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Processor driven integration of small-scale farmers into value chains in Eastern Europe and Central Asia

A synthesis paper

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Executive summary

In transition countries small-scale farmers and households are effectively excluded from direct participation in markets. In general, they face pressures from larger processors and retail chains to supply raw materials in required quantities and quality. These demands often pose a great challenge for integration into value chains. At the same time, local, often small and medium-sized processors, challenged by global and regional competition and the need to comply with international regulations, are also experiencing difficulties in establishing their position in the supply of multinational retail chains.

This paper explores these small and medium-sized food processors and proposes recommendations for policy and support options that can contribute to establishing group based producer-processor linkages. It also aims to identify driving factors that can improve small farmer processor business linkages, and contribute to the improved competitiveness of small agri-processors.

The five country reports present examples of successful SME processors that have managed to establish effective linkages with local farmers and successfully integrate into national and international value chains. All case studies have shown that contracting is constrained by market failures in all investigated chains. The business environment, including contract enforcement as well as service and infrastructure provision is still to be improved. The enormous demand for basic quality controls to be provided by public and private service providers is an additional barrier to the establishment of vertical coordination.

All the reports revealed that both production for self-consumption and SMEs are very important. The main marketing channels for small-scale farmers are direct sales to the rural population, processing industry, wholesalers and traditional retailers. Furthermore, all the reports revealed that production for self-consumption is very important. The reports show that large retailers and large processors prefer to work together with large farms, which also applies to larger exporters. All-in-all, the future development of small-scale farmers largely depends on the economic performance and development of small and medium-sized processors. Therefore, building and supporting a sustainable and successful business environment for SMEs should be one of the top priorities.

A top priority is the establishment of customer orientation. All five country reports show that markets are very competitive because both domestic and imported products are available to final consumers, who are free to make independent choices. Furthermore, both at retail and processor level, concentration processes are taking place, which are reducing the number of commercial customers. As a result of this, only products that meet the demand of customers (final and commercial) can be sold successfully.

A cost leadership strategy is not an appropriate strategy for SMEs. First, this strategy requires large quantities to produce on a large scale. Second, the five countries are WTO members, meaning that imports from cheaper producing countries such as China are more competitive. This means that

small producers have to use a differentiation strategy to be successful in the long run. Therefore, SMEs have to be very customer oriented and need to have very good market knowledge and marketing capabilities.

Forward integration could be an appropriate strategy for small and medium-sized processors. As concentration is taking part at the retail level, modern western style or foreign owned retail chains have been able to increase their market share while small traditional retailers and kiosks have lost some of their market share. The reports show that forward integration could be an appropriate strategy for small and medium-sized processors. By building their own retail networks, small processors are able to secure their own retail channels and thus offset the price pressure of large retailers to some extent.

All small and medium-sized processors are facing the challenge of securing a constant supply of single (high) quality inputs from one variety or breed. However, in general they are supplied by small farms and households, which usually produce rather low quality products and use different varieties or breeds. Furthermore, as households often consume much of their produce themselves, the quantities they are able to supply can be unstable. Therefore, if SMEs want to achieve the demanded secure supply of high quality inputs, they have to work on a strategic approach to the design of their supply chain.

One approach is the backward integration farms. However, if a processor owns a farm in order to produce a stable supply of quality inputs, it is likely that small producers will be replaced and will no longer be needed. An extreme form of full vertical integration is the form of agro-holdings. These can be described as closed-circuit production cycles covering all stages from raw material to finished products. As shown in the Ukrainian case study of Kolos, in some cases vertically integrated holdings also work out production contracts programmes to include smallholders into their value chains. However, this is the exception rather than the rule.

Besides vertical integration, another approach is vertical coordination. In the context of vertical coordination SME processors collaborate with smallholders by using either production or marketing contracts. The case studies in this report have all addressed this form of integrating smallholders into value chains while outlining some success factors. However, contract enforcement has to be strengthened. In the context of vertical coordination production contracts are very important. As they include control mechanisms and sanctions, a very important task of governments is to enhance contract enforcement.

Processors often provide inputs to farmers. However, accompanying the provision of (high) quality inputs, clear production guidelines have been worked out and the production process is strictly monitored. If a farmer breaches the rules, sanctions are imposed. Financial aid or assistance has also been provided and inputs have regularly been financed. Loans have also been provided and receipts have been issued which can be used as collateral. Some processors provide cash advances when

necessary and also sometimes provide on-farm assistance. Either the processor directly hires experts who assist and train farmers or external extension services are contracted. Alternatively, international donor organizations provide assistance.

The formation of small groups of farmers has been initiated. Within such groups social control is functioning although they are large enough to produce the required quantity and to diversify production risks. Different case studies have shown that it is important that group leaders are elected.

The replacement of middlemen is supported by processors. However, although the formation of groups has proved successful, all of the country reports show that cooperatives are not very successful. The reason for this is that due to their socialist history they are perceived as top down, inefficient and corrupt. Therefore, the establishment of traditional cooperatives cannot be recommended. One alternative could be to establish cooperative structures based on the ideas of "New Generation Cooperatives".

Market information has to be provided and professional marketing knowledge is needed. One of the main obstacles for the integration of smallholders into the value chain of small and medium-sized processors is customer orientation, which is currently missing. In order to overcome this obstacle, governments and international donors need to increase their efforts to provide information on domestic as well as international markets. Additionally, capacity building and training in marketing is needed.

Some of the case studies show that domestic markets can be very attractive. Therefore, efforts should be made to identify their market potential. This would enable processors to select the relevant market niches.

The provision of financial assistance for processors and smallholders is of high importance. Governments could provide credit programmes with special focus on small and medium-sized processors and farmers. A further task is to create a positive investment atmosphere to attract new (types of) investments from outside the sector or even outside of the country. For instance, crowdfunding could be initiated.

Cooperative policy has to be based on the principle that cooperatives are bottom up organizations. All the reports indicate that the formation of cooperatives could be favourable at different stages of the value chain. The success of informal groups proves that bottom up collective action is achievable and durable. Also, laws on cooperatives should be designed in such a way that the ideas of "New Generation Cooperatives" can be introduced.

Future agricultural policy should target the needs and demands of small-scale farmers and processors more. It is most important that information is communicated in such a way that it reaches small-scale farmers in time to adopt their production schedules. Therefore, the establishment of a functioning communication network and infrastructure is needed. Furthermore, investments in the

overall rural infrastructure such as the road network and education are also needed. The reports also show that there are some groups of small-scale farmers that have no chance of occupying a niche and will never be vertically integrated into modern supply chains.

Introduction

During the transition process in Central and Eastern Europe, relationships along the whole food chain – from farm suppliers to retailers – have broken down. The result has been disruptions in supply and inferior-quality food products. At the same time, changes in consumer demand as well as the accompanying entry of “western” investors (retailers and processors) have necessitated significant reforms and adjustments in the structure of food commodity chains in order to overcome these problems. In this context an increased degree of vertical coordination between transaction partners along the supply chain became a common way of overcoming problems of insufficient supply and poor quality, particularly in the transition countries in Europe and Central Asia (Swinnen 2005). The requirements of the newly established procurement systems demand that suppliers are able to guarantee both disruption-free product flows and delivery of products of a certain quality. Therefore, domestic producers must keep up with quantity and quality expectations.

Different means of integrating farmers into value chains have been reported. For example, collaborative linkages between farmers and retailers through supplier contracting are observed by Reardon et al. (2003), Dries et al. (2004) and the World Bank (2005). Supplier contracting of supermarkets includes the provision of farm assistance programs, as found by World Bank (2005) or the establishment of outgrower schemes, as suggested by Reardon (2003). Dries et al. (2004) found that the two largest supermarket chains guarantee loans for capital investment of their outgrowers to acquire greenhouses and irrigation.

A number of studies have shown that many retailers and processors would like to see growth in farm size. However, retailers and processors are (still) forced to include small-scale farmers. Small-scale farmers are essential for ensuring the required quantities in some transition countries. Small scale farming has important cost advantages, particularly in labour intensive sectors.

Based on the five country reports and the included case studies, the paper provides an analysis of mainly small and medium-sized food processors that have managed to establish effective linkages with local farmers and integrate them into national and international value chains. Based on this, the paper provides recommendations for policy and support options that can contribute towards establishing group based producer-processor linkages. It will also aim to identify driving factors that can improve small farmer processor business linkages, and contribute to improved competitiveness of small agri-processors.

Integration of small-scale farmers into food value chains

Today, foreign retailers are in leading market positions. The retail sector's transition from state-run shops and cooperatives and farmer's markets to western-style, large format retailers has been accompanied by heavy foreign investments. Transition countries have embraced the new retail format to varying degrees. Dries et al. (2004) refer to this concept as "retail waves". They characterized "first wave" countries as those whose supermarket sector went from a tiny niche of about five percent in the mid-1990s to 40-50 percent by the mid-2000s. Examples include Hungary, Poland, and the Czech Republic. They defined "second wave" countries as those in which the sector has grown to a share of 20-30 percent (e.g. Bulgaria or Croatia). "Third wave" countries are those in which the share has remained in a luxury niche of five percent (e.g. Russia). Although the market shares occupied by retailers have increased significantly, differences between the retail structures within these categories still exist. However, for almost all transition countries, there is evidence that foreign retailers either already dominate the market (In Hungary for instance eight of the top ten retailers are foreign owned) or that foreign retailers occupy leading positions. For example, in Russia the German Metro Group is already the second largest retailer.

Foreign retailers and investors "export" their business models. In the context of internationalization it can be observed that "western" retailers and processors are taking their own business models into new markets (Hanf and Pieniadz, 2007; Palmer, 2005; Roberts, 2005). In light of this it can be argued that modern management concepts and their demands on business partners are exported. For example, in the retail sector this results in the following changes: The traditional, local, store-by-store procurement must be shifted to centralized, large, and modern distribution centres and external specialized logistics firms must be used. Furthermore, modern retailers set their own private standards of food quality and safety that are often much higher than those of national governments (Dries et al., 2004). Fulponi (2006) argues that private standards will become even more prominent in the coming years as we observe increased market concentration and buying power of the retail sector as well as its integration with financial markets.

Investment by foreign companies in the sector can induce significant structural change. The requirements of the newly established procurement systems demand that suppliers are able to guarantee both disruption-free product flows and the delivery of products of a certain quality. Therefore, domestic producers must keep up with quantity and quality expectations, otherwise, products will be imported (van Berkum, 2005).

Vertical coordination

In general, vertical coordination refers to the synchronization of successive stages in the vertical marketing channel from producers to consumers. This is aimed at overcoming problems of supply and quality. It does not include transactions on spot markets, where the commodity exchange is

based on a price agreement only. It includes both productive partnerships (contracting) as well as vertical integration (Swinnen and Maertens, 2007). One can assume that the higher the priority to secure quality and/or quantity of raw materials is, the stronger the shift from spot market transactions towards advanced vertical coordination mechanisms will be. Productive partnerships are a kind of vertical integration, characterized by collaborations of independent firms, in which the partners share interests as well as knowledge and resources to improve the outcomes of supply chain activity. This can take different organizational forms: from loose or tacit agreements to stable, long-term, and trust-based cooperation contracts (World Bank 2005b).

