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Integration of Small Farmers into Value Chains: Evidence from Eastern Europe and Central Asia

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Abstract

The economic breakdown of the early transition process weighed heavily on food supply relationships in the Eastern European and Central Asian (EECA) countries. Small and medium-sized farm suppliers and processors suffered from lack of necessary production inputs whereas processors and retailers faced problems of insufficient quantity and quality of supplies. At the same time, changes in consumer demand as well as the accompanying entry of foreign investors in the retail and processing sectors necessitated significant and lengthy reforms and adjustments in the structure of food commodity chains to overcome these problems. Based on an extensive literature overview and a synthesis of five case studies conducted upon the assignment of Food and Agriculture Organization (FAO) of the United Nations, the current chapter demonstrates how small and medium-sized food processors manage to install effective procurement systems in weak institutional environments of EECA. The chapter also identifies the factors that drive small farmer-processor business linkages and their integration into national and international value chains in order to develop options for support and assistance.

Keywords: Eastern Europe and Central Asia, farm assistance, food chain, processors, smallholders, vertical coordination

1. Introduction

The whole food chain in Eastern Europe and Central Asia (EECA)—from farm suppliers to retailers—has suffered a dramatic breakdown of economic relationships at the beginning of the transition process. Disruptions of supply and inferior-quality food products have become a commonplace. At the same time, changes in consumer demand as well as the accompanying entry of foreign investors, primarily retailers and processors, necessitated significant reforms and adjustments in the structure of food commodity chains to overcome these problems.

Altogether these factors required considerable effort on the part of policymakers to structure food commodity chains and food supply of higher quality and safety. Given that such changes are normally accompanied by a lengthy process of institutional adjustments, an increased degree of privately driven vertical coordination between transaction partners along the supply chain became a widespread means to overcome problems of insufficient supply and minor quality [1]. 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. Thus, domestic producers must keep up with quantity and quality expectations.

Many studies show that retailers, processors as well as governments would prefer growth in farm size due to different reasons [2–5]. Nevertheless, retailers and processors are still compelled to collaborate with small farmers as these farmers are essential for ensuring the required quantities in some transition countries, particularly in labor intensive sectors. It is, however, a widespread phenomenon that small farmers are the most vulnerable type of agricultural producers. In the situation when existing institutional structures are either incomplete (i.e. containing gaps that hinder all producer types equally) or captured (i.e. asymmetrically favoring some producer types over others)—and both problems are still present in EECA today—small farmers face an everyday threat of being excluded from respective value chains [6–8].

The purpose of this study is to demonstrate how (mainly small and medium-sized) food processors manage to install effective procurement systems in weak institutional environments of EECA by establishing linkages with local farmers and integrating them into national as well as international value chains. The paper also identifies the factors that drive small farmer-processor business linkages in order to develop policy and support options that can contribute to strengthening of group-based producer-processor linkages.

Our analysis involves a review of available and accessible sources related to smallholder-buyer business models for inclusion of small farmers into markets. In addition, the findings of five country reports by Food and Agriculture Organization (FAO) of the United Nations based on the case studies from Azerbaijan, Kyrgyzstan, Serbia, Turkey and Ukraine on processor-driven integration of small farmers into value chains are synthesized.¹

The chapter is structured as follows. The subsequent section provides a literature review on the integration of small farmers into value chains. In this context, foreign investments have been reported as very important aspects. Therefore, they deserve a separate sub-section. Another sub-section is dedicated to cooperatives as they are considered a traditional instrument for the integration of farmers into value chains. The further section summarizes positive experiences of the case studies from five EECA countries. Conclusions on how to foster processor-driven integration of small farmers into value chains are provided at the end of the paper.

¹One of the authors of the current paper participated in the mentioned FAO project and the chapter is based on the respective FAO Report titled “Processor-driven integration of small farmers into value chains in Eastern Europe and Central Asia (EECA)” [9].

2. Integration of small farmers into food value chains in transition countries

2.1. Means of integration

The transition process has caused a decline of agricultural output and decapitalization of the agricultural production system in Central and Eastern Europe [10]. As a result, the food and agricultural commodity value chains have undergone a tremendous change in the last decades [11]. The breakdown of the interactions among food chain participants—from farmers to retailers—resulted in supply disruptions of supply and deterioration of the quality of food products. Concurrently, changing consumer demands and the entry of foreign retailers and processors have called for groundbreaking reforms of food chains.

Transformation of the retail sector from state-run shops and open bazaars to “more modern”, large format retailers was stipulated by significant inflows of foreign investments. Their rapid development notwithstanding, the new retail formats have been expanding differently in different transition countries. This gradual expansion is often referred to as the “retail waves” concept [12]. In this context, the “first wave” countries’ supermarket sector grew from about 5% in the mid-1990s to 50% by the mid-2000s. These shares of modern retail formats are observable in Hungary, Poland and the Czech Republic. “Second wave” countries such as Bulgaria and Croatia are characterized by a 20–30% share of supermarkets and similar retail formats. “Third wave” countries, in turn, are those whose supermarket sector did not exceed 5% of total retail turnover in the mid-2000s, for example, Russia and Ukraine. Regardless of the market shares of modern retailers, existing evidence suggests that foreign companies are among the leaders in the retail sector of all Central and East-European countries. For example, the German Metro Group is the second largest retailer in Russia and Ukraine.

