

INCLUSION OF SMALL- AND MEDIUM-SIZED PRODUCERS IN HIGH-VALUE AGRO-FOOD VALUE CHAINS



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This paper uses the global value chain methodology to analyze Inter-American Development Bank Multilateral Investment Fund (IDB-MIF) initiatives in Latin America that aim to include high-value agriculture small producers in the national, regional and global chains. Based on extensive primary and secondary research, we propose a *holistic* model for these interventions. The model is based on the common constraints that producers face to compete in national and international markets: access to market, access to training, coordination and collaboration building and access to finance. We present key lessons learned from five interventions carried out by the IDB-MIF in Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Paraguay and Peru. In addition, we highlight three best practices from interventions initiated by other development agencies. We find that a market approach which considers these producers as productive agents is essential to success; the group “small- and medium-sized producers” is heterogeneous and producers have different levels of development that require different support; holistic interventions to overcome major constraints tend to be more successful than those that solve constraints one at a time; an exit strategy must be incorporated from the beginning of project design to ensure sustainability; and implementation should be carried out by a trusted actor with local experience and expertise that can leverage synergies with other agencies to maximize on scarce resources and ensure all necessary equipment and infrastructure are available for the intervention’s long term success.

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None of the opinions or comments expressed in this study are endorsed by the companies mentioned or individuals interviewed. Errors of fact or interpretation remain exclusively with the authors. We welcome comments and suggestions.

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Other reports in these series:

- [Assessment of Five High-Value Agriculture Inclusive Business Projects Sponsored by the Inter-American Development Bank in Latin America](#)
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Acronyms

CABEXE	Cámara Boliviana de Exportadores de Sésamo (Bolivian Chamber of Sesame Exporters)
CAPASTE	Cámara Paraguaya de la Steve (Paraguay Chamber of Stevia)
COOPAIN	Cooperativa Industrial Naranjillo
DFID	Department for International Development (United Kingdom)
DUKE CGGC	Duke University Center on Globalization, Governance and Competitiveness
GAP	Good Agricultural Practices
FECOPROD	Federación de Cooperativas de Producción de Paraguay (Paraguay Federation of Industrial Cooperatives)
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Agency for International Cooperation)
IDB-MIF	Inter-American Development Bank- Multilateral Investment Fund
IDMA	Instituto de Desarrollo y Medioambiente (Institute of Development and Environment)
KBDS	Kenya Business Development Services
NGO	Non Governmental Agency
PGS	Participatory Guarantee System
Reb-A	Rebaudioside-A
UNAM León	Universidad Nacional Autónoma de Nicaragua- León
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development

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I. Introduction

This paper discusses the insertion of small- and medium-sized producers in national, regional and international high-value agriculture value chains. These sectors are believed to have important consequences for poverty alleviation in rural areas of developing countries due to their potential to increase incomes and create employment ([Weinberger & Lumpkin, 2007](#)). However, the majority of smallholders in developing countries face a series of constraints that often limits their ability to participate competitively in these chains, and there has been considerable concern that these producers are being excluded from important growth opportunities. Over the past decade, numerous projects have thus been carried out across the developing world to help drive rural development ([Jaffee et al., 2011](#)). Yet, despite the substantial resources that have been allocated to these initiatives, there has been limited systematic analysis of their impact ([Humphrey & Navas-Alemán, 2010](#)).

The goal of this paper, therefore, is to contribute to the international development community's understanding of how interventions can be more effectively designed to ensure sustainable inclusion of these producers in the sector. Based on extensive primary and secondary research, we identify four major constraints that limit small- and medium-sized producers competitiveness and thus their sustainable entry into these chains. We examine how project interventions, by overcoming these constraints, can improve competitiveness factors and ensure that producers' inclusion in the value chain is based on a viable business case, rather than corporate social responsibility. We propose a "holistic" model for inclusion that every intervention should consider: Access to markets, access to training, support developing collaborative and coordinated horizontal and vertical linkages, and access to finance.

From this analysis, we draw four key groups of lessons for future programming: First, a proactive market approach to the intervention is essential. This includes assessing the role that small producers would play in the value chain, comparing their potential competitiveness versus other producers in the absence of constraints, reviewing the requirements of the market, and developing an exit strategy to ensure that the producers can continue to compete sustainably once project resources are withdrawn. Second, it is important to understand that not all small- and medium-sized producers are the same. This is a heterogeneous group with a wide range of socio-economic and education levels, and whose experience both in the cultivation and commercialization differs significantly. This has important implications for project design, specifically in terms of the length of the intervention required and the content of training programs, which must be customized to meet their specific needs. This requires flexibility in approach. Third, a holistic approach that improves access to markets, training, finance and improves horizontal and vertical coordination and collaboration in the value chain and incorporates an exit strategy improves the chances for successful, sustainable inclusion. Finally, there are important factors regarding implementation that must be considered to ensure success: the executing agency must have local experience and expertise and be in a position to quickly generate trust between the producers and other actors in the chain. The organization must be prepared to coordinate and leverage potential synergies with other actors to maximize use of scarce resources and prevent parallel or counter-productive initiatives.

The paper is structured in the following way: First, we discuss briefly how value chain analysis can help improve our understanding of the way producers can participate in the global agricultural industry, followed by an overview of the evolution of high-value agricultural chains over the past 25 years as governance patterns in the industry have changed and we discuss the role small producers can and do fill. Second, we present our model for sustainable inclusion. This is based on a review of a broad range of secondary literature including project impact assessments as well as on primary field research in Honduras, Nicaragua, Paraguay and Peru. Third, we present an overview of five interventions carried out by the Inter-American Development Bank-Multilateral Investment Fund (IDB-MIF) and highlight the principal lessons learned for future programming. Fourth, we present three cases of best practices in the field of sustainable value chain inclusion from USAID, GIZ and one case with multiple donors. These successful

initiatives, which follow an integrated approach to small producer inclusion, are included to inform the design process of new programs.

II. Inclusion of Small- and Medium-Sized Producers in High-Value Agricultural Chains

Over the past three decades, high-value agricultural markets have become more sophisticated, consolidated and regulated, making it increasingly difficult for small producers to participate in these value chains. Determining how to effectively insert small- and medium-sized producers in high-value agricultural markets requires a thorough understanding of how those markets work. The value chain methodology is a useful tool to trace the shifting patterns of production, link geographically dispersed activities and actors of a single industry, and determine the roles they play in developed and developing countries alike. In this section, we discuss how value chain analysis can be useful in obtaining a comprehensive picture of the functioning of the agricultural sector and identify the role that small- and medium-sized producers can play.

1. What is Value Chain Analysis?

The value chain framework allows one to understand how industries are organized by examining the structure and dynamics of different actors involved. The value chain describes the full range of activities that firms and workers perform to bring a product from conception to consumption and beyond. It examines the labor inputs, technologies, standards, regulations, products, processes, and markets in specific industries and locations, thus providing a holistic view of industries both from the top down and the bottom up (Gereffi & Fernandez-Stark, 2011). The relationship between the different actors in these value chains is referred to as the governance structure of the chain.¹

Value chains are generally dynamic and firms can enter into, or move between, different stages of the chain in order to gain higher returns to their participation. In the value chain literature, this movement is referred to as “upgrading”. Humphrey & Schmitz (2002) identified four types of upgrading: Process upgrading, that is, the adoption of new technologies to improve the efficiency of the production; Product upgrading, that is, the production of higher value products; Functional upgrading, which entails acquiring new functions that require a new set of skills; and Chain or Inter-sectoral upgrading, where actors move into new but often related industries. In addition to these upgrading trajectories, it is important to consider the first and often most challenging trajectory - entry into the value chain (Fernandez-Stark et al., 2011). In this paper, we focus principally on this last trajectory.

2. What is the Role of Value Chain Analysis in Development?

In development, value chains can be used to analyze industries, advise policy makers and other actors in the development field and identify skills gaps as well as understand how to include micro-, small- and medium-sized producers and firms into the value chain. Due to the fundamental role these smaller firms play in job creation in developing countries, major development agencies around the world, including the Department for International Development (DFID-United Kingdom), the German Agency for International Cooperation (GIZ), the United States Agency for International Development (USAID), and the United Nations Industrial Development Organization (UNIDO), have adopted this methodology to better target interventions to improve the role of micro-, small- and medium-sized actors in the value chain and to allow them to fully capture the gains of their participation (Barrientos et al., 2011; GIZ, 2012; Humphrey & Navas-Alemán, 2010; Meyer-Stamer & Waltring, 2006; UNIDO, 2009; USAID, 2012). The value chain

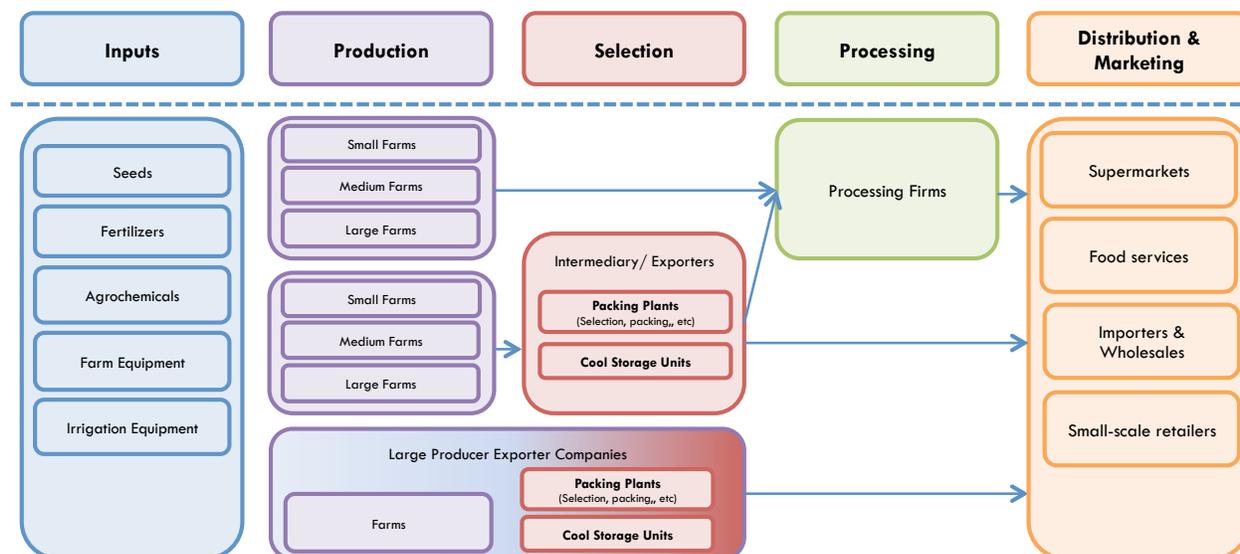
¹ See Gereffi, et al. (2005) for a detailed typology of governance structures in global value chains.

approach has become particularly popular with a wide range of donors and development agencies to structure poverty reduction interventions through improving participation in high-value agricultural chains.²

3. What Are High-Value Agriculture Value Chains?

High-value agricultural or agro-food products are non-bulk agricultural commodities that either require special handling, such as fresh fruits and vegetables, or are processed in one or more post-harvest stages, such as specialty coffee and honey, prior to reaching the end market.³ These products tend to be significantly more labor intensive than cereal crops and other traditional agriculture, largely because mechanization is complicated by the need to prevent damage to fragile produce (Joshi et al., 2004). Quality is a key factor in determining price and potential markets. These products are also subject to a range of sanitary and phyto-sanitary regulations to ensure food safety and to prevent the spread of disease affecting food security. High-value agricultural products thus typically net higher prices and provide significant income generation for the producer (Weinberger & Lumpkin, 2007). Figure 1 illustrates a typical high-value agriculture value chain.

