

7 The possibilities for inclusion of smallholder farmers in organic market chain development

Paul Rye Kledal, Frank Eyhorn, Bo van Elzakker and Elsio Antonio Pereira de Figueiredo

Introduction

Global demand for organic products has remained robust, and is estimated to have reached US\$ 54.9 billion in 2009 tripling the value from US\$ 18 billion in 2000. Most of the sales take place in the USA and Europe (97 per cent), with a growing commodity import from the developing countries (Willer and Kilcher, 2011). However, the rapid rise of both supermarkets and an urban upper-middle-class consumer segment among emerging economies and developing countries (Reardon and Berdequ , 2003) has created a recent important expansion of the domestic market in these countries, leading to progressive transformations and a growing structural complexity of their respective organic sectors.

Both FAO and IFAD (Scialabba, 2007; IFAD, 2005) see a promising opportunity for smallholders in developing countries to increase their incomes and access a better livelihood in benefiting from the booming of the organic demand. Many research results from countries like India, Tunisia, Turkey, Cuba or Sub-Saharan African countries confirm these optimistic views. They show that organic farming effectively has the potential to provide smallholders with access to attractive markets with higher profitability, while creating new partnerships within the whole value chain and strengthening self-confidence and autonomy of the farmers (Crucefix, 1998; Shah et al., 2005; Kilcher, 2007; Bolwig et al., 2009; K llander and Rundgren, 2008).

Despite these potential prospects for smallholders of moving into the organic market segment, it does not automatically lead into a 'safe haven' free from classical market rivalry and exclusion. Gomez-Tavar et al. (2005) and Gonzalez and Nigh (2005) show how in Mexico the requirements to be certified organic and the highly competitive market for organic coffee tend to reproduce social inequalities between smallholders and larger commercial market-oriented producers, triggering exclusion of the former. Similarly, Blanc (2009) shows how the Brazilian domestic market for organic vegetables is highly competitive and exclusive and does not protect smallholders from potential hold-up¹ situations exerted by powerful downstream partners. From a broader perspective, research underlines that smallholders from emerging countries – often economically marginalized and with low educational backgrounds – are facing many

challenges to enter the organic sector and benefit from it. Problems such as decreasing incomes during the conversion period, high costs for certification and competences in managing the certification requirements are serious constraints, particularly when no specific subsidies exist for organic production (Egelyng, 2009). Structural barriers to access credit, difficulties in creating reliable market linkage and lack of knowledge of organizational management are addressed as highly problematic issues too (Barrett et al., 2001; Nordlund and Egelyng, 2008; Blanc, 2009), but could also be regarded as common development issues and not particularly related to organic production.

This chapter aims at further discussing these issues and presenting possible approaches to overcome the broad range and type of existing market and inclusion barriers. For specific aspects of power inequalities and certification schemes, see Chapter 6. The chapter itself will be structured around:

- A conceptual framework of the four agro-food systems prevalent in developing countries and their type of economic market chain organization leading to inclusion as well as exclusion of smallholders.
- A theoretical and analytic framework based on New Institutional Economics explaining the type of costs and barriers smallholders endure when trying to enter into more commercial market chains and food systems.
- A catalogue of possible approaches to overcome smallholder market inclusion barriers.
- A concluding part summarizing the major issues put forward in this chapter.

The four agro-food systems prevalent in developing countries

As illustrated in Figure 7.1, four different typologies of agro-food systems, closely related to the development process taking place among developing countries, can be categorized. The global growth and trade of organic food commodities are closely related to these four agro-food systems.²

The first is classified as a *traditional* agro-food system, characterized by a dominance of short supply chains, connected with many middlemen and limited market structure. Smallholders, presented by the small dots in the figure, deliver to a nearby town and a traditional wholesale market where shopkeepers of the classical family ‘mom and pop shop’ attend to buy the farmers’ produce. Most of the world’s poor smallholders live within this food system. There is not much to improve; the prospects of development in terms of transfer of knowledge, new technology and rising income is related to the potential inclusion of poor smallholders into the other three (expanding modern) agro-food systems.

The second and third systems are the formalized procurement systems pictured on the right side of Figure 7.1, consisting of a *domestic-oriented* and an *export-oriented* agro-food system.

The domestic system is still characterized by traditional market actors, but with a more complex set of rules and regulations applied to marketplaces and a

