Partnership for Growth: Linking Large Firms and Agro-Processing SMEs
Acknowledgements

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Executive Summary

This report presents lessons learned from various models that public and private sector programs use to stimulate growth of agro-processing small and medium enterprises (SMEs) through linkages to larger firms in developing countries. The study considers the unique barriers that SMEs face and the market-driven approaches spurring SME growth by facilitating linkages to lead firms in challenging development contexts which might serve as a reference for policymakers, development practitioners, and private sector actors. The report presents approaches to successful, sustainable program design for public and private sector–led initiatives, in an effort to enrich the knowledge available to expand the opportunities for agro-processing, and to attract lead firms to partner with smaller ones.

The study used a three-pronged approach to data collection, analysis, and synthesis. First, a literature review was conducted to identify results and outcomes of recently implemented lead firm–SME linkage programs. Second, the literature review helped identify examples of initiatives focused on linking lead firms and agro-processing SMEs in 56 countries in Africa, Asia, Eastern Europe, and Latin America. Data from 66 projects were examined in a meta-analysis to refine the findings from the literature review. Finally, six linkage initiatives with a broad range of projects in numerous locations were selected for in-depth analysis and inclusion in the report as case studies.

The literature review, six cases studies, and 66 linkage initiatives (40 in Africa and Asia) analyzed in the meta-analysis provide the empirical basis for the conclusions drawn in this study. The sample population included 15 top-down linkage initiatives and 51 bottom-up and industry-wide initiatives. The linkage initiatives included products processed from a wide range of raw materials, including fruits, vegetables, dairy, livestock, nuts, extracted oils, grains, legumes, coffee, cacao, and flowers.

The projects were selected based on the following criteria:

- Does the project target incorporated SMEs directly as beneficiaries of supplier development programs, as opposed to smallholder farmers’ associations?
- Does the project target SMEs that in the agro-processing sector specifically, as opposed to organizations that are involved in more primary agricultural activities?
- Does the project work directly with a lead/anchor firm, and through that firm’s supply chain to target SMEs from a supplier development perspective?

The majority of programs that feature these raw materials were bottom-up and industry-wide initiatives. Linkage development without a specific sector focus was next most common, although this orientation is confined to PPPs and publicly supported initiatives. Coffee and cacao were the most-frequent raw material targets of PPPs, although many cacao and coffee-based linkages were private sector led. Dairy and livestock linkages were primarily publicly supported.

The projects reviewed in the study were SMEs engaged in a range of processing activities that qualify as Level 1, 2, or 3, according to Austin’s (1981) four levels of agro-processing1.

Lead Firm–SME Linkages

Lead firm–SME linkages are relationships between large companies (lead firms) and SMEs with agro-processing capacity in which the role of the lead firm is to create a mutually beneficial supply chain structure to penetrate new markets, expand market share, or increase profitability. Often these linkages occur naturally. The ability of SMEs and lead firms to
to achieve real business benefit from the relationship motivates, and ultimately sustains, the relationship.

In developing countries, there are many obstacles to these linkages. For example, lead firms may decide that the risks and costs of a linkage initiative outweigh the benefits. SMEs may not have the knowledge, technology, or capacity to contribute agro-processed products to the lead firm’s supply chain in a cost-efficient way or to adhere to quality standards. Supply chain risks and constraints such as logistics gaps, poor infrastructure, poor communications, a restrictive enabling environment, and lack of finance can stifle a lead firm’s attempts to link with SMEs in developing countries. When linkages between lead firms and agro-processing SMEs do not occur naturally, the public sector or international donors may wish to encourage the formation of successful linkage initiatives.

Motivations for Public Sector Involvement

There are two principal motivations for public sector facilitation of these linkages. First, development practitioners increasingly identify the growth of the agro-processing sector as a way to achieve sustainable economic growth. Second, these linkages can be fast, effective ways to improve domestic practices, stimulate agro-processing firm capacity, and expand crop production. The initial motivation for public sector involvement in supporting business linkages is based on the agro-processing sector’s potential to stimulate economic activity by creating on- and off-farm employment and demand-pull for agricultural production and associated inputs and for support services. The food and beverage processing subsector has by far the most potential for economic transformation for lower- and lower-middle-income countries. The global trend of increasing demand for processed agricultural products has led to growth of agro-processing sectors and offers competitive opportunities for SMEs in new, growing markets. An internationally competitive agro-processing sector also contributes to more-efficient use of resources and improves food safety. The structural transformation that occurs through a growing agro-processing subsector can catalyze knowledge and technology spillovers into other manufacturing subsectors.

Types of Lead Firm–SME Linkage Initiatives

Three categories of linkage initiatives were derived from the analysis conducted for this report: top-down, bottom-up, and industry-wide.

Top-down initiatives are tailored to the needs of lead firms and have strong leadership from them. They work backwards in the chain to build the capacity of SMEs to fulfill the needs of lead firms. There are two common subcategories of top-down initiatives: —(a) privately led, which the lead firm’s own business objectives often motivate entirely and may emerge organically as part of a firm’s normal supplier development business operations, and (b) a combination of public and private cooperation; referred to herein as public–private partnerships (PPPs), which the private sector often leads, although they may have characteristics of top-down and bottom-up initiatives. The active role of the lead firm and the public sector in the design and financing of the program distinguish PPPs from other top-down linkage initiatives. The lead firm and supporting entities (consulting firms, nongovernmental organizations, governmental agencies) usually implement these initiatives.