The design of the partnership depends on the strategy of the contracting initiators. Structured finance instruments are contractual arrangements to provide farm assistance. They are utilized to achieve the (shared) objectives of vertical coordination (i.e., securing the quality and quantity). In general, structured finance instruments are applied to improve farmers' access to basic production factors (capital, specific inputs) or know-how/information (knowledge and experience) (Götz et al 2009). Structured finance instruments can take three main forms: bilateral contracts, complex contract systems (e.g. triangular agreements), and vertical integration. Bilateral contracts are contracts between two partners; e.g. a farmer and a processor or a farmer and an input provider. Triangular agreements include three partners; e.g. a farmer, a processor and a bank. Vertical integration is regarded as both a particular kind of structured finance instrument and an organizational form aimed at overcoming the quality and quantity problems within a single firm (World Bank 2005b). Vertical integration combines different levels of the value chain within one firm, through the replacement of various market transactions with internal, intra-firm transactions. This can be achieved either by forming a subsidiary or through mergers or acquisitions. In vertically integrated firms, management directives dictate the transfer of resources across stages (Swinnen, 2005).

The key for all types of vertical coordination is contracting. Marketing contracts only address the issue of supply disruptions by private contractual initiatives (Dries and Swinnen, 2005; Gow and Swinnen, 1998) whereas production contracts address quality concerns (Gorton et al. 2006). These contracts vary in control allocated and risk transferred across stages. In marketing contracts, the contractor and producer may negotiate a delivery schedule, pricing method, and product characteristics. The contractor usually provides a market for the goods but engages in few of the producer's decisions. In production contracts (resource-providing contracts), the contractor provides a market for the goods, engages in many of the producer's decisions, and retains ownership of important production inputs (Martinez and Reed, 1996). For both types of contracts Swinnen (2005:1) states that "these private contract initiatives can be quite substantial". Empirical evidence indicates that they include farm management assistance, extension services, quality control, farm input assistance programs, trade credit, and even bank loan guarantees. The programmes generate important improvements in the credit situation of farms, as they contribute directly to improved

access to finance (e.g. through trade credit), and indirectly as they improve contracting farms' access to loans from banks or external financial institutions (through loan guarantees, enhanced farm profitability, and improved future cash flows). In summary, there are a number of different factors influencing participants towards contract arrangements.

The main motivating factors for farmers are as follows, as reported by the USDA (1996):

1. Income stability (to reduce risk compared to other sales methods through traditional marketing channels);
2. Improved efficiency (management decisions are transferred to farmers);
3. Market security (entering the contract provides a certain security in that the product will be sold if it meets with the requirements);
4. Access to capital (contractors often provide inputs for farmers, which reduces the need for credits).

The main reason that processors enter into contracts is the ability to control input supplies. Furthermore, processors use contracts to achieve uniformity and predictability to suit consumers, but they also benefit from lower costs in processing, packing, and grading (Boland et al. 2002, Drabentstott 1999, Sykuta and Parcell 2003, Tsoulouhas and Vukina, 1999). However, two reasons for breaching contracts have been detected. First, producers mistrust their buyers and are afraid they will not be paid. Second, they may not be able to fulfil a contract because they cannot access basic production factors (Gow and Swinnen 1998).

Contract enforcement is still an important problem. In the World Bank study (2005) the enforcement problem was regarded as one of the most important barriers to successful vertical coordination. However, in some cases public enforcement institutions are not fully functioning. Furthermore, since transition countries are often described as having limited social capital, there is also an absence of societal enforcement mechanisms (e.g. peer or community pressure, a sense of mutual obligation, an overall sense of distrust). Thus, the means for improving farmers' access to basic production factors (capital, specific inputs) and know-how have to be worked out and put down in writing; i.e. contracts have to be signed.

Such means can be subsumed under farm assistance. Farm assistance can have many faces. Vertical Coordination aims to overcome the disruptions in supply and inferior-quality products. However, the key actors (retailers and processors) find themselves constrained not by their own capital capacity but by that of other participants along the chains on which they depend for critical inputs. This is because traditional lending institutions such as banks do not give credit to enhance intercompany product flow. Overall, farm assistance can include input supply programmes, investment assistance, trade credit, bank loan guarantees and extension and management advisory services (World Bank 2005). Thus, farm assistance programmes must be accompanied by appropriate governance

mechanisms. In theory, vertical coordination favours large scale farming. The change to modern procurement systems is one reason for initiating vertical coordination and thus chain-based financing. The requirements set by these systems favour large scale production for two reasons: (1) significantly fewer large suppliers are needed, and hence the complexity of the system is lowered, which decreases transaction costs, and (2) it is more costly to provide assistance to small farms than larger farms.

Many studies show that as a result, many retailers and processors would like to see a growth in farm size. However, retailers and processors are still forced to include small-scale farmers. Small-scale farmers are essential for ensuring the required quantities in some transition countries. Small-scale farming has important cost advantages, particularly in labour intensive sectors. If suppliers get too large they begin to re-capture some power. Since larger farms tend to believe that they can survive by themselves, it may be more likely that smaller farmers have a higher likelihood of joining horizontal collaborations and ultimately creating much larger units. The degree of market development is important for the degree of vertical coordination. The less a market and its institutional environment are developed, the less likely it is that a complex system of vertical coordination will emerge (where marketing contracts are dominant). The more developed a market is (i.e. the greater the demand for higher quality products) the higher the degree of vertical coordination will be. When this is the case, production contracts are predominantly used. However, when higher quality products become standardized (e.g. IFS or GlobalGAP certified) and there are no supply difficulties, then marketing contracts are used. In this case, production contracts are only used for markets that cater to consumer segments with differentiated demands.

The search for quality is a key engine of vertical coordination; but what happens when it is reached? Quality is becoming less of a driver towards vertical coordination because in “first” and “second” wave countries, retailers now dominate the markets and thus set the standards for food safety. Currently, the need to enhance efficiency can be regarded as the main motivation for vertical coordination. For example, for production chains that bear high costs, retailers and processors work closely with their suppliers to reduce costs. Quality will remain a key driver only in those cases in which a higher than average quality is explicitly demanded by the customers or in those cases in which it can be used to provide the opportunity to differentiate from competitors.

The role of foreign direct investment

Foreign Direct Investment (FDI) became an increasingly important element in global economic development and integration during the 1990s (UNCTAD, 2003). This development occurred during the process of transition from socialism to capitalism and the integration of the CEE countries into the world economy through trade and capital flows. These developments have led to a large inflow of FDI in the region since the mid-1990s (Konings, 2000). Ahrend (2000) states that there are

obviously a number of reasons why companies establish representations in foreign countries. He divides them into those that are mainly interested in selling goods and services that they produce elsewhere, and those companies that invest in production facilities in a country, either to serve the local market or for export. Among the motives for internationalization of enterprises in the agri-food sector the limited possibility to grow in the home country as well as attractive location factors in the host country were also named (Stange, 2010).

Literature on the influence of FDI on transition economies mentions several positive effects of FDI. A number of authors agree that FDI facilitates economic growth and reduces poverty (Barrell and Holland, 2000; Bevan and Estrin, 2004; Broadman and Recanatini, 2001). Several studies offer empirical evidence on the importance of FDI flows for economic growth in developing countries (Blomström and Sjöholm, 1999; Borensztein et al., 1998). Other advantages of FDI generally mentioned in the literature include technology transfer and technical innovation as well as enterprise restructuring (Barrell and Holland, 2000; Hooley, 1998).

There seems to be considerable evidence about the positive impact of FDI on managerial techniques in the host country. According to Bergsman et al. (2000) FDI brings not only capital, productive facilities, and technology transfers, but also employment, new workplace skills and management expertise. Dyker (2001) points out that investors have to impose their own corporate organizational structures on subsidiaries or partners. Those organizational structures are based on the disposition of hierarchies, lines of responsibility and the use of intra-firm e-mail systems. Even if an investor did not want its management technology to be transferred, it would not be able to stop it. The implication is that, even where there is no soft technology gap as such, soft technology will be transferred in the course of FDI. Yudaeva et al. (2000) assert that it is supposed to be easier for domestic firms to copy technologies of foreign-owned firms located nearby than trying to reproduce technology used in manufacturing imported goods. They call this phenomenon “a potential spin-off” of Western managerial techniques. According to Yudaeva there was previously no business culture in the Western sense of the word, which means that foreign-owned firms serve as an example for domestic firms of how managers should behave.

According to Dries and Swinnen (2004) the spread of foreign retailers has taken place in three waves. The reasons for this are related to the state of economic development and the degree of saturation of the markets into which the retailers expanded. Reardon and Berdegué (2006) call this phenomenon “diffusion over space within a country”. The saturation in second wave cities has made retailers look for smaller cities to locate their outlets in (Dries et al., 2004).

According to Swinnen et al. (2006) FDI has resulted from several company strategies; namely, to serve the local market when trade constraints limit imports and to use the advantages of the domestic economy for exporting to the home market of the foreign company or to third markets. For example, nowadays there is strong competition in the Russian food sector between foreign-owned food processors operating there and the large domestic processors like Wimm Bill Dann. This is

especially true of the regions of Moscow and St-Petersburg. In the CEEC, the transition process of the retail sector from state-run retail shops, retail cooperatives and farmer markets to Western style large format retailers has been accompanied by heavy foreign investments and thus also by changes in procurement systems.

The following six changes are named as the major ones (Dries et al. 2004):

1. A shift from local store-by-store procurement to (nationally centralized) large and modern distribution centres;
2. A shift to regionalization of procurement over countries;
3. A shift from traditional brokers to new specialized wholesalers;
4. Increasing use of global logistics firms;
5. A shift to preferred supplier systems;
6. A shift to high private standards of quality and safety.

As a result of these changes, vertical coordination in agri-food chains is seen as an important and growing phenomenon in the countries of Eastern Europe and Central Asia (Swinnen et al 2006). Studies from other CEEC such as Bulgaria, Moldova, and Slovakia show that due to stricter and higher quality norms, more vertical coordination is taking place in all countries, although there are big differences between them (Dries & Swinnen 2004; Gorton et al. 2006). One reason for this is that contract enforcement is an important but widely varying problem (Swinnen et al 2006).

Cooperatives as a means of integrating smallholders

The structural changes in agri-food markets in transition countries have increased the need for vertical coordination in value chains. As the quality of the final product is often a cumulative function of handling activities at several stages of the value chain, upgrading quality implies coordinating those interdependent activities. In light of these challenges, cooperatives have gained increasing attention (Bijman et al 2011; Shepherd 2007). Bijman et al (2011:83) mention that international donors and NGOs have (re)discovered the importance of cooperatives for rural development in general and for strengthening smallholders' access to markets in particular.

In general, a co-operative can be understood as a user-owned and user-controlled business that distributes benefits upon the basis of use (Barton 1989). Thus, the principles of co-operatives can be delineated by the identity of users and owners, the democratic principle of voting and the non-existing of barriers of entry. Additionally, the legally manifested business aim to nurture their members can be seen as a further characteristic (Anshoff and Henningsen 1986). Traditionally, the aim to establish countervailing power has been regarded as the most important duty of a co-operative (van Dijk 1997). Other business aims like correcting market failure, guaranteeing markets

and enhancing margins can be seen as levers for implementing the main business aim (Cook 1997, Sykuta and Cook 2001).