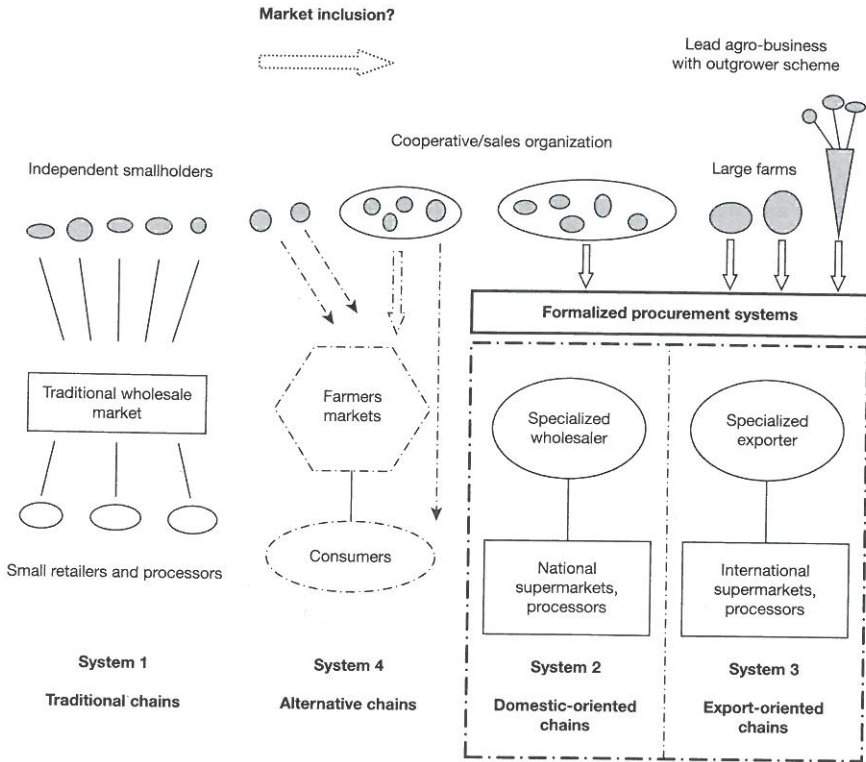


Figure 7.1 Organic value chains and their links to the four agro-food systems prevalent in developing countries

higher degree of market infrastructure. Within the domestic-oriented food system organized supply chains operated by national and/or international supermarkets are capturing a growing share of this market, with urbanization as its underlying driver. However, for smallholders to enter this food system 'the critical mass of supply' is essential, because modern supermarkets demand stable and secure supplies for their outlets. To be able to deliver the required quantity and quality during a significant part of the year smallholders therefore have to engage themselves in some sort of a market association or a cooperative, as illustrated in Figure 7.1 with the individual smallholders placed in an ellipse.

The export-oriented agro-food system can be characterized as a highly industrialized agro-food system found throughout the developed world. It holds strong perceptions of food safety, a high degree of coordination and a large and consolidated processing sector with organized retailers. The *export* market in the emerging countries is oriented towards this agro-food system driven by demand mainly from the developed world. In general, the demand system prevalent in the export-oriented system only trade directly with a few large and dedicated *lead farmers* or market associations, as illustrated in Figure 7.1 with the triangle

in the upper right. However, as a supply buffer, especially within Fresh Fruit and Vegetables (FFV), these large suppliers have their own packaging, storing and cooling houses and contract outgrowers, sometimes as core suppliers, sometimes as standby for their sales. This type of supply-chain organization with an outgrower scheme is at times utilized by development agencies or corresponding NGOs as a way to include smallholders in modern export and value chains, and hence upgrade the farmers in terms of income as well as transfer of knowledge and new technology.

The fourth agro-food system is named an *alternative* food system, where farmers, various types of intermediaries and consumers are able to construct semi-closed circuits of exchange. These semi-closed circuits are often based on values stressing transactional processes of trust, community, social and environmental welfare, as against capitalist transaction outcomes of exchange such as competition, exclusion, price decline and concentration of production. Market exchange can be global as well as local. The latter is often organized as fairs or direct delivery through box schemes and the farmers can be either operating individually or through some kind of market organization, as illustrated in Figure 7.1.

The growth of organic production in developing countries is first and foremost linked to the export-oriented agro-food system. However, the rapid rise of both supermarkets and an urban upper-middle-class consumer segment in emerging countries has opened up sales for organic food suppliers to expand through the formalized and domestically oriented food systems found in countries such as Brazil, China and Egypt. Consumer values are found to be similar to the ones documented in the developed world, with individual concerns towards health as well as altruistic values regarding the overall environment (Siriex et al., 2011).

The general expansion of organic sales through the domestic formalized procurement system has so far been driven by large global supermarket chains like Carrefour (home base: France), smaller global chains like Casino and Metro (home base: France and Germany) and up-coming regional players like Grupo Pão de Açúcar (Brazil), Hyper One (Egypt), Uchumi and Nakumatt (Kenya), Lianhua, Hualian (China) and Shanghai Nong Gong Shang (Shanghai-based) (Kledal et al., 2007, 2008, 2009), and in South Africa chains like Woolworths, Shoprite, Pick & Pay. Likewise, organic sales are so far all found to be concentrated in high-end supermarkets placed in upper-middle-class residential areas in the big metropolitan centres.

The *alternative organic market*, is also expanding worldwide often making its existence on two types of consumer base. One is locally based and the value chains are short resembling to some degree the market structure found in the traditional food system; and the other is targeting the urban consumers alternating between the outlets of the second food system and/or the alternative food system. In Brazil the alternative food system is estimated to cover almost 50 per cent of the domestic organic food market via popular fairs, box schemes or direct delivery systems (Willer and Yussefi, 2006), and is deeply connected to the historically strong agro-ecology movement of the country (see Chapter 10).