Bottom-up initiatives customize instruments to the needs of SMEs to position them as suppliers to larger firms that may or may not have been pre-identified. These programs often focus on nascent industries and may be implemented in preparation for a top-down initiative. Most bottom-up initiatives are publicly managed and involve a variety of SMEs and intermediaries.

Industry-wide initiatives promote broader competitiveness in the agro-processing subsector (or a specific value chain). They are often a combination of top-down and bottom-up initiatives and business-enabling environment reforms (e.g., facilitation of business linkages between lead firms and SMEs as an end goal).

Activities under linkages initiatives focus on improving coordination among value chain actors to affect shared goals and might include shared infrastructure in corridors, zones, or parks; investment in infrastructure; specific trade, tax, or investment reform; greater access to financial services and information; investment in innovation and entrepreneurship; and enforcement of norms and standards. Most industry-wide initiatives have some public or international donor support.
Linkage Program Feasibility

The key to the success of programs that facilitate relationships between lead firms and agro-processing SMEs is respecting and harnessing the private sector’s primary motivations for commercial linkages. Four commonsense recommendations emerged as integral to successful linkage programs:

• Embark on a linkage initiative only if there is an identifiable profitable market opportunity.
• Ensure that the capacity of supply chain stakeholders is such that participants can respond meaningfully to business incentives.
• Have reasonable assurances that enabling environment constraints can be resolved.
• Ensure the design of the initiative yields real business benefits for the SME and lead firm.

Critical success factors for linkages projects include:
1. Clear definition of project objectives
2. Clear and appropriate roles
3. Key partner selection
4. Cost-share leverage
5. Implementation instruments, including phasing with agricultural cycles
6. Timeline for linkage initiatives

The following principles provide guidance for structuring successful initiatives that aim to strengthen linkages.

• Focus the role of the public sector on facilitating and strengthening the enabling environment.
• Engage directly with lead firms in the spirit of partnership and facilitation, with the lead firm providing substantial leadership.
• Clearly articulate roles and responsibilities.

Selecting the appropriate business partners (SMEs, lead firms) is central to achieving results. Research from this analysis confirms that it is important to select firms with sufficient capacity and willingness to undertake change. Selection criteria for lead firms and SMEs include sufficient capacity, potential to improve and grow through existing assets, access to investment and working capital, annual revenues, and certifications, particularly for SMEs.

Designing a Linkage Program

The study discusses key design features of linkage projects and highlights successful strategies based on project experiences. It is focused largely on the perspective of the public sector but is relevant and adaptable to private enterprises that wish to pursue a supplier development program with agro-processing SMEs in developing countries. Sustainability is considered throughout and woven into each design consideration.

Implementation Instruments

A wide range of implementation instruments are available to encourage or strengthen linkages between lead firms and agro-processing SMEs, including supplier association development, cluster development, advisory services, training programs, facilitation of business meetings, policy and regulation changes, tax incentives and regimes, contracts and advanced purchase agreements, and firm financing.
Results Measurement

From an examination of the meta-analysis and case studies, we can draw some broad conclusions about project indicators.

1. Overall, PPPs and bulk product linkages achieve the greatest per-project results in several categories. In terms of SMEs and number of farmers reached and SME overall sales revenues, PPPs achieve the greatest average results.

2. Industry-wide initiatives gave the highest cost–benefit ratios for SMEs financed and sales facilitated. Sustainability was strongest with the privately led initiatives, with 46% describing their sourcing relationships as on-going. Of the initiatives with public funding, the PPPs achieved the highest sustainability rate, with 38% recording continued supplier development initiatives and sourcing relationships without public support. The sustainability is greatest when the key actor required to make this work (the buyer) is involved from the very start and hence fully involved in design based upon their specific needs and requirements. Nevertheless, it should be noted that in this sample, less than half of all initiatives resulted in ongoing sourcing relationships in the medium- to long-term; this likely indicates the extremely challenging nature of developing long-term sourcing relationships, even in the best of scenarios.

The literature reviews and meta-analysis revealed interesting trends in the differences between publicly and privately driven approaches. Private sector lead firms tend to prefer smaller, tighter supplier bases, cultivating relationships with fewer yet stronger supplier networks. This tends to keep the number of SMEs reached lower for private interventions than for public ones (and consequently the numbers of farmers reached). There is a positive relationship between project duration and number of SMEs reached. Public initiatives are often regional and may be more inclined towards farmer outcomes and often result in more farmers reached, whereas private sector linkage projects are primarily focused on SMEs as processors and aggregators.

1. Introduction

Increasing the participation of SMEs in economic activity in developing countries through expansion of agro-processing sectors can create enormous opportunities for market-led economic growth, in turn leading to increases in efficiency and productivity of agricultural value chains and eventually to structural transformation. The focus on agribusiness value chains is timely, with agribusiness sectors worldwide benefiting from greater international integration of value chains; increasing demand from growing middle-income populations; and greater attention to food quality, security, and safety. (Food and Agricultural Organization 2017; Reardon 2015; McMillan and Rodrik 2011), although the linkages between value-adding agro-processing SMEs and the lead firms that stimulate this agro-processing-based economic growth are not well understood and have not been the focus of much research (UNCTAD 2013).

BOX 1: DEFINITION OF TERMS

Agro-processing, for the purposes of this study, refers to the action of adding value to raw agricultural material through product transformation grading, sorting, washing, packaging, storage, and distribution. Firms that do not add significant value beyond production and aggregation (collecting and sorting) were not considered for this study.