Foreign retailers and investors ‘export’ their business models. In the process of internationalization they are taking their own business models into the new markets [13–15]. Thus, modern management concepts and requirements toward business partners are exported. In the retail sector, this results in the following changes. The centralized, large and modern distribution centers and external specialized logistic firms substitute for traditional, local, store-by-store procurement. Furthermore, modern retailers set their own private standards of food quality and safety that are often much higher than those of national governments [12]. Some informed commentators suggest that these private standardization initiatives will further proliferate as the share of modern retailers is growing [16].

Profound structural change is expected in the agri-food sector due to foreign investment. Within new procurement systems, suppliers have to guarantee both timeliness and quality of delivered products. This leads to improvement of operations among domestic suppliers as they face fierce competition on the part of importers [17]. However, in the long run, foreign retailers aim to source up to 90% of their supplies from local producers [3, 4].

The observed process of synchronization of successive stages in the marketing channel from producers to consumers generally refers to vertical coordination. It does not include transactions

on spot markets, where the commodity exchange is based on a price agreement only. It includes both vertical integration and productive partnerships (contracting) [18]. Assumingly, the higher the priority to secure quality and/or quantity of raw materials, the stronger the shift from spot market transactions toward advanced vertical coordination mechanisms.

Vertical coordination, introduced by modern procurement systems, favors (in theory) large scale farming. There are two reasons for this perspective to prevail. First, the complexity of the system is reduced and, thus, transaction costs are lower if there are a small number of large suppliers. Second, larger farms are less costly than smaller farms with regard to assistance provision.

However, small farmers are essential for ensuring the required supply quantities in most EECA countries. Therefore, retailers and processors are (still) compelled to include small farmers in supply chains and provide assistance to them based on the establishment of productive partnerships. Particularly in labor intensive sectors, small-scale farming has important cost advantages.

As generally regarded, productive partnerships among firms are supposed to be based on common goals, shared knowledge and pooled resources that altogether lead to better supply chain performance. The design of such relationships may vary from loose agreements to long-term and trust-based contracts [19].

The key for productive partnerships is contracting. In the context of agri-food supply chains, the main motivations of farmers to engage into contracting are the following: (1) income stability (to reduce risk compared to other ways of selling on traditional marketing channels); (2) improved efficiency (management decisions are transferred to the 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 (contractor often provides inputs for farmers, which reduces the usage of credits) [20]. Food processors enter into contracts because they obtain control over input supply. Further, processors use contracts in order to achieve uniformity and predictability to suit consumers while they also benefit from lower costs in processing, packing and grading [21–23].

In general, one can distinguish between two types of contracts: marketing and production contracts. Marketing contracts address the issue of supply disruptions by private contractual initiatives [24, 25] whereas production contracts address quality concerns [26]. Additionally, these contracts are different with regard to the degree of control allocated and risk transferred across stages. In producer contracts, the contractor engages in the producer's decisions to a much higher extent than in the marketing contracts. This engagement can even expand toward ownership of critical production inputs whereas the role of marketing contracts is essentially in providing a market for the producer's goods [27].

Empirical evidence indicates that both types of contracts persist in EECA countries and their use is contingent upon the degree of market development. The less a market and its institutional environment are developed, the less likely it is that a complex system of vertical coordination will emerge and, this, marketing contracts will dominate. A more developed market, characterized by greater demand for higher quality products, entails a higher degree

of vertical coordination with the wide use of production contracts. However, the use of marketing contracts is more reasonable if the higher quality products become standardized. The application of production contracts will then mainly pertain to consumer segments characterized by differentiated demands.

In practical terms, contracts that are used in EECA include farm management assistance, extension services, quality controls, farm input assistance programs, trade credit and even bank loan guarantees [1]. Thus, evidence suggests that 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. For the most part, this takes place because traditional lending institutions such as commercial banks do not give credit to enhance the interfirm product flow. In fact, this has been found to cause frequent contract breaches in EECA as farmers were not able to access basic production factors to fulfill a contract [25].

In addition, contract enforcement may be an important problem since public enforcement institutions are weak. Informal enforcement mechanisms such as social pressure, unacceptance of distrust, etc.) are also missing due to poor social capital. Therefore, farm assistance programs must be accompanied by appropriate governance mechanisms.

Thus, the search for quality is a key engine of vertical coordination, but what happens when the desired quality level is reached? Quality is becoming less of a driver while the need to enhance efficiency arises as the main motivation for vertical coordination. For example, in supply chains that bear high costs, retailers and processors work closely with their suppliers to reduce costs. Quality remains a key driver only when a higher than average quality is explicitly demanded by the customers or when it can be used for differentiation from competitors.

2.2. The role of foreign direct investments

Foreign direct investment (FDI) became an increasingly important element in global economic development and integration during the 1990s [28]. Ahrend names two general factors that make companies open subsidiaries abroad [29]. On the one hand, companies strive to sell more goods and services that they produce in their home countries. On the other hand, they want to launch production in a foreign country that would further enable sales to local and export markets. In essence, agri-food companies internationalize because of the same general reasons [30, 31].

Literature on the influence of FDI on transition economies mentions several positive effects of FDI. A number of authors agree that FDI facilitate economic growth and reduce poverty [32–34]. Several studies offer empirical evidence of the importance of FDI flows for economic growth in developing countries [35, 36]. Other advantages of FDI include technology transfer and technical innovation as well as enterprise restructuring [32, 37].