The horizontal dynamics between the four agro-food systems

The perspective of the four food systems should not be viewed as only operating on a classical vertical market chain level, but also on a horizontal level. The various food systems and value chains are all socially and economically embedded into either rural, regional or global settings as illustrated in Figure 7.2. When the focus is on smallholder inclusion and market commercialization the challenges therefore differ immensely if the value chains are operating in 1) an export-oriented food system trying to connect poor smallholders embedded in a remote rural setting to a global market; 2) commercial smallholders operating in the domestic urban-market-oriented food system; or 3) semi-commercial smallholders in a rural setting upgrading their produce for expansion to new alternative or existing rural markets.

The conceptual framework of the four agro-food systems presented here is therefore first and foremost to give an overview and an understanding of the complexity of the problems smallholders face when trying to be included in more commercialized food and market systems. Examples of this will be presented in more detail in the following paragraphs. However, the structure and framework of the four agro-food systems and their type of economic market organization is not to be understood as a static conception of how food markets operate. In many cases smallholder farmers, individually or as a group, alternate between the various agro-food systems. For example, products sold for the export market are normally subject to very high quality requirements as well as a specific quantity. Excess amounts or products divergent in quality requirements are then often sold to local domestic supermarkets, but normally at a lower price.

In the case in Box 7.1, the Mobiom farmer cooperative in Mali is an example of smallholders producing not only various products but also marketing these products to the various food systems operating under the alternative, domestic- and export-oriented markets.

In the following section the concept and theory of transaction cost from New Institutional Economics (NIE) will lay the ground for explaining the type of costs and barriers smallholders endure when trying to enter into more

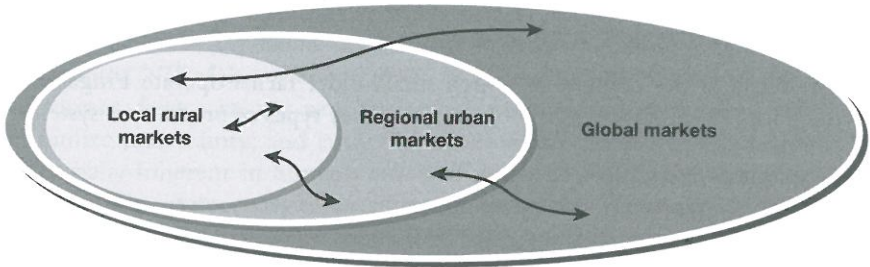


Figure 7.2 The interrelation between smallholders' social and geographical placement and their type of market inclusion

Source: Elzakker and Eyhorn, 2010 (modified).

Box 7.1 Product and market diversification – the Mobiom cooperative in Mali

Mobiom, a federation of organic producer cooperatives in Mali, organizes some 6,000 smallholders for organic production and marketing. With support from the Swiss NGO Helvetas, the organization started with a focus on cotton for organic and fair-trade export markets, but gradually diversified both crops and market channels. The surplus of cereals, pulses and vegetables grown in rotation with cotton is sold in the local market (i.e. in the traditional food system). Some first attempts to sell organic cereals and vegetables to middle-class consumers in the capital Bamako showed encouraging results. Sesame and peanuts are sold under the organic label to exporters for processing into edible oils. Mobiom also organizes the marketing of shea nuts and shea butter from trees grown in certified organic fields. The majority of the shea nuts are exported in bulk to a processor in Burkina Faso, while the remaining are locally transformed into butter in their own processing plant. This high-quality butter is then sold to local as well as to urban consumers. First-quality mangoes are exported as certified organic and fair-trade fresh mangoes, while inferior qualities are either consumed locally or are processed into dried mangoes, which then again are either exported or sold locally. Even in the case of cotton – a typical export commodity – a small part is processed locally in artisanal workshops. The textiles are then sold in urban markets, or are exported.

commercial market chains and food systems, and hence draw attention to the huge task many rural development initiatives face as well as to the approaches applied to create sustainable solutions.

The theory of transaction cost and barriers of smallholder market inclusion

To understand the context in which smallholder farms operate Pingali and Rosegrant (1995) classify smallholders into three types of production systems:

- subsistence farming
- semi-commercial
- commercial farming conditions.

Increasing commercialization shifts farm households away from traditional self-sufficiency goals towards profit- and income-oriented decision making. Hence farm output is accordingly more responsive to market needs with increasing

commercialization. As the level of commercialization increases, mixed farming systems give way to specialized production units for the production of high-value crops and livestock products (Pingali et al., 2007). The challenges of smallholder inclusion will therefore differ in relation to their type of production system as well as to what agro-food system inclusion is targeted. NIE as an economic theory not only explains the different type of challenges smallholders will endure when entering the various agro-food systems, but also the different modes of firm organizations and institutions ('rules of the game') the actors along a value chain will engage in to reduce those challenges.

NIE uses the 'transaction' as the unit of analysis. From an NIE point of view, exchange itself is costly, meaning that, conversely to the proposition of orthodox economics, the behaviour of market actors cannot be explained and predicted only in considering trade-offs between prices and production costs. NIE thus claims that taking into account the cost that actors face when trying to coordinate their exchange on the market is essential to understand individual and collective behaviours in this arena. These costs, called transaction costs, include the costs to obtain and process market information (information costs), to negotiate contracts with others (bargaining costs), to make sure the other party sticks to the terms of the contract (monitoring costs) and to take appropriate action if this turns out not to be the case (enforcing costs). Hobbs (1997) classified these costs so information costs typically arise *ex ante* of an exchange, bargaining costs are the costs of physically carrying out the transaction while monitoring and enforcement costs occur *ex post* of a transaction.

