovickis	Raimonds	PW	Farmers Parliament	raimonds@zemniekusaeima.lv	NGO
7	Pirvits	Guntis	PW	PLPKS Dundaga	pks@dundaga.lv	Cooperative
8	Orlova	Inga	PW	Ministry of Agriculture	inga.orlova@zm.gov.lv	Governance
9	Ruļuka	Indra	PW	Ministry of Agriculture	indra.ruluka@zm.gov.lv	Governance
10	Sarma	Rita	PW	Rural Support Service	rita.sarma@lad.gov.lv	Governance
11	Āboltiņa	Insese	PW	Piensaimnieku Laboratorija	inese.aboltina@pienslabs.lv	Inputs
12	Ozoliņa	Ligija	PW	Ministry of Agriculture	ligija.ozolina@zm.gov.lv	Governance
13	Šolks	Jānis	PW	Latvian Central Dairy Association	info@piensaimniekusavieniba.lv	NGO
14	Šmite	Elīna	PW	Saimnieks LV	elina.smite@saimnieks.lv	Media
15	Krstiņš	Kārlis	PW	Prudentia	karlis.krastins@prudentia.lv	Investments/ consultant
16	Babāne	Sarmīte	PW	Latvian Agricultural Organisation Cooperation Council	losp@losp.lv	NGO
17	Visņevskis	Jānis	PW	Vidzemes Piena pārraudzības biedrības	janisvisnevskis@gmail.com	Enterprise
18	Balodis	Imants	PW	PKS Straupe	valde@straupespiens.lv	Cooperative
19	Vasariņš	Marats	PW	Ministry of Agriculture	marats.vasarins@zm.gov.lv	Governance
20	Dreijere	Silvija	PW	Latvian Rural Advisory and Training Centre	silvija.dreijere@llkc.lv	AKIS

21	Tisenkops	Tālis	PW	Baltic Studies Centre	talis.tisenkopfs@lu.lv	Science
22	Ādamsone-Fiskoviča	Anda	PW	Baltic Studies Centre	anda@lza.lv	Science
23	Grīviņš	Miķelis	PW	Baltic Studies Centre	mikelis.grivins@gmail.com	Science
24	Cimermanis	Mārtiņš	PW	Latvian Rural Advisory and Training Centre	martins.cimermanis@llkc.lv	AKIS

6.2.1.2 Grain sector

	Group 1					
	Name	First name		Organisation	email	subgroup
1	confidential	Mareks	FGD1	farm	confidential	farmers and farmer representatives
2	confidential	Gints	FGD1	farm	confidential	farmers and farmer representatives
3	confidential	Elvis	FGD1	company	confidential	farmers and farmer representatives
4	confidential	Jānis	FGD1	farm	confidential	farmers and farmer representatives
5	confidential	Arnolds	FGD1	farm	confidential	farmers and farmer representatives
6	confidential	Iveta	FGD1	farm	confidential	farmers and farmer representatives
7	confidential	Inga	FGD1	farm	confidential	farmers and farmer representatives
8	confidential	Maira	FGD1	Farmers Parliament	confidential	farmers and farmer representatives
9	confidential	Arnis	FGD1	farm	confidential	farmers and farmer representatives
10	confidential	Raitis	FGD1	farm	confidential	farmers and farmer representatives
11	confidential	Mārtiņš	FGD1	Farmers Parliament	confidential	farmers and farmer representatives
	Group 2					
12	confidential	Līga	FGD2	farm	confidential	farmers and farmer representatives
13	confidential	Irina	FGD2	farm	confidential	farmers and farmer representatives
14	confidential	Jānis	FGD2	farm	confidential	farmers and farmer representatives
15	confidential	Edgars	FGD2	farm	confidential	farmers and farmer representatives