However, besides these benefits, co-operatives also have some problems. By using a property rights approach, Cook (1995) pointed out five general sets of problems; namely, Free Riding Problems, Horizon Problems, Portfolio Problems, Control Problems and Influence Cost Problems. Using a principal-agent approach and the concepts of opportunistic behaviour, conflicts of interest, asymmetric information and stochastic conditions Eilers and Hanf (1999) show that it is not clear who the principal is and who the agent is; i.e. both the co-operatives and the members can be principals and agents. For this reason, neither leadership mechanisms nor selective terms of delivery can be enforced by co-operatives; i.e. the members can deliver all the commodities which alternative dealers do not accept. Co-operatives being forced to accept these commodities face the problem of adverse selection.

Additionally, Fulton and Giannakas (2001) show that the cross-subsidization and member heterogeneity in large centralized, multipurpose co-ops may lead to substantial financial pressures for the co-operative because members of such co-operatives do not see a strong connection between the success of the co-op and their own business. Furthermore, Karantininis and Zago (2001) showed that by applying a game theory model, instead of selling their commodities to open co-ops farmers would rather sell them to investor-owned-firms if they had the choice.

Fulton (1995) concludes that if markets disappear as a result of increased vertical co-ordination, co-operatives may also begin to disappear. Hendrikse and Bijman (2002) share this assessment for the case that the investment on the side of the processor or retailer becomes more important for the total chain value than investments by the farmers. The author considers that further restraints for co-operatives include the majority of the co-operatives being quantity rather than quality orientated as well as a lack of end consumer orientation, resulting in not having well-known brands. This brief literature overview indicates that even though co-operatives have advantages, the problems – particularly the ones related to quality – might outweigh them. On account of this, it is not clear whether co-ops are a feasible way to integrate (small) farmers into modern value chains and their demands on (high) quality products.

On account of the development described above, some co-ops modernized their business concepts. The aforementioned general agency problems (Cook 1995), quality problems (Eilers and Hanf 1999), and the problems caused by heterogeneous business interests of the members (Fulton and Giannakas 2001) have caused “modern” co-ops to install a centralized authority. Having gained this authority they are able to select their members, which includes ejecting members if necessary. Therefore, these co-ops have a closed membership. Furthermore, the co-op has the right to define quality norms for their supply (Hanf and Schweickert 2007). Whereas, in Europe such thoughts are fairly newly introduced the concept of “New generation Co-operative” has been discussed for quite some time in the US. The “New generation Co-operative” can be understood as a co-operative

organization in which asset appreciation mechanisms, base equity plans as well as increased share liquidity by delivery rights clearing houses have been developed (Chaddad and Cook 2004).

The creation of such “modern” governance and business concepts enables these co-ops to deal with traditional problems. In their efforts to change their business concepts, co-operatives often try to stay in a dual positions; i.e. on the one hand they try to keep the traditional business concept and on the other hand they try to implement elements of “modern” co-ops. By offering strictly supervised contacts to their members they try to separate members willing to produce higher quality from those that are not willing. Afterwards they are able to market the resulting products via different marketing channels (Beuck 2002). In the context of contract production, Sykuta and Cook (2001) showed that because of their governance structure and ownership, farmers are more willing to accept contracts from their “own” co-operative as in this way they feel surer that they are not being cheated (Schulze et al, 2007). Studying wine co-operatives, Hanf and Schweickert (2007) were able to show that some successful co-ops have formed groups of members which have common business aims.

In Central and Eastern Europe, where the majority of agricultural producers are small and have low outputs, a great numbers of farmers have to combine in order to achieve the demanded quantity. Therefore, there is a need for horizontal collaboration; i.e. the establishment of co-operatives (Hanf, 2009). However, cooperatives face hard times in transition countries. In the past, farmers were “forced” to join collective farms, which were understood as cooperatives. As a result of this, even today cooperatives have a bad reputation (Török et al, 2010). Furthermore, during Soviet times collective farms and processing firms were very inefficient. As old production techniques were not updated in the first transition period, inefficiency prevailed. An additional problem is that there is often a lack of trust and social capital among farmers and villagers so that collective action is already hindered at the first stage. In light of this, Gardner and Lerman (2006) conclude that the evidence for cooperatives in agricultural production is still unfavourable.

However, for marketing and supply cooperatives they observe a more promising situation. The reason for this is that new forms of cooperatives have been started (Hanf and Török, 2009). An example is a Hungarian cooperative that is successfully dealing with the changing market environment. The Morakert cooperative was established in 1995 by 52 farmers. Its aims is to increase the income of its members by purchasing inputs at low costs, to access and secure markets, and to gain relatively high prices for its products. However, right from the start the emphasis was also laid on quality so that the Morakert was able to be the first officially acknowledged producer organization in Hungary in 2002. In order to secure and access markets they actively worked on gaining access to retail outlets. Today, its sales to retailers account for roughly 90 percent of their domestic sales with increasing tendency. Therefore, the Morakert co-operative is able to comply with changing market and retailer sector requirements.

There are four core elements of success for Morakert. One of them resides in filter rules applied to potential members. Another is a strict coordination of the required quality and quantity of products.

The third originates from the ability of cooperative leaders to build trust between members and management. Finally, an efficient private contract enforcement mechanism has been arranged (Bakucs et al., 2007). Vertical integration becomes more and more important to develop activities in the cooperative with higher added value. Therefore, in the Morakert cooperative all the activities (purchasing, handling, sorting and packaging of products, transportation and storage) are carried out in one place. All these activities are supported by a common IT system (Fertő and Szabó, 2002). Furthermore, this co-operative has successfully launched its own brand. The example of the Morakert cooperative shows that some of the mentioned general problems can be reduced. For instance, the agency problem is not so significant because of the well-organized trust promotion mechanisms and appropriate consideration of human factors. In the future, the establishment of the secondary or regional type cooperative is planned. In this case the chance of free riding problems will grow because the cooperative will depend more on non-member trade (Fertő and Szabó, 2002).

Successful processor driven integration of smallholders into value chains

The literature review presented above shows that in general the agricultural sectors of the formerly centrally planned economies were in a state of disarray and economic crisis after the socialist governments fell, resulting in a sharp reduction in agricultural output (Gardner and Lerman 2006). In this context, a key factor has been the disruption caused by the break-up of the pre-reform, vertically integrated, centrally planned, contracting system within the agri-food supply chain (Gow and Swinnen 1998). Those disruptions have been located at farm level due to privatization and land reforms and they have also been located at processor and retail level similarly due to privatization.

Therefore, the food and agricultural value chains have undergone tremendous changes in recent decades. More recently, private vertical coordination systems have emerged and are growing rapidly as a response to consumer demand as well as concentration at retail and processor level. Private traders, retailers, agribusiness and food processing companies are increasingly making contracts with farms and rural households to whom they provide inputs and services in return for guaranteed high quality supplies (Swinnen and Maertens 2006). Small farms and households in particular are facing serious production constraints caused by factor market imperfections. They do not have access to financing, they are experiencing difficulties in buying (high) standard quality inputs, and lack technical and managerial capacity. In light of this, more and more contract schemes (marketing and / or production contracts) and outgrower schemes have been established, often accompanied by the provision of quality inputs, new technologies, credit, and extension services to the farmers (Dries et al 2009).

Besides private initiatives, some state controlled vertical coordination programmes also exist. However, Swinnen and Maertens (2006) show that in general, state controlled vertical coordination is less effective in realizing farm productivity growth than private structures. Whereas in developing countries the building of cooperatives is gaining increasing attention in order to integrate small-scale farmers into value chains (Bijman et al 2011), in transition countries cooperatives are facing hard times. Gardner and Lerman (2006) explain this by citing negative experiences (lost private land as well as efficiencies and corruption) with cooperatives during the Soviet years. They conclude that the use of the word cooperative could not only create the wrong impression but could also create barriers to progress (Gardner and Lerman 2006: 5).

Marketing channels of small-scale farmers and households

These general findings have been observed in the reports of the five countries and disruptions in the agri-food value chains are described in all five country reports. As a result of this, a dual organizational structure has developed in the agricultural sector. On the one hand we can see large corporate farm businesses such as agro-holdings or state enterprises and on the other hand smallholders. For example in Ukraine, agro-holdings, which can be described as closed-circuit production cycles covering all stages from raw material to finished products, have emerged and are dominating, particularly in the labour intensive sub-sectors such as horticulture small farms and households.

All the country reports show that despite its decreasing importance for the overall gross domestic product (GDP) for rural areas, the agricultural sector is still the most important employer and is still very important for rural development. In this context, all reports unanimously highlight the importance of small farms and households; i.e. besides producing significant amounts for self-consumption and supplying the market, these small business also provide employment – particularly for family members. However, the reports also show that rural incomes are far lower than income in urban areas. Urban areas, with their high schools and universities provide better career opportunities for young people. As a result of this, migration to cities is evident in all countries.

Together with self-consumption the most important marketing channel is direct sales; e.g. on green markets for small-scale farmers and households. However, the migration loss mentioned above negatively affects the market size for direct sales. Additionally as the example of Serbia shows, modern retail chains expand their food ranges offering more fresh products such as fruits and vegetables. By buying large volumes, retailers are able to offer these products for reasonable prices and standardized quality. Therefore, farmers and households that practice direct marketing, face stiff competition. As a result the attractiveness of this channel is shrinking.

Rural-urban migration actually has a positive effect on the development of indirect marketing channels. When people move to urban areas they have to buy processed food, usually in retail

outlets. Therefore, the importance of indirect marketing channels is high and will grow in the future. However, even though these channels are growing the competition is very fierce. In general (modern and particularly foreign owned) retail chains favour buying the needed larger volumes from a limited number of suppliers. Thus, corporate farm business mainly profit from this development. The reports have also shown that larger producers also favour larger suppliers.

All-in-all, Agrarian policies in the five countries have the aim of enhancing food security and food safety in common. As a result of this, most of their programmes support larger farms and processors. For instance, in Azerbaijan, food security is top of the agricultural policy agenda; therefore, the development of a medium and large scale farming system is a key issue. The resulting reforms have created favourable conditions for the development of vertically integrated holdings. Such tendencies can be observed in all five countries. Furthermore, as the Serbian and Turkish examples show small-scale farmers and households, as well as small-scale processors, have problems receiving information on new policy programmes in time. For this reason, they are not able to adjust their production quickly enough. Furthermore, the application processes for such programmes are often very complex, meaning that smallholders are not able to deal with them. In all five countries positive exceptions are the policies regarding storage facilities. Since small-scale farmers and households face difficulties in storing their produce – particularly in the case of perishable products – policies set some incentives to enlarge storage capacities. For example, with the help of the government in Azerbaijan 28 cold storage facilities (and 17 cereal storage facilities) have been constructed in different regions of the country.

In addition, as all the countries are members of the World Trade Organisation (WTO) agricultural producers are also facing stiff competition for imports. For example, for Turkish pasta producers it is sometimes cheaper to import wheat than to source from inside Turkey. Further, imports have the advantage that large volumes are easy to order from one source whereas sourcing from small producers means conducting a multitude of transactions, increasing the transaction costs significantly.

Overall, it is evident that smallholders face two main obstacles. On the one hand they do not have sufficient volumes to stay competitive and on the other hand they are often unable to produce the required qualities. Regarding the first obstacle, one solution could be to pool quantities. A classical way would be the establishment of cooperatives, although as has already been mentioned, this is not feasible. However, in Azerbaijan, a draft law on agricultural cooperation is under discussion in the Parliament.