Williamson (2000) and Masten (2000) define for their part five determinants of transaction costs: (1) *frequency* that refers to how often a transaction takes place, hence helping to build trust and lower monitoring costs; (2) *asset specificities*, e.g. farmers planting coffee or orange trees will have to wait a number of years before selling their fruits and harvest over several years before investments are returned on their (crop-specific) asset. They therefore have to try and minimize their risks *ex post* by making longer-term contracts raising transaction costs *ex ante* to their specific investment; (3) *uncertainty*, the higher the uncertainty about exchange conditions (as in the coffee or orange case above) the more complex contracts will be installed or tensions between market actors can occur all raising transaction costs; (4) *limited or bounded rationality*; contrary to neoclassical economics, NIE claims there are limits to how much market actors can know or foresee, hence raising negotiation and monitoring costs in an effort to minimize uncertainty; and lastly (5) *opportunistic behaviour* or *moral hazards* is potentially inherent in humans when it comes to dividing scarce resources, hence making it necessary to install certain safeguarding institutions of control, monitoring and enforcement, all leading to higher transaction costs. A classical opportunistic behaviour evident in agriculture is the so-called 'hold-up' problem. A farmer ready to sell his/her fresh oranges is suddenly confronted with a trading partner not willing to pay the full amount as agreed upon. The farmer has to accept, because s/he will not have time to find a new trading partner before

his/her fruit is rotten – a situation known to the buyer. Hence, the opportunistic buyer expropriates part of the return on the farmer's asset-specific investment *ex post*.

According to the seminal work of Coase (1937), it is precisely to economize on these determinants of transaction costs that institutions ('rules of the game') and organizations, internal as well as external to firms, are created. Farm associations or cooperatives are examples of different business organizations where farmers themselves try to minimize various types of transaction costs in terms of securing both the 'critical mass of supply' as well as safeguard themselves against potential 'hold ups'. It can also be seen as a vertical integration downstream of the chain where farmers themselves take over the trading of their product, because the transaction costs of uncertainty, opportunistic behaviour and the asset specificities are too high.

Likewise, a national law on organic certification, control and enforcement and providing support for marketing illustrates how the state as an *external* institution can build trust among producers and consumers and lower their *internal* transaction costs on control and monitoring and hence lower the market price for both parties.

However, setting up organizations and institutions creates internally a set of specific coordination costs. These are related to tasks such as defining and agreeing upon a marketing strategy, establishing collective production and delivery planning, as well as specific governance and property rights arrangements within for example a farm association. Transaction and coordination costs are inter-related and, from an organizational theory perspective, phenomena such as the emergence of an organization, its transformation and strategic moves, as well as its closure, are critically related to the dynamic balance between these two kinds of costs parallel to other basic economic data (demand/offer, price competition, etc.). According to this theoretical perspective, farmers will never build or enter a specific organization if the sum of the costs of transaction and coordination is higher than the expected profits. Conversely, existing organizations will dissolve if these costs become higher than the profits farmers could expect in another market setting (Blanc and Kledal, 2012).

Asset specificities themselves are very important for understanding farmers' willingness to take risk and indulge in a market commercialization. They can be classified into:

- location specificities
- crop specificities
- household specificities.

The location of a farm matters in terms of going commercial. If there is good infrastructure and efficient communication facilities, search and information costs will tend to be relatively lower than in areas with bad infrastructure and inefficient facilities. Likewise a supporting resource environment facilitating high-value crops and commercial markets for inputs and sales will minimize

risks associated with a switch to such crops. Similarly the condition of the soil, possibilities for irrigation and fertilization have to be in place for the farmer to calculate the risk.

Asset specificities related to perennials have been touched upon, but seasonal high-value crops like certain fresh fruit and vegetables are often perishable and can therefore be associated with high transaction costs stemming from specific investments in refrigerated transportation, packaging, wastage, quality monitoring and storage costs.

There are a number of household-specific variables that are not so much asset specific per se (Pingali et al., 2007), but significantly impact on them, such as:

- social networks and organization
- age, gender and education
- intra-household interaction.

These variables all influence the costs of information seeking, negotiating, monitoring and enforcement, if one looks at smallholders in a process of moving from subsistence farming to commercialization.

The prevalence of social networks, farmers' or community organizations experienced in horizontal coordination may help to reduce such transaction costs substantially especially if farmers, NGOs or private export companies want to secure the 'critical mass of supply'. The creation of such intermediaries between farmers, traders and/or supermarkets can make the smallholders attractive as a group to trade with and efficient horizontal coordination can secure both the quality as well as consistency on the demand side.

The challenges along the agro-food value chain

As illustrated in the previous section, the range of transaction costs smallholders can endure, *ex ante* and *ex post* of a transaction are many and diverse. In the organic sector where individual supplies can be small and market fluctuations at times greater compared to the conventional sector, the classical paradox of so-called 'market failures', where transaction costs are higher than expected revenues, is a central challenge for starting business in developing countries. An agro-chain partnership among relevant stakeholders as well as a supporting resource environment via state institutions, advisory services or NGOs are therefore essential to reduce and target the many types of transaction costs smallholders endure when trying to build up new organic markets and get them successfully included into commercial markets and relevant food systems.