Figure 1. Example of a High-Value Agriculture Value Chain



Source: Duke CGGC.

Traditionally, high-value agro-food sectors included producers of all sizes that participated in spot markets, where the forces of demand and supply prevailed and the highest bidder purchased the available product. Individual farmers determined the crop varieties grown, their desired quality levels and the production processes used. Today, however, this simple arrangement has been replaced by a highly complex agro-foods system. In response to rising global incomes, urbanization, and the liberalization and growth of international trade, traditional markets have been replaced with vertically coordinated, market linkage systems, where local sourcing in both developed and developing countries has largely been replaced by centralized national, regional or international supply chains and strict sets of standards must be met to gain access to these chains (Reardon et al., 2009; van der Meer, 2006). National and global lead firms now dictate how products are cultivated, harvested, transported, processed and stored through a series of public and private standards that producers, both large and small, around the world must abide by in order to maintain their access to markets. These changes have required producers to upgrade

² See Jaffee, et al. (2011, p. 42) for an overview of donor initiatives.

³ The terms high-value agriculture and high-value agro-foods are used synonymously in the literature to refer to this broad range of non-traditional agricultural crops. The agricultural production is destined to the agro-food industry for human or animal consumption.

in various ways. Table 1 offers select examples of upgrading in high-value agricultural chains. These requirements can serve as important barriers to market access as compliance and upgrading, such as the installation of new irrigations systems or a shift to organic production as noted in Table 1, often demand considerable “financial, informational and network resources (Lee et al., 2010).”

Table 1. Examples of Upgrading Trajectories in High-Value Agricultural Value Chains

Upgrading Trajectory	Example
Entry into the value chain	Switching from subsistence agriculture to production of fruits, vegetables or honey for sale in national or global markets
Process upgrading	Introduction of traceability and administrative measures; installation of irrigation systems and/or greenhouses, or new planting or harvesting techniques
Product upgrading	Production of higher value products, such as organic fruits and vegetables; often requires costly certification
Functional upgrading	Processing produce in addition to cultivation
Chain upgrading	Expansion from production into agro-tourism industry

Source: Fernandez-Stark, et al. (2011) .

Furthermore, in developing countries, these specific firm level constraints to participation often are further compounded by country-level challenges to competitiveness. These challenges include weak regulatory institutions, such as poorly designed and implemented sanitary and phyto-sanitary regulations, inadequate transportation, power and water infrastructure and the absence of important upstream value chain actors, such as equipment, seed and fertilizer suppliers and firms providing supporting services (Hazell et al., 2010; Markelova et al., 2009).

4. Vulnerability of Small Producers in Modern High-Value Agro-Chains

The need to undergo both product and process upgrading to participate in the value chain creates important challenges for small producers in particular. For a variety of reasons, including limited financial wherewithal to invest in costly certification of standards compliance, these producers are generally not well positioned to respond to these challenges and those unable to do so are often marginalized (Dolan & Humphrey, 2004; Lee et al., 2010; Maertens & Swinnen, 2009). The dramatic decline in the number of small producers contributing to national and export vegetable markets in Kenya at the turn of the century is one frequently cited example of the impact of the changes to the governance structure of the global agro-food market (Dolan & Humphrey, 2004). This decline raised alarm regarding future smallholder participation in the sector (Neven et al., 2009), and led to numerous studies of the impact of changing conditions (Jaffee et al., 2011; Reardon et al., 2009).

These studies, however, revealed that smallholders do indeed continue to play a critical role in modern, high-value agro-food chains for a variety of reasons, including policy changes, labor intensity, and land ownership structures (Weersink & Herath, 2009). There are a number of chain and country contexts in which it is more efficient to source from small- and medium-sized producers, such as tea processing in Sri Lanka and vegetable production in Madagascar (Reardon et al., 2009). However, the increased demands and consolidation of the value chains have imposed a new set of conditions under which these small producers, particularly poor, vulnerable ones, can access the chain and consolidate their positions. Generally, this participation requires the initial support of an external actor due to the constraints small- and medium-sized producers face. In the following section, we discuss two key conditions which determine smallholder participation.

5. Considerations for Sustainable Small- and Medium-Sized Producers in High-Value Agro-chains

As mentioned earlier, small- and medium-sized producers do have an opportunity to participate in national and global value chains. However, prior to any intervention, it is critical to determine how these producers can fill specific production gaps in the chain more efficiently than modern mechanized agriculture. Two important considerations determine whether small producers can and should be part of the value chain: (1) labor-capital intensity ratio, smallholders can compete in crops in which they have comparative advantage over large producers due to labor intensity; (2) commercial viability, that is, the selected crop should have a strong, existing market.

First, small producers have a comparative advantage over large producers in certain crops as a result of labor intensity of cultivation or advantages of geographic dispersion of crop for weather and disease management. Certain crops are significantly more labor intensive than capital intensive. This is often due to the nature of the product that prevents mechanized planting and harvesting such as coffee (Berrios, 2012), or requires constant monitoring for disease prevention, such as organic fruits and vegetables and stevia (Consortio de Productores Organicos de Huánuco, 2012; Dávalos, 2012; Fernández Maldonado y Figueroa, 2012). While small producers may have higher capital costs, they generally have lower labor costs, potentially outweighing economies of scale of larger producers. This cost differential can account for as much as 40% of production costs (van der Meer, 2006). When strict labor laws require costly social protection, such as paid vacation, health care provision and pension contributions, unregulated family labor on smallholder plots becomes substantially more competitive, albeit potentially at a high cost for female members of the family who typically play an important role in production but whose labor is often uncompensated (Bamber & Fernandez-Stark, 2011).

Second, the crop produced must have an existing, strong or growing market demand for the product. New crops, with underdeveloped markets and fluctuating demand, generate significant uncertainty and can result in short-term shocks which vulnerable small producers are not able to withstand leading to rapid exclusion from the chain. To the extent that poor people have few resources to cope with such unpredictability, they should seek participation in existing chains where possible (Humphrey & Navas-Alemán, 2010). Small producers face sufficient difficulties in entering value chains without having to cope with the challenges of developing markets for new products. This was an important lesson learnt for producer groups in Bali seeking to connect directly with consumers to market their organic rice. Already facing challenges of improving the consistency and quality of production, and seeking ways to finance costly certification, they found that consumers were “uneducated” and tended to buy rice “based on the packaging.” As demand for organic rice was still very limited, producers found themselves without a market (VECO et al., 2008).

In addition to labor cost advantages, the product’s vulnerability to disease and weather affects the efficiency of small versus large-scale production. Diseases that rapidly spread through production and are difficult to contain can result in a large producer losing their entire crop, potentially disrupting the supply chain.⁴ Geographically separating production into multiple plots can help minimize this risk, and favors diverse smallholder production over large producers. One case in point is the cultivation of jalapenos in Honduras. A large exporter decided to shift to a smallholder production strategy due to both the labor

⁴ Due to the nature of the value chain, producers are often contracted to an intermediary of some sort (often an exporter) who in turn have contracts with their key buyers. If a large producer cannot supply their intermediary due to weather or disease, that intermediary, in turn, may be forced to breach their contract with their buyer. Given significant competition around the world for access to these chains, repeated failure to supply the buyer with the contracted quantities can lead to exporters being excluded.

required to harvest the jalapenos, and having lost significant portions of the crop to disease (Velasquez, 2011).

These are essential underlying conditions that must be met in order for small producers to competitively and sustainably be inserted into the value chain. In the following section, we propose a model for the design of interventions focused on fostering small producer inclusion in high-value agricultural value chains.

III. Model for Sustainable Inclusion of Small- and Medium-Sized Producers in the Value Chain: A Holistic Approach

The discussion in the preceding section highlighted the necessary, overarching considerations for small producer inclusion in value chains; however, that certain products are suitable for smallholder production, does not guarantee access to national and global value chains for these producers. If it did, smallholders would gainfully cultivate the products they were best suited to producing, and buyers would source from them, and ultimately, interventions would not be necessary. However, several market failures exist that prevent this from occurring. Through extensive primary and secondary research of small holders working in the chain and interventions trying to support their entry, we identified the major constraints that limit the competitiveness of small- and medium-sized producers and propose a “holistic” model for overcoming these constraints through four key pillars: Access to markets, access to training, support developing collaborative and coordinated horizontal and vertical linkages, and access to finance.

A. Competitiveness

In order to participate in a value chain, all actors need to be competitive. This is a golden rule of markets. Small- and medium-sized producers, however, usually face competitiveness bottlenecks that limit their potential involvement in the chain: Low productivity, poor product quality, lack of standards compliance, high transaction costs, lack of networks, etc. These competitiveness bottlenecks are difficult for smallholders to overcome, as they face numerous constraints. These constraints are:

1. Lack of access to markets
2. Lack of training (technical and entrepreneurial)
3. Lack of collaborative networks (Among small producers and with chain stakeholders)
4. Lack of finance

Relieved of these constraints, small- and medium-sized producers have the opportunity to become competitive and participate in national and international value chains in a sustainable manner. Table 2 shows how different competitiveness challenges faced by small producers can be overcome when the constraints are removed. For example, productivity issues are usually related to a) lack of exposure to buyers and their requirements, b) lack of technical and entrepreneurial skills, c) lack of information flow with other producers and also other members of the chain and, d) lack of access to finance to buy equipment, infrastructure or necessary inputs.

Table 2. Selected Competitiveness Bottlenecks & Intervention Instruments for Overcoming Them

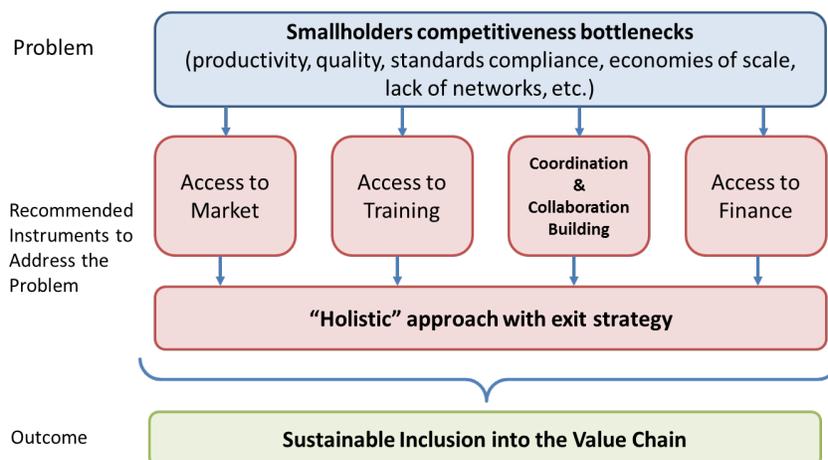
	Link to Buyer	Training	Collaborative Networks	Finance
Productivity	Potential for access to cutting edge technologies	Production & harvesting techniques, organization of production, maximization of resources	Information about changing techniques, best practices, new/better inputs, lobby power for accessing to critical resources (ex. Access to water, electricity)	Equipment, infrastructure, improved inputs
Quality	Information about specific quality requirements	Production & harvesting techniques	Information about changing techniques, good agricultural practices	Equipment, infrastructure, improved inputs
Standards compliance (safe production, traceability, etc)	Information on specific standards required	Technical training to meet the standards, entrepreneurial skills	Economies of scale to reduce cost, Access to information regarding different standards.	Certification by third-party
Economies of Scale	Bargaining power	Entrepreneurial and soft skills training to run a cooperative	Coordination and collaboration critical to reach economies of scale	
Enforcement of contracts (Red. costs)	Understanding of buyers commitment to purchase	Entrepreneurial skills	Group pressure to avoid moral hazard challenges	Cash flow management

Source: Authors.