Small and medium enterprise refers to a private enterprise operating in a developing country. Definitions of “small” and “medium” vary according to country, although the International Finance Corporation provides a standard global definition based on a firm’s employees, sales, and assets. Producer organizations may be included if they add significant value beyond primary production or aggregation.

Lead firm refers to a large, dynamic business that has an established market presence at the national, regional, or international level. Examples of lead firms include supermarket chains requiring finished products, industrial food and beverage manufacturers and global traders requiring semi processed products, and hotels and other food service providers.
Instead, the policy dialogue has long been focused on crop production, on-farm improvements, agricultural value-chain development, and industrial growth, leaving a gap in the understanding of the contributions that agro-processing and logistics can make to economic development and value chain competitiveness, particularly in lower-income countries. Analysis of this sector reveals that the middle segment of value chains, such as processing, logistics and wholesale functions, make up 30 to 40 percent of the value added to food value chains (Reardon 2015), but these elements appear to be substantially absent from mainstream discussion.

To explore this important aspect of agribusiness, the World Bank Group undertook a study with three analytical components to identify existing knowledge about lead firm–SME linkages. First, a literature review was conducted to identify the results of lead firm–SME linkage programs, what lessons have been learned, and what models are emerging to guide such programs. Second, a literature review identified 66 examples of initiatives focused on linking lead firms and agro-processing SMEs in 56 countries in Africa, Asia, Eastern Europe, and Latin America. Data were examined in a meta-analysis to add to and refine the findings from the literature review. Third, six linkage initiatives were selected from the 66 examples and analyzed in-depth as case studies to derive detailed contextual insights.

This document provides a summary of the aggregate findings from the literature review, the meta-analysis, and the six case studies. Guidance notes were developed for policymakers and implementers of lead firm–SME linkages to provide practical guidance when implementing a lead firm–SME linkage.

## 2. What Are Lead Firm-SME Linkages?

### 2.1 Definitions and Theoretical Foundations

The United Nations Conference on Trade and Development (UNCTAD) describes business linkages between SMEs and lead firms as **mutually beneficial arrangements** whereby domestic and international lead firms “benefit from linkages with domestic firms because these linkages can reduce costs; enhance access to local tangible and intangible assets; increase affiliates’ specialization and flexibility; adapt technologies and products better and faster to local conditions; and facilitate ‘rooting’ in the local setting” (UNCTAD 2004, p. 3).

A joint study by Harvard University and the United Nations Industrial Development Organization (UNIDO) uses a broader scope in its definition of business linkages, incorporating backward linkages through procurement of raw and processed material, forward linkages such as sales and distribution (access to markets), and horizontal linkages for industry-level collaboration (Jenkins et al. 2007).

This report draws primarily on the UNCTAD (2004) definition above and the linkage between lead firms and agro-processing SMEs in developing countries, emphasizing the role of lead firms in working with SMEs to create a mutually beneficial supply chain structure with the objective of penetrating new markets, increasing market share, or increasing profitability.

### 2.1.1 Private Sector Motivations

The ability of SMEs and lead firms to both benefit from the relationship motivates, and ultimately sustains, the relationship (UNCTAD 2004). 

**Motivations for the Lead Firm.** Business benefits for lead firms include sales or profit growth through access to new markets, increased product volume, better quality, greater product differentiation or innovation, lower costs and fewer losses, more timely
delivery, and lower supply and supply chain risk. If there is no tangible, quantifiable benefit from linking, lead firms will not have an incentive to be supportive partners or catalysts for change (Lusby 2008).

**Motivations for the SME.** Similarly, if there is not a quantifiable business benefit to linking with the lead firm(s), SMEs will not be motivated to improve performance. Business benefits for SMEs include increased sales or profits through access to new markets, enhanced skills and standards, and more-stable relationships with buyers and suppliers. A detailed list of business benefit motivations is presented according to firm type in table 1.

Business benefits differ for lead firms and SMEs. The linkage arrangement must serve the needs of each so that both have incentives to enter into constructive, mutually beneficial relationships.

**2.1.2 Barriers to Formation of Linkages**

Although agro-processing activities in developing countries are expanding, business-to-business relationships between lead firms and agro-processing SMEs are often constrained (Reardon 2015). Specifically, the presence of a lead firm in a supply chain serviced by agro-processing SMEs, and the presence of realizable benefits from linking, may not in themselves be sufficient to ensure linkage formation. SMEs may not have the knowledge, technology, or capacity to contribute agro-processed products to the lead firm’s supply chain. Supply chain risks such as logistics gaps, poor infrastructure, enabling environment constraints, and other factors can stifle lead firms’ attempts to link with SMEs in developing countries. If the barriers to linkage are too great, lead firms will often pursue an “in-house” approach by integrating vertically so as to control supply chain quality, costs, and supply; seek higher-cost, more-reliable suppliers in more developed economies; or even leave a supply chain altogether. Often the lead firm considers the vertically integrated supply chain to be the lowest-cost, lowest-risk solution, yet with each additional activity that the lead firm manages, there is a lost opportunity from a local economic development perspective. This report starts with the hypothesis that these relationships are desirable precisely because they can present win/win solutions for both SMEs and lead firms, and sets out to test this hypothesis with an empirical review. As the meta-analysis and cases will demonstrate, lead firm-SME linkages are not always win/win, the reason for which lead firms may incline toward vertical integration at times. When such linkages do not form organically, outside support from the public sector or NGOs can provide capacity-building that allows these relationships to develop into win/win scenarios for all parties.