Table 7.1 has been drawn up to structure and better understand the many constraints existing in an agro-food chain (Eenhoorn and Becx, 2009) and actual transaction costs (Kledal, 2009). It consists vertically of the Supply system, the Intermediaries, the Demand system and the Supporting Resource Environment. Horizontally it distinguishes between 'Common development constraints' and the ones 'Specific organic development constraints'. The Supply system consists

Table 7.1 Common as well as specific development constraints faced by conventional and organic smallholders in emerging countries, when aiming for inclusion into modern agro-food systems

	Common development constraints	Specific organic development constraints
Supply system (smallholder farmers)	<p>Low education levels (in agriculture as well as literacy and counting)</p> <p>Distance from markets</p> <p>Low output – fragmented supply</p> <p>Low risk taking</p> <p>Producer uncertainty on expected price premiums</p> <p>Limited organization/disloyalty to marketing organization</p>	<p>Limited and expensive organic inputs</p> <p>Cost of training</p> <p>Use of ICS for farm improvement</p> <p>Limited adaptation of organic techniques, leading to low production</p> <p>Coexistence with conventional agriculture</p> <p>Cost of certification (when applicable)</p>
Intermediaries (farm co-ops, middlemen, wholesalers, large individual farms/packers, exporters)	<p>Inadequate management capacity</p> <p>Lack of trade finance</p> <p>Lack of quality management, lack of willingness to pay more for quality</p> <p>Limited loyalty up and downstream</p> <p>Focus on own risks, leading to high margins</p> <p>High risk on capital borrowing</p> <p>Conformity assessment costs</p> <p>Staff leaving</p>	<p>Sufficient economy of scale</p> <p>Organic is often a small segment among conventional businesses</p> <p>Cost to establish and maintain internal control systems</p> <p>High search/information/control costs <i>ex ante/ex post</i> on production and exchange when supplying niche markets</p> <p>Comingling with conventional</p>
Demand system (restaurants, processors, specialized exporters, shops, supermarkets)	<p>International competition</p> <p>Small/large order</p> <p>Ever-changing standards and quality requirements</p> <p>Changing consumer markets</p> <p>Asymmetric bargain/trading power</p>	<p>Need for transparency/integrity, leading to vertical integration versus speculation</p> <p>Due to small segments, export markets can be volatile during start-up</p> <p>Different standards in different regions of the world</p> <p>Lack of commitment to producers</p>
Supporting resource environment (government agencies, NGOs, advisory services, banks/credit institutions)	<p>Weak infrastructure (roads, communication)</p> <p>High bureaucracy for firm registration and receiving credit</p> <p>Ownership of land</p>	<p>Relevant research</p> <p>Lack of institutional 'set-up' forwarding information and data on export markets</p> <p>Lack of suitable support policies</p> <p>Organic trading specificities</p>

Source: Adapted from Kleddal, 2009.

of the farmers in an agro-chain. The Intermediaries can be farmer cooperatives, processors and wholesalers, and they are an important node in a chain since they link supply and demand. The Demand system consists of the various types of outlets procuring the agro-food products, and are an important node in terms of 'translating' and specifying to the nodes upstream the various attributes that consumers desire of a product. The Supporting Resource Environment would be government agencies, NGOs, advisory services, financial agencies: all important institutions in supporting an effective inclusion of smallholders into commercial agro-food systems.

Focusing specifically on the organic constraints, in the *supply system* it could be inputs such as organic fertilizers or biopesticides, which are often very expensive or difficult to get. For large industrialized export-oriented farms it is a constraint if access to manure as well as controlling outbreaks of pest attacks is difficult. It is seldom a problem for smallholders who base their production on good agro-ecological practices, and with limited crop export. Depending on the contract scheme, producers can have uncertainty both about obtaining organic premiums as well as safeguarding them against fluctuating farm gate prices. The level of premiums and fluctuations is again related to the level of risk the farmers will take and therefore also corresponds to their willingness to make asset-specific investments or commitments and hence adapt to new organic techniques.

Within the *intermediary system* the level of managerial and technical competences (bounded rationality) often limit the benefits from exporting while possibly increasing its costs. Likewise organic exports are often found to be a smaller part of conventional exporters' business, which in some cases sees the organic section getting less priority in terms of resources and attention. On the other hand, the experience inherent in existing conventional companies when introducing organic products means that these companies have a head start compared to the 'pure' organic companies with no experience in export and trading.

Many companies are often undercapitalized yet organic production and processing require specialized know-how and in some cases technology and storage which call for specific investment. However, the financial cost of trading is one of the major constraints among the intermediaries, for example an intermediary can have an annual budget for operational costs of US\$40–50,000 spread over the year, whereas the trade finance required may be US\$200,000, paid at once. Smallholders may need payment upon delivery, yet the intermediary will only receive payment 45 days later after delivery requiring solid credit schemes for trading. Similarly, volumes are often low in the organic industry, risks not clear and returns are not always enough to encourage firms to make the necessary investments to engage in the organic trade.