We propose a holistic model for intervention in which each of these constraints is addressed to improve producers competitiveness and sustain their value chain inclusion, especially when the executing agency is not helping them anymore (see Figure 2). The intervention instruments for overcoming these constraints are grouped under four key “pillars”: (1) Access to market, (2) Access to Training, (3) Collaboration and cooperation building and (4) Access to finance.

This model is applicable to all level of beneficiaries’ development. Beneficiaries with low capability levels will need longer interventions and usually all four pillars must be included in the intervention. Beneficiaries with higher levels of expertise may need support only in two of these areas as they already have managed to overcome constraints related to the other two areas.

Figure 2. Model for Sustainable Smallholder Inclusion in High-Value Agro-food Chains



Source: Authors.

Below we describe the four pillars included in this model:

B. The Four-Pillars Model

1. Access to Market

Access to market is often broadly interpreted as potential for inclusion in the value chain; however, in the context of this model, it refers specifically to presence of value chain linkages between producers and buyers and how they can be established. Traditionally, spot markets in agro-food sectors meant that no direct relationship was required between the producer and the buyer, and the producer sold his harvest to the highest bidder. However, as described earlier, the transformation of these sectors and the emphasis on food safety has heightened the need for specific product characteristics, control over production and traceability. Governance of the sector shifted from an arm's length interaction to a much closer relationship with the buyer dictating exactly what product is produced and under what conditions.

Due to broad geographic, cultural and educational factors, amongst others, many small producers do not have the required networks to establish these relationships with potential firms (Fernández Maldonado y Figueroa, 2012). Unorganized⁵ small producers do not generally participate in international trade fairs, have websites or generate publicity; often they do not know that there is even a potential market for their products or what requirements buyers may have (Consorcio de Productores Organicos de Huánuco, 2012; Vargas & Plata, 2012). Buyers, particularly those located abroad in global markets, have no way of knowing about these potential producers, let alone establishing formal sourcing contracts with them or communicating product or quality standards. An intervention is often required to overcome this problem of asymmetric information.

The first stage of an intervention therefore requires establishing the link between producers and buyers. This connection requires educating buyers or lead firms regarding the business potential of sourcing from small producers, as well as facilitating interactions until the small producers are in a position to sustainably manage the relationship independently. Henson et al. (2008) found the most important role for implementing agencies in smallholder interventions in Africa was linking smallholders with the private sector. Humphrey & Navas-Alemán (2010) found that, of value chain interventions focused on small producer inclusion, those focused on building these linkages have been seen to be more effective than those focused on improving the broader context in which the chain is embedded. In domestic markets, this could be a direct linkage between the producer and the final buyer, allowing the producer to avoid other intermediaries and capture as much value as possible from their participation; while in global chains, this link is more likely to be with an exporter intermediary. While often criticized for taking advantage of the small producer, an effective intermediary fulfills a vital role of not only translating buyer needs for the small producer, but also facilitating a relationship where social, economic and language barriers may prevent direct interaction (Humphrey & Navas-Alemán, 2010).⁶ The proximity with the final buyer will also depend on the level of development of producers. For example, producers with low level of expertise and organization will require intermediaries to fill certain gap activities, while well organized producers with higher level of expertise can bypass intermediaries and sell directly to the domestic and/or foreign buyer.

2. Access to Training

While many small producers may have worked in agriculture their entire lives, specific training is often required to improve productivity and product quality, introduce new technologies and plant varieties, and comply with food safety and other certification requirements that govern entry into the national, regional and international value chains. As mentioned earlier, agro-food value chains today are very sophisticated and crops grown with traditional methods do not meet the market requirements. Skills development in agro-food value chains, however, has been generally underestimated in the past and the focus on training

⁵ Unorganized in this context literally means non-organized into groups.

⁶ An effective intermediary often also facilitates access to finance to obtain inputs and technical assistance.

at the commercial level has only really emerged within recent years (Fernandez-Stark et al., 2011). Rural education levels in many developing countries are often low and technical assistance and education programs run by the government are often understaffed and inadequately prepared to cater to the needs of increasingly demanding buyers (Fernandez-Stark et al., 2011). As many of these services are provided through the respective Ministry of Agriculture, there has also been a tendency in the past of extension services focusing too heavily on production, without any attention paid to the required entrepreneurial skills for small producers to run independent, productive enterprises. “Value chains will be better equipped to respond to end market demand if training goes beyond knowledge transfer to the promotion of behavior change in the value chain, in terms of relationships and innovation” (Sebstad & Snodgrass, 2008, p. 6).

Providing training for producers to facilitate value chain inclusion must cover several elements: awareness of the need for training, technical training regarding production, entrepreneurship or business skills training and finally interpersonal or social skills training. This approach provides the small producer with the skills and capabilities to cultivate and commercialize products that meet the demands of their target market.

1. **Awareness building:** Before any training interventions, it is critical to explain the purpose of the training to the producers and convince them of the importance of adapting the way they have always grown their crops (Bamber, 2012; Berrios, 2012; Ravello, 2012; Vargas & Plata, 2012).
2. **Technical training:** Different crops require different technical skills, and thus we do not propose to outline all of the skills that should be covered by the training. We rather emphasize two key points: Good agricultural practices aligned with buyers’ standards are becoming a critical element for successful value chain entry; and productivity and other problems can be overcome by short training sessions and practice, with techniques that do not require large investments and are relatively simple and easy to learn (Fernandez-Stark et al., 2011). Several training activities, including field trip visits to both national and foreign successful production sites, have been an effective method to transfer technical knowledge (Berrios, 2012; Ravello, 2012; Vargas & Plata, 2012).
3. **Entrepreneurial training:** Raising the awareness of the importance of seeing the farm as a firm and teaching the producers’ skills to manage it is critical for the participation of smallholders on the chain. Modern agro-food value chains depend on consistency of supply and quality, which is often managed through strict contracts and planning, and sustainable inclusion requires that the producer begin to understand and anticipate these planning procedures, manage their costs and cash flow and negotiate with their buyer. Skills required include planning, efficient cost management, accounting, financial literacy, client management, appropriate and timely infrastructure and equipment investments to improve quality and productivity. Producers, however, often lack these entrepreneurial skills, undermining their competitiveness.
4. **Social skills training:** These skills include communication, leadership, conflict management, negotiations and teamwork and they are also often overlooked as interventions overly stress the technical aspects of training, and it is difficult to measure whether these skills have been “learnt”. However, in a growing number of industries, soft skills are being revealed as essential for growth in value chains (Gereffi et al., 2011). Small producers, in particular, need these skills as they must work together in order to achieve economies of scale.

In light of the poor level of rural education in many developing countries, the manner in which training programs are carried out is essential. In particular, a focus on didactic and practical training is important as many of the producers do not keep written records and rely on memory and developing new routines. Some effective training settings include on-site practical sessions with the producers with real examples and visits to successful farms of peers and demonstration plots, while for farm management skills, a book

template in which producers can enter all farm-related information such as labor, costs, time line, estimated quantity of production and profits can be a useful tool. Trainers teach them how to complete their books.

3. Coordination and Collaboration Building

Coordination and collaboration building should occur at two levels. First, horizontal coordination amongst producers facilitates the formation of producer groups or associations, not only to reach essential economies of scale⁷ but also to provide opportunities to add value to their products (upgrading). Second, vertical coordination and collaboration involves interactions with other actors of the chain to establish linkages, find synergies and share information in order to improve the performance of the chain as a whole. Sustainable inclusion in value chains for small producers thus requires some form of organization in an ongoing way to achieve economies of scale.

Horizontal Coordination and Collaboration

Small- and medium-sized producers need economies of scale in order to compete in the marketplace. By definition, they lack the scale required to produce large quantities of any crop.⁸ The transaction costs of dealing with individual producers are high and it is not cost-effective or profitable for the buyer to work with them on an individual basis (Kolk & van Tulder, 2006).⁹ It is important for producers to work together, not only to produce the amount required by the market, but also to exchange ideas to manage common problems, reduce information asymmetries in production and build social capital to empower producers to sell their products in more sophisticated markets (Markelova et al., 2009). Indeed, it has been found that groups with high social capital usually achieve superior outcomes (Krishna, 2002).

- *Economies of scale in production:* opens up opportunities to access new markets and provides bargaining power for price. Scale is also critical to overcome costs such as certification for public and private standards.
- *Informational:* Access to information regarding pathogens, production techniques, cost-efficiencies, etc.
- *Reputation:* Collective action of small holders can be important for group monitoring which can reduce moral hazard, preventing side-selling of small producers which increases their relative cost of participation in value chains (Narrod et al., 2009).
- *Critical services for the members:* credit, access to cheaper inputs, technical assistance, etc.

Self-organization is a difficult task to achieve for small- and medium-sized producers, usually due to the not trivial trade off vulnerable producers face between immediate individual benefit and longer-term group payoffs. Producers' commitment remains critical to successful engagement in a cooperative. Thus they often need the encouragement and support of external actors to understand and appreciate the payoffs of collective action and establish themselves as formal, legal organizations (FECOPROD, 2012; Markelova et al., 2009). This support can include basic team formation and visioning to aid in completing

⁷ Stringer, Sang and Croppentedt (2009) find that processors in China rank channels that minimize the transaction costs of contracting, purchasing, handling and supervising as the most important factors affecting their sourcing decisions. Miyata et al. (2009) and Minot et al. in China and Japan's sourcing models, where processors/packers will often work with a village leader to find groups of producers with the capacity to work with them in order to reduce transaction costs.

⁸ This has consequences both for decision-making regarding the allocation of their scarce land resources to any particular crop, as well as for sourcing strategies from buyers. Questions of scale are thus important from both the producer and the buyer's perspective. From the small producer's perspective, the opportunity cost of using scarce land resources to grow lower margin crops over other, higher margin crops, often leads producers to abandon the production of lower margin crops over time. Two factors affect buyers' decisions to source from small producers: First, buyers are aware of potential abandonment of production by small producers, and the high cost it means to them to recruit, train and, at times, certify new groups of producers in order to meet their own contractual or demand requirements. This can lead the buyer to be reluctant to source from small producers when their opportunity cost of production is too high.