**2.1.3 Motivations for Public Facilitation**

There are two principal motivations for public sector facilitation of linkages. First, development practitioners have increasingly identified growth of the agro-processing sector as a way achieve sustainable economic growth (Reardon 2015; FAO 2012; FAO 2017). Second, lead firm–SME linkages can be one of the fastest, most-effective ways to upgrade domestic practices, increase firm capacity, and expand crop

**TABLE 1: SME - LEAD FIRMS MOTIVATION FOR LINKAGES**

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<th>SMEs</th>
<th>Lead Firms</th>
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<tr>
<td>• Enhanced skills, standards, productivity, and innovation</td>
<td>• Reduced procurement, production, and distribution costs</td>
</tr>
<tr>
<td>• Access to new domestic and foreign markets</td>
<td>• Improved or maintained competitive edge by improving timeliness of delivery and/or increasing quality</td>
</tr>
<tr>
<td>• More-stable relationships with buyer and possibly producer organizations</td>
<td>• Enhanced reputation and local license to operate</td>
</tr>
<tr>
<td>• Risk sharing through joint funding or operations</td>
<td>• Reduction of foreign exchange needs through import substitution</td>
</tr>
<tr>
<td>• Improved access to finance</td>
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production. (AFE 2014; Ahmed and Hendry 2012; Da Silva et al. 2009; FAO 2017; Jenkins et al. 2007; Reardon 2000; Ruffing 2006).

The initial motivation for public sector involvement in supporting business linkages comes from the agro-processing sector’s potential to stimulate economic activity by creating on- and off-farm employment and demand pull for agricultural production and associated inputs and for support services (da Silva et al. 2009). The food and beverage processing subsector has by far the most potential for economic transformation for lower- and lower-middle-income countries. Local products that locally owned (and largely informal) SMEs process dominate most domestic food markets (Reardon 2015). In contrast, export food markets are highly structured, often with high entry costs to meet industry standards.

The demand for processed agricultural products (and for related, innovative forms of packaging and sales) has grown, responding to demand for preservation and convenience. This results from global trends such as growing middle-income populations, urbanization, participation of women in the workforce, and presence of supermarkets and greater competition driving supply chain diversification, product innovation, differentiation, and opportunistic market expansion (Reardon 2015; McMillan and Rodrik 2011).

These global trends have encouraged the growth of agro-processing sectors and offer competitive opportunities for SMEs through development of new, growing markets. Agro-processing also contributes to the more-efficient use of resources and offers improvements in food safety. The structural transformation that occurs through a growing agro-processing subsector can also catalyze knowledge and technology spillovers into other manufacturing subsectors (da Silva et al. 2009). Publicly supported lead firm–SME linkages have a wide range of objectives (figure 1) (CIPS 2013).

**FIGURE 1: OBJECTIVES OF PUBLIC LINKAGE INITIATIVES**

- Poverty reduction
- Job creation
- Move up value-chain (i.e. retain more value-added activities in country)
- Support infant industry
- Multiplier effects (particularly by creating demand-pull for raw materials and services)
- Gender empowerment
- Decentralization
- Improve health / nutrition
- Make industry more attractive to trade and investment with lead firms
- Technological upgrading
- Skills upgrading
- Build capacity to meet specific industry standards (e.g. quality, labor conditions, sustainability)
- Reduce barriers to entry for agro-processing SMEs
- Improve enabling environment (policy and physical infrastructure)
- Raise ROI of firm-specific investment
- Direct investment in certain value-chain gaps (e.g. packaging, value-addition, logistics services, R&D, innovation networks)
- Improve coordination constraints and asymmetric information

Source: Literature Review
2.2 Types of Lead Firm–SME Linkage Initiatives

Linkage initiatives are categorized into three distinct approaches based on their mechanism of action and delivery: top down, bottom up, and industry-wide (figure 2).

2.2.1 Top-Down Initiatives

Top-down initiatives are tailored to the needs of identified lead firms and have strong leadership from the lead firms. They work backward in the chain to build the capacity of SMEs to fulfill these needs.

There are in general two subcategories of top-down initiatives—those that are completely privately led and those that have a combination of public and private cooperation (PPPs). The lead firm’s business objectives are often the sole motivator of privately led initiatives, which may emerge organically as part of a firm’s normal supplier development business operations.

The private sector often leads PPPs, although they have characteristics of top-down and bottom-up initiatives. The active role of the lead firm and public sector lead firm(s) in the design and financing of the program distinguish PPPs from other top-down linkage initiatives. The lead firm and supporting parties (consulting firms, nongovernmental organizations, governmental agencies) often implement these initiatives. Discussion about PPPs has increased in recent years because of their unique ability to secure commitments from private enterprise for developmental benefits, with governmental oversight and commitment (WB 2014; McKinsey 2009; AbdulSAMad et al. 2015).

2.2.2 Bottom-Up Initiatives

Bottom-up initiatives customize instruments to the needs of SMEs to position them as suppliers to larger firms. These programs often focus on nascent industries and may be implemented as preparation for a top-down initiative. The vast majority of bottom-up initiatives are publicly managed, according to the meta-analysis.