In the EECA countries, FDI induced the following major shifts in procurement systems: (1) procurement systems became largely centralized and based on large and modern distribution centers instead of local store-by-store procurement; (2) procurement became regionalized across

borders; (3) traditional brokers were replaced by specialized wholesalers; (4) the logistics market became dominated by global firms; (5) retailers established preferred supplier systems; and (6) private quality standards were introduced [12]. Altogether these changes marked a growing role of vertical coordination in agri-food chains of EECA countries [2]. Studies from Bulgaria, Moldova and Slovakia show that, due to stricter and higher quality norms, more vertical coordination is taking place [38, 26]. In the Russian food sector, the foreign-owned food processors have managed to become the major competitors of the domestic ones, in particular in the dairy sector.

2.3. Cooperatives as a means to integrate smallholders

The quest for quality, that requires tight coordination of interdependent activities in value chains, calls for particular attention toward the role of cooperatives [39, 40]. Bijman and Muradian 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 [39].

Because small-size producers are the backbone of agriculture in Central and East-European countries, their resources as well as output toned to be pooled to achieve the demanded quantity of supplies. Horizontal cooperation among smallholders, thus, gains in importance [41]. However, cooperatives face hard times in transition countries. In the Soviet era, farmers have been 'forced' to join collective farms. Thus, today, collective action still has a bad reputation as it is associated with loss of private ownership and freedom [42]. Furthermore, during Soviet times, collective farms and processing enterprises have proven to be very inefficient and subject to soft budget constraints. An additional problem with cooperatives is that there is often a lack of trust and social capital among farmers and villagers so that collective action is hindered already at the initial stage. Thus, Gardner and Lerman conclude that the evidence for cooperatives in agricultural production is still unfavorable [43].

However, for marketing and supply cooperatives, they observe a more promising situation. One reason for this is that new forms of cooperatives have been recently established [44]. A good example is a Hungarian Morakert cooperative where product quality and professional marketing are the first priority. Today Morakert's sales to retailers account for about 90% of its domestic turnover. Morakert's success is based on four key factors. First, filter rules are applied to membership. Second, quality and quantity of products are strictly coordinated. Third, trust is an inevitable aspect of communication between members and management. Fourth, private contract enforcement is established [45]. Morakert's procurement system is centralized, maintained in one place and supported by a common IT system [46]. An own brand serves as another marketing and coordination mechanism at Morakert. This example demonstrates how some problems of post-socialist economies can be overcome.

3. Peculiarities of smallholder integration in value chains

The above presented literature review shows that particularly small farms and households face serious production constraints caused by factor market imperfections in EECA countries.

They do not have access to finance, they experience difficulties to buy (high) standard quality inputs, and lack technical and managerial capacity. Thus, more and more contract schemes (marketing and/or production contracts) and outgrower schemes have been established often accompanied with the provision of quality inputs, new technologies, credit and extension services to the farmers [10]. The current section provides further evidence of privately driven vertical coordination derived from the FAO reports on case studies from five EECA countries—Azerbaijan, Kyrgyzstan, Serbia, Ukraine and Turkey.

3.1. Marketing channels of small farmers and households

These general findings have been observed in the reports of all five countries. Disruptions of the agri-food value chains resulted in a dualistic structure of agricultural production. On the one hand, there are large corporate farm businesses such as agrohholdings or state enterprises while, on the other hand, there are smallholders that account for considerable share of agricultural production in a number of sub-sectors. For example, in Ukraine, fully vertically integrated enterprises that are often referred to as agrohholdings have rapidly developed whereas the labor intensive sub-sectors such as horticulture are marked by domination of small farms and rural households in production [47].

According to all country reports, the role of agricultural sector in overall gross domestic product (GDP) is diminishing. This fact notwithstanding, agriculture is still among major employers and, thus, is closely intertwined with rural development. In particular, all reports emphasize the importance of small-scale farms and households not only for own consumption but also for market supplies and employment of family members. At the same time, income disparity between urban and rural areas becomes larger in favor of the former. Particularly for young people, urban areas are more promising with regard to their future careers. Consequently, outmigration from rural areas is a common phenomenon in all countries.

This outmigration affects negatively the market size for direct sales as the main marketing channel of smallholders. Moreover, as exemplified by the Serbian case, modern retailers take over the shares of smallholders by offering more fresh products, in particular fruit and vegetables. Retailers are also able to offer these products for a reasonable price and standardized quality, thus engaging into stiff competition against directly marketing farmers and households. As a result, the attractiveness of direct marketing is shrinking.

Opposite to the negative effect of migration on the direct marketing of farm products, indirect marketing channels rather profit from this development. Moving to urban areas people have to buy processed food and have to buy in retail outlets. Therefore, the importance of indirect marketing channels is already high and will grow in the future despite growing competition from large retailers.

3.2. Obstacles to integration into value chains

Smallholders in EECA face two main obstacles to integration into value chains. On the one hand, they do not have sufficient volumes of production. On the other, they often lack the required quality. In order to combat the first obstacle, the solution would be to pool quantities.