⁹ A significant portion of the literature on small-scale farmers in agriculture has focused on the challenges of transaction costs. Pingali et al.(2005) provide a concise summary of the different factors that contribute to these transaction costs.

legal paperwork to formally establish the cooperative as a business (FECOPROD, 2012). External actors need to explain that the group is more than the sum of individuals' producers. Collective actions can yield significant benefits for the producers, such as facilitating access to cheaper inputs, spreading costs of investments in expensive cold chain and logistics infrastructure, opportunities to obtain higher income and to access to new market opportunities among others.

Vertical Coordination and Collaboration

Coordination and collaboration amongst the chain stakeholders is critical for chain performance and upgrading (Gereffi et al., 2011). Organized producer groups need to interact with other chain stakeholders and to understand how the chain is structured and their particular role within the chain. Chain stakeholders include all the actors that play a role in the development of the industry, such as producers, input providers, intermediaries, buyers, industry associations, training institutions, industry services providers, finance institutions, government agencies focused on the industry development, export promoting agencies and regulatory institutions. Promoting dialogue and public and private alliances has been very beneficial not only for smallholders advancement and resolving information asymmetries but also for the industry advancement at local and country levels. These alliances provide insight into challenges and opportunities faced by the sector with the ultimate goal of coordinating and defining a common industry development strategy.

Interventions can play a crucial role in aligning value chain stakeholders. Asymmetrical information problems can often easily be overcome when all of the stakeholders work together. Several projects have included linking producers with input and services providers, as well with banking institutions. Interventions also highlight linkages with the government to put in place national regulations to drive industry competitiveness.

Organizational Models for Achieving Economies of Scale with Small Producers

There are two main organizational models that are observed in small producer inclusion in high-value agri-chains: the cooperative model and the outgrower scheme. The cooperative model is a bottom-up approach in which producers organize themselves into groups and then collectively seek out a buyer, whereas the outgrower scheme is a top-down approach in which the buyer identifies, recruits and organizes producers into producer groups. Each model has distinct benefits and drawbacks for global value chain inclusion.

The Cooperative:

The cooperative is a self-governed group and can range in levels of sophistication. It can range from a simple association of producers whose only involvement is to sell their produce together in order to achieve sufficient economies of scale to interest a buyer, to a sophisticated organization that offers its members access to credit and technical assistance and exports directly to international markets. Although it has no guaranteed access to market, the cooperative is at liberty to seek out multiple buyers and use its economies of scale to negotiate higher prices (Berrios, 2012). As a result, the cooperative has greater opportunities for producers to upgrade and to capture the value of participation in national and global chains. As an independent actor in the value chain, the cooperative can upgrade into higher value segments by processing raw materials prior to sale. Participating in cooperatives provides producers with access to product payments and dividend payments and when the cooperative adds value to the product by processing, this increases overall income of producers (Martin & Choy Paz, 2012). The sophisticated cooperative provides its small producers with access to important resources such as credit, inputs and requires significant managerial, administrative and coordination skills in order to sustain its position in the value chain. Less sophisticated cooperatives may depend on exporter intermediaries to provide important resources such as credit and training, and may be contracted to sell their product directly to the exporter. In these cases, these cooperatives become part of larger outgrower schemes.

The Outgrower Scheme:

The outgrower scheme, on the other hand, is managed by the buyer. This model emerges when the producers do not self-organize. Often called contract farming, this scheme refers to groups of producers that are brought together and organized by a buyer. Producers must sign a contract to sell their harvest directly to the buyer, often in exchange for some combination of inputs, technical assistance and credit. The producer benefits from lower risk due to guaranteed access to market for their crop, as well as the provision of essential resources to ensure the production of a high quality crop. Participating in these outgrower schemes has been positively correlated with higher incomes, shorter lean periods, better resource management and technology adoption, and increased overall crop productivity (Bellemare, Forthcoming; Minten et al., 2009; Miyata et al., 2009). However, being part of an outgrower scheme does not generally foster opportunities for upgrading. Complicated tasks in production, such as propagation of seedlings, are reassigned between actors and less knowledge is transferred to the producer as teaching them would require significant resources (Humphrey & Navas-Alemán, 2010). Certain processes such as sanitization of tea leaves, packaging of fruits and vegetables or dry processing coffee beans, would likely be covered by the contracting entity, limiting the small producer from moving up into higher stages of the value chain. Furthermore, working with just one firm locks producers into specific production models, which can prevent them from diversifying their markets.

In addition to the outgrower scheme, which is based on formal contracts, when demand is high, exporters often rely on informal supply chains to supplement their formal production networks. Since the wide adoption of standards and accompanying monitoring of production, the use of these informal sourcing practices has declined overall, however, in practice there continues to be ample evidence of its use. While independent producers can still participate in global value chains in this way, they are highly vulnerable to exclusion from the chain should demand decline, or standards be more strictly monitored and enforced.

4. Access to Finance

Entry into the value chain requires certain investments such as infrastructure, equipment and obtaining certifications. Small producers, however, often face liquidity and credit constraints and have no access to formal finance channels, both of which limit their potential to make the required investments. Credit for small producers in both low and high-value agriculture is constrained for a number of reasons, including high risk, asymmetrical information, lack of guarantees, dispersion in rural areas, and unfavorable economic policies (World Bank, 2008). These credit constraints have been found to prevent small producers from investing in necessary equipment, such as irrigation systems, greenhouses or cold storage, to achieve productivity improvements, to develop unused portions of their land or to upgrade into higher value products (Maertens, 2009), thereby limiting their potential to participate in coordinated value chains. Indeed, the lack of access to finance for irrigation systems alone can limit a farmer's access to national or international value chains where buyers require consistent quality and output (Chilavert, 2012; Miyata et al., 2009). This is also a problem for industry expansion; for example, the lack of access to finance for infrastructure and equipment has limited the growth potential of micro and small honey producers in Nicaragua despite high international demand (Linarte, 2012).

Interventions can facilitate access to finance through various models. Frequently seen approaches include direct financing from buyers, and buyers contract's as collateral for loan provision from banks. Direct financing from buyers consists of loans to producers through schemes such as resource-provision contracts in which the buyer provides inputs such as seeds and fertilizer and other services on credit. In many cases, the buyer absorbs the financing cost for this model (Bamber, 2011, 2012). Use of purchase contract as collateral is also seen in some credit markets, where banks accept procurement contracts including technical assistance from value chain buyers as sufficient collateral to access credit (Coon et al., 2010; Maradiaga & Galo, 2011). However, in this latter model, interest rates and loan terms can be prohibitive. The executing agency, together with often more influential supporting funding institutions, should coordinate with the banking sector in order to ensure effective financial instruments are created to meet smallholders needs and that producers have the required financial literacy to manage any loans they are awarded. In addition, due to the significant cost of financing for small producers, credit should only be sought for upgrading activities if these activities will result in significant increases in income which allow the producer to pay off their loans in a reasonable manner.

C. Sustainability of Small Producer Inclusion in the Value Chain

The model above allows producers to overcome their principal constraints to entry into the value chain. However, it is important to consider the sustainability of a potential intervention, from an economic, social and environmental perspective. First, economic sustainability must be taken into account, that is, once the intervention comes to an end, can the producers operate as independent economic actors, accessing the resources they need in the market. Second, projects can help resolve social challenges such as improved housing, better education of children and job generation; however, they can also generate problems. For example, inclusion in the value chain for small producers is often based on "small holder efficiency" which is, in many cases, based on uncompensated female labor on family plots. The intervention should ensure that it does not generate more social problems than it solves. Finally, as global agriculture expands, it can take a significant toll on the environment. Interventions should consider how they can improve the producer's management of their environment.

1. Economic Sustainability

The pillars described above facilitate the entrance of smallholders into the value chain. Once the project comes to an end, however, beneficiaries must be able continue to supply the value chain into which they have been inserted by producing competitively priced products. In order to sustain their participation in the chain, the provision of these pillars to overcome constraints must be ongoing. To ensure this, an exit strategy for the intervention must be included. This exit strategy should consider (1) who will provide the linkage with the buyer – will it be internal or carried out by another actor, (2) which actor will provide technical assistance on a regular basis,¹⁰ (3) how will horizontal and vertical linkages be maintained in the future and (4) how the beneficiaries will obtain financing in the future. Furthermore, the ability of producers to remain integrated in the value chain, expand and upgrade, depends on the development of their technical, entrepreneurial and interpersonal skills. The business model established for production must consider medium and long term costs such as recertification for organic production and investment in infrastructure to support upgrading. Members of the community should be in a position to recruit and teach new producers in the skills developed by the project. Capacity building and knowledge transfer through training is thus essential.

2. Social Sustainability

Interventions should ensure that inclusion in the value chain has a positive social impact for all members of the smallholder family, including men, women and children, to ensure gainful participation from inclusion in the value chain as well as family commitment to ongoing production. Here we highlight two important areas that should be considered in intervention design and implementation that tend to appear frequently when working with small producers: gender equality and provision of economic opportunities to avoid urban migration; however, social challenges are context specific and thus key factors should be identified on a case by case basis.

- **Gender equality:** “Smallholder efficiency” is often derived from the use of unpaid family labor, and women in particular, as they tend to bear an unreasonable proportion of the work involved in agricultural production without receiving a fair wage, or having active participation in decision-making regarding family income (Bamber & Fernandez-Stark, 2011). However, project design should incorporate an analysis of the gender roles in the division of labor in the household, gender segregation of tasks along the value chain, access to agricultural inputs, access to finance, encouraging recognition of women’s property rights, ensure training is aligned with men and women’s needs, amongst others. This analysis can lead to appropriate gender indicators that can be later monitored and properly evaluated.
- **Urban Migration:** Interventions take place in rural areas, which increasingly experience high urban migration; projects that provide potential economic opportunities can encourage youth to stay in the area, taking over their parents’ operations in the long term and, in turn, guaranteeing the buyer future supply.¹¹

¹⁰ This may require simultaneously developing service firms to provide these support functions in the long term if they do not already exist in the market.

¹¹ In field research carried out in Kenya, Chan and Barrientos (2010) found that women can become fundamental players in cooperative and outgrower schemes if economic pressures force male members of the family to migrate to urban areas or abroad.

3. Environmental Sustainability

The expansion of intensive agriculture globally must be done in a sustainable way, particularly to avoid exhaustion of the soil, the misuse of precious water sources and deforestation.¹² Small producers have very limited land resources, and thus it is important to maintain their land arable, while often they have limited understanding of how to manage their scarce water resources. For example, coffee producers in Nicaragua successfully upgraded into the coffee wet processing stage of their harvest prior to sale, however, the coffee waste products from that processing were channeled back into the rivers, contaminating important water sources. An intervention focused on their inclusion in the global coffee value chain helped them to successfully incorporate environmental measures to prevent this contamination (Berrios, 2012). These factors must be taken into consideration when selecting the target product and designing and implementing the technical training. The growing trend for small scale organic production is particularly helpful in this end, as it requires the producer to take care of their natural resources, and teaches them to use on-farm resources to do so (Fernández Maldonado y Figueroa, 2012). Interventions still appear to be weak in water management and many producers rely on rain for irrigation, without considering how to gather rainwater into reservoirs to be used at a later date (Bamber, 2012). Good agricultural practices usually include good environmental practices to ensure sustainability. These practices are commonly included during the interventions technical training.