16	confidential	Inta	FGD2	farm	confidential	farmers and farmer representatives
17	confidential	Andris	FGD2	farm	confidential	farmers and farmer representatives
18	confidential	Jānis	FGD2	farm	confidential	farmers and farmer representatives
19	confidential	Aivars	FGD2	farm	confidential	farmers and farmer representatives
20	confidential	Elisona	FGD2	agronomist	confidential	farmers and farmer representatives

Participatory workshop : wheat Latvia

	Name	First name		Organisation	email	subgroup
1	Grīviņš	Miķelis	PW	Baltic Studies Centre	mikelis.grivins@gmail.com	Researcher
2	Kārkla	Ineta	PW	Dobeles dzirnavnieks	ineta@dzirnavnieks.lv	Processor
3	Šutka	Aigars	PW	SIA AKPC	aigars.sutka@gmail.com	Processor
4	Vilkaste	Daiga	PW	Ministry of Environmental Protection and Regional Development of the Republic of Latvia	daiga.vilkaste@varam.gov.lv	Governance
5	Enģele	Lelde	PW	Latvian Fund of Nature	lelde.engele@inbox.lv	NGO
6	Brizga	Jānis	PW	Green Freedom	janis@zalabriviba.lv	NGO
7	Ruža	Edgars	PW	LATRAPS	edgars@latraps.com	Cooperative
8	Zute	Sanita	PW	Institute of Agricultural Resources and Economics	sanita.zute@arei.lv	Researcher
9	Miltiņš	Raimonds	PW	Swedbank	raimonds.miltins@swedbank.lv	Financial institutions
10	Brokāne	Dzintra	PW	VAKS	dzintra.brokane@vaks.lv	Cooperative
11	Guste	Dace	PW	Ministry of Agriculture	dace.guste@zm.gov.lv	Governance
12	Ozoliņa	Iveta	PW	Ministry of Agriculture	iveta.ozolina@zm.gov.lv	Governance
13	Lanka	Gints	PW	Ministry of Agriculture	ginta.lanka@zm.gov.lv	Governance
14	Jermakova-Zaikovska	Jana	PW	Latvia Radio 4	jana.jermakova@yahoo.com	Media
15	Burmistris	Arnis	PW	Farmers Parliament	vilcini1@gmail.com	NGO
16	Melnalksne	Zanda	PW	Farmers Parliament	zanda@zemniekusaeima.lv	NGO

17	Bērziņa	Inga	PW	Farmers Parliament	inga@zemniekusaeima.lv	NGO
18	Ezers	Vents	PW	State Plant Protection Service	vents.ezers@vaad.gov.lv	Governance
19	Lifānova	Kristīne	PW	State Plant Protection Service	kristine.lifanova@vaad.gov.lv	Governance
20	Trons	Mārtiņš	PW	Farmers Parliament	martins.trons@zemniekusaeima.lv	Farmers organisation
21	Jātnieks	Arnolds	PW	Farmer	vaidelotes@gmail.com	Farmer
22	Strazdiņa	Edīte	PW	KS "Mūsmāju Dārzeņi", ZSA	edite@galini.lv	Cooperative
23	Simanovska	Jana	PW	Ekodizaina kompetences centrs	jana.simanovska@gmail.com	NGO
24	Dzelzkalēja-Burmistre	Maira	PW	Farmers Parliament	maira@zemiekusaeima.lv	Farmers organisation

6.2.2 Summaries of focus group discussions

6.2.2.1 Dairy sector

Piensaimnieku skatījumā aktuālie saimniekošanu ietekmējošie apstākļi un to pārvarēšanas stratēģijas