A classical way would be the establishment of cooperatives. However, the reports have been very clear mentioning that cooperatives are not successfully operating. The reasons include negative reputation due to the historical background of cooperatives, operational inefficiencies and top-down implementation of the cooperative ideas, as well as taxation and administrative disadvantages. Another way would be the horizontal informal collaboration among smallholders. However, all studies report of a low level of trust and social capital among rural population. For example, the Ukrainian case study on Navigator-Agro demonstrated that there was a complete absence of trust from small and medium farmers in the idea of collaboration. Moreover, the level of trust between each other was very limited among rural inhabitants. A third way, as exemplified by the Turkish case, would be to sell the products through middlemen but low prices make sales at the spot market more profitable.

Regarding the second obstacle—the quality issue—literature provides reach evidence that quality can be improved based on vertical coordination. However, the literature most often refers to the examples of foreign investors who have leapfrogged quality by collaborating with large corporate farms. Modern and particularly foreign-owned retail chains prefer buying the needed larger volumes from a limited number of suppliers, thus favoring mainly corporate farm businesses. The reports demonstrate that larger processors also favor larger suppliers.

The concentration ratio and market power of modern retail chains and processors are increasing in EECA. Overall, this development favors large suppliers, especially branded manufacturers that invest in the achievement of appropriate quality levels for their branded products. The reports also reveal that imports are playing an important role in satisfying the demand for ‘higher’ quality products. However, interestingly, imports are also a major driving force of the competition in the low price segment. For example, Chinese tomato paste imports are replacing local Kyrgyz products. The Ukrainian report shows that domestic processors have lost 10% of domestic market owing to stiff competition with foreign companies. Another threat for Ukrainian producers resides in poor quality of local products.

Another issue is high competition from imports due to membership of all scrutinized countries to the World Trade Organization (WTO). For example, Turkish pasta producers often substitute cheaper imported wheat for locally produced one. To this end, it is often easier to source from one large supplier from abroad than from a multiplicity of small local producers.

In Ukraine, concentration is taking place not only on the retail and processor levels but also on the farm level. Furthermore, due to large volumes of imported raw and processed products (e.g. dairy products, fruits and pork meat), there is a high competition. The willingness to invest into the development of cooperation with small producers is rather low for private companies. Smallholders have a limited access to state support, investments and credit resources. The result is that they experience a lack of qualitative seeds, fertilizer and mechanical appliances. Additionally, they have a lack of reliable information about markets.

Noteworthy, agricultural policies also contribute to dualistic production structures as well as to the development of large scale farming businesses. Driven by considerations of food security and food safety, most of the programs promote large scale farming and processing.

For example, food security is among major priorities of the government in Azerbaijan where the related reforms have been conducive to the development of vertically integrated holdings. The Serbian and Turkish cases are marked by limited and lagged access of small farmers and processors to the information on relevant policy programs. In addition, the application for state support programs is often too complicated, thus constraining small producers or even precluding them from necessary support due to limited human and time resources. In all five countries, positive exceptions are the policies regarding storage facilities. Since small farmers and households face difficulties to store their harvest—particularly in the case of perishable products—policies are setting incentives to enlarge storage capacities. For example, in Azerbaijan, 28 cold storage facilities (and 17 cereal storage facilities) have been constructed with the help of the government in different regions of the country. A similar example can be found in the wine sector of Azerbaijan; a GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit) study has shown that particularly the rural infrastructure has to be developed in order to enhance the competitiveness of the sector and the inclusion of small wine growers [48].

The report on Kyrgyzstan demonstrated explicitly that even if successful cooperation is established, the optimal mode of transactions is also contingent upon the institutional setting. About 75% of farmland in Kyrgyzstan is under operations of small producers who face both production and marketing problems. The main issue is the lack of a stable buyer of the products. International technical assistance projects were temporarily helpful in achieving tighter cooperation between farmers and processors but the latter have reported that dishonest behavior of small farmers made such cooperation unsustainable. Despite advanced payments, fertilizer and seeds received from processors, farmers did not fulfill their commitments after harvesting. Instead, they sold their products at the fresh markets where prices were higher. Therefore, almost all processors prefer to operate through intermediaries or procurers that collect produce from the small-scale farmers and sell in bulk to the enterprises. Intermediaries and farmers predominantly collaborate based on short-term oral arrangements without signing any contracts. Given such circumstances, it is also no wonder that the relations between processors and farmers have worsened over time and spot market transactions have become the best choice. To this effect, a shift of export policy from unprocessed to processed foods made spot market transactions more favorable, thus decreasing the extent of vertical coordination in the sector. However, in the long run, most processors would like to work with cooperatives and larger suppliers rather than dealing with small-scale farmers.

In addition to institutional settings and opportunistic behavior, other obstacles have to be overcome to establish tight vertical linkages in supply chains. Low social capital and lack of trust are particularly constraining. As the case study on the Ukrainian Shyroky marketing group exemplified, processors had to provide some kind of collateral to suppliers prior to the start of cooperation in order to convince the smallholders of the reliability of intentions. A well-known game-theoretic procedure named hostage exchange is the case in point here [49].

Overall, it is evident that SME processors in all analyzed countries have to cope with very intense competition and a number of other problems, thus facing the need for clear corporate and marketing strategies. At the same time, as the report on Kyrgyzstan exemplifies, many

SMEs still do not dispose of such strategies. A survey revealed that only a minor share of enterprises has strategic development plans. The managers of most companies neither participate in management trainings nor invest in capacity building of their staff. Even more threatening is the absence of customer orientation among SME processors in almost all analyzed countries.