In Brief

This model is specifically focused on including small producers sustainably in the value chain. It can be applied to broad range of initiatives from those focused on pro-poor development to those seeking to increase the competitiveness of a national agro-food subsector by improving the quantity and quality of supply. The success of interventions, however, is ultimately measured by the degree to which previously excluded producers or producers vulnerable to being pushed out of the chain are integrated effectively into the value chain in a sustainable way.

To be successful, an intervention must identify competitiveness bottlenecks and ensure these needs are addressed through the provision of the four pillars. Success is measured against three sustainability criteria: economic, social and environmental sustainability of the intervention.

¹² The Rainforest Alliance claims that the expansion of agriculture is responsible for 70 percent of global deforestation and is the single greatest threat to tropical forests.

IV. Selected IDB-MIF Projects: Overview, Best Practices & Lessons Learned¹³

In this section, we present a brief overview of five IDB-MIF projects focused on the inclusion of small- and medium-sized producers in high-value agriculture value chains. The projects selected represent a variety of crops and were implemented in different countries of the region by different actors including industry associations, cooperatives, national and international non-governmental organizations (NGOs). These projects varied considerably in funding size, from US\$200,000 to over US\$3.5 million. The number of project beneficiaries ranged from 200 to 6,000, and interventions covered different stages of the value chains. We highlight best practices from these cases and the key lessons learned for the implementation of value chain inclusion interventions in the future.

Case 1. Supporting the Competitiveness of Central American Coffee (Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua)

The project focused on improving the competitiveness of selected small and medium specialty¹⁴ group coffee producers in five Central American countries (Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua) following the international coffee crisis in the early 2000s. There were two key components: (1) technical assistance for cultivation of high quality coffee and (2) establishing links with foreign buyers. Producers were trained in the requirements of high quality coffee for global markets, the potential price premiums paid out for quality coffee and in improved production practices to obtain this quality. In order to market and certify the quality of the coffee in Central America, the project brought the international cupping award “The Cup of Excellence” to the region.¹⁵ The project also provided administrative and technical support to help producers obtain certifications required by foreign buyers. Different buyers selected the beneficiaries’ organizations to work with in the future, committing to purchase their coffee once they reached certain quality thresholds. This project also included an investment component to improve equipment and infrastructure. Each cooperative was required to provide matching funds for these investments. Originally the project included almost 3000 beneficiaries organized in 10 cooperatives (2 cooperatives per country). These cooperatives varied in size, from just 10 members to the largest at 2,400 members. Three thousand additional beneficiaries were incorporated into the project in the last year. The majority of the beneficiaries selected were experienced coffee growers.

Number of Beneficiaries	Targeted Product	Targeted Stage of the Value Chain	Executing Agency	Funding		Project Duration & End date
				IDB	Counterpart	
6,000	Coffee	Production	Technoserve	\$3,000,000	\$1,615,450	54 months

Case 2. Strengthening the Competitiveness of the Stevia Value Chain (Paraguay)

The project focused on improving the competitiveness of the stevia value chain in Paraguay. The project consisted of three key components 1) increasing the quality and quantity of stevia production by small producers, 2) strengthening producer groups or associations, and 3) fostering innovation and technology transfer to improve both plant variety quality and prospects for in-country value-added processing. The largest component of the project was the inclusion of new producers into the value chain under the outgrower model. Participating firms recruited and contracted new producers, provided them with specific inputs for production, training and technical assistance (TA) and guaranteed purchase of their harvest. The project also organized and consolidated producer groups. The groups received legal advice regarding

¹³ For in-depth analysis of each of these cases, please see (Fernandez-Stark & Bamber, 2012).

¹⁴ Specialty coffee refers to Arabica coffee grown at a specific altitude, above 1,200 meters above sea level. The climate at this altitude is particularly good for producing highest quality coffee.

¹⁵ “The Cup of Excellence” is a strict competition that selects the very best coffee produced in a country for a particular year. Winning coffees are chosen by a select group of national and international cuppers. The final winners are awarded the prestigious Cup of Excellence® and sold to the highest bidder during an internet auction.

how to formalize their organizations and skills development to improve teamwork and collaboration. The project also included competitive awards for innovative projects and technology development; winning projects included a service-based initiative to empower producers to bypass intermediary brokers and connect directly with buyers in foreign markets, and a project focused on developing new varieties of stevia, with higher content of Rebaudioside-A (Reb-A).¹⁶ The project took place during a time of considerable shifts in the world market for stevia. In 2008, the Food and Drug Administration in the United States approved just Reb-A for human consumption; this was followed by Reb-A approval in several countries in Europe and overall, European approval was granted by the European Union in 2011. Many producers had expected the approval of a broader range of stevia derivatives. Specifically, the substance “stevioside” was not approved, despite its long term use as a sweetener in Asian markets.

Number of Beneficiaries	Targeted Product	Targeted Stage of the Value Chain	Executing Agency	Funding		Project Duration & End date
				IDB	Counterpart	
2,500	Stevia	Production, R&D	CAPASTE	\$1,269,400	\$1,364,470	36 months Ongoing 2012

Case 3. Conversion to Organic Cacao Cultivation (Peru)

This project involved the conversion from conventional cacao production to certified organic production of 200 members of Cooperativa Naranjilla Industrial (COOPAIN) in the province of Tocache, Peru through the provision of technical assistance and training, strengthening of producer groups and a guaranteed sales channel. The goal of the project was to increase the quantity, quality and value of the organic cacao production in a sustainable way that was consistent with market demand and by using technology improvements at the production level. Beneficiaries were small producers, with between 2 and 22 ha of conventional cacao under production, and several producers had previously cultivated coca plants for the illicit cocaine trade. The project was implemented to both increase product supply and to improve the incomes and livelihoods of the members of the cooperative. Beneficiaries continued to be among the most productive members of the cooperative,¹⁷ and were considered important role models for recruiting new organic producers. In addition to converting producers to organic cultivation, the project also included a pilot initiative in organic chocolate production. Beneficiaries earned additional utilities from the export of this higher value added product. Following the success of the project, COOPAIN changed its business model to focus on 100% organic cacao production, which is exported in a range of primary, intermediate and processed products (beans, paste, powder, liquor and chocolate) to destinations in Asia, Europe and the United States.

Number of Beneficiaries	Targeted Product	Targeted Stage of the Value Chain	Executing Agency	Funding Proposed (Actual)		Project Duration & End date
				IDB	Counterpart	
200	Organic cacao	Production	Cooperativa Naranjillo	\$100,000 (\$87,307)	\$67,000 (\$127,000)	27 months 2008

¹⁶ Several natural substances can be derived from the stevia plant (scientifically known as steviol glycosides, which includes glucose as part of its structure). One of the best-tasting and sweetest of all the steviol glycosides is high purity Rebaudioside-A (Reb-A), which can be up to 400 times sweeter than sugar. For more information regarding Stevia, please see www.globalstevia.com.

¹⁷ The 200 beneficiaries, just 15% of COOPAIN producers reportedly account for 35% of total organic production today.

Case 4. Strengthening the Competitiveness of Organic Producers in Andean Microwatersheds (Peru)

This project focused on improving the competitiveness of organic¹⁸ fruit and vegetable producers in the Huánuco region of Peru. The project consisted of four components: (1) improve commercialization and supply of organic produce, (2) validate the Participatory Guarantee System (PGS), a regional, multi-stakeholder organic certification process and develop manuals for distribution in other regions, (3) improve both productive and business management skills of producers and (4) strengthen networks and collaboration and cooperation among producers. The projects benefitted 415 organic fruit and vegetables producers who were certified by the PGS; 100 of these producers also received organic certification granted by a third party organization. These 100 producers were able to enter into the national value chain, selling a small amount of their produce in supermarkets in Lima. The amount sold through this channel is estimated to increase in 2012. The remaining 315 producers participated in the local value chain selling their organic products in a local farmers' market and were able to access higher price premiums thanks to the PGS certification. The 415 producers created a consortium to jointly market both fresh and processed organic products. As they do not yet have the relevant management skills to independently operate the consortium, the producers still need the support of the executing agency, Instituto de Desarrollo y Medio Ambiente (IDMA). Funding for this project was provided from four sources (1) IDB-MIF (2) IDMA (3) Regional Government of Huánuco and (4) Fondo de las Americas.

Number of Beneficiaries	Targeted Product	Targeted Stage of the Value Chain	Executing Agency	Funding		Project Duration & End date
				IDB	Counterpart	
415 (100 certified)	Organic Fruits & Vegetables	Production Packing	IDMA (National NGO)	\$397,990	\$264,930	33 months 2011

Case 5. Development of Micro and Small Rural Apicultural Producers (Nicaragua & Honduras)

The project focused on improving the competitiveness of micro and small producers in the Honduran and Nicaraguan beekeeping sector: strengthening value chain actors and activities in each country, improving technical capabilities and improving the supply chain environment by linking actors and creating synergies. The project that ends on August 2012 will benefit around 540 apicultural producers in both countries. In Nicaragua 412 producers across 4 areas received training, while in Honduras the 130 producers were in 2 areas. Beneficiaries included micro (1-20 hives) and small (21-100 hives) beekeeping producers. This is a secondary/complementary occupation for the majority of producers. The project included a cascading training model by which knowledge was transferred from international experts to university graduates, who trained producer leaders who then trained micro and small producers. The teaching format was modified according to the audience. The executing agency, Swisscontact, was very successful in partnering with several organizations working on the same productive sector to create synergies and leverage limited resources. High demand for honey, particularly in Europe, eased sales and led beneficiaries to plan business expansions, however actual growth is complicated by the lack of finance in this sector. In Nicaragua, most honey is exported through intermediaries (exporters and cooperatives) that buy the honey directly from the micro and small producers, while in Honduras, a strong domestic market provided sales opportunities for beneficiaries to local supermarkets.

Number of Beneficiaries	Targeted Product	Targeted Stage of the Value Chain	Executing Agency	Funding Proposed (Actual)		Project Duration & End date
				IDB	Counterpart	
542	Honey	Production	Swisscontact (Intl NGO)	\$982,026	\$448,700 (+\$200,000)	36 months Ongoing 2012

¹⁸ For the purposes of this case study, the word "organic" is used to describe all produce that is cultivated and handled without the use of agrochemicals.

Select IDB-MIF Interventions: Best Practices

From these cases, we extracted three best practices for access to market, access to training and support in developing horizontal and vertical linkages (Table 3). The access to credit component was largely missing or inadequately addressed across these projects. Usually this is a significant constraint for small producers that cannot have access to finance through formal channels. Well-organized cooperatives obtained credit mainly with international lending agencies.