Another method could be horizontal informal collaboration among smallholders. However, all the studies show a low level of trust and social capital among the rural population. For example, the Ukrainian case study on Navigator-Agro demonstrated that there was a complete absence of trust in the idea of collaboration on the part of small and medium-sized farmers. In addition, rural citizens generally only have very limited trust in each other. A third approach is to sell products via

middlemen, as illustrated in the Turkish case study. However, prices are very low and transactions are of a spot market nature.

Regarding the second obstacle; namely the issue of quality, the literature provides evidence that based on vertical cooperation, quality can be increased. However, the literature often refers to examples of foreign investors who have leapfrogged quality by collaborating with large corporate farms. As the reports show, smallholders are not of interest to larger producers and modern retailers and thus do not receive offers to cooperate; an exception is the case study of the Ukrainian agro-holding Kolos.

However, for small and medium-sized processors the situation looks quite different. They are not very attractive business partners for large corporate farms either, but this means that they are more open to working with small farms and households in order to secure their agrarian raw inputs. The positive examples presented in the country reports also highlighted that SME processors even stimulated horizontal collaboration among the farmers within informal groups. Therefore, the reports demonstrate that a successful way of integrating smallholders into value chains is cooperation with small and medium-sized processors.

Processors as drivers of integration

SME processors are the most viable channel for integrating small-scale farmers and households into value chains. Therefore, particular interest has to be shown on them. Regarding their business environment, all country reports have revealed a similar picture. As mentioned above urbanisation is taking place and as a result retail chains are gaining importance and demanding larger quantities and standardized quality. Moreover, due to the EU harmonization in Serbia and Turkey, food standards have more or less been adopted. In addition, urban consumers are demanding more pre-processed food and are looking for specific brand names.

The concentration ratio and thus the market power of modern retail chains is increasing. There are evident differences between the five countries, although retail waves are visible. Nevertheless, one can expect that the developments revealed in Serbia; namely, a very high concentration ratio as well as leading chains are foreign owned, will be replicated in the other countries in the future as well. The reports show that the growth of modern retail formats is at the expense of small, traditional retail shops such as kiosks. The consequences of this, published by Dries et al. 2004, can be seen in the reports.

Overall, the development of the retail sector is most beneficial to large processors; either as producers of branded products or as suppliers of retail own branded products. The reports reveal that imports play an important role in satisfying demand for higher quality products, particularly branded ones. But interestingly, at the same time, imports are also a main force in the competition in the low price segment. For example, imports of Chinese tomato paste are replacing local Kirghiz

products. The Ukrainian report shows that “In recent years, domestic processors have lost 10 percent of the domestic market owing to stiff competition with foreign companies”. Furthermore, the report mentions “Statistical data on food products produced in Ukraine includes products manufactured using domestic raw materials, as well as products that only undergo the final stage of processing in the country. Information regarding the origin of raw materials, as a rule, is not indicated on labels. As a result, sausages made from Brazilian meat or milk from Polish powder reach the market as domestic products. Another threat for Ukrainians is represented by the fact that a significant share of food products are of poor quality, are adulterated or pose a danger to consumer health.

It is thus evident that SME processors in all countries face very intense competition and a clear corporate and marketing strategy should be a prerequisite to surviving and prospering. However, as the report on Kirgizstan exemplifies, many SMEs have neither a corporate strategy nor a marketing strategy. A survey that was conducted revealed that only a minority of enterprises have strategic development plans. Furthermore, the managers of most companies did not participate in management trainings or invest in capacity building for their staff. Even more importantly, in almost all countries, SME processors tend not to be customer orientated.

However, the successful case studies which have been reported show that value chains that are customer oriented and that have a clear strategy concept are performing well. It is clear that successful SME processors do not try to compete with national or global cost leaders as they cannot achieve the necessary economies of scale and scope, which shows that cost leadership strategies are not suitable. The successful examples work with a mix of niche and differentiation strategies offering (superior) quality and well known traditional products. As in the case of Zdravo, organic production related aspects are being used for differentiation and the first attempts to create “real” brands have been made, the target markets for which are local, national and export markets.

A major success factor is customer orientation. However, customer orientation should not be limited to end consumer orientation. The main customers of SME processors are often businesses such as wholesalers, retailers, or exporters. The case studies reveal that some SME processors are customer oriented right from the start but often customer orientation is “imported” via their business relations with foreign importers (e.g. Schwabe company), investors from other sectors (e.g. Zdravo Organic), foreign investors or donors.

As the retail market is increasingly competitive, SME processors are slowly excluded from this channel. As a reaction Sierla, a Serbian dairy company, started to vertically forward integrate by building its own retail network. Today, it markets its entire production through its own outlets. Today Sierla owns a network of 40 small dairy shops and acts as a role model; some other Serbian food processors have tried to replicate this success story and are building their own retail networks.

All of the strategic orientations presented demand that SME processors produce steady volumes at uniform, high quality which is reflected in their raw inputs. Therefore, additional important success

factors are functioning linkages between the SME processors and their suppliers; i.e. small farms and households. Most often they can be characterized as of cooperative nature and interestingly, all have been initiated by the processors. Even though the case studies show that long term and trustful vertical relationships do exist, the reports also expose that smallholders are often regarded as difficult partners. One reason for this is that due to their small production volumes, smallholders are able to behave very opportunistically. They are always able to make the choice of whether to consume or sell their production.

However, as favourable as tight relations are, the report on Kirgizstan explicitly shows that the institutional setting is very important for the optimal modus of transaction – just as Williamson (1985, 2002) has proposed. A recent survey showed that processors and farmers predominantly work based on short term oral arrangements without signing any contracts because like this raw materials can be bought for the desired price and in the required quality. Furthermore, due to a lack of confidence in the farmers and due to lack of funds, processors offer tomato producers preliminary contracts that include compulsory delivery without prepayment. Not surprisingly, if the market price is slightly higher than the contracted price, farmers sell their produce on fresh markets. Comparing these findings with the results of a study conducted in 2008 shows that the relationship between processors and farmers has weakened over time. These findings have to be seen beyond the background of changes in export policy. Previously, fresh tomatoes were often exported unprocessed, but since 2008 the processing of tomatoes increased. Today, over 60 percent of the tomatoes produced in the country are processed by local enterprises and mini-workshops and the remaining part is consumed by the population. Therefore, product specifications are not very high. and as a result, spot market transactions are the best choice for transaction.

Tightening of vertical linkages

Close relationships between processors and smallholders are advantageous for both sides. Processors receive security regarding the quality and the volume of their raw input supply. The country reports show that small-scale processors do not have the choice as large corporate farm businesses and state enterprises favour large processors as business partners. Small-scale farmers and households see the main advantage in having a reliable and secure opportunity to sell their products. Interestingly, in all the reports smallholders unanimously value fair prices as important but not as important as securing access to markets. In light of this, vertical cooperation can be regarded as a success factor in the development of sustainable value chains.

However, in addition to institutional settings and to opportunistic behaviour, other obstacles also have to be overcome. As mentioned previously, social capital is low and trust is lacking. As the case study on the Ukrainian Shyroke marketing group exemplifies, in order to start cooperation, processors have to provide some kind of collateral to convince smallholders that they are

trustworthy; game theory names such a procedure as exchange of a hostage (Axelrod and Hamilton 1981; Fudenberg and Tirole 2002). In addition, the reports reveal that even today enforcing the law is often difficult.

Processors often use outgrower schemes, especially for upgrading quality. They provide necessary inputs (e.g. high quality seeds, irrigation equipment or pigs of a special breed) and provide training opportunities (e.g. a demonstration farm has been set up) and extension services. Additionally, some of the case studies show that processors finance the inputs in advance and even help farmers in financially difficult situations. However, contracts have to be signed and sanctions for misbehaviour have to be clearly set. The case study on Agroplast, a tomato paste producer from Kirgizstan exemplifies this very well.

Agroplast provides farmers with seeds and fertilizer, helping to increase the quality and yield of products. Additionally, training for farmers is provided once a year. At the beginning of the year, the cooperative invites all farmers to plan production volumes and to determine their input needs (seeds, fertilizers, etc.). Furthermore, Agroplast provides prepayment schemes. Both sides (farmers and Agroplast) understand that they can trust the other party, although both sides also acknowledge that just one mistake (fraud, dishonesty, failure to keep promises) can destroy established trust.

This case study demonstrates that over time business relationships can become trustful as long as both sides fulfil their duties. A further success factor of this case study has been the establishment of informal groups. Agroplast divides the farmers into several groups. Each group has a leader who serves as a communication bridge between the company and the farmers. The task of the group leaders is to provide information, to organize logistics, and to coordinate delivery schedules. A further task is to act as a warrantor if a member of his or her group needs some financial assistance from Agroplast. Other case studies support the importance of informal groups. All the case studies show that farmers prefer informal groups to formal groups such as cooperatives.

Positive experiences of vertical linkages

In Serbia especially, the harmonization of Serbian law with EU regulations has led to new laws on food safety being passed, which has caused SMEs to react and invest in the input market in order to secure quality inputs. Additionally, the concentration process in the retail sector has created pressure on SMEs to reorganize their supply chains. Two strategy approaches can be observed. One is to be fully oriented towards small and medium-sized family farms investing time and money in developing cooperation. The second approach is to be partially vertical integrated; buying or building farms and cooperating with small farms at same time. Those SMEs that invest in cooperation with farmers have more resources (human and capital) which can be used to specialize in their business. But this approach consumes more time to actively work with farmers to improve quality of inputs.

Good examples of these two strategy approaches can be found in the dairy sector (the dairy

company Sirela and the dairy company Lazar). As a response to the increasing market power of retail chains, both dairy companies run their own retail networks. However, their approach to working with farmers is totally different. Having had a bad experience with vertical integration on its own farm, today Sirela concentrates on cooperating with smallholders. Farmers' motivation for cooperation can be summarized as: safe market channel, stability in payment, possibility to use subsidies, help from extension service provided from Sirela, free of charge usage of milk coolers, and help in critical moments. The opposite approach is taken by Lazar which has successfully vertically integrated possessing and now has a dairy farm with 500 cows.

Other good examples of well-established relations between SMEs and small family farms can be found in the fruit, vegetable and grain supply chains. SMEs that cooperate with farmers are often oriented towards the domestic market, although some are strongly involved in exports, as it is case with Zdravo Organic and Vitamin. The main benefit of cooperation with small-scale farmers for SME food processors lies in the secured input market, because without cooperation they would suffer from unstable and low quality of inputs. In light of this, processors provide farms with inputs such as seed, fertilizer, chemicals, irrigation equipment, and in some cases advance payments. Extension service is also provided in some cases. All the case studies have shown that cooperation is an open learning process. Therefore, both sides have to stay flexible, open to new ideas and have to aim for long term profit instead of short term benefits. Nevertheless, all responsibilities have to be explicitly written down in contracts, which also have to include sanctions for those parties that do not fulfil their obligations. Therefore, controlling the production process and the quality and quantity of agricultural products is a precondition for developing trust among processors and farmers. Because many recent collaborations have involved middleman who subcontract farms, some processors have the idea of replacing them through the establishment of farmers' cooperatives. However, currently Serbia does not have a good and flexible Cooperative Law.