In the *demand system* the organic exporters sometimes get small order quantities when they are targeting retail consumer markets that make it difficult to fill a whole container, thus making single product shipments uneconomical. However, many of the small exporting companies would not be able to satisfy a

stable frequency of large orders to the retailing industry by themselves. They will have to manage a range of products to allow for regular economical shipping.

Ever-changing quality, food safety and certification standards can be a barrier to entry that requires capacity building for exporters to have dedicated staff that are monitoring changes downstream and translating these into actions upstream.

In the *supporting resource environment* the absence of a national law as well as serious political attention on the macro level creates a lack in funding for wider sector analysis, regular data collection, support for trade fairs, product innovation, etc. Similarly, lack of dedicated relevant research in organic production is a large constraint as well as the challenges of a weak physical and communicative infrastructure.

In the following section possible approaches to overcome the various constraints and transaction costs for organic market inclusion will be presented.

Possible approaches to overcome market and inclusion barriers

The long list of potential challenges and constraints outlined above indicates that successful inclusion of smallholders in market chains is not an easy task. Producing and selling agricultural products, whether with or without smallholder involvement, in the end remains a business decision. Some farmers or farmer groups succeed in dealing with the multiple challenges that a business has to face, and manage to compete in the market, while others don't. Whether an initiative to link smallholders to markets succeeds or not is mainly a question of sustainable competitive advantage, of sufficient scale of operation and of appropriate management capacity to coordinate transactions along a value chain and reduce their costs.

As each country, each product and each market segment has its own particularities it is difficult to identify an approach that works for all possible situations. Nevertheless, some generic guidelines can be deduced from a range of practical examples of organic value chains that involve smallholders. These practical guidelines are outlined below in relation to the challenges, constraints and transaction costs identified in the previous section.³

Designing flexible supply systems

Certain constraints related to the organic supply systems diminish when good organic farming practices are applied in diversified farming systems. It is therefore important that the production system is built on methods like crop rotation, mixed cropping and active soil fertility management. An 'organic by default' approach that simply stops the application of inputs prohibited by organic standards will most likely result in secondary problems such as low soil fertility, low yields, pest and disease problems, quality issues, etc. Similarly, a farming system that has an exclusive focus on one product is more prone to adverse production conditions and to market volatility than a diversified system. In addition, it will be more difficult to cover costs for extension and certification

if they need to be borne by one crop alone. Smallholders should therefore be encouraged to transform their farms into diverse and productive entities that are able to produce quality output. This, however, requires substantial training and technical advice, and in some cases support to cope with higher production costs, and the initial certification costs, during the conversion period.

In order to ensure high productivity and product quality, companies or cooperatives that organize smallholders for organic production should take care that farmers have access to appropriate inputs such as seeds of suitable varieties, organic manures and pest-management means. If production costs are to be kept low, the focus should be on farm-own or locally available resources. Successful initiatives usually train farmers on which inputs to use in which situation, and stimulate them to experiment with locally available materials.

In situations where organic farms are located amidst conventional farms that use pesticides, fertilizers or GMO seeds (genetically modified organisms), the organic farming initiative needs to take precautionary measures to avoid contamination from neighbouring farms. Contamination can be in the form of surface irrigation water passing through conventional fields and thus potentially carrying fertilizers or pesticides, wind drift from spraying pesticides, or pollen carried by wind or insects from GMO to organic crops. Measures such as keeping minimum distances to conventional fields, growing buffer crops and controlling irrigation water flow are usually sufficient to prevent contamination.

In order to ensure that the produce finds a market and achieves a reasonable price and organic premium, it is crucial that the supply system is oriented towards the demands of the market. Producers and their organizations should therefore analyse in advance what products are in demand and which varieties and quality specifications are required. They further need to assess whether they can produce the products in a profitable way, whether they can meet clients' (changing) requirements concerning quality, volumes, packaging and logistics, and whether they can compete with other suppliers. The business should be based on realistic price expectations – in the long term, one should be able to make a profit with a 10–15 per cent organic export premium. Diversifying production as well as markets and thinking early of a fallback (domestic) market helps to cope with – inevitable – fluctuations in market demand and prices.

Efficient organization of farmers for the market

Smallholders can be organized in different ways in relation to the unit that is marketing their products. They can form a cooperative or a similar type of producer organization that takes the raw material from the individual members and looks after the marketing. They can also be organized and contracted by a trade house which buys and sells the product. Although producer cooperatives have an inherent focus on farmers' benefits and have therefore often been the preferred choice of development organizations, they tend to have difficulties in building up and maintaining efficient management structures and skills. Companies that relate to producers or producer groups through contract farming

are often more efficient in setting up a sustainable business than when a new producer organization is formed. Provided that the company deals with the farmers in a fair and transparent way, such a private sector set-up will be more beneficial for smallholders than a poorly managed cooperative.

Producer cooperatives should be careful with handling business activities that go beyond their management capacity. A reasonable division of tasks could be that the producer organization is in charge of production, extension, internal control and bulking, and then sells the raw material to a company that covers trade finance, packaging, marketing and export. Certain functions like the provision of inputs, quality management and first-level grading can also be initially covered by the company, and then transferred to the farmer organization when its capacity is built.