Table 3. Select IDB-MIF Interventions: Best Practices

Intervention Focus	Best Practice
Access to Market	<p>The access to market strategy implemented by the project Supporting the Competitiveness of Central American Coffee was a strong element for linking the small producers with the foreign buyers. The project selected 30 established coffee cooperatives from Central America at the beginning of the intervention. These cooperatives met certain conditions established by the project and had experience exporting their products. These 30 cooperatives were presented to buyers during a coffee fair in the United States. Buyers were informed that the project, implemented by Technoserve (an experienced NGO in the region), would provide technical training to the selected cooperative members in order to raise the quality of the coffee according to the buyers' standards. Based on a three-page profile of each cooperative, buyers selected 10 cooperatives for the pilot project. Cooperatives received the training and awareness was raised regarding the importance of producing a quality coffee in order to enter and receive premium prices on international markets. Buyers received a progress report showing the improvements of the project beneficiaries. Finally, buyers initiated purchase contracts for the coffee from the producers enrolled in the project.</p>
Access to Training (Technical Training)	<p>The project Development of Micro and Small Rural Apicultural created a cascading training model to facilitate knowledge transfer. The training began with a university diploma and ended with field training of the producers. Every student signed a commitment to transfer knowledge to students in the strata below them. As knowledge of apiculture was almost inexistent in Honduras and Nicaragua prior to the project, foreign experts were engaged to teach the first diploma to industry participants, who in turn offered programs to peer trainers, and then to producers. The programs were so successful that a second version of the diploma was offered, although this was no longer free of charge (many of students were then sponsored by institutions: banks, governments, NGOs, etc.) This model includes three levels: In the first level, UNAM-LEON university offered a seven months diploma on apiculture to 35 students in which foreign experts taught 6 modules 1. Technical capacity/production; 2. Sanitary management; 3. Nutrition; 4. Quality; 5. Processing; 6. Commercialization. Local university professors observed the course and were incorporated into the teaching staff with the foreign experts for the second program. In the long term, the entire course will be taught by local professors. In the second level, peer trainers were trained in 3-4 days programs at the university. In this level, 50% of the course content was theoretical and 50% practical. Finally, in the third level, producers participated in training activities in their territories. 70% of the training was practical.</p>
Coordination and Collaboration	<p>Between producers: The project Strengthening the Competitiveness of Organic Producers in Andean Microwatersheds presented a successful case of effectively organizing dispersed producers. In order to obtain the Participatory Guarantee System (PGS) certification, producers were organized in community groups with a lead farmer. While ultimately not successful as a certification tool, the PGS institutionalization did have several positive spillovers including farmer empowerment, development of social capital and strong public and private partnership. This organization allowed the creation of a consortium open to more producers.</p> <p>With actors along the value chain: The project Development of Micro and Small Rural Apicultural Producers had a strong value chain coordination aspect. Industry stakeholders were aligned towards a common objective. They created roundtables per department to facilitate coordination and establish a dialogue between producers and other actors in the value chain (inputs providers, industry experts, exporters, and other supporting organizations) for problem solving and to create opportunities to promote industry growth. Coordination with other value chain stakeholders and round-tables significantly facilitated information flow, drawing timely attention to constraints faced by each actor and providing the opportunity for appropriate solutions to be developed.</p>

V. Lessons Learned

Market approach to interventions

1. A clear **market analysis** of the products that are intended for commercialization is essential to ensure a commercially viable product, an adequate supply and sustainable access to market. This includes a thorough understanding of the product characteristics, certifications and standards that must be met and growth prospects of the market. In the stevia case, exporters involved in the intervention opted to continue to produce a particular variety of the plant, even though there were signals from the market that a different variety would be preferred. This left exporters and producers facing considerable uncertainty. In the organic fruits and vegetables project, opting for PGS certification to supply the national value chain was erroneous given that it was only recognized as an organic certification at the regional level.
2. Producers must be seen as **productive agents of the value chain**, and as such, a fundamental part of each intervention is the development of an appropriate, feasible business plan for producers. Producers should be taught how to analyze and adapt different aspects of this business plan to the realities of the market, such as basic cost and price models. Regular business challenges such as cash flow and human capital management should also be considered.

Beneficiaries differences and implications for intervention design

3. **Not all small- and medium-sized producers are the same.** This is a heterogeneous group with a range of socio-economic and education levels and whose experience both in the cultivation and commercialization differs significantly. These groups require different tools for integration into the value chain. They also have different potential to participate in the chain. These differences must be taken into account in all stages for the project design, implementation and evaluation. For example, the organic fruit and vegetable producers in Peru took three years to organize and produce organic crops at a quality level for sale in their proposed primary market, and were only just beginning to sell their producer there when the intervention came to an end. This necessitated a second intervention.
4. **The length of each program is important.** Some beneficiaries need more initial assistance than others according to their level of development (for example, education, experience and socio-economic levels). There are also some cases in which the interventions will take longer to make an impact. For example, the transition to organic production takes three years for the European market. During this time, producers are unable to market directly to their new clients. Project length should correspond to the time taken for producers to become economically sustainable participants of the value chain.

Competitiveness bottlenecks must be overcome

5. Training must go beyond production techniques to include both entrepreneurial and interpersonal skills components. The combination of these **three training approaches** is important to produce a quality product, to foster producer independence in sales, and to promote effective collaboration amongst producer groups. The most popular element that all interventions included was access to technical training focused on good agricultural practices to raise productivity and quality. However, the entrepreneurial training was not always successfully incorporated in the intervention and many producers continue to lack the skills necessary to run their farms as a business after the project concluded.
6. **Access to market** is often limited by a lack of contacts and business prowess. Inclusive business projects would benefit from the engagement of influential actors, such as the executing agency or the IDB, with important buyers in the sector. The intervention should thus play a **more active role in linking small- and medium-sized players with important buyers** nationally and internationally.

For example, in the coffee case in Central America, although the cooperatives included in the project were already exporting their coffee, connecting the cooperatives with the international buyers at the outset allowed them to circumvent local intermediaries and earn higher returns for their products. It also facilitated the transfer of information regarding buyers' quality requirements to the producers.

7. Developing and empowering producer associations and connecting them with other actors in the value chain is an important step in achieving the necessary **economies of scale for small producers to join national and international value chains**. Many small producers operate on less than 25 hectares of land and often lack the resources to fully develop it. As such, no one producer can produce sufficient quantities to access the market. In the honey project, local cooperatives were linked with larger export cooperatives to further leverage their economies of scale.
8. **Access to credit** is a necessary condition for value chain inclusion. Producers lack resources to invest in new technologies and required infrastructure to upgrade their operations to meet the standards of coordinated global value chains. Access to finance was the Achilles' heel of these projects, only one of the projects facilitated access to finance despite its importance for beneficiaries to enter and sustain their participation on the value chain.

Agency requirements for Implementation

9. **Infrastructure:** the presence or lack of smallholder's individual or cooperative basic equipment and infrastructure can significantly inhibit a project's success. IDB-MIF grants in 4 of the 5 cases did not allow for the purchase of equipment. In the case of the honey, this undermined the producers' ability to expand their supply or upgrade their processing. In the case of the coffee, IDB-MIF funds were matched by cooperative funds in the construction of new infrastructure for processing. This was important in facilitating functional upgrading of the producers.
10. The success of the project execution depends to a large degree on the **local experience and knowledge** of the executing agency. It is often difficult to build trust amongst small producers who are disconnected from commercial chains, or whom have been taken advantage of by intermediaries in the past. In the stevia project, two years into implementation, firms still faced trust issues with their producers, who had been misled by intermediaries in the past.
11. Executing agencies that are not chain actors face important challenges to ensure the sustainability of the smallholder inclusion once they withdraw. External NGOs often take charge of critical administrative or market linkage roles where producers lack the capacity to do so themselves, rather than providing training for these more complex roles. In these cases, an exit strategy that ensures the development of these specific competencies among producer groups is essential. On the other hand, executing agencies that are integrated chain actors can be better positioned for the sustainability of the project.
12. Where possible, **alignment and synergies with other agencies** working in the sector can allow limited project resources to be leveraged considerably and, in turn, to increase the number of beneficiaries of different initiatives. For example, in the honey case, resources were limited for the task of establishing an entire industry. By working with other agencies, the IDB project was able to leverage access to different resources. This also occurred in the case of the coffee project in Central America.

Value chain methodology to interventions

13. Finally, value chain inclusion interventions require a **clear and standardized methodology**. Interventions need a blueprint to guide design and implementation and evaluate impact. These five projects did not intentionally consider the value chain methodology and the four essential elements for inclusion in their design. As a result, a market-oriented perspective with a view to the

producers' competitiveness was missed. The value chain approach allows one to identify the competitiveness bottlenecks faced by small producers, key value chain actors, national/international buyers and certifications and standards required by the chain among others.

VI. Selected Best Practices from Other Development Agencies

While much can be learned from the successes and failures of the IDB programs, there is also a wealth of information to be garnered from the experience of other organizations, including USAID and GIZ, which have been working with value chain interventions for considerable time and have developed standardized and sophisticated methodologies. In this section, we present three specific cases that have been successful in sustainably including small producers in high-value agricultural value chains (Table 4). The first case, Kenya Business Development Services offers an example of working with beneficiaries with relatively low levels of development, as well as providing an example of an intervention which committed the flexibility and length to ensure it success. The second case, the cacao project in Ecuador led by GIZ provides us with an example of a project which intervened with producers later in their development cycle – cooperatives already existed, they had some know-how about production, however, they did not have access to market. This project adjusted to the specific needs of the producers and their stage of development and provided the missing elements to ensure their sustainable entry into the chain. The third example offers a hybrid intervention, where by a commercial actor served as a market linkage firm to connect producers to markets, and specific development agency interventions. While interventions require an integrated approach to achieve sustainable inclusion, this example illustrates how agencies can coordinate with multiple actors to ensure the provision of all key elements.

Table 4. Overview of Best Practices in Value Chain Inclusion Interventions

	Case 1	Case 2	Case 3
	Kenya Business Development Services Project (KBDS)	Promotion of the Organic Cacao Value Chain amongst small producers	CABEXE Smallholder Sesame Production
Country	Kenya	Ecuador	Bolivia
Target Product	Avocados	Organic cacao	Sesame
Approx. no of beneficiaries	20,000	8,000	9,000
Executing agency	USAID – Emerging Markets Group	GIZ	CABEXE
Key markets	Europe	United States	Asia
Stage of the value chain	Entire chain, including support services	Production, Processing	Production, R&D on inputs

Case 1: Kenya Business Development Services Project (KBDS), USAID, Kenya¹⁹

The KBDS project carried out between 2003 and 2008 in Kenya sought to foster small producer access to markets and to the commercial skills and resources necessary to compete in those markets by improving the competitiveness of the avocado value chain. Avocado production was selected due to high export demand, upgrading potential and its relative importance in the domestic market. Numerous producers also already had mature trees. The project provided support and training for the formation of producer groups, initiated linkages with buyers, provided technical training to improve production, worked with a financial institution to ensure access to credit and fostered product, process and functional upgrading. In 2003, at

¹⁹ Information sourced from (Knopp & Smarzik, 2008; Sebstad & Snodgrass, 2008). The project was implemented by Emerging Markets Group.

the start of the intervention, only one exporter purchased from smallholders, but by 2007, 5,320 producers sold avocados under contract to 5 exporters, and 7,771 sold to 3 oil processing firms.