In Ukraine concentration is not only taking place at retail and processor level but also at farm level as the number of agro-holdings is increasing. Additionally, due to large amount of imported raw and processed products (e.g. dairy products, fruit, and pork) the competition is high. All-in-all, the willingness to invest in the development of cooperation with small producers is rather low for private companies but also for the government. The majority of agricultural policy programmes aim to strengthen large producers and processors, meaning that smallholders have only limited access to state support, investments and credit resources. The result of this is that they lack quality seeds, fertilizers, and mechanical appliances. Additionally, they lack reliable information about markets.

Nevertheless, the Ukrainian case studies show that there are a number of successful collaborations between processors and small farms. Both case studies show that due to low level of social capital, the rural population rather passively perceives initiatives of processors or wholesalers to cooperate. To overcome this entry barrier the initiation of informal groups has been helpful, as evidenced by both case studies. On the one hand such groups provide positive examples which motivate other

farmers to join in, while on the other hand they are easier to handle. If these groups are led by formal and informal rural community leaders, the overall level of trust increases. Farmers start to increase their confidence and trust towards processors and wholesalers if they provide financial support to the group at the beginning of the relationship. For example, Navigator-Agro provided investments of UAH 20 000 (around USD 2 500) to found small logistics centre in the village.

The case study on Kolos shows that smallholders can also be integrated into the value chain of an agro-holding. In order to enlarge their production capacity on high quality pork meat, Kolos, together with Kamyanyets-Podilsky University professors calculated and developed a breeding and reproduction system for a Dutch breed which was distributed to smallholders. This programme consisted of educational elements such as on-site demonstrations and teaching at a constructed experimental mini-farm as well as a quality monitoring system at household level. Additionally, piglets, fodder, veterinary service, and some financial and extension service were provided to farmers. At the initial stage it was very important that small groups of farmers were trained together and that farmers were allowed to keep one or two pigs per year for their own consumption. Once again, during the implementation of the programme there were cases in which *mala fide* owners used various methods to try to increase the weight of animals just before supply. These incidents showed that contracts have to include penalties in order to prevent opportunistic behaviour and discontent of honest suppliers.

In Kyrgyzstan, over 75 percent of agricultural land is cultivated by small-scale farmers, who face numerous challenges with regard to producing and marketing of their outputs. A major obstacle is the lack of permanent and reliable buyers for their harvests. However, the report shows that the majority of the processing enterprises have tried to work with the small-scale farmers within projects of various international organizations and consulting agencies. According to the enterprises, cooperation was not achievable because of the dishonesty of some farmers. Even though they received advanced payments, fertilizer and seeds, they did not fulfil their commitments after harvesting. Instead, they sold their products on fresh markets, where prices were higher. As a result, practically all enterprises operate through intermediaries or procurers, which collect produce from small-scale farmers and sell in bulk to enterprises. Most processors rather work with cooperatives and larger suppliers than to deal with small-scale farmers. Moreover, the report shows that due to a shift in export policy towards processed rather than unprocessed goods being exported, spot market transaction are becoming more favourable. In light of this, the level of vertical coordinated production has decreased.

Nevertheless, two successful case studies on processor driven integration of smallholders have been introduced. The Agroplast case study demonstrates that by providing small-scale farmers with quality seeds and fertilizer the company is able to achieve a constant delivery of good quality, single-variety raw inputs. Additionally, this company invests resources to train their suppliers. An important factor for the success of this cooperation has been the formation of informal groups. Each group has a

leader who serves as a communication bridge between the company and farmers, enabling joint planning of the production volume and quality. Overall, these joint actions have created an atmosphere of mutual confidence and trust. As a result, in one case farmers have been willing to accept delayed payments.

The second case study analysed the supply chain of Galanfarm, which exports valerian to a German pharmaceutical company. This case study highlights the catalysing role of foreign companies on the one hand and the importance of capacity building by international donors and local consultancies on the other. In order to produce high quality valerian, smallholders were motivated to attend a Farmer Field School which is supported by a German donor and a local consulting agency. The training addressed all production steps throughout the year. During the training, farmers built informal groups and group leaders were selected by the group themselves. Their task was to bridge the communication between the Galanfarm and the farmers in order to discuss problems, fix the price, plan the volume of delivery and develop delivery schedules. A further task is to monitor and coordinate the quality and quantity of the raw materials supplied.

Main findings and recommendations

All five country reports highlight the importance of smallholders for the production of agricultural crops; particularly for perishable and labour intensive products. Their main marketing channels are direct sales to the rural population, the processing industry, wholesalers and food retailers as well as exporters. All the reports revealed that production for self-consumption is also crucial. For instance, in the Serbian livestock sector self-consumption and direct sales account for more than 50 percent of total production. Thus, particularly in the case of low (market) prices, self-consumption is a serious alternative to selling produce on the market. In some cases, this alternative also abets opportunistic behaviour. The reports have shown that large retailers and large processors prefer to work together with large farms. The same holds for larger exporters.

In this context, the reports indicate that foreign investors (processors or retailers) prefer to work with larger suppliers. However, in cases in which foreign investors are involved in collaborations they can be regarded as the main engine of adding value to the chain as the Kyrgyz example of the Galenfarm demonstrates. Furthermore, those foreign investors also “export” their business models and professional marketing knowledge, which their local business partners can profit from.

As the reports reveal that the rural population have significantly lower income and that there is a migration to urban areas, the importance of direct sales will decrease over time. All the reports show that the most important marketing channels for smallholders are SMEs and small traditional retailers as well as wholesalers and middlemen. However, the reports show a decrease of market share for small traditional retailers. Furthermore, the majority of transactions with middlemen are spot market based and prices are very low. All-in-all, the future development of small-scale farmers mainly depends on the economic performance and development of small and medium-sized processors. Therefore, building and supporting a sustainable and successful business environment for SMEs should be one of the top priorities.

Another top priority – if not a *sine qua non* – is establishing customer orientation as being central. As the Kyrgyz reports states “any chain to be successful, it has to be pulled instead of pushed”. All country reports show that the markets are very competitive because both domestic and imported products are offered to final consumers. The number of commercial customers at both retail and processor level is decreasing steadily as concentration processes are taking place. Overall, only products that meet customer demand (final and commercial) can be sold successfully.

The five reports clearly indicate that a cost leadership strategy cannot be appropriate for SMEs. Firstly, cost leadership requires large quantities to produce at efficient scale level. Therefore, large domestic processors are better prepared for this strategy. Secondly, because of all of the countries are WTO members, cheaper products from countries such as China are imported, which enhances competition. The same is true for exports. Thus, small producers have to use a differentiation strategy to be successful in the long run. There are a number of ways to create differentiation,

including higher quality, brand building and production of traditional or local specialties. Small processors face stiff competition from large domestic and foreign processors, especially for brands and high quality products. Therefore, small processors should focus on geographical niches such as small rural towns or particular target groups such as religious minorities or lifestyle groups. Furthermore, as the penetration of brands is rather low in the five countries at present, focusing on certain niches could create the space to build strong brands with comparable low investments. However, this means, that SMEs have to be very customer oriented. Additionally, they need to have very good market knowledge and marketing capabilities.

A further marketing option is to export to foreign countries, although for this, large quantities are usually required, which makes large processors more competitive. Nevertheless, niches exist in which small and medium-sized processors are successfully operating. For example, due to established business relations from the Soviet area, the export of tomato products from Azerbaijan to the St. Petersburg area still exists. Another option is the export of very special products such as dried valerian roots or organic species. As many people migrate not only from rural to urban regions but also to foreign countries, the export of typical, traditional food products to specialized ethnic retailers is an additional interesting option. However, all reports highlight that exports require high quality standards and international certifications such as HACCP or ISO certification.

As concentration is taking place at retail level, modern, western style or foreign owned retail chains are increasing their market shares while small traditional retailers and kiosks are losing their market shares. As a result small and medium-sized processors are being confronted with an increasing price pressure meaning they have to develop alternative strategic options. The reports show that forward integration could be an appropriate strategy for small and medium-sized processors. Building their own retail networks small processors are able to secure their own retail channel and therefore offset the price pressure of large retailers.

Regardless of the chosen strategy, all small and medium-sized processors are facing the challenge of securing constant supplies of (high) quality inputs from one variety or breed. Yet, in general they are supplied by small farms and households which often produce at rather low quality and use different varieties or breeds. Furthermore, the supply is often unstable because of poor growing practices and conditions but also because they consume a lot of the products themselves. From this it follows that if SMEs want to achieve the demanded secure supply of high quality inputs, they have to work out other strategic approaches for the design of their supply chains.

One approach is the backward integration of farms. However, if a processor owns a farm in order to produce a stable supply of quality inputs, it is likely that small producers are replaced. Thus, from a smallholder's perspective such an approach is not favourable. "Extreme examples" of full vertical integration are Ukrainian agro-holdings. These can be described as closed-circuit production cycles covering all stages from raw materials to finished products. As shown in the Ukrainian case study of Kolos, in some cases vertically integrated holdings also work out production contract programmes to

include smallholders into their value chains. However, this is the exception rather than the rule.

Besides vertical integration, another approach is vertical coordination. In the context of vertical coordination SME processors collaborate with smallholders either through production or marketing contracts. The reported case studies have addressed this form of integrating smallholders into value chains. The case studies point out different success factors.

Firstly, in all successful case studies the processors provided inputs to farmers. For example, in order to receive single variety peppers the processor Vitamin organized an outgrower scheme for the production of seeds. These seeds are then distributed to a larger group of farmers who grow the peppers for processing. Besides receiving the seeds, all farmers get further inputs, such as fertilizer, on a prepayment basis. In addition, irrigation systems have been installed. In the Ukrainian agro-holding example, pigs of a certain breed have been provided, while in the Serbian dairy example cooling tanks have been assembled. As well as the provision of (high) quality inputs clear production guidelines have been worked out and the production process is strictly monitored. If a farmer breaches the rules, sanctions are imposed.

Secondly, financial aid or assistance was provided. Most inputs were financed although loans were also provided, receipts were issued which can be used as collateral and cash advances were provided if needed. In one case, an investment in a small logistics centre was made before the collaboration actually started. Another financial aspect is that in many countries, some subsidies are only paid if they are applied by processor in favour of the smallholders.

Thirdly, farm assistance is provided, which includes processors employing experts who assist and train the farmers. In one case, a small demo farm was created and the processors' own staff trained the farmers on-site. In other cases, experts visited farms. Alternatively, external extension services were contracted and international donor organizations provided help. In Kyrgyzstan "Farmer Field Schools" have been used to install and to train groups of farmers and local university experts were included.

Another success factor has been the formation of small groups of farmers that act together; either as formal or as informal groups. Within such groups social control is functioning and they are large enough to produce the required quantity and to diversify production risk. Different case studies have shown that it is important to elect group leaders. Often these are people who have already gained respect in the community, such as teachers. All examples which aim to build groups have been bottom up processes; i.e. even though the processors encouraged the group formation, the group was established by the members themselves. In light of this, the aim and perceived benefits are shared by all members. All reports show that processors support the idea of replacing middlemen with collective action. However, although the formation of groups has proved successful, all country reports are highlight that cooperatives are not very successful. Due to their socialist history cooperatives are perceived as top down approaches that are inefficient and corrupt. In addition, they

are still associated with the collectivization of private property. Therefore, the establishment of traditional cooperatives cannot be recommended. An alternative could be the establishment of cooperative structures based on the ideas of new generation cooperatives. Using the word “cooperative” should be avoided.