Appropriate extension and training are crucial for the success of the organic production initiative. These services are usually provided by the intermediary organization – the cooperative or company that markets the produce. Farmers, however, are a heterogeneous group and therefore require adapted extension approaches that work for the different types of farmers. Building an effective extension system relies on having qualified and experienced staff who are familiar with the farmers' needs – and who stay with the organization for some time! The extension system in organic production initiatives usually also absorbs functions of an internal control system that allows for smallholder group certification at a reasonable cost. Extension and internal control systems, if well managed, can help to achieve better farm management and better product quality. A well-designed system can also enable smallholders to comply with several standards at a time (e.g. organic, fair trade, Rainforest Alliance, GAP) and thus allows supply to different markets.

Intermediaries between smallholders and the demand system will only be able to provide useful services if they are based on a viable business case. They need to be able to earn sufficient income to pay farmers an adequate price for their products, to cover the costs for extension, certification and marketing and to cover the overhead and management costs of the organization. Initially, most of these businesses will incur losses until systems and client relations are established and a sufficiently large scale of operation has been reached. This may take three to five years. The capital to cover these losses is usually invested either by companies that are involved in trading the produce, or by development organizations (grants). Some international banks offer special financial products to provide capital or trade finance for organic or fair trade producer organizations. Calculating costs and margins and handling cash flows requires a high level of financial management skills.

Developing partnerships with clients

Selling agricultural products on the spot market exposes smallholders to high market volatility and fierce competition for price. Organic farming initiatives are usually linked to vertically integrated value chains in which buyers enter into

a long-term partnership with certain producer groups. Vertical integration has the advantage that routes get shorter (avoiding middlemen), controlling quality and traceability becomes easier, and supply can be directly matched with demand in terms of volumes and product specifications. Ideally, this leads to higher transparency and efficiency. In addition, the buyer gets a product with a 'story' that can be used in communication to the final consumer.

Building trustful and loyal relationships between smallholder groups and buyers, however, requires time and specific efforts. Once they are established, relationships with long-term buyers can entail much more than buying the produce at a fair price. Many buyers are ready to provide pre-financing, support to improve product quality, market know-how and sometimes even provide direct support to the community.

Appropriate support systems

In many cases, the development of organic market chains is facilitated by development NGOs and business development programmes. Their role is usually a temporary one, needed until the time when the business is economically and institutionally viable and the value chain is functioning well. Facilitators develop and strengthen the capacities of chain actors and service providers, and help overcome hurdles and bottlenecks. In a situation where organic production and marketing are entirely new, the facilitator can also make information accessible, stimulate innovation, and support interested chain actors in building the necessary capacities.

One important function of facilitation is to link suitable stakeholders (producer organizations, processors, buyers, certification agencies, finance) and to ensure that they mutually communicate their requirements and coordinate their activities. The facilitator needs to make sure that all stakeholders are heard, and mediates between the different interests of the chain actors. However, there are a number of activities that facilitators should be very careful not to get engaged in. If an NGO or government programme that is designed to last only for a few years takes up core functions of a value chain, the entire chain is likely to collapse once the support ends. A competent agricultural advisory service and an internal control system, for example, are essential for the functioning of an organic production initiative. These services should therefore not be provided by a development project. However, the facilitator can support the initial development of the necessary capacities by helping the actors to design suitable systems and tools, and to recruit and train the required staff.

Blanc and Kledal (2012) show how NGOs, faith-based organizations and public entities in Brazil were all strongly committed to the inclusion of smallholders in the organic market, lowering the many transaction costs *ex ante*, be it within the alternative agro-food system, or the formalized domestic- and export-oriented systems. However, when smallholders entered the modern commercialized agro-food systems, the array of multifaceted problems and transaction costs *ex post* were not seriously and professionally addressed. Due to

the fact that NGOs and faith-based organizations were sometimes reluctant to support smallholders in commercially market-oriented food systems, Blanc and Kledal (2012) suggest that efforts should be taken to provide a policy frame, which enables public-related entities to both secure a sustainable inclusion, as well as provide exit strategies for those who experience market exclusion.

Examples of elements in such a policy frame could be (a) the establishment of a task force pro-actively helping and training farmers to develop clear principal-agent rules when setting up a cooperative or a market organization, (b) mediating and functioning as a neutral third party when crises occur in farmers' organizations, (c) facilitate horizontal flows between the different agro-food systems, thereby compensating the bias of some NGOs, and (d) provide relevant exit strategies whether related to non-farm activities, or part-time farm opportunities. In other words, the role of the state would be to establish an institutional framework supporting market transactions that can secure longer-term legitimacy of organic food production, economic growth and social stability, as opposed to the cases with short-term charity engagement on profit-oriented markets. None of them proved sustainable in the Brazilian study.

The success of an organic value-chain initiative depends to a considerable extent on the business environment in which it operates. Some aspects of the business environment of a specific country cause obstacles to agro-businesses in general. Weaknesses in transport infrastructure, financial services and legal systems affect many types of businesses, and are not easily changed. In many countries, there are national or international schemes to support the development of agri-businesses. Often they include cost-sharing arrangements for setting up processing or storage facilities, or export promotion programmes.