	Apstākļi	Ietekme	Piensaimnieku stratēģijas
1	**Saimniecību infrastruktūra**	Piena nozarei pieejamās tehnoloģijas kļūst **modernākas**, un arī nozares regulējums izvirza jaunas prasības saimniecībām (piem., attiecībā uz kūtsmēslu krātuvēm). Nozares pārmaiņas paredz **investīcijas infrastruktūrā**. Esošās kūtis var būt dārgi pielāgot šī brīža vajadzībām.	- Kredītu piesaiste saimniecības modernizācijai - Atbalsta instrumentu izmantošana saimniecības modernizācijai (piem., slaukšanas robotu uzstādīšanai) - Pielāgotu nedārgu tehnoloģisko risinājumu ieviešana - Nogaidīšana, vilcināšanās ar modernizēšanos - Pakāpeniska ražošanas samazināšana
2	**Kooperācija**	Kooperatīvi ir **sadrumstaloti** un bieži vien **vāji**. Daļai piensaimnieku **nav ticības** kooperācijai un nav pilnīgas izpratnes par to, kā kooperatīvi funkcionē. Tomēr nozarē ir vairāki labi kooperācijas piemēri, un	- Pievienošanās un lojalitāte vienam kooperatīvam - Kooperatīvu maiņa, meklējot tā brīža izdevīgāko piedāvājumu - Kooperatīva pamešana, individuālu piena pārdošanas risinājumu izvēle

		kooperācija bieži tiek minēta kā saimniecībām izdevīgākais attīstības virziens.	
3	**Lopbarības kvalitāte**	Lopbarības kvalitātei ir tieša ietekme uz piena kvalitāti. Pašgatavotās lopbarības kvalitāte **var būt zema**. Nereti piensaimniekiem nav uzticības ārējiem piegādātājiem un/vai **trūkst zināšanu** par optimālas lopbarības sagatavošanu, glabāšanu un vēlamo sastāvu, kvalitāti.	- Lopbarības iegādei atvēlēto līdzekļu samazināšana saimniecībai pieejamo finanšu līdzekļu taupības nolūkos - Atteikšanās no ārējiem (nereti ārvalstu) piegādātājiem par labu lopbarības pašapgādei - Lopbarības iegāde no uzticamiem vietējiem zemniekiem
4	**Atbilstošs darbaspēks**	Laukos **pietrūkst** gan kvalificētu, gan arī mazkvalificētu **darbinieku**. Pieaug darbinieku prasības attiecībā uz darba apstākļiem un samaksu. Esošie zemas kvalifikācijas darbinieki mēdz būt **neuzticami**. Vērojama augsta darbaspēka mainība.	- Saimniecības modernizācija (roku darba aizstāšana) - Saimniecībā nepieciešamo iemaņu patstāvīga apgūšana - Ilgtermiņa darba attiecību uzturēšana ar uzticamiem un sevi pierādījušiem darbiniekiem - Neformāla sadarbošanās ar tuvējiem zemniekiem noteiktu darbu veikšanā
5	**Atbalsts lauksaimniekiem**	Tiešmaksājumi un citi atbalsta veidi ir **palīdzējuši zemniekiem** tikt pāri zemajām piena iepirkuma cenām un pārmaiņām tirgū (Krievijas embargo, kvotu atcelšana). Subsīdijas arī palīdz piensaimniekiem veikt **investīcijas**. Taču subsīdijas arī ierobežo saimniecību vēlmi mainīties un mēdz paaugstināt piensaimnieku pirkto pakalpojumu cenas.	- Paļaušanās uz subsīdijām kā galveno izdzīvošanas (zaudējumu samazināšanas) pamatu - Piena ražošanas apjoma samazināšanas kompensāciju izmantošana - Papildu atbalsta aktīva lobēšana lēmumpieņēmēju vidē
6	**Profesionālo zināšanu pieejamība**	Zināšanām ir būtiska loma zemnieku tirgus sniegumā. Tomēr lauksaimniekiem mēdz **pietrūkt profesionālo zināšanu** par lopkopību. Vienlaikus ir izteikts zināšanu trūkums par **biznesa plānošanu**, tirgu, finanšu vadību, saimniecības ekonomisko veiksmīgumu.	- Konsultēšanās ar LLKC reģionālajiem konsultantiem un citiem speciālistiem (t.sk. semināros, kursos) - Paļaušanas uz paša pieredzi, intuīciju un ierasto prakšu turpināšana - Mācīšanās no citu tuvējo piensaimnieku pieredzes - Speciālistu (veterinārārstu, zootehniķis) algošana
7	**Publiskā infrastruktūra**	**Ceļu** infrastruktūra, it sevišķi attālākajās Latvijas teritorijās mēdz būt **nolaista**. Tas apgrūtina piena savākšanu. **Sociālās** infrastruktūras (skolas, veikali, medicīnas iestādes) ierobežota pieejamība mazina dzīves vides pievilcību.	- Savu interešu paušana politikas veidotājiem pašvaldību un reģionu līmenī - Savu privāto resursu izmantošana, lai uzlabotu publisko infrastruktūru