However, while the successful formation of (informal) groups demonstrates that collective action is achievable; all the reports indicated that there is a very low level of social capital and trust among the population, but also between processors and farmers. However, trust can be built by providing inputs, financial assistance, and particularly by providing farm assistance and trainings over a longer period of time. However, the established trust and the resulting vertical coordination mechanisms can be pulled apart easily by opportunistic behaviour even if it only happens once. Thus, in the course of vertical coordination control mechanisms such as laboratory analysis and harsh sanctions also have to be included.

Besides opportunistic behaviour, market changes can also lead to a change of coordination mechanisms. For instance, when the product specificity is lowered, spot market transactions might be more favourable. The tomato chain in Kyrgyzstan can be taken as an example. The change in export policy that promoted processed tomato paste instead of fresh tomatoes for export meant that the willingness to use trustful collaborative means of vertical coordination was replaced by spot market transactions. This development can be explained by transaction cost theory. For exporting fresh tomatoes the products have to be very carefully handled in order not to spoil them. In contrast, processed paste only requires very basic quality requirements so that no precautions have to be taken. In such a case, it is not recommended to invest into building trustful relationships.

Besides all of these points, the most important aspect for the integration of smallholders into value chains is the generation and demonstration of sustainable benefits for the smallholders themselves. In this context, all the reports show that farmers recognize the value of secure marketing channels and reliable fair payments as the largest benefits.

Recommendations

One of the main obstacles for the integration of smallholders into value chains of small and medium-sized processors is the lack of customer orientation. In order to overcome this obstacle, governments and international donors ought to increase their efforts to provide information on both domestic and international markets. Such information enables processors to select relevant market niches. In order to be successful, modern marketing and management knowledge is essential. Therefore, governments and international donors have to intensify their efforts in capacity building and training in marketing and management.

Even though export markets are attractive (particularly for large processors), for SMEs domestic markets are the most important ones. In this context, some of the case studies show that the even

the domestic rural markets can be quite attractive. Therefore, efforts should be made to identify the market potential of domestic market niches.

Because access to financial resources is a further obstacle, the provision of financial assistance for processors and smallholders is very important. Governments could provide credit programmes with special focus on small and medium-sized processors and farmers. It could include incentives for vertical coordination. For example, formal production contracts could be accepted as a form of collateral to some extent. Investments in chain partnerships; e.g. the creation of logistic centres or storage facilities could receive subsidies on interests rates. A further task is to create a positive investment atmosphere attracting new (types of) investments from outside the sector or even outside the country. For instance, business angels and private equity companies could be attracted with favourable terms. Another possibility might be to initiate crowdfunding. In this context, international donors could support internet based crowdfunding projects by developing the IT-platform and communicating the project to target groups.

As foreign direct investments have positive direct and indirect effects, governments should provide programmes that help to attract them. Such programmes have to include measures to enhance planning reliability as well as predictability of legal decisions and law enforcement. A cornerstone for this is to reduce corruption.

In the context of vertical coordination production contracts are very important. As they include control mechanisms and sanctions, a very important task of governments is to enhance contract enforcement. Additionally, country wide neutral control bodies such as laboratories have to be built. The governments should also increase their role in developing, implementing, and controlling quality standards, especially for raw materials by providing more convenient on-farm inspections.

Smallholders often have low levels of formal education, meaning that they have difficulties dealing with (higher) quality demands. Quality production demands certain inputs, growing techniques and sometimes new technical equipment (e.g. irrigation). In order to deal with these demands, farmers need to be trained and supervised. Thus, extension services are needed. However, the reports show that processors provide extension service either internally or through hired consultants. As this is a clear visible benefit to the farmers which enhances their willingness to cooperate, governments and donors have to be cautious not to cancel it out by providing free extension services. In most cases, however, building a nation-wide extension service would be too expensive.

In light of this, the creation of a co-financed system (either by governments or donors) could be targeted. However, the reports show the danger is that in the moment co-financing is removed, the whole system brakes down. Therefore, new payment schemes have to be developed which ensure that the service will survive the initial, supported phase, meaning that the prices paid by the farmers have to be calculated on full cost basis (even though certain parts could be based on a success sharing plan). The reports show that as well as extension services, capacity building should also be

targeted as management and marketing capabilities at farm level are weak.

All the reports indicate that the formation of cooperatives could be favourable for different stages of the value chain. At the same time the reports also express that cooperatives tend to be implemented in a top down manner and thus fail to work efficiently. In light of this, cooperative policy has to be based on the principle that cooperatives have to be organized from the bottom up. The success of informal groups proves that bottom up collective action is achievable and durable. Moreover, cooperative laws should be designed in such a way that the ideas of “New Generation Cooperatives” can be introduced.

In the context of the integration of small-scale farmers into value chains, the reports support the assumption that state owned enterprises are not very effective at stimulating vertical coordination. Therefore, the privatization of state owned enterprises could be considered. The resulting earnings could be used to finance vertical coordination efforts.

All reports mention that the existing agricultural policies target large producers rather than small-scale farmers. For food security reasons this might be a reasonable approach. However, small-scale farmers are not only important food producers but also play a vital role in rural employment and culture. Therefore, future agricultural policy should be more focused on the needs and demands of smallholders. Most importantly, information must be communicated in such a way that it reaches small-scale farmers in time to adapt their production schedules, which necessitates the establishment of a functioning communication network and infrastructure. An additional benefit of well-developed communication infrastructure is that market price information can easily be distributed. Furthermore, investments in the overall rural infrastructure; e.g. in the road networks or education is needed.

However, the studies also show that there are some groups of small-scale farmers that have no chance to occupy a niche and will never be vertically integrated into modern supply chains. Hence, for those farmers social security systems have to be established.

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Appendix

Abridgment of the Country Reports

a. Serbia

The Serbian population is getting smaller and rural-urban migration is prevalent. At the same time per capita disposable income has increased in the last 10 years (although it has been stable over the last five years). As a result of this consumer awareness and concern for food safety has increased, which has had an effect on food quality; namely, standards and quality of products are now increasing. Furthermore, the Serbian food sector has had to adjust to the new legislation, the aim of which is to synchronize with EU laws. All-in-all, the result is a strong development of big domestic retail chains with super and mega store formats that are recently sold to international companies. Therefore, the former predominant small shops are just minor market channels for food products. Due to the high consumption of fresh bread and pasteurized milk in these sectors small local shops are still important. Another marketing channel for food products is exports. There the main exporting partners are the Europe Union and CEFTA countries.

These trends have led to the development of tighter vertical relationships within value chains. Large retailers favour business relationships with larger processor or large farmers that are able to invest in storage facilities and in production technology to satisfy retail standards. Small and medium-sized processors supply the decreasing number of small retail shops and start to integrate forward by opening their own retail outlets. Nevertheless, they have to comply with the increased quality demands. Thus, vertical coordination in food supply chains is recorded in different sectors. For instance, in the dairy sector there are 190 dairy processors which collect and transport milk from farmers to processing facilities. In order to secure their raw milk input in the long-run and to increase the quality of milk, some processors provide financial and advisory services and inputs to farmers. During 2004 and 2005 the Serbian government established support measures to improve the functioning of agri-food chains, which were focused on investment in storage capacities for agriculture products. For example, in 2004 the first fruit storage capacity with Ultra low oxygen technology was built. Today, there are several dozen such capacities owned by farmers through several new generation cooperatives. However, besides these successful examples of cooperatives, the government has not been able to encourage farmers to organize cooperatives.

In order to enhance the function of supply chains, some processors provide farm assistance in the form of private advisory services. However, there is also a Serbian agricultural advisory service with about 230 employees working with farmers across Serbia. The majority of advisors have technical knowledge, but only a few of them are economists. In recent years the United States Department of Agriculture (USDA) and the World Bank (WB) have supported farm management training courses for all advisors to improve their skills in diagnosing farm problems and effective communication. Overall, one can say that the small number of advisors is outnumbered by the large quantity of farmers.

Therefore, their influence is small. There are some private agriculture advisors in the fruit and vegetable sector that offer their services to farmers who are able to pay the service fees.

Serbian case studies

The following three case studies have been used to exemplify the integration of small-scale farmers into value chains:

1. Vitamin, a vegetable processing company;
2. Sirela, a dairy processor;
3. Zdravo Organic, a fruit and vegetable processor.

The food processing company Vitamin is a medium-sized company with 117 employees. Today, Vitamin is one of largest producers of dried vegetables in Serbia. It also dries and processes medicinal herbs, tea and other spices and additives for use in the home and in meat processing. One of Vitamin's unique attributes is that it is the sole producer of seasoning pepper seed in Serbia. As a leader on the domestic market, in recent years the company has been focusing more and more on the foreign market. Vitamin cooperates with family farms in order to secure a constant delivery of standardized high quality inputs. In order to provide farmers with high quality seeds, Vitamin works directly with twenty family farms. In order to save transaction costs Vitamin indirectly cooperates with an additional 1 000 family farms through contracts with ten "cooperatives" and middlemen. The relationships with farmers are based on long term partnerships and only very few farmers are replaced. All relationships are of a formal nature. The obligations and rights of both the company and the farmers are strictly defined in contracts. Vitamin is responsible for supplying seeds, providing extension service to farmers throughout the season, taking the whole production from the contracted acreage and transporting it to the processing facility and for paying 50 percent of the contracted price after delivery and 50 percent after 60 days. Vitamin has the right to regularly control production on farms, to measure quantity at facility scale, and to grade quality of delivered pepper. Farmers are responsible for producing pepper on the contracted area only with supplied seed, for regularly updating Vitamin on the status of the crop, for keeping records on applied agro-technical measures and allowed chemicals, for ensuring the quality of harvested pepper, and for delivering all produce to Vitamin. For the farmers the two most important benefits are an assured market and a known price. An additional benefit is the reliable and prompt payment scheme and the provision of all seeds. Furthermore, if farmers have liquidity problems they are eligible to ask for advance payments.

The second case study is on Sirela, a dairy company with a total milk intake and procession of 5.1 million litres which has built its own network of 40 small dairy shops. In 2013, it employed 124 people, most of whom were engaged in the retail network. All production is marketed on the national market. In order to secure a constant milk supply of sufficient quality Sirela has created stable relationships with family dairy farmers. However, it also tried to establish its own dairy farm

with 100 cows. Due to lack of experience and good farm management the farm was quickly sold. Today Sirela has ongoing cooperation with 265 family dairy farms. The ten biggest family farms have been equipped with milk coolers. The other dairy farmers are organized into 14 collecting and cooling stations. The turnover of these dairy farms is very low. Sirela makes detailed contracts with all farmers and Sirela's resulting responsibility is to educate farmers, to buy all delivered milk, to transport milk from cooler to facility, to check the quality of milk at least once a month at its own cost, to apply for government subsidies (milk premiums) on behalf of farmers, to pay for the milk every 15 days and to pass on the premiums as soon as the government pays them. According to the contracts the responsibilities of farmers are to deliver milk of certain quality, to transport milk to collecting stations, and to take care of milk hygiene. If any prohibited pollutant is discovered in the milk sample, the farmer has to pay for the whole polluted consignment. Farmers' motivation for cooperation can be summarized as safe market channel, stable and prompt payment, the possibility to use subsidies and receive help from extension service, to use milk coolers for free, and to receive help at critical moments (e.g. lack of feed, fire damage). Furthermore, Sirela pays slightly higher prices for raw milk than most other SME dairies.