FIGURE 2: TYPES OF LEAD FIRM - SME LINKAGE INITIATIVES

![](image)
2.2.3 Industry-Wide Initiatives

Industry-wide initiatives assume the broader objectives of promoting industry-wide competitiveness in the agro-processing subsector (or sometimes a specific value chain). These initiatives are a combination of Top Down and Bottom Up initiatives, along with a focus on improving the underlying policy framework and business environment. Aspects of business environment reform often include facilitation of business linkages between lead firms and SMEs as the end goal but might not engage directly with either type of firm or customise products for either group. These activities are instead focused on improving coordination among value chain actors to effect shared goals and include a wide range of instruments: shared infrastructure in corridors, zones, and parks; investment in quality infrastructure; trade, tax, and investment reforms; access to financial services; addressing information gaps; investment in innovation and entrepreneurship; and establishing or enforcing norms and standards. The meta-analysis showed that most industry-wide initiatives have some element of public or international donor support. Box 2 provides examples of these types of linkage initiatives.

2.3 Empirical Foundations for Linkage Initiatives

2.3.1 Meta-Analysis

The following sections are based on a meta-analysis of 66 initiatives focused on linking lead firms and agro-processing SMEs, from across various development organizations, government initiatives, and pure private sector approaches. The research team for this report reached out to development organizations and private sector actors to take stock of past public and

BOX 2: EXAMPLES OF LINKAGE INITIATIVE ACCORDING TO TYPE

The meta-analysis and case studies examined 66 projects. Below are examples of projects.

Top-down initiatives: A number of projects involving large multinational cocoa companies were studied in the meta-analysis (Stella Bernrain in Peru, Rigak in the Dominican Republic, Barry Callebaut in Ivory Coast). These projects all have some element of a privately led initiative focused on the lead firm’s needs—supporting local SME cocoa processors’ associations with training and providing financing, infrastructure investments, and traceability improvements to support sustainability in their supply chains. The projects are considered top-down because they are focused primarily on the needs of the lead firms and are run through the lead firms’ supply chains.

Bottom-up initiatives: The meta-analysis surveyed several World Bank projects focused on improving the overall competitiveness and productivity of SMEs in select sectors, often implemented in partnership with a government agency and with specific SME-focused goals in mind such as productivity improvements, encouraging entrepreneurship among special groups such as youth and women, and upgrading skills and access to new information. Examples of these projects are the creation of an enterprise development center in Chad (WBG P554685), a women’s entrepreneurship development project in Ethiopia (WBG P122764), and a micro, small, and medium enterprise development project in Guinea (WBG P12844). This is a common approach to linkage development for a government agency or a trade and competitiveness project implemented by a multilateral organization such as the World Bank.

Industry-wide initiatives: A classic example of an industry-wide project is one that is focused on a specific industry or cluster and may involve elements of top-down and bottom-up initiatives, along with assistance to support organizations, government agencies, and business environment reforms. A U.S. Agency for International Development (USAID) program, the Regional Quality Coffee Program for Central America (Guatemala, El Salvador, Nicaragua, Costa Rica, Honduras, Panama, Dominican Republic), illustrates this mechanism. The project worked with national coffee organizations, government agencies, producers’ associations, and potential lead firm buyers to increase productivity and improve business practices along the supply chain.
private programs that aimed to enable the growth of agro-processing SMEs through linkages with larger firms. While the sample contained in the meta-analysis does not include all possible projects, it does represent a robust attempt at finding an illustrative sample of relevant projects. Projects were selected based on the following criteria:

• Does the project target incorporated SMEs directly as beneficiaries of supplier development programs, as opposed to smallholder farmers’ associations?

• Does the project target SMEs that in the agro-processing sector specifically, as opposed to organizations that are involved in more primary agricultural activities? What is the level of value that is being added in the processing/manufacturing activities of these firms?

• Does the project work directly with a lead/anchor firm, and through that firm’s supply chain to target SMEs from a supplier development approach or does it merely work to improve the quality of SMEs in service of accessing markets without a specific lead firm in mind?

The team reached out to development organizations and the private sector to take stock of past public and private sector programs that aimed to enable the growth of agro-processing SMEs through linkages with larger firms and selected 66 projects from in 56 countries in Africa, Asia, Eastern Europe, and Latin America that met the selection criteria mentioned above. See Annex II for more information on the 66 projects.

Projects in the meta-analysis: Several products and lead firms recorded more than one linkage initiative with SMEs. Asia, Africa, Europe, and Latin America each had two or more initiatives (figure 3). Fourteen countries are represented in Asia, 25 in Africa, 13 in Latin America, and four in Europe.

Top-down private sector–led projects were found principally in Africa and Latin America and somewhat less in Asia (figure 4). Bottom-up initiatives were found in Asia and Africa and to a lesser extent in Europe. Industry-wide linkage initiatives were fairly evenly spread across Africa, Asia, Europe, and Latin America. The public sector supported the European initiatives, which were more focused on supermarkets and higher value added than those in Africa, which were more focused on export quality of minimally processed bulk products.
Figure 5 shows the objectives of different initiatives according to type. Improving productivity and competitiveness is the major goal of industry-wide initiatives, followed by market linkage creation. The main objective of bottom-up initiatives is to create market linkages, followed by improving productivity and competitiveness. The main objective of top-down initiatives is to improve quality, with a second objective of lowering costs. The major objective of PPPs is to create market linkages, followed by increasing income. Private sector participation in top-down initiative was from companies’ business units and corporate social responsibility units. For example, linkage initiatives were managed from business units for Alquería Dairy in Colombia and Olam’s cashew project in Côte d’Ivoire. Olam had another project in Côte d’Ivoire for cocoa that was managed from a corporate social responsibility unit.