3.3. Processors as drivers of integration

As shown above, smallholder agricultural producers are offered to cooperate in EECA countries at a much smaller scale than in the developed countries. However, the situation can be changed if one considers the possible role of small and medium-sized processors. They are themselves not very attractive business partners for large corporate farms and, thus, they are more open to work together with small farms and households. The positive examples presented in the country reports highlighted that SME processors even stimulate horizontal collaboration among the farmers within informal groups. Thus, cooperation with small and medium-sized processors is a promising way to integrate smallholders into value chains.

Close relationships between processors and smallholders are of advantage for both sides. Processors receive security regarding the quality and the volume of their raw input supply. Small farmers and households see the main advantage in having a reliable and secure opportunity to sell their products. In this context, all reports suggest that smallholders value unanimously fair price as an important aspect of cooperation but not as important as a secure market access. Hence, vertical coordination can be regarded as a success factor for the development of sustainable value chains.

The case studies mention a number of successful examples of value chains that practice customer orientation, have a clear strategy, and perform well. It is clear that successful SME processors do not try to compete with national or global cost leaders as they cannot reach the needed economies of scale and scope, thus rendering a cost leadership strategy impossible. The successful examples are working with a mix of niche and differentiation strategies, offering (superior) quality in well-known traditional products. As in the case of the Serbian Zdravo Organic, production-related aspects are used for differentiation. First attempts to create 'real' brands are also made, targeting local, national and export markets. Importantly, customer orientation is often not limited to end consumer orientation; it may include wholesalers, retailers or exporters and is often driven by relations with importers (e.g. Schwabe company), investors from other sectors (e.g. Zdravo Organic), foreign investors and donors.

As the retail market is increasingly competitive, SME processors are slowly excluded from this channel. One way of responding to this development is demonstrated by Sirela, a Serbian dairy company that started to vertically integrate by building an own retail network. Today, Sirela is selling its entire production through some 40 own shops whereas other food processors have imitated this strategy and are investing in own retail outlets.

Regardless of their strategic orientations, the SME processors have to keep up with the market requirements toward steady volumes and high quality of products. In this context, well-functioning linkages between the SME processors and their suppliers, that is, small farms

and households, are the key to success. Moreover, processors should be the initiators of such cooperation. The reviewed case studies demonstrate that long-term and trustful vertical relationships indeed exist but the smallholders are often regarded as difficult partners that tend to behave very opportunistically as they always have the choice to consume their products within a household instead of selling to the market.

Processors use outgrower schemes particularly for upgrading of the delivered quality. They provide needed inputs (e.g. high quality seeds, irrigation equipment or pigs of a special breed) and provide training opportunities (e.g. setting up a demonstration farm) and extension services. In addition, as mentioned in several reports, processors may even offer advanced financing of farm inputs. Yet, where possible, misbehavior of farmers has to be precluded through contracting and sanctions, as successfully demonstrated by the Agroplast cooperative that produces tomato paste in Kyrgyzstan.

3.4. Positive experiences of tight vertical linkages

Two general strategies are observed with regard to the establishment of well-functioning vertical linkages. The first one is to be fully oriented to small and medium-sized family farms and invest time and money in this type of cooperation. The second approach is to be partially vertically integrated—buying or building own farms and cooperating with small farms at the same time.

Good examples of these two strategies are found in the dairy sector of Serbia. One is the dairy company Sirela while the other is the dairy company Lazar. The Serbian dairy market is subject to the increasing market power of retail chains. In response to this development, Sirela and Lazar have decided to run their own retail networks. Yet, this is the only similarity between two companies as their sourcing strategies are totally different. Lazar has successfully vertically integrated a dairy farm of 500 milk cows. At the same time, Sirela has established cooperation with a number of small farms, not least because of unfortunate own experience of full vertical integration with primary production in the past. Sirela offers secured sales market, stable payments, improved access to subsidies, extension services, free usage of milk coolers and ad hoc support to farmers.

Further examples of successful cooperation between SME processors and small family farms are found in fruits and vegetable as well as in grain sectors. SMEs are often oriented toward the domestic market but some are strongly involved in exports, as it is the case with Zdravo Organic and Vitamin in Serbia. The main benefit for SME food processors from cooperation with small farmers lies in secured input markets. In turn, processors provide farms with inputs such as seeds, fertilizer, chemicals, irrigation equipment and advance payments. Additionally, extension service is provided.

The Ukrainian case studies have also exemplified how mutually beneficial cooperation between processors and small farms can be established. Rural population in Ukraine is characterized by low levels of social capital and general cooperativeness—a factor that substantially hampers any collaborative effort on the part of processors or wholesalers. However, this obstacle can be overcome through the use of leadership mechanisms. Processors have

initiated the establishment of groups of farmers led by formal and informal rural community leaders, thus raising the overall level of trust in these groups. Furthermore, processors provide financial support to such groups at the beginning of cooperation. This also increases the level of farmers' trust toward a processor. For example, the Navigator-Agro company invested in construction of a small logistic center in one of the villages.