8	**Vides prasības**	Neskatoties uz **vides ilgtspējas** nodrošināšanas argumentiem, daži lauksaimnieki saskata riskus augošās vides prasībās (piem., **aizsargājamo biotopu** saglabāšana, **kūtsmēslu glabāšana**). Nereti, jo īpaši mazās saimniecībās, tiek konstatētas neatbilstības vides un labturības prasībām.	- Valsts atbalsta, kredīta vai iekrājuma izmantošana, lai pielāgotu saimniecību vides prasībām - Saimniekošanas apmēru (lopu skaita, apsaimniekojamo zemes platību) samazināšana vai piensaimniecības pamešana
9	**Piena iepirkuma cenas**	Nav iespējams **prognozēt** piena **cenu svārstības**. **Cenas** ilgstoši ir bijušas **zemas**. Nereti zemnieki saņem **atšķirīgu samaksu**, pat nododot pienu vienam pārstrādātājam/ uzpircējam.	- Pāriešana uz īstermiņa sadarbību (pārdod pircējam, kurš piedāvā augstāko cenu) - Jaunu piena uzpircēju meklēšana (arī ārpus Latvijas) - Piena ražošanas izmaksu samazināšana - Nišas produktu un apgādes veidu ieviešana - Piena nozares pamešana - Saimniekošanas veidu dažādošana (blakusnozares)
10	**Konfliktējoši redzējumi par laukiem**	Mazās saimniecības sevi saskata kā **lauku ainavas un tradīciju** saglabātāju. Savukārt lielās saimniecības pārmet mazajām neracionālu saimniekošanu un **neatbilstību** tirgus izvirzītajām **prasībām**.	- Iesaistīšanās publiskās diskusijās par lauksaimnieku nozīmi laukos un lauku nākotni - Lauksaimnieku un lauksaimnieku atbalsta grupu lobijs politikas veidošanā
11	**Nišas tirgi**	Nišas produkti un nišas tirgi varētu piensaimniekiem nodrošināt augstākus ienākumus no produkcijas. Diemžēl tie ir **mazi**, prasa **daudz iesaistes** laika un **investīciju**. Ir nepieciešama pārliecība par ilgtermiņa ieguvumiem, lai saimniecības izvēlētos šo attīstības ceļu.	- Eksperimentēšana ar nišas tirgiem (tiešā tirdzniecība, mājražošana, skolu apgāde ar pienu) - Konkrēta atbildīgā deleģēšana saimniecībā par nišas produktiem un tirgiem
12	**Patērētāju pieprasījuma izmaiņas**	Līdz ar iedzīvotāju skaita samazināšanos mazinās arī piena produktu **patērētāju skaits**. Līdz ar jaunām vēsmām uztura speciālistu paustajos viedokļos, kā arī piena nepanesamības izplatību mainās arī patērētāju **ēšanas paradumi** (nereti atteikšanās no piena produktiem). Vienlaicīgi pieaug pieprasījums pēc **bioloģiskās** lauksaimniecības produktiem.	- Pārprofilēšanās uz bioloģisko lauksaimniecību - Jaunu noieta tirgu meklēšana ārpus Latvijas - Jaunu pārdošanas kanālu apzināšana un izmantošana - Produkta vietējās izcelsmes uzsvēršana tirgū - Atteikšanās no tiešās pārdošanas dēļ augstajām izmaksām, laika un enerģijas patēriņa