2.3.2 Linkage Initiatives According to Product Type

Brown (1994, p. 65) defines agro-processing as “an operation or series of operations performed on a raw material to change its form or composition.” Most processing methods for agricultural products focus on preservation or separation (Brown 1994). Preserving products by drying, fermenting, and cooking makes them less susceptible to deterioration. Separation isolates certain elements such as flour or oil from the primary natural product (seed) using solvents or mechanical processes. Austin (1981) describes four categories of agro-processing organized according to complexity of transformation (figure 6).

The projects reviewed in this study involve SMEs engaged in a range of processing activities that qualify as Levels 1, 2, and 3. Level 1-type processing by the SMEs is most common in the cases studied (42%), but there are SMEs engaged in Level 2- and 3-type processing. Level 1 processing most common among top-down and PPP initiatives in part because many lead firms want to source a wider range of suppliers of minimally processed products.
FIGURE 5: INCIDENCE OF OBJECTIVES ACCORDING TO INITIATIVE TYPE
At the same time, top-down initiatives are interested in differentiating their products in the marketplace and hence seek specialty products such as “fair trade” coffee, shade cocoa, and high-quality jasmine rice. Level 4 processing does not take place in this study’s initiatives. One thing to note about lower levels of processing, is that Level 1 and 2 processing are typically less capital-intensive, and thus the operations provide fewer resources which might be used as collateral, reducing opportunities for expanding access to finance. For this reason, lower levels of processing may present the need for alternative financial instruments to fund upgrading of SME capacity as compared to higher levels, where collateral is more readily available as a means to secure access to commercial finance.

Figure 7 shows that the greater the extent of private sector involvement, the lower the processing level of the participating SME. Industry-wide and bottom-up initiatives tend to have a mix of processing levels.

2.3.3 Raw Material Classification

The linkage initiatives include products processed from a wide range of raw materials, including fruits, vegetables, dairy, livestock, nuts, extracted oils, grains, legumes, coffee, cacao, and flowers. Linkage initiatives based on fruits and vegetables are the best represented in this study (figure 8). Most programs that process these raw materials are publicly supported. Linkage development without a specific sector focus is next most common characteristic, although this is confined to PPPs and publicly supported initiatives. Coffee and cacao are the most-frequent raw material targets of PPPs, although the private sector leads a plurality of cacao- or coffee-based linkages. Dairy, livestock, and oils linkages are primarily publicly supported.

It is worth noting that the meta-analysis revealed a trend that shows successful food crop linkage programs are mostly publicly-supported, while PPPs and privately-led initiatives have tended to focus on cash crops (cocoa and coffee are common for PPP and lead firm initiatives).

**FIGURE 6: LEVELS OF AGRO-PROCESSING**

![Diagram of levels of agro-processing](source: Austin, 1991 p.2)
The reason for this may be that food crops often involve geographically-dispersed and weak supply chains, where public support may be necessary as a pre-requisite, due to the lack of initial private sector interest. In addition, there may be social or political pressure for the public sector to be involved in supply chains that have implications for food security and farmer welfare. Where cash crops tend to involve smaller, tighter supply bases, lead firms may see a more direct or obvious entry point.

Partnership structures reflect the strength and sophistication of the specific agro-processing industries. The meta-analysis found that most linkage programs in developing countries, including publicly led, privately led, and PPPs, are organized around improving the quality and quantity of bulk products. Processing of these products (e.g., coffee, cacao, oils, nuts, grains, fruits, vegetables) usually entails minimal technological sophistication, with the aim of partially processing or preparing raw materials to make them more transportable for lead firms. Geographically dispersed smallholder farmers involved in weak and fragmented value chains produce many of these products.

Global demand for these products is generally increasing, as are quality and traceability requirements. Publicly led programs tend to focus on higher levels of processing in an effort to increase investment in greater value-added processing capabilities in developing economies. Privately led initiatives and PPPs tend to focus on improving raw material collection and other agro-processing activities (figure 9).
FIGURE 8: COMMODITY INCIDENCE ACROSS POPULATION OF INITIATIVES STUDIED

Source: Meta-analysis

FIGURE 9: OBJECTIVES ACCORDING TO INITIATIVE LEAD ACTOR AND FUNDING

- Fruit and Vegetable
- Coffee/Cacao
- Dairy/Livestock
- Oils
- Nuts
- Grains

Legend:
- Publicly-supported
- ppp
- Privately-led
The meta-analysis found that linkage initiatives are less common for specialty or finished goods that require higher levels of technological sophistication. An exception to this is food safety initiatives, which are common among bottom-up and PPP initiatives and that target SME processors and suppliers of finished goods supplied directly to supermarkets that act as lead firms.

This observation may reflect a prevalence of vertical integration in agro-processing activities (from upstream and downstream actors), which can be largely attributed to the risky nature of agro-processing in developing countries and to the low capacity of SMEs and their limited access to finance.

Classification of commodity supply chains can also encompass the degree of processing to include bulk commodities, specialty products, and finished products (box 3).