The Ukrainian example of the Kolos company demonstrated that cooperation between smallholders and an agroholding is also possible. Kolos, a meat-processing company from Chernivtsi, together with the Kamyanets-Podilsky University developed a breeding and reproduction system for a Dutch breed of pigs and then distributed it among smallholders. The main aim of this activity was to enlarge the supply base and thus make full use of own production facilities by Kolos. This farm assistance program included on-site demonstrations and teaching of suppliers at an experimental farm as well as introduction of a quality monitoring system at the rural household level. The package of additional services delivered to farmers included provision of piglets, fodder, veterinary service and finance.. As the processor's initial investment in trustful cooperation, farmers have also been allowed to keep one or two pigs for own consumption. Nevertheless, there were a few cases when farmers tried to cheat by increasing the weight of supplied pigs using methods that were not specified before. These incidents showed that contracts have to include penalties in order to prevent opportunistic behavior and discontent of the honest supplier.

The Kyrgyz report presents two successful cases of processor-driven integration of smallholders. The Agroplast cooperative provides farmers with seeds and fertilizer helping to increase the quality and yield of the products. Additionally, once in a year, training to farmers is provided. At the beginning of a year, the cooperative invites all farmers to plan production volumes and to determine the needs of farmers in agricultural inputs (seeds, fertilizers, etc.). Furthermore, Agroplast provides prepayment schemes. Both sides (farmers and Agroplast) understand their relationship as trustful but both sides also acknowledge that only one mistake (fraud, dishonesty, etc.) can turn the established trust into the opposite.

Apart from giving promises and fulfilling them, another driver of successful cooperation has been the creation of informal supplier groups. Agroplast has initiated several groups of farmers, each of which is led by a respectful person. This person also plays the role of a communicator between Agroplast and the farmers. These group leaders maintain information exchange, coordinate logistics and delivery schedules. Group leaders also act as warrantors if a group member needs some financial assistance from Agroplast.

The second case study was conducted in Galanfarm, a firm that exports valerian to a German pharmaceutical company. In order to produce high quality valerian, Galanfarm invited small farmers to attend a Farmer Field School established and supported by a German donor in cooperation with a local consulting agency. Besides an intensive training on all important production steps, farmers got an opportunity to organize themselves into informal groups and select group leaders. Similar to the Agroplast case, today these group leaders serve as information brokers between Galanfarm and the farmers, schedule the delivery volumes and timing as well as coordinate the quality of supplied raw materials. Overall, this case features the important role international donors can play in the development of procurement systems and integrating smallholders into them.

4. Conclusions

Our literature review and synthesis of five country reports generally demonstrate that small-scale producers are still an inevitable part of agricultural value chains in transition economies, in particular with regard to production of perishable and labor intensive products. The marketing channels for products of small-scale producers are diverse and include direct sales to the rural population, processing industry, wholesale, food retail and even exports. At the same time, own consumption is also quite important, especially when market prices are low. Nevertheless, the future of small farmers depends on the development of the processing industry in general and SME processors in particular. Hence, policy should aim to create an enabling environment for SMEs.

Another important goal of the smallholder inclusion in value chains should be the achievement of customer orientation by them. On the one hand, all country reports show that competition is growing because domestic markets face inflows of imported products. On the other hand, the reviewed country studies demonstrate that concentration processes are taking place at the downstream stages of the value chain. To deal with these two trends successfully, small producers have to conform to the requirements of their commercial customers as well as end consumers.

The five reports clearly indicate that a cost leadership strategy cannot be the appropriate strategy for SMEs. First, cost leadership requires large quantities to produce on efficient scale level. Hence, on the national level, large domestic processors are better suited to implement this strategy. Second, in the context of WTO, cheaper imports enhance competition. The same is true for exports. Thus, small producers have to use a differentiation strategy to be successful in the long run. Potential differentiation instruments include higher quality, quality certification, branding, production of traditional or local specialties, etc.

In the context of vertical coordination, the reported case studies have pointed out a number of success factors. First, farm assistance in the form of input provision from processors to farmers is crucial. For instance, processing company Vitamin has introduced a contract farming scheme for the production of pepper seeds. This scheme is scaled-up through subsequent distribution of seeds to a larger group of farmers which grow the peppers. Seed distribution is followed by provision of other inputs and assets such as fertilizer and irrigation equipment. Processors provide their suppliers with animal breeds (Ukraine) and milk cooling tanks (Serbia). In addition to input provision, clear production instructions are shared with the suppliers while the production process is strictly monitored by the processors. If farmers do not comply with these instructions, they are penalized.

Second, apart from input supplies, downstream partners provide financial assistance to farmers. This assistance includes financing of different types such as loans, advanced payments, promissory notes, etc. In one case, investments in a small logistic center were made before the actual collaboration started. In some countries, subsidies are paid to smallholders only if a processor applies for them in favor of the smallholders.

Third, extension services are provided. Processors authorize own employees and assign external experts, build demo farms and cooperate with local universities as well as international donor and technical assistance organizations to train the farmers.