- Project developed with a clear market focus:** KBDS selected avocados specifically to achieve the broader goals of the intervention: (1) there was a clear, strong demand for fresh, high quality Haas avocados globally which provided a primary market;²⁰ (2) a growing demand for avocado oils and the potential to develop processing plants in Kenya could create a secondary market for second grade produce as well as opportunities to add value; (3) Kenyan avocado production was competitive in global markets, accounting for the highest portion of fruit exports. This was due to off-season supply, climate and low transportation costs as produce was shipped by sea to Europe; and (4) consolidated and experienced Kenyan horticultural exporters had a wide range of contacts in European markets.
- Project followed a clear step-by-step process:** First, KBDS approached buyers to ensure market access; second, they worked with producers to help them establish producer groups to achieve economies of scale interesting to the producer; third, they facilitated access to credit for the most cost-prohibitive aspect of production – spraying the trees for disease, while at the same time, comprehensive technical training for different aspects of production was provided. This approach ensured that before the producers assumed the risk of production, there was established access to market and that they had the necessary tools and scale to do so.
- Built-in exit strategy to ensure sustainability:** KBDS strength was that its exit strategy was clear from the start; indeed, the executing agency’s guiding principal was “stay out of the supply chain at all times.” The intervention focused on capacity building for different actors in the value chain, ensuring that all necessary post-project services would be available and creating direct links between the producers and the buyers. Of particular importance was the competitive selection of group management officers from producer groups. These individuals were mentored alongside the KBDS staff, in connecting with buyers, technical skills as well as business and managerial skills. These group managers would later go on to establish independent service firms to provide important market linkage services to connect exporters and producer groups, as well as to serve the role of providing producer groups with group formation training, production forecasting, technical assistance, coordinate spraying, pruning, grafting and other services, and contract negotiation. These firms would have to then overcome challenges of seasonality and vulnerability to weather and disease by diversifying their crops and offering paid services (this had occurred by the end of the project).²¹
- Flexibility in approach allowed response to changing market dynamics:** Recognizing that markets are in constant flux, KBDS’s funding structure allowed them to adapt the project and implement new components as changes unfolded. This essentially allowed them to provide support for the development of the market over a six-year period and to respond to new constraints as they emerged. The intervention began with a one-year pilot to provide a “demonstrator effect” of the value of working in the chain’s development. This also allowed them to work with other agencies to develop synergies and leverage scarce resources.

Table 5 summarizes activities carried out during the project.

²⁰ There was also a strong domestic wholesale market for avocados.

²¹ A critical challenge facing these firms is how to ramp up and cover this investment for group expansion in a manner which least exposes the firm.

Table 5. Kenya Business Development Services Project: An Integrated Approach to Sustainable Inclusion

Access to Market	Access to Training
<ul style="list-style-type: none"> • It was clear that a successful producer-buyer linkage would drive the entire market system and ultimately, the success of the project. • KBDS involved buyers, in this case the exporters, early on by signing memorandums of understanding before even recruiting producers. This generated buy-in, and also highlighted the project's commercial aspect, which was important to overcome donor-fatigue in the area. These large exporters already had significant experience exporting fresh produce to Europe due to the success of the country's fresh vegetable sector. • Initially, given the general lack of preparation of the producers groups, KBDS provided the direct link with these buyers, but at the same time, they selected, trained and mentored group managers from each community to handle communication with the exporter firms and facilitate contract negotiations. • Towards the end of the project, these group managers established independent market linkage firms. To avoid principal-agent problems, the market linkage firm was selected and agreed upon by both the producers groups and the exporter and provided services for both parties. The firms were paid a service fee on a percentage basis of the final contract. 	<p>For producers:</p> <ul style="list-style-type: none"> • A critical focus was placed on entrepreneurial training, that is, production forecasting, where producers were taught how to take inventory of their trees (number, variety, age), and develop projections for the entire season, by month and even week. • Technical assistance was provided by agronomists from the corresponding exporter firm initially, and later by market linkage firms, twice a week. Young men from the village were trained as pickers to assist producers to harvest the correct fruit. Graders were trained in variety, size, and quality requirements. • Farmer group leaders were trained in EurepGAP standards requirements, although certification itself was not carried out as part of the program. <p>For support services:</p> <ul style="list-style-type: none"> • All support services personnel were recruited from the villages of the participating producer groups. • Training was offered on the technical aspects of spraying, grafting and pruning, as well as general business and financial management and marketing skills. • Appreciation for the value of spraying, grafting and pruning services was generated through initiatives including farmer field days, sensitization meetings, and exposure visits. • Market linkage firms were trained in the administrative and managerial skills needed by the producer groups to organize production and work with the buyers.
Chain Collaboration & Coordination	Access to Finance
<ul style="list-style-type: none"> • KBDS initially helped to organize producer groups and to promote cooperation, set up record keeping, manage logistics etc. In total 465 producer groups were created. • Self-selection into the program was key: Producers were given the responsibility to organize themselves into groups of 25-30 producers with a minimum count of 5 trees per farmer. Over a period of 4 months, group formation activities were carried out, and legal status as "Self-Help Groups" was obtained for the groups. • Contracts were signed with the exporter as a group, rather than individually. Charges for services were also made at the group level, and deducted from a group bank account prior to the producer receiving access. Moral hazard issues such as side-selling and other problems were resolved by the group as a whole. • In addition to these horizontal linkages, KBDS also involved different upstream and downstream actors. Over the course of the program, they supported the development of spraying, pruning and grafting services and helped them connect with producers. Uptake of these services was immediate. • They also helped connect financial institutions to the producers. 	<ul style="list-style-type: none"> • Spraying services were by far the most significant expense, as producers had to spray 7 times per harvest cycle. This was prohibitive for small producers with no access to formal credit channels, while it created significant overhead for the exporters when it was incorporated as an embedded service of resource-provision contracts. • KBDS thus encouraged each producer group to establish a bank account with Equity Bank to receive payments by the exporter; in exchange, the bank developed a pilot credit program to provide loans for spraying. Repayment was deducted from the exporters payment prior to distributing funds to the producers. Repayment the first year exceeded 95%. • Equity Bank now extends credit to groups, based on an exporter supply contract and an established history of buying and selling with a lead exporter. Equity Bank is replicating this type of value-chain financing scheme for the delivery of agrochemical spray services in the mango and coffee sectors.

Upgrading:

- **Product upgrading:** Producers planted better quality, Haas avocados.
- **Process upgrading:** producers used spraying and irrigation to reduce disease and climate risk, while improving fertilizer application and lowering overall use.
- **Functional Upgrading:** KBDS supported the development of commercial oil processing firms, providing additional markets for flawed or damaged produce.

Impact and Spillovers:

- Productivity and total production increased. Women (10% of total) increased their productivity faster than the men.
- Quality improved, measured by an increased price paid to the producers - all producers in the program experienced increased prices for their product compared to non-participants. New varieties with higher export demand were planted.
- The project had a demonstrator effect stimulating new entrants, investment, and the emergence of a commercial support services industry. Producers not only saw the value in having direct linkages with the market, but the critical connection was made between active crop management and better sales.

Case 2: Promotion of the Organic Cacao Value Chain amongst small producers in Esmeraldas and Napo, Ecuador. GIZ.

The project used the GIZ Value Links model,²² which focused on improving the efficiency and competitiveness of the selected chain to positively impact the income of specific groups of small producers, and significantly improve sustainable management of natural resources. The project worked with a wide range of actors in Ecuador, however for the purposes of this assessment, we focus on their work with three existing and experienced cacao associations (Aprocane, Kallari and Fonmsoeam) to help them access and upgrade in the global value chain. Each of these associations had been formed with particular community based goals – Aprocane, for example, was formed to protect their land and forests from the advancement of commercial forestry operations by providing the communities with a sustainable alternative to generate income.

- **Supporting producer organizations to consolidate entry into the chains:** This GIZ project worked specifically with established (although still inexperienced) associations, which already had cacao plantations under production to consolidate their entry into the global value chain. This example of later stage interventions is important in ensuring long-term sustainability of organizations. They provided technical assistance where improvements were required for productivity and quality, but their focus was principally on improving the managerial and organizational capacity of the cooperatives to function independently and efficiently as commercial actors in the global organic cacao value chains.
- **Niche product selection and certification:** Ecuador is a world leader in high quality cacao, accounting for 60% of the global production and project beneficiaries had been growing cacao for at least five years. However, conventional cacao is subject to fluctuations in commodity prices. The project therefore focused on further differentiating their produce, with product upgrading into niche segments with certifications. In addition to supporting cooperatives with organic certification, they helped them to

²² See valuelinks.org

obtain the Rainforest Alliance certification for specific high-value markets in the United States. This reduced producer vulnerability to changes in commodity prices for cacao.

- **Sustainability:** There was a clear focus on the three aspects of sustainability. The specific combinations of certifications that were selected, not only increased income, fostering economic sustainability in the long run, but they also had a strong approach to conservation of the environment and improving social equity. Through the Organic and Rainforest certification process, producers learnt how to operate without using agrochemicals, preserve portions of endemic forests on their property, manage their on farm water use and protect the springs and rivers near their properties from contamination.

Table 6 summarizes the key activities carried out during this project.

Table 6. Promotion of the Organic Cacao Value Chain: An Integrated Approach to Sustainable Inclusion

Access to Market	Access to Training
<ul style="list-style-type: none"> • The GIZ project specifically focused on this pillar, approaching buyers as one of the initial stages of the project. • Prior to the cacao project, in 2003, GIZ began working with the import and export promotions corporation (CORPEL), a private organization supporting exports, to facilitate small producer access to market. • While the cooperatives had mostly been producing and selling cacao through intermediaries since 2000, the GIZ project consolidated their position as suppliers to the global value chain by helping the cooperatives to establish direct linkages with buyers. • It supported Aprocane’s promotion trip to fairs in Italy and Germany which resulted in an initial 5 year contract with the buyer, Max Felchen A.G. • It facilitated the linkage between Max Felchin A.G. and Kallari association in 2005 by supporting their participation in BIOFACH fair in Germany. • It also helped the organization to expand and diversify their markets to include additional domestic and international buyers, as well as to upgrade into chocolate production with the Rainforest Alliance certification for sale to Whole Foods supermarkets in the United States. 	<ul style="list-style-type: none"> • Most producers in the project were already experienced cacao producers. • Previous interventions, such as the IDB project with the association, Aprocame, had provided training and technical assistance for the implementation of good agricultural practices, improved harvest and post-harvest management, organic crop management (for certification) and improved environmental management. • A prior two-year training initiative supporting the cooperative, Fonmsoeam, had used field schools to improve crop management and resulting quality. • In some cases, these other initiatives were still ongoing during GIZ’s interventions, and GIZ worked in cooperation with these organizations to provide any additional training that was required to improve the quality of the production. GIZ also worked with the associations to renew their plantations and improve the biodiversity of their land.
Chain Collaboration & Coordination	Access to Finance
<ul style="list-style-type: none"> • GIZ worked with existing producer associations. • These organizations had established as legal entities for at least 5 years prior to the project and horizontal linkages between producers were thus already well developed. • The project’s most important contribution was connecting these associations with other value chain actors, both upstream and downstream, such as the agreement with the National Institute for Agricultural Research to improve plant varieties and the Project for the Development and Defense of Natural Resources to improve forestry management for cacao production. In addition, GIZ helped to foster value chain coordination by establishing roundtables bringing together both public and private stakeholders. 	<ul style="list-style-type: none"> • The access to credit from the formal financial system was almost non-existent. GIZ worked with the buyers to establish advances against the final product delivered to ease these credit constraints. • In several instances, GIZ provided financing for infrastructure developments and improvements to facilitate chain operations. This was usually done 50/50 with the cooperative. • Specifically, financing was provided for establishing and improving collections centers to ensure both traceability and quality of the exported product and improved coordination to provide consistent levels of supply for international buyers.