1. Bulk tradeable products are highly traded commodities such as coffee, cacao, grains, and nuts. They generally have international quality designations and use relatively more-sophisticated financial tools such as auctions, spot purchases, futures contracts, and hedging instruments to reduce price volatility. These products face fierce competition because there is often a high degree of substitutability of product sources.

2. Specialty products can also be traded commodities but often have unique attributes that make them scarce or targeted for niche market segments. Examples of these products are fair trade and organic products, specialty coffee, and indigenous natural products (e.g., hoodia, argan oil). In some cases, the product is marketed with place of origin branding initiatives such as Ethiopian coffee and Moroccan (argan) oil to signify a differentiated product with a signature quality or other attributes. Value addition can involve all levels of processing, although it typically involves rudimentary processing.

3. Finished products include a wide array of inputs and often require greater levels of transformation to cook, cut, pasteurize, and package them for consumption. Greater levels of transformation require larger technology investments and reliable access to forward and backward linkages of goods and services. For example, dairy products require cold chain infrastructure and services throughout the value chain. Exports of cut fruit require cold chain infrastructure and access to reliable air freight.

Lead firms in this segment often include hotels, restaurants, supermarket chains, and their buyers. Lead firms that are retail outlets generally do not want to be vertically integrated and depend on suppliers, some of which are SMEs, for supplies, particularly in developing economies. Examples found in the meta-analysis include Wal-Mart’s project sourcing fresh fruit and vegetables in China and Metro’s and Auchan’s food safety project focused on SMEs in Ukraine.

**BOX 3: THE RANGE OF COMMODITY VALUE CHAINS STUDIED IN THE META-ANALYSIS**

As raw materials move downstream along the value chain from commodity to finished product, the level of processing increases, which in turn requires more SME facilities, technology, and financial capability. Accordingly, lead firm–SME linkages can be of more interest to lead firms downstream in the value chain. Lead firm purchases of unprocessed commodities may present a limited role for agro-processing SMEs, but the opportunity to provide a processed product at a lower cost and higher quality is an opportunity to create a lead firm–SME linkage. Products studied in the meta-analysis include chocolate, coffee, processed fruits and vegetables, processed dairy, beer, cashews, raw nuts, insect repellents, hazelnut-derived confectionary products, tea, fresh semi processed produce, juice and smoothies, flowers, fresh fish, baobab, cut flowers, palm oil, vanilla products, milled rice, groundnuts, edible oils, maize feed, and sunflower cakes.

2.3.4 Export-Oriented Versus Domestic Market Initiatives

Business-to-business relationships in developing countries are generally limited, and most such linkages are within the domestic economy because local production dominates most food economies. For example, Reardon (2015) estimates that 90 to 95 percent of the food economy is local in Asia, with international trade in food accounting for only 5 to 10 percent. Furthermore, informal, small to microenterprises conduct most agro-processing in developing countries and sell to local markets.
The literature review and meta-analysis found anecdotal evidence that there is a prevalence of vertical integration in agro-processing activities (from upstream and downstream actors) and that this makes up the largest share of business-to-business relationships between SMEs and lead firms, rather than outsourcing or specialization.

New agro-processing businesses that are rising to meet specific opportunities, particularly local and regional market demand for products and services are being established in many developing countries. This phenomenon includes forward and backward vertical integration of SMEs and lead firms.

**BOX 4: NILE BREWERIES TARGETS LOCAL MARKET FOR LOW-COST BEER**

Nile Breweries Ltd. (NBL), the leading Ugandan beer producer and marketer, wanted to develop a competitively priced beer for the local market. NBL saw an opportunity to produce a new, low-cost sorghum-based beer rather than use expensive imported malted barley and developed a supply chain through strategic partnerships with small and medium enterprises (SMEs) that could reliably deliver raw material of consistent quality. The resulting success created benefits throughout the value chain, with additional SMEs becoming suppliers; fostered knowledge spillovers and replication on a pan-African scale; and improved grain yields and farmer incomes. Eagle Extra is now the best-selling brand in the country and the best-selling product of NBL’s mix of brands. Last year, the company acquired 12,000 tons of sorghum from SME agro-processors and farmer associations representing approximately 20,000 small farmers who received revenue of US$4 million.

**BOX 5: WHEN THE MARKET FOCUS-shifts FROM INTERNATIONAL TO DOMESTIC—INTERSNACK AND MARKS & SPENCER**

Intersnack is a leading EU snack food company that has a strategic objective and an active program to increase the quality and quantity of tree and groundnut sources from Africa by working with local small and medium enterprises. Intersnack improves local processing and grading at the source, reducing processing expenses in their UK factories and the level of inputs that do not meet its import specifications. Through its involvement with the Department for International Development Food and Retail Industry Challenge Fund (FRICH), Intersnack reached out to Equatorial Nut, an established Kenyan nut processing firm, to be a supplier and partner in developing a source of aflatoxin-free peanuts, with the goal of improving quality for export to Europe. After an internal strategic review of the project, Intersnack concluded that, without further public subsidy, it was unlikely that they would continue to invest their own capital in an outgrower model for export. Instead, FRICH funding helped to consolidate Equatorial Nut’s relationship with outgrowers, with the groundnuts going to the domestic market in Kenya. Although Intersnack did not reap the immediate rewards of this enterprise through prolonged exports, they appear to have benefitted over the long term from increased public interest in the Kenyan groundnut outgrower model, and a future potential supplier was strengthened. Similarly, Marks & Spencer worked with Iriani, a Kenyan tea company, through FRICH, initially with the idea of developing a Kenyan packaged tea ready for export to the United Kingdom.