The third case study is on Zravo Organic, another fruit and vegetables processor. It employs 32 people and 100 seasonal workers. Zravo Organic owns 50 ha of fruit plantations. It is accredited with Global Gap, ISO 9000, ISO 14000, ISO 22000, and OHSAS 18000. Its main product on the export market is natural juices. The company earned 30 percent of its revenue from this market in 2012. As an approach to secure constant high quality input supplies, Zdravo Organic initiated cooperation with family farms. Currently, about 50 percent of all inputs are being produced by family farms. The relationship between Zravo Organic and 24 farmers is based on contracts. Additionally, some contracted farms subcontract production with other farms. All-in-all, 50 farms (directly or indirectly) cooperate. Again, the rate of fluctuation is marginal. The contracts include Zravo Organic being allowed to examine production on farms during announced and non-announced visits. Furthermore, farmers have to use same kind of seed and production practice (e.g. fertilizer use) in order to produce vegetables with unified quality and shape. Zdravo Organic collaborates with experts from the University of Novi Sad and extension service to help farmers. Motivated by the severe drought in 2012, Zdravo Organic offered help to farmers install irrigation systems in order to better control production risk. The contracts also regulate pricing; produce has to be paid for based on the latest harvest prices corrected by a certain factor if prices deviate between the last harvest and present one. Inputs have to be paid for within 30 or 60 days after delivery. Additionally, transport costs from farm to processing plants are covered by Zravo Organic. 2012 was a very hard year for farmers due to the long and severe drought. Zravo Organic shared the losses with farmers in order to maintain their confidence and trust and to ensure production in the next year. The main benefits for farmers are a secure market channel and prices as well as the reliability in payment. Moreover, the vegetable producers can specialize and encounter lower production costs.

b. Ukraine

As incomes in Ukraine are increasing very slowly and the prices of food products are constantly growing, there is a decrease in total consumption volumes. Furthermore, demand changes towards cheap substitutes of animal and plant origin, with significant content of preserving agents, artificial flavouring matters, colouring agents and other impurities, which enter the Ukrainian market largely through imports. A result of this is that domestic production is under competitive pressure. Today, the agricultural sector is divided into two separate sectors: corporate (agricultural enterprises and agro-holdings) and the individual sector (peasant farms and households). The corporate sector has better access to resources, marketing channels, favourable prices, state support, and influence on national agricultural policy. This has resulted in the development of vertically integrated structures on the basis of processing and trading enterprises. These structures have closed-circuit production cycles, covering all stages, from raw materials to finished products. These agro-holdings even have their own adjusted network for storing products, being an integral part of a closed value chain system (production-storage-processing-selling of agricultural products).

Households and family farms ensure production for almost half of gross agricultural output. For instance, more than 70 percent of labour-intensive agricultural products (mostly consumption products like potatoes, fruit and vegetables, milk and meat) are produced by small households and farms. As the majority of small producers only possess production facilities but not storage facilities, they are forced to sell their products immediately after harvest when prices are significantly lower than in winter or spring. Only very few smallholders attempt to sell their own products directly on green markets or to retailers. Starting in 2000, a system of advisory services has been created based on donations. However, after the donations were terminated, the service practically stopped functioning. Additionally, state support for agricultural the extension service is also decreasing. The major mechanism of state support for including small producers into value chains is the development of collective action. However, this programme again did not receive sufficient financing. A further state funded project is the development of the agrarian market infrastructure. The project “wholesale markets of agricultural products” (WMAP) was launched in 2011 on the basis of the public private partnership. The WMAP network is supplemented with a system of local markets, the number of which is increasing gradually. In 2012, the Ministry of Agricultural Policy and Food of Ukraine implemented new subsidies aimed at supporting small and medium-sized producers in order to enhance breeding of young livestock. However, Ukrainian agriculture policy is aimed more at accelerating total production than developing extended value chains. Typical support mechanisms include binding producers of raw materials to the processing enterprises of the food industry. All-in-all, the programmes main aim is to support large agricultural producers rather than individual households.

Ukrainian case Studies

According to the official Ukrainian statistics, more than 70 percent of labour-intensive agricultural

products are produced by small households and farms. At the same time, small and medium-sized producers often face problems in terms of accessing markets due to the absence of developed market infrastructure and logistics facilities (cold storage, roads, transport, etc.), not to mention the huge power of private traders, which use non-market (monopolistic and oligopolistic) methods to reduce farm-gate prices. In light of this, the organization of formal (cooperatives and business associations) or informal producers' groups could help to integrate farmers into value chains. Marketing service cooperatives have been quite successful in the sphere of raw milk products, but not in others. The reason is that cooperatives often experience difficulties in enforcing members to supply all or a majority of their products. Instead, producers often prefer to sell the higher quality products themselves and supply the lower quality products to the cooperative. These actions often undercut the benefits of joint action. Moreover, due to taxation problems cooperatives are not very popular and effective in Ukraine. Business Associations require members to enter legal contracts containing strict obligations for each party. Members are contractually bound to sell a stated quantity (often with defined quality) at a negotiated price, which is off putting for many small and medium-sized producers. In contrast, informal organizations are more common in Ukraine. Households often specialize in the production of a certain product and work together in small informal groups (five to ten members) to be able to form relatively large lots of produce. This allows them to sell it as a wholesale lot to traders or supply it to markets in other regions of Ukraine. As these informal groups maintain control over their own products, they often do not suffer from the constraints facing the marketing service cooperative. The benefits of such organizations come from sharing transportation costs associated with getting produce to market and higher prices for wholesale lot. Informal groups are mentioned in both case studies.

The first case study is on the Shyroke marketing group which was initiated by the wholesaler Navigator-Agro. This wholesaling company was founded by the former managers of a large Ukrainian retail chain. This meant that from the beginning the company had tight relations with retailers, supplying them with cooled fruits and vegetables. Today, Navigator-Agro still supplies retailers throughout Ukraine, although it also exports to neighbouring countries. When the company decided to start exporting, it initiated the Shyroke marketing group in order to be more competitive than producers in Poland, Romania and Moldova. This meant that the company's products had to be less expensive than local products, of high quality and be delivered on time. To eliminate the costs of products delivered to the wholesale market Navigator-Agro decided to start working directly with farmers and small fruit and vegetable producers. The initial idea was to contract a number of farmers to supply a particular amount of specific product at a particular time. However, Navigator-Agro faced a complete lack of trust in the idea of collaboration on a contractual basis with commercial company from the side of small and medium-sized producers. In addition, rural citizens only had very limited trust in each other. A further problem was that producers were unwilling to diversify their production in the way demanded by the company. After a number of unsuccessful negotiation attempts, the company decided to facilitate the creation of a local informal group of producers and

start with them. The Shyroke marketing group unites 119 members from individual households of different villages within the Skadovsk region, who elected a 58-year old former teacher as group leader. Navigator-Agro agreed a preliminary list of products with producers, which would be delivered in the upcoming season. It also provided investments for creating a small logistics centre. The business is organized in the following way. When Navigator-Agro receives an order it estimates the stock needed, defines the per unit price and facilitates logistics. Afterwards, the information is passed to the leader of the marketing group together with an initial cash transfer. The group leader is responsible for assuring that the requested products are delivered to the logistics centre at the requested time and for the proposed price. After the final buyer has made its payment, Navigator-Agro makes final cash payments to members. Today, the initial cash payment is no longer required as the group has built trust into the relationship. In order to obtain better transport quality, the marketing group and Navigator-Agro, with the help of donor organizations, applied for and received a grant of UAH 300 000 for a buying medium-sized cold storage facility in Shyroke village. This joint action helped to facilitate the development of trust. The benefits for the group members are the following. As they have stable sales, they do not have to think about how to deliver their goods to the local market and waste time selling them there. They also receive competitive prices for their product. Additionally, they do not need to do any administrative and taxation work, as most of it done by Navigator-Agro.

The second case-study is on “Kolos for farmers”. Kolos (PE Kolos) is a vertically integrated meat-processing factory with a breeding complex of 1 500 pigs, three pig farms (with own mixed fodder plants) which produce 56 000 animals per year on a total cultivated are of 5 000 ha. It also has a retail chain and sections in large supermarkets. The total number of employees is 1 600, including 500 in the retail business. The idea of cooperation with small meat producers first arose in 2003. Together with Kamyanyets-Podilsky University professors, the enterprise developed the programme “Kolos for farmers” including economic background, technological cards of production, and informational material. To ensure the proper quality of the meat, the enterprise created a breeding and reproduction system for a Dutch breed. For on-site demonstrations and teaching purposes an experimental mini-farm was constructed, where farmer-students could receive practical knowledge of the production process. At the beginning many households were quite cautious about participating in the programme because they were suspicious about the breed and technological adaption of the production process. Furthermore, the farmers were not allowed to keep the animals they already had. In order to overcome these obstacles Kolos proposed signing commodity credit agreements, which enabled six-month delayed payment for received animals, fodder and equipment. The actual interest rate was 0.01 percent of supplied goods. Additionally, each household was allowed to keep one or two pigs for their own consumption. Potential participants were organized into small groups to participate in an educational programme based on modular system of theoretical seminars and practical classes. The first participants of the programme were 36 households, who received 76 animals. At the first stage, most of the participants used their own

fodder. However, as a result of fungus in the fodder grains, the pigs caught a bowel resulting in low rates of growth. To eliminate this problem, the enterprise offered to do disinfect and prepare fodder from grain produced in households or supply households with fodder. Quality control of the households is conducted by vets of PE Kolos. Veterinarians support the whole production process from insemination, to carrying out veterinary and/or sanitary activities, to ablactating of piglets. After piglet ablactating, vets make visits upon request. Furthermore, at the slaughtering stage, meat output including damp level is controlled. In order to avoid any controversies, households have access to all levels of the quality control system. If the farmers try to cheat – for example by artificially increasing the weight of animals – they receive harsh penalties.

c. Kyrgyzstan

Fruit processing is one of the most important sectors of the Kyrgyz economy and is thus one of the major marketing outlets for agricultural producers. It comprises 22 industrial plants and over 300 mini-shops and private enterprises. The main results are of a survey that was conducted on this sector revealed that only a minority of enterprises have strategic development plans. Further, the managers of most companies neither participated in management trainings nor invested in capacity building of their staff. Even though most companies use trademarks, they do not have marketing plans. In spite of being export oriented, almost none of the companies have introduced a quality management system such as HACCP or ISO certification. Because of the high interest rates and high collateral requirements of banks, companies did not apply for loans despite their need for funds. Practically all enterprises operate on a short term contractual basis with customers and suppliers.

This result is also mirrored in a survey on tomato processors which make up the majority of vegetable producers. This survey showed that processors and farmers predominantly work based on short term oral arrangements without signing any contracts, because raw materials can be bought for the desired price and at the required quality. Due to a lack of confidence in the farmers and due to lack of funds, processors offer tomato producers preliminary contracts that comprise compulsory delivery without prepayment. Not surprisingly, if the market price is slightly higher than the contracted price, farmers sell their produce on fresh markets. Overall, only very few enterprises issue credit for farmers as it is not profitable and it bears the risk of farmers breaching contracts.