However, there are some aspects that cause obstacles specifically to organic businesses. Pesticide application schemes, compulsory fumigation of agricultural goods for export, fertilizer subsidies and the promotion of GMOs are typical examples. On the other side, governments are increasingly taking an interest in the development of the organic agriculture sector. Governments that want to create an enabling environment for organic businesses could formulate an organic agriculture policy.⁴ Suitable elements of an organic sector policy are:

- inform farmers and companies about organic agriculture
- support the set-up of organic extension services and internal control systems
- promote recycling of agricultural waste
- promote consumer education and awareness on organic agriculture
- collect and publish data on organic production and markets
- develop national standards and regulations to foster the domestic market and reach the requirements of international markets to reduce entry costs
- facilitate development of the domestic market; encourage public procurement of organic products
- support export promotion activities, e.g. participation in trade fairs
- establish organic research and seed-breeding programmes
- include organic agriculture in the curricula of schools and universities.

Box 7.2 Agro-chain partnership – BioUganda Ltd and EPOPA (Export Promotion Of Organic Products from Africa)

BioUganda Ltd is a family-owned Ugandan company which deals in organic fresh and dried tropical fruits. The main product is fresh and dried pineapples, but it also supplies passion fruits, apple bananas, mangoes and ginger to the European market, and some to South Africa. The fruits are sourced from around 200 farmers located in different regions of Uganda to secure a stable supply over a long period. EPOPA supported BioUganda over a three-year period with assistance and capacity building of the field organization, mobilization and training of the farmers, certification issues and initial costs, the installation and operation of the drier unit, product development and packaging, financial and quality controls. Investment in a drier allowed for a diversified product range and enabled BioUganda to use second-grade and oversized fruits which were not suitable for fresh exports. This saves on the weekly logistics, management and the promotion of the products and securing of markets. Payback period (value of investment balanced with extra income for the smallholders) for the BioUganda investment is expected to be eight years. Every year BioUganda exhibits its products in the African Pavilion at the Biofach, the largest organic trade show.

Source: www.epopa.info

Concluding summary

Increasingly, national governments and international development agencies view commercialization and inclusion of smallholder farmers into modern value chains as a central policy in achieving poverty reduction. Organic food and farming, due to the sector's fast growth worldwide, is in this respect becoming an important part of national pro-poor agricultural policies in developing and emerging countries. However, poor smallholders, from subsistence to small-scale commercial farmers, face numerous types of constraint as well as different transaction costs, when trying to enter commercial value chains.

First, the types of constraint smallholders endure are strongly related to the agro-food system and the value-chain organization it plans to operate within, be it:

- alternative local markets
- formalized urban domestic markets
- formalized modern export markets.

Logically a subsistence farmer entering the high quality requirements of the export-oriented agro-food system will face a whole range of different challenges

than a semi-commercial farmer joining a modern domestic-oriented procurement system.

Second, an analysis of the constraints along an agro-food value chain should be subdivided and classified whether they belong to:

- the supply system
- the intermediaries
- the demand system
- the supporting resource environment.

Each of these entities holds different types of constraints and hence specific transaction costs. The major challenge is then how to coordinate information flows and trust building between the actors of the value chain both *ex ante*, during a transaction and *ex post* in order to minimize transaction costs and hence secure sustainable profits (value) along the whole chain. In other words, certain institutions ('rules of the game') need to be put in place, which, in a development perspective, will often require a strong committed supporting resource environment focusing on longer-term capacity building as well as securing sustainable agro-chain partnerships.

By supporting the development of organic value chains that link smallholders to markets, governments, donors and development agencies can contribute to more sustainable resource management, better livelihoods of the involved farmers and workers, and more employment and value generation in the producing country. Not all organic initiatives, however, automatically result in viable value chains that can run on their own once the support ends. In some cases, donor intervention may even hinder promising organic businesses from flourishing, as it can hamper emerging entrepreneurial thinking, subsidize competition and distort the market. The long-term effect of the intervention largely depends on how the support programme is designed. Support programmes especially need to have an exit strategy to ensure that by the end of the project intervention businesses established are institutionally and economically sustainable.

Notes

- 1 In economics the 'hold-up problem' is a situation where two parties (such as a supplier and a manufacturer or the owner of capital and workers) may be able to work most efficiently by cooperating, but refrain from doing so due to concerns that they may give the other party increased bargaining power and thereby reduce their own profits. It has been described as the 'most influential work' in recent decades on why firms exist and what determines their boundaries. Hold-up situations are common in agriculture where farmers produce perishable products that need to be sold soon after harvesting like fruits and vegetables. If the buyers downstream have a strong bargaining power they can put the farmer in a hold-up situation where the farmer has to sell his/her products at a much lower price. The potential hold-up situation in farming is an important explanation for why farmers often are seen entering into cooperatives or market associations.
- 2 The idea of four agro-food systems, when working with organic food and non-food markets in developing countries, is building on the work of McCullough et al.,

2008. However, these authors only operate with three conventional food systems prevalent in developing countries.

- 3 For a comprehensive description on how to set up and manage organic production initiatives with smallholders, see *The Organic Business Guide* (Elzakker and Eyhorn 2010)
- 4 See *Best Practices for Organic Policy* (UNEP–UNCTAD 2008)

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