13	**Finansiālo līdzekļu pieejamība**	**Zema saimniecību peļņa** mazina iespējas iegūt finansējumu (kredītlīdzekļus), kas varētu palīdzēt investēt attīstībā. Ir novērojama zemnieku novecošanās, savukārt bez skaidra saimniecības **mantotāja** zemnieki nav ieinteresēti veikt ieguldījumus saimniecībā, nevēlas uzņemties ilgtermiņa saistības.	- Līdzšinēji ierastā saimniekošanas veida turpināšana - Taupības pasākumu ieviešana pieejamo līdzekļu ietvaros - Pakāpeniska saimniecisko aktivitāšu samazināšana, pāreja uz naturālo saimniecību - Bartera pakalpojumu izmantošana zemnieku vidū

6.2.2.2 Grain sector

Graudkopju skatījumā aktuālie saimniekošanu ietekmējošie apstākļi un to pārvarēšanas stratēģijas

	Apstākļi	Ietekme	Graudkopju stratēģijas
1	**Lauksaimniecības tehnika**	Lauksaimniecības tehnika kļūst arvien **modernāka**. Tomēr tā ir **dārga,** un Latvijas klimatiskajos apstākļos tai ir **gari dīkstāves periodi**. Lauksaimnieki ir **atkarīgi** no piegādātājiem, kuri nenodrošina pienācīgu **apkopes kvalitāti**.	- Morāli novecojušas tehnikas izmantošana, kuru paši var labot - Spiediena izdarīšana uz piegādātājiem - Nesertificētu meistaru piesaiste - Nepieciešamās izglītības nodrošināšana ģimenes ietvaros
2	**Agroklimatiskie apstākļi**	Klimata pārmaiņas veicina jaunu risku izplatību. Laika apstākļi kļūst arvien **neprognozējamāki**. Bieži ražas novākšanai nelabvēlīgi apstākļi, kas ietekmē **graudu kvalitāti**. Latvijas vidē parādās arvien jaunas **invazīvas sugas**.	- Izvēlēto šķirņu pārskatīšana - Resursu (tehnika, cilvēki) mobilizēšana graudu novākšanas laikā - Sējumu/ražas apdrošināšana
3	**Lauksaimniecības zemes pieejamība**	**Nav pieejama** brīva lauksaimniecības zeme vai **lauki ir sadrumstaloti**. Lielas atšķirības **zemes cenā** starp reģioniem. Cena ir **nepamatoti augsta**.	- Papildu zemes iegādes atlikšana - Uzņemties grūti atmaksājamas kredītsaistības - Savstarpēja vienošanās zemnieku starpā par zemes cenu - Centieni ietekmēt likumdošanu
4	**Kooperācija**	Kooperācija ir palīdzējusi **sakārtot nozari**, un kooperatīvi ir veicinājuši efektīvāku nozares **interešu pārstāvniecību** politikas veidošanā. Tomēr - kooperatīvi **nav vienlīdz izdevīgi** visiem, un daži biedri, smagāk	- Kļūšana par kooperatīva biedru un tā sniegto iespēju izmantošana - Paralēli tiešo ražas noņēmēju meklējumi ārpus kooperatīva