Fourth, collective action and trust are promoted through creation of formal and informal groups of farmers. Being trained within such groups, farmers additionally become confident in value chain partners, perform social control over each other, produce the required quantity and diversify production risk. For such groups of farmers, it is very important to elect group leaders from respectful persons. These group leaders serve as a glue that holds all group members together and, thus, add voluntary, bottom-up features to this type of cooperation that was initially enhanced by “outside” processors. Hence, the aim and perceived benefits are shared by all group members. All reports show that processors are supporting the idea of replacing middlemen by a collective action, for example, the formation of formal groups of farmers. In contrast, cooperatives in their traditional sense are not spread in EECA countries because they are associated with collectivization and the socialist top-down approaches that have proven to be inefficient and corrupt. An alternative could be the establishment of cooperative structures based on the ideas of new generation cooperatives. Particularly, the usage of the word “cooperative” should be avoided.

All in all, the most important aspect for the integration of smallholders into value chains is the generation of sustainable benefits for the smallholders. In this context, it is crucial to demonstrate the value of stable and secure marketing channels characterized by fair payments.

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References

- [1] Swinnen JFM. When the Market Comes to You—Or Not; the Dynamics of Vertical Coordination in Agri-Food Chains in Transition. Final Report on Dynamics of Vertical Coordination in ECA Agri-Food Chains: Implications for Policy and Bank Operations. Washington, DC: The World Bank; 2005
- [2] Swinnen JFM, Dries L, Noev N, Germenji E. Foreign Investment, Supermarkets, and the Restructuring of Supply Chains: Evidence from Eastern European Dairy Sectors. LICOS Discussion Papers: Leuven; 2006
- [3] Hanf JH, Gagalyuk T. Supply chain quality and its managerial challenges—Insights from Ukrainian agri-food business. *Journal of East-European Management Studies*. 2009;**14**(4): 332-356
- [4] Gagalyuk T, Hanf JH, Hingley M. Firm and whole chain success: Network management in the Ukrainian food industry. *Journal on Chain and Network Science*. 2013;**13**(1):47-70

- [5] Hanf JH. Processor driven integration of small-scale farmers into value chains in Eastern Europe and Central Asia. In: Tanic S, editor. Enhancing Efficiency and Inclusiveness of Agri-Food Chains in Eastern Europe and Central Asia. Budapest: FAO Regional Office for Europe and Central Asia; 2015. pp. 13-36
- [6] Mamonova N. Resistance or adaptation? Ukrainian peasants' responses to large-scale land acquisitions. *The Journal of Peasant Studies*. 2015;**42**(3-4):607-634
- [7] Gagalyuk T, Schaft F. Corporate Social Responsibility in Agribusiness. Kyiv: German-Ukrainian Agricultural Policy Dialogue; 2016
- [8] Dorobantu S, Kaul A, Zerner B. Nonmarket strategy research through the lens of new institutional economics: An integrative review and future directions. *Strategic Management Journal*. 2017;**38**:114-140
- [9] Hanf JH. Processor Driven Integration of Small Farmers into Value Chains in Eastern Europe and Central Asia (EECA) as an Alternative to Cooperatives—A Synthesis Paper. Budapest: FAO Regional Office for Europe and Central Asia; 2014
- [10] Dries L, Germenji E, Noev N, Swinnen JFM. Farmers, vertical coordination, and the restructuring of dairy supply chains in central and Eastern Europe. *World Development*. 2009;**37**(11):1742-1758
- [11] Swinnen JFM, Maertens M. Globalization, privatization, and vertical coordination in food value chains in developing and transition countries. In: Proceedings of the 26th Conference of International Association of Agricultural Economists; 12-19 August 2006; Gold Coast, Australia
- [12] Dries L, Reardon T, Swinnen JFM. The rapid rise of supermarkets in central and Eastern Europe: Implications for the agrifood sector and rural development. *Development Policy Review*. 2004;**22**(5):1-32
- [13] Hanf JH, Pieniadz A. Quality management in supply chain networks—The case of Poland. *International Food and Agribusiness Management Review*. 2007;**10**:102-128
- [14] Palmer M. Multinational retailer expansion: Learning from Tesco's experience. *International Journal of Retail and Distribution Management*. 2005;**33**(1):23-48
- [15] Roberts GH. Auchan's entry into Russia: Prospects and research implications. *International Journal of Retail and Distribution Management*. 2005;**33**(1):49-68
- [16] Fulponi L. Private voluntary standards in the food system: The perspective of major food retailers in OECD countries. *Food Policy*. 2006;**31**(1):1-13
- [17] van Berkum S. Restructuring and vertical coordination in the dairy sector in Romania. In: Swinnen JFM, editor. Case Studies: The Dynamics of Vertical Coordination in Agrifood Chains in Eastern Europe and Central Asia. Washington, DC: World Bank; 2005. pp. 167-189
- [18] Swinnen JFM, Maertens M. Globalization, privatization, and vertical coordination in food value chains in developing and transition countries. *Agricultural Economics*. 2007;**37**(1):89-102