A comparison to a study conducted in 2008 indicates that the relation between processors and farmers has weakened over time. Whereas 37 percent of the questioned processors used an "enterprise-farmer" cooperation model in 2008, only 3 percent used this mode in 2012. Moreover, the number of processors that issued various types of credit to suppliers decreased from 47 percent to 7 percent in the same period. The same happened regarding the prepayment of inputs. In 2012, only 7 percent of companies (41 percent in 2008) partly prepaid the production costs, and none of the surveyed companies practiced 100 percent prepayment (7 percent of enterprises in 2008). These findings have to be seen beyond the background of changes in exports. Previously fresh tomatoes were often exported unprocessed, but since 2008 processing of tomatoes has increased. Today, over

60 percent of the tomatoes produced in the country are processed by the local enterprises and mini-workshops, with the remainder being consumed by the population. Therefore, product specifications are not very high so that spot market transactions are favourable. Nevertheless, these severe changes also indicate a reduction of trust between suppliers and processors.

Kyrgyzstani case studies

Only a limited number of trustful and sustainable partnerships of processors and small-scale farmers exist. In two case studies examples of processor driven integration will be presented; namely Agroplast LLC and Galenfarm.

Agroplast LLC has the status of an agricultural cooperative dealing with processing of fruit and vegetable crops. It is owned by former plant employees. Its permanent staff consists of 30 persons, but during the processing season up to 60-70 persons are employed. About 20-30 percent of products are sold domestically and 70 percent of the production is exported, mainly to Russia. As the supply of raw materials was very difficult in the early days, the cooperative started to work successfully with small-scale farmers. At the moment, the company works with 70 small-scale farmers on a contract basis. The contracts specify deadlines, volumes and prices. Agroplast also provides farmers with seeds and fertilizer, helping them to increase quality and yields. Additionally, once a year the company provides training to farmers. The farmers are divided into five informal groups. Each group has a leader who serves as a communication bridge between the company and the farmers. The task of the group leaders is to provide information, to organize logistics, and to coordinate delivery schedules. A further task is to act as a warrantor if a member of his group needs some financial assistance. At the beginning of a year, the cooperative invites all farmers to plan production volumes and to determine the needs of farmers in agricultural input (seeds, fertilizers, etc.). Furthermore, Agroplast provides prepayment schemes. But, if the company is experiencing financial difficulties, the farmers may deliver the products but have to wait for payment for several months. For Agroplast the main benefits of this cooperation are to overcome supply shortages. An additional benefit is the mutual trust that is generated, which allows farmers to continue deliveries even if payment is not on time. The main benefits for farmers are that they can receive prepayment and that payment is guaranteed. Another benefit is the provision of agricultural input and the guarantee that products are being bought. Both sides (farmers and Agroplast) understand their relationship as trustful, although both sides also acknowledge that only one mistake (fraud, dishonesty, failure to keep promises) can destroy trust.

The second case study is on Galenfarm LLC which is a company with 30 employees engaged in the processing of medicinal herbs. The chain was initiated by the demand for valerian from a large-scale foreign company. In this context it has been advantageous for Galenfarm to work with small-scale farmers as valerian production is a labour-intensive. Additionally, valerian production can be better handled on small plots than on large plantations. With support from the foreign donation agency and a local consulting agency, Galenfarm was able to establish a trustful relationship with farmers. In this

context, the training of farmers on integrated production management played an important role. Farmers were grouped (15-20 persons) and then received training on the seasonal production of valerian (from seed to seed). Group leaders were selected by the group. During the year, several meetings between the group leaders and Galenfarm are held to discuss the current crop production situation. At such meetings, prices are also fixed, volumes of delivery are planned and delivery schedules are developed. A group leader is entitled to initiate contracts with Galenfarm on behalf of the group or at the request of the group. Furthermore, the group leader has to monitor the quality and quantity of the raw materials supplied. On top of this, Galenfarm meets farmers on a regular basis in order to visit the fields and to inspect the sites. The main reason that farmers engage in this value chain are a good (additional) income and the availability of a guaranteed long-term product market. Furthermore, Galenfarm provides farmers with prepayment of up to 40-50 percent of total volume of delivery, and provides seeds at the beginning of a season.

d. Azerbaijan

As food security is a main goal of agricultural policy in Azerbaijan, the development of medium-sized and large scale farming systems in the country is an important issue. Thus, a draft law on agricultural cooperation is under discussion in the Parliament. However, farmers perceive agricultural cooperatives and collective farms (former kolkhozes) are identical, and they see cooperation as a threat to the independence of their farms. Reforms for the food processing industry have created favourable conditions for the development of vertically integrated holdings. For example, one of the leading food processing enterprises is Azersun Holding. Today the Group operates more than a dozen enterprises engaged in the following areas of industry: Food processing, farming, trade, packaging and paper Industry.

As small scale farmers are not willing to form collectively larger units, competition is high and prices are volatile, resulting in marginal surpluses. Tomato production in the Shamkir district can serve as an example. The number of tomato producers has increased in the past few years, meaning that competition is high. The tomatoes are sold on the domestic market. Quantities that cannot be sold there are exported to Russia and those tomatoes are purchased at a lower than normal market price. However, the export is beneficial for all parties because the export of surpluses keeps prices high on the domestic market. As a result, farmers are not searching for more profitable alternative channels. Another problem is that farmers do not receive any information on market demand. Thus, their production is larger than the demand so that only a fraction of their produced quantity can be sold and storage capacity is limited. In order to combat this, with the help of the government 28 cold storage facilities (and 17 cereal storage facilities) have been constructed in different regions of the country.

Azerbaijani case studies

The case study on Azerbaijan Sugar Production Unit (ASPU) is an excellent example of how processors can integrate smallholders into value chains. ASPU is a subsidiary of the Azersun Holding. The company initiated a programme in which farmers leased land at a discounted rate in order to grow sugar beet. Overall the programme covered an area of 1 500 hectares. Furthermore, ASPU initiated collaboration with agro-leasing companies on farm assistance in cultivating, planting and harvesting sugar beet as well as providing fertilizer, seeds and other input supplies. Today the programme runs in eight regions and is supervised by 16 specialists. Furthermore, ASPU has recently initiated a similar programme together with Etalon Agro with the aim of growing sugar beet on an additional 1 680 hectares of land. On the one hand, this programme focuses on landowners growing sugar beet on their own land (in total 711 hectares) and on the other hand on farmers who have to rent some land (in total around 400 hectares).

e. Turkey

Total household expenditure on food and non-alcoholic beverages accounted for around 26 percent of all expenditure in Turkey in 2009. In rural areas food consumption patterns have not changed much and are still based on wheat and grain products and a variety of meat products. However, in urban areas, through the presence of modern retailers and rising disposable incomes, consumption patterns have been shifting to packaged and processed foods. Particularly, acquisitions and mergers of foreign companies have introduced new products and trademarks to consumers. The majority of the Turkish food and beverage sector is formed of SMEs, which are mostly privately held. However, although privatization of state owned enterprises is progressing, many of the most important food and beverage processors are state owned or heavily influenced by the state. Thus, often prices for agricultural prices are still announced by the government. Furthermore, agricultural co-operatives provide a wide range of commercial services to farmers, such as input supply, purchasing, and processing and selling farmers' crops. Over the years, the government has prioritized making co-operatives more independent from government. This aims to rationalize their operations and to improve the services provided to farmers.

For the processing industry the most important link to agricultural producers is their constant demand for a stable supply of high quality inputs. However, due to low productivity, input prices are relatively high. Wholesalers act as a buffer in the chain and protect small producers from negative price shocks, although they also stop positive shocks as well. Furthermore, they hinder the visibility of market signals so that agricultural producers are often not aware of the final buyers' demand. As a result, agricultural producers mainly sell to commissioners, merchants, or to the processing industry. Even though there are some incentives set by public authorities, agricultural producers are not willing to collectively market their production. The reason is that collective action is associated with cooperatives which were established during Turkey's socialist period. They were run by the state and were highly corrupt and did not develop successful investment strategies at village level. As a result

of this they are still seen in a very negative light.

Small scale farms are not strongly linked to the market, meaning that they basically produce for their own consumption. A severe problem for small scale farmers is that they can neither create a sufficient income nor save any money. Therefore, access to credits is essential to enhance incomes and living standards. Agricultural loans are mainly financed by state-owned banks, which in the past could offer interest rate subsidies and frequently restructured and wrote off debts. The Agricultural Bank of Turkey, Ziraat Bankasi, the country's largest commercial bank, is the main provider of agricultural credit for large farmers, State Economic Enterprises (SEEs) and Agricultural Sales Co-operatives Unions (ASCUs). Credit is distributed to small-scale farmers through the Agricultural Credit Co-operatives (ACCs). Additionally, since the beginning of the century, some private financial institutions (private banks, leasing companies, etc.) have started to emerge.

Turkish case studies

Turkey is one of the countries that are most favourable for agricultural production in the region. Traditionally, cereals lead the list in total agricultural production. They have a significant impact people's diet, with an annual consumption of about 250 kg per head. The products of the pastry and milling industries account for more than 30 per cent of agro-industrial output in terms of value. Additionally, the sector has a major position in the world wheat flour export. The main export markets are Iraq, Indonesia, Libya, Philippines, Israel, Gambia, Thailand and Madagascar. Another very important agricultural sector is fruit and vegetables. This sector is characterized by homogenous products and is labour-intensive in nature. Furthermore, the sector is also characterized by under-use of advanced technology and innovations. The competition can be described as fierce and price-based. Therefore, the observed case studies (Dost Gida Corporation as well as Aypınarı Dried Vegetable and Fruit Production) are taken from those sectors.

Dost Gida Corporation is the leading wheat flour, pasta, semolina and durum flour producer in Turkey. It uses Swiss and Italian pasta making technologies, and buys only high quality durum wheat. Furthermore, it has implemented ISO9001:2008 and ISO22000 standards. The company buys raw materials directly from agricultural producers. After the farmers deliver their products the company takes a probe which is tested in their laboratory. Afterwards the price is negotiated based on the prices of the wheat exchange market. Even though they have long term connections with some farms they prefer not to use contracts. The reason for using cash payment is that farmers do not accept any other method of payment. For the future, Dost Gida is thinking about helping farmers equip themselves with new machinery in order to enlarge production. At the moment, if Dost Gida needs to buy more wheat, it can be easily procured via the wheat stock exchange or it can be imported.

The other case study is on Aypınarı, which is a global exporter and importer of dried food. There are currently four employees in the factory. On the domestic market it sells products to catering companies, fodder factories, herbalist stores and biscuit factories. Around half of the needed raw

materials are bought from and delivered by farmers. Transactions are made on a spot market basis. Aypınarı does not have any formal agreements with its suppliers, even though the managers agree that contracted purchasing would be advantageous. However, farmers distrust processors and demand cash payments. The other half of the needed inputs are bought from agents. However, agents ask longer payment terms than farmers. Furthermore, agents possess market power, meaning that they are able to buy agricultural products at low prices from farmers. Nevertheless, Aypınarı perceives transactions with agents as less problematic than those with farmers. An additional problem of Aypınarı is that its management has no information about access to financial support, which means it lacks financial support for new investments.