		izjūtot kooperatīvu uzliktos nosacījumus, izvēlas graudus realizēt ārpus kooperatīva.	
5	**Graudu realizācijas modeļi**	Grūtības prognozēt **ražas apjomus** un **graudu kvalitāti**, kas nodrošinātu iespēju iegūt augstāku cenu par produkciju. Meklējot lielākas peļņas gūšanas iespējas, palielinās riski.	- Risku sadalīšana starp dažādiem graudu tirdzniecības veidiem - Tiešo noņēmēju meklēšana - Atbildības un izvēles deleģēšana kooperatīvam
6	**Atbilstošs darbaspēks**	Nav pieejams **motivēts** un **kompetents** darba spēks. Lauksaimnieki **pārpērk darbiniekus**. Problēmas nodarbināt darbinieks ārpus sezonas.	- Algu palielināšana darbiniekiem un citu bonusu meklēšana - Nepieciešamo speciālistu apmācīšana uz vietas Saimniecībā - Centrālo darbinieku nodarbināšana visu gadu - Galveno uzdevumu izpildes pārņemšana ģimenes ietvaros
7	**Atbalsts lauksaimniekiem**	Atbalsts lauksaimniekiem atbrīvo **līdzekļus investīcijām** un kalpo kā **drošības spilvens**. Tas gan ir zemāks nekā citās ES dalībvalstīs. Cits skatījums paredz, ka atbalsts mazina saimniekošanas efektivitāti un **kropļo tirgu** un netieši veicina **cenu celšanos** lauksaimniecības tehnikai un AAL.	- Paļaušanās uz subsīdijām, veicot investīcijas - Subsīdiju izmantošana, lai nodrošinātu rentabilitāti
8	**Profesionālo zināšanu pieejamība**	Daudziem graudkopjiem trūkst **vispusīgu zināšanu** par dažādiem saimniekošanas (t.sk. tehnoloģiskajiem, ekonomiskajiem un vides) aspektiem. **Trūkst konsultantu**.	- Profesionālu agronomu piesaiste saimniecībām - Paļaušanās uz kooperatīviem un kolēģiem, kuri norāda uz pareizo rīcību - Bērnu izskološana par agronomiem
9	**Nozares sezonalitāte**	**Ienākumi** un **veicamie darbi** ir sezonāli, bet pieeja **finansējumam** ir nepieciešama nepārtraukti. Gari tehnikas un infrastruktūras **dīkstāves** periodi.	- Darbošanās vairākās lauksaimniecības jomās - Multifunkcionālu prakšu ieviešana - Sadarbība ar partneriem, kuriem ir apvērsta sezonalitāte - Kredītlīnijas uzturēšana
10	**Vides prasības**	Neskatoties uz **vides ilgtspējas** nodrošināšanas argumentiem, daži lauksaimnieki saskata riskus augošās	- Prasību pieņemšana un labprātīga izpilde - Vides prasību neievērošana vai daļēja izpilde - Neapmierinātības paušana ar esošo politiku

		vides prasībās (**buferjoslu** iekārtošanā, atsevišķos ierobežojumos **augu aizsardzības līdzekļu** lietošanā).	
11	**Sēklu pieejamība un kvalitāte**	Izplatīta ir **nesertificētu sēklu** izmantošana.	- Sertificētu sēklu izmantošana - Pašaudzētu sēklu izmantošana un realizācija
12	**Konfliktējoši redzējumi par laukiem**	Laukos **palielinās atpūtas māju** skaits. Šiem iedzīvotājiem ir cits redzējums par lauku attīstību, un šī ir aktīva grupa, kura ir gatava nereti arī nepamatoti **sūdzēties lauksaimniekus kontrolējošajās iestādēs**.	- Ikdienas saziņa ar kaimiņiem, kuri nenodarbojas ar lauksaimniecību - Precīza vides prasību ievērošana - Vizuāla iespaida veidošana par ainavisku saimniecības vidi
13	**Reģionālā politika**	**Grūtības sadarboties** novadu līmenī ar reģionāliem politikas veidotājiem. Saimniecības **pāraug novadu robežas**, kas traucē iegūt zināšanas par vietējām aktualitātēm.	- Pasīvas sadarbības turpināšana - Iesaistīšanās reģionālās politikas veidošanā - Ciešākas praktiskās sadarbības iespēju meklēšana ar novadu