- [19] World Bank. Rural Finance Innovations: Topics and Case Studies. Washington DC: The World Bank; 2005
- [20] USDA. Farmers' Use of Marketing and Production Contracts, Report No. 747. Washington, DC: Farm Business Economics Branch of the U.S. Department of Agriculture, Rural Economy Division, Economic Research Service; 1996
- [21] Boland M, Barton D, Domine M. Economic Issues with Vertical Coordination. Agricultural Marketing Resource Center: Ames, IA; 2002
- [22] Sykuta M, Parcell J. Contract structure and design in identity-preserved soybean production. *Review of Agricultural Economics*. 2003;**25**(2):332-350
- [23] Tsoulouhas T, Vukina T. Integrator contracts with many agents and bankruptcy. *American Journal of Agricultural Economics*. 1999;**81**:61-74
- [24] Dries L, Swinnen JFM. Globalisation, quality management and vertical coordination in food chains of transition countries. In: Proceedings of the 92nd EAAE seminar on Quality Management and Quality Assurance in Food Chains; 2-4 March; Göttingen
- [25] Gow HR, Swinnen JFM. Up- and downstream restructuring, foreign direct investment, and hold-up problems in agricultural transition. *European Review of Agricultural Economics*. 1998;**25**:331-350
- [26] Gorton M, White J, Chernyshova S, Skripnik A, Vinichenko T, Dumitrasco M, Soltan G. The reconfiguration of post-soviet food industries: Evidence from Ukraine and Moldova. *Agribusiness: An International Journal*. 2003;**19**:409-423
- [27] Martinez SW, Reed A. Vertical Coordination by Food Firms Rising Along with Contract Production, Report AIB-720. Washington, DC: Economic Research Service/USDA; 1996
- [28] UNCTAD. World Investment Report 1999-2003. Geneva: United Nations Conference on Trade and Development (UNCTAD); 2003
- [29] Ahrend R. Foreign Direct Investment into Russia—Pain without Gain? A Survey of Foreign Direct Investors. Russian-European Center for Economic Policy; 2000
- [30] Stange H. Die Internationalisierung landwirtschaftlicher Unternehmen [PhD thesis]. Halle: IAMO; 2010
- [31] Pall Z, Hanf JH. A multi-perspective analysis of food retail internationalization—Insights from foreign retailers on the development of the Hungarian and eastern European markets. *Management & Marketing Challenges for the Knowledge Society*. 2014;**8**(4):593-606
- [32] Barrell R, Holland D. Foreign direct investment and Enterprise restructuring in Central Europe. *Economics of Transition*. 2000;**82**:477-504
- [33] Bevan AA, Estrin S. The determinants of foreign direct investment into European transition economies. *Journal of Comparative Economics*. 2004;**32**:775-787
- [34] Broadman HG, Recanatini F. Where Has All the Foreign Investment Gone in Russia? Washington DC: The World Bank; 2001

- [35] Blomström M, Sjöholm F. Technology transfer and spillovers: Does local participation with multinationals matter? *European Economic Review*. 1999;**43**:915-923
- [36] Borensztein E, De Gregorio J, Lee JW. How does foreign direct investment affect economic growth? *Journal of International Economics*. 1998;**45**:115-135
- [37] Hooley GJ, Cox AJ, Beracs J, Fonfara K, Snoj B. The role of foreign direct investment in the transition process in Central and Eastern Europe. In: Hooley G, Loveridge R, Wilson D, editors. *Internationalization: Process, Context and Markets*. Academy of International Business Series. New York: St. Martin's Press; London: Macmillan Press; 1998. pp. 176-200
- [38] Dries L, Swinnen JFM. Foreign direct investment, vertical integration, and local suppliers: Evidence from the polish dairy sector. *World Development*. 2004;**32**(9):1525-1544
- [39] Bijman J, Muradian R. Cechin a agricultural cooperatives and value chain coordination: Towards an integrated theoretical framework. In: Helmsing B, Vellema S, editors. *Value Chains, Inclusion and Endogenous Development: Contrasting Theories and Realities*. New York: Routledge; 2011. pp. 82-101
- [40] Shepherd AW. Approaches to linking producers to markets. In: *Agricultural Management, Marketing, Management and Finance Occasional Paper No 113*. Rome: FAO; 2007
- [41] Hanf JH. Challenges of a vertical co-ordinated agri-food business for co-operatives. *Journal of Co-operative Studies*. 2009;**42**(2):5-13
- [42] Török T, Hanf JH, Gruzina Z. Co-operatives in the Latvian agri-food business— Agents of change? *Journal of Co-operative Studies*. 2010;**43**(2):16-23
- [43] Gardner B, Lerman Z. Agricultural cooperative enterprises in the transition from socialist collective farming. *Journal of Rural Cooperation*. 2006;**34**(1):1-18
- [44] Hanf JH, Török T. Co-ops as a way to integrate small farmers in supply chain networks? *Journal of Rural Co-operation*. 2009;**37**(1):20-31
- [45] Bakucs LZ, Fertő I, Szabó GG. *Innovative Practice Hungary: Morakert Cooperative*. Budapest: Institute of Economics. Hungarian Academy of Sciences; 2007
- [46] Fertő I, Szabó GG. *Vertical Co-ordination in Transition Agriculture: A Hungarian Cooperative Case Study*, KTK/IE Discussion Paper. Budapest: Institute of Economics, Hungarian Academy of Sciences; 2002
- [47] Gagalyuk T. Strategic role of corporate transparency: The case of Ukrainian agroholdings. *International Food and Agribusiness Management Review*. 2017;**20**(2):257-277
- [48] Hanf JH. *Assessment of Competitiveness and Potential for Export of Azerbaijani Wines to the EU Market*. Private Sector Development Programme South Caucasus. Bonn/ Eschborn: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH; 2014
- [49] Axelrod R, Hamilton WD. The evolution of cooperation. *Science*. 1981;**211**(4489):1390-1396