Impacts and Spillovers:

- Improved productivity, quality, certification and new producer recruitment led Kallari to almost double its number of producers, increase its supply by 400% and the price paid to producers by 60% between 2006 and 2011.

- Acropane increased volumes of sales by five times, slightly more than doubling their number of producers and increasing the price paid by 67%.
- Fonmsoeam joined the project in 2007 and saw similarly strong improvements in production, and a shift from conventional to organic production which accounted for 96% of production by 2011.
- Participants saw an increase in their net income of 43% between 2004 and 2006.
- 10 new cocoa products (Chocolates and other derivatives) were positioned in niche certified or special origin markets.

Case 3: CABEXE Smallholder Sesame Production in Santa Cruz de la Sierra, Bolivia²³

The Bolivian Chamber of Sesame Exporters (CABEXE) is an association of exporters of sesame products established in Santa Cruz de la Sierra, Bolivia in 2005. CABEXE was founded to organize and promote the growth of the sesame industry in the face of increasingly strict standards by strengthening coordination within the value chain. The initiative focuses on strengthening the long-term business relationship between processors and small- and medium-sized producers by fostering the provision of inputs (seeds, fertilizer, etc), technical assistance, credit and guaranteed access to market. The association groups eight exporter firms, each of which works with several cooperatives totaling 7,000 small and 2,000 medium sized producers. The association carries out research and development and promotion of the industry, exploring new market opportunities both domestically and internationally. Information is disseminated through each of the eight partner firms. Partner firms either sell directly to clients or through the association.

- **Competing on quality:** Sesame is a product that can be grown by small and large producers alike, either using traditional unsophisticated methods or new mechanized techniques. However, land ownership in the Santa Cruz de la Sierra department of Bolivia is divided into a series of small, medium and large plots and given that the department has ideal conditions for growing high quality, high purity sesame (99.5%), making it highly competitive in global markets, maximizing the production of all producers, big or small was desirable.
- **Growth through coordination of access to development projects:** CABEXE has successfully leveraged various donor initiatives to drive important growth for its small producers. In 2008, CABEXE received funding from the IDB to help develop and diffuse norms for the production of sesame in Bolivia. This helped to improve the consistency of supply. In 2009, they received USAID funding to institute traceability measures to enable exporters to guarantee the quality and food safety of their products and comply with strict international standards. In 2010, Banco de Desarrollo Productivo de Bolivia and CABEXE began working together to design financial products specifically for small producers in the sesame sector. While this depends on contracts and guarantees from the exporters, it shifts the cost of financing from the exporter to formal financial institutions, freeing exporters to make other capital investments to improve the supply chain.
- **Sustainability:** The organization has been self-sustainable for five years, based on in-kind membership fees. In 2010, the organization sold US\$25 million in exports and US\$1 million in product domestically and has a net worth of US\$100,000. Central to its sustainability has been the organization's proactivity in accessing new international markets and the consolidation of relationships between exporters and producers, particularly by facilitating the transfer of information and technology to producers via technical assistants that work for exporter firms. Exporters benefit by

²³ The information for this case was derived from information supplied by CABEXE for the 2011 FOROMIC Award for Excellence in Business Development: Sustainable Inclusion of Producers in Agricultural Value Chains.

increased reliability and productivity from their producers, while producers benefit from a rise in their income levels.

This initiative includes the four pillars identified to include small- and medium-sized producers to the value chain: access to finance, access to training, access to markets and coordination and collaboration support. Table 7 summarizes the activities carried out during this project.

Table 7. CABEXE Smallholder Sesame Production: An Integrated Approach to Sustainable Inclusion

Access to Market	Access to Training
<ul style="list-style-type: none"> • Each exporter firm guarantees purchase of 100% of the harvest of small producers at a fair and competitive market price. • The association actively works at opening new markets, both domestically and internationally. • Furthermore, the organization successfully incorporated its product in the country's National Prenatal and Breastfeeding program as well as becoming a registered supplier of the WFP emergency aid. • These two initiatives help foster stable long term demand for their products. The association actively seeks out new markets both domestically and abroad on behalf of its membership. 	<ul style="list-style-type: none"> • Each exporter firm sends technical experts to train small producers in techniques for different parts of the production cycle focused on increasing productivity and expanding production where possible. • Technical assistance specifically covers early disease and plague detection and management, effective management of the growth cycle of the plant, good fertilizer use, and general crop management. • The association also holds workshops, lectures, field trips, visits to demonstration farms and manuals to facilitate the diffusion of new information regarding the industry.
Chain Collaboration & Coordination	Access to Finance
<ul style="list-style-type: none"> • The organization is based on principles of collaboration and coordination rather than competition in order for Bolivian sesame to compete globally. The board of the organization successfully convinced individual exporter firms that to survive and grow in the face of global competition, they would have to do so together. • The organization has successfully coordinated a very large number of small growers to leverage a crop with growing global demand and combined it with the continued development of its key Asian markets. • It also has agreements and works closely with numerous chain actors, including upstream actors such as research facilities and universities to improve quality and productivity and institutions focused on supporting exports, such as the Departmental Chamber of Exporters (CADEX) and the Institute of Foreign Trade (IBCE) to continue to strengthen the performance of its producers. 	<ul style="list-style-type: none"> • Initially, the exporter firm provided interest free financing for different stages of production, including land preparation, planting, pest control, harvesting, etc. Inputs, including seeds, fertilizers and pesticides, were provided by the exporter firm on credit. • Access to credit was then improved by the collaboration between Banco de Desarrollo Productivo de Bolivia and CABEXE to develop new financial instruments to integrate small producers in formal financial institutions.

Impacts and Spillovers:

- 9,000 small- and medium-sized producers (1-20 ha) included in the sesame global value chain
- 30,000 tons exported annually
- US\$25 millions in exports in 2010
- Markets include Japan, South Korea, Middle East and Germany
- A small producer can earn on average US\$800 per hectare under production of sesame for the organization.

Lessons Learned:

- 1) **Customization of projects according to the beneficiaries' level of development and trust between different actors are essential for successful inclusion in value chains.** For example, in the avocado and sesame cases, as is often the case, producers were not in a position to work directly with buyers due to a lack of education and sophistication. They required an intermediary to work on their behalf who would not take advantage of them. In the avocado case, the group management officers – who were from the same communities as the producers, but had received training during the project – went on to fill that role. In sesame case, producers were connected to the global industry by the industry association, CABEXE. The producers had to trust that these firms were acting in their best interest, while the buyers had to trust that these firms could successfully coordinate the producers to meet supply requirements.
- 2) **Find innovative ways to perform value chain activities.** In the avocado case, exporter firms initially provided the expensive spraying services to the producers on credit. However, due to the significant cost of these services, they began to explore alternative options for this service and by collaborating with the banking sector, independent fee-based spraying firms were established. In the cacao case, GIZ worked to fill in gaps that were not covered by previous intervention programs – namely to strengthen the managerial and organizational skills of the associations – but they also helped provide financing for the construction of collection centers.
- 3) **Paying close attention to value chain market standards requirements is essential for securing access to market.** All three cases highlighted the importance of meeting market standards requirements. While only the organic cacao case required certification of processes by a third party, all three cases included measures to improve traceability and quality according to national and/or international standards.
- 4) **Achieving access to formal credit lines through financial institutions is possible, but requires the support of other actors, such as the executing agency and the buyer.** Due to information asymmetries regarding repayment potential of small producers, financial institutions are often reluctant to extend credit to these groups. However, pilot projects organized between the buyer, the executing agencies, producer groups and banks were very successful in both the KBDS and CABEXE cases. Indeed, in the KBDS, the pilot credit program was so successful that the bank extended it to include mango and coffee producers.
- 5) **Sustainability as a driving principle of projects from initial design through completion is important for long-term success.** The cacao case highlighted that the cooperatives that had received considerable support from development agencies in their early stages of development were not yet in a position to sustainably remain in the value chain, and the initiatives carried out by GIZ were essential to consolidate the inclusion of these actors in the market, or the initial investments from other agencies would have been lost. Likewise, the exit-strategy emphasized in the avocado case, in which the executing agency steered clear of directly filling value chain roles, was important to ensure that all of the required roles would be filled by commercial value chain actors once the intervention concluded.

VII. Conclusions

Despite the concern that small producers are being excluded from high-value agro-food value chains, these producers can play a competitive role in national and global value chains. Micro beekeeper producers in Nicaragua are exporting honey to Europe, vulnerable fruit and vegetable producers in Peru are selling their organic produce to big chain supermarkets in the country's capital, and small cacao producers –some of them previously coca producers- are exporting their organic production to international markets.

Under the lenses of the GVC framework, we have proposed a “holistic” intervention model to sustainably include small- and medium-sized producers in these national and global value chains by mitigating key constraints that these producers face in developing countries. These constraints, which include linkages to market, knowledge and expertise, scale, financing and organization, must be overcome for producers to become competitive contributors to the high-value agro-food markets. The model is based on four pillars that will provide producers with the instruments to participate and compete in value chains: access to market, access to training, coordination and collaboration building and access to finance.

After analyzing a number of IDB-MIF interventions and other projects led by international donors, we draw four key groups of lessons for future programming: First, we find that a market approach which considers these producers as “productive agents” is essential to success. All interventions should begin with an exit strategy, that is, once the project comes to an end, all necessary conditions must be met for producers to continue to supply the value chains in a competitive and sustainable way as independent market actors. These conditions include improved production and quality through training and meeting the specific requirements of buyers. Second, understanding that differences exist in groups of small- and medium-sized producers is vital to designing an effective intervention. Some producers have more experience, greater financial resources and are better organized than others. Appreciating these differences helps to accurately determine the length and content of the required project interventions to have sustainable impacts. Third, holistic interventions to overcome major constraints to competitiveness tend to be more successful than those that solve constraints one at a time. Fourth, the executing agency must have sufficient local experience and expertise to generate trust amongst both producers and value chain stakeholders alike.

Finally, projects should have a clear value chain approach, taking into full consideration the chain actors, buyers requirements, the opportunities to add value, establishes linkages, etc. Markets are highly competitive and failure to pay attention to these details can lead to unsustainable initiatives in which producers could be pushed out of the chain as soon as the intervention is over.

VIII. Bibliography

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