The 66 projects in the meta-analysis are primarily export-oriented linkages between international buyers and SMEs. The meta-analysis of linkage initiatives includes initiatives that exclusively target domestic markets and those that target domestic and export markets. There are examples of successful projects oriented to the domestic market, such as those described in boxes 4 and 5, where the market focus shifted from international to domestic market. Dual end market targets are the primary orientation of bottom-up and industry-wide initiatives.
The project did not generate large sales for Marks & Spencer, probably because of the traditional nature of the tea market in the United Kingdom, but Iriani was able to take advantage of their knowledge of the local Kenyan market and introduce their branded products there. Although the project was not as successful in the export market as originally planned, it had an important effect on factory management and cooperative members, strengthening their ability to market locally.

Despite the obvious importance of public sector support, one of the key lessons from studying the FRICH cases is that the most successful partnerships occur when lead firms and SMEs are directly involved with project implementation, rather than merely delegating implementation to a third party. For example, Intersnack had limited experience in crop production and sourcing in Africa, and had to rely primarily on several NGOs who had local agricultural experience. In comparison, both Fullwell Mill and Marks & Spencer, together with local SMEs, brought considerable commercial African experience to the table, which contributed to the project’s results. These two firms were able to provide hands-on experience to partner SMEs, improving their chances of success and allowing midstream corrections to be made when required.

3. Feasibility Criteria for Linkage

Successful lead firm–SME linkages have several common characteristics: profitable market opportunities, mutual business advantages, sufficient capacity of supply chain stakeholders to respond to business incentives, and a supportive enabling environment.

3.1 Market Opportunity

A profitable market opportunity is one of the most important preconditions for a successful linkage between lead firms and agro-processing SMEs. A review of the 66 projects in the meta-analysis suggests that the objectives of linkages can only be reached by successfully exploiting a market opportunity and that achieving those objectives involves developing programs that are responsive to market supply and demand at the firm level, market trends, parameters for product competitiveness, opportunities for growth, exogenous risk, and the motivations of lead firms for supply chain linkages to agro-processing SMEs. Without a profitable market opportunity underpinning the lead firm–SME linkage, there are few incentives for either market actor to maintain and invest in the supply relationship; some of the cases examined did not succeed precisely because this premise was not met. For example, Phase 1 of the West Bank Olive Oil Project did not clearly identify market opportunities for lead firms to work in partnership with olive oil SMEs, so they were unable to sustain sales volumes (box 6). The pyrethrum project in Rwanda also had problems identifying market opportunities, and much of the pyrethrum produced did not meet the quality standards of the lead firm.

Understanding the factors driving market demand helps leverage the motivation of lead firms to engage with agro-processing SMEs in developing countries. Growth (expansion, degree of saturation) and changes in the enabling environment (trade policy, product standards) commonly drive market demand, in turn influencing business decisions to differentiate products, improve quality, and streamline supply chain functions. Meeting changing market demand of processed agricultural products often entails improving operational efficiencies and quality controls throughout supply chains, from input provision to postharvest handling.

Maintaining a supply-chain perspective is important during the market analysis process to identify opportunities for capacity building, investment, and facilitation of financing. Identifying lead firm champions and agro-processing SMEs is essential to conducting market analysis and defining the market opportunity (See Guidance Note for Policymakers and Development Practitioner, p. 3). Box 6 discusses the role of olive oil enterprises over time in the design and execution of the West Bank Olive Oil Development Project.
Led by the International Finance Corporation (IFC), olive oil bottlers in the West Bank undertook a series of steps to foster linkages between agro-processors (olive oil bottlers) and olive oil importers and to address capacity problems that inhibited market access within the value chain, particularly for small and medium enterprises (SMEs). The two phases of IFC support evolved from a bottom-up SME-focused capacity-building and market linkage project focused on improving the quality of and expanding the overall export market for Palestinian olive oil, but the combination of small producers and small processors resulted in a product that, if treated as a commodity, was not competitive in international markets. It was then necessary to change the project focus in the second phase and position the olive oil as a specialty product. The next stage therefore converted the project to a lead firm–focused top-down program that targeted marketing efforts specific to an importer’s strategy and suggestions. The evolution of project focus from Phase 1 to Phase 2 of the IFC Olive Oil Development Project reflects trade-offs between sustainability and scale and how different objectives are met using bottom-up and top-down approaches. Phase 1, through a bottom-up approach, emphasized scale in terms of number of beneficiaries and processing SMEs (bottlers) that received training and participated in European trade fairs; Phase 2, through a top-down approach, focused on lower volume and a higher-priced, packaged consumer product, working directly with a few SME bottlers that the lead firm selected to participate in the supplier development program. Learning from the discontinued business linkages with importers in Phase 1, the implied emphasis of Phase 2 became sustainability of market linkages through targeted facilitation between qualified Palestinian bottlers and specialty product importers.

3.2 Mutual Business Advantages

The lead firm and the SME must perceive tangible business benefits of linking, or supplier capacity-building efforts will not achieve desired results (table 1). Common challenges to establishing benefits for both parties include lack of supplier commitment, insufficient supplier resources, lack of trust between parties, poor alignment of organizational cultures, and insufficient inducements to supplier improvement. Some challenges correlate with lack of lead firm buying power, and others are related to lack of financial resources to implement needed changes (Ahmed and Hendry 2012).

Lead firms and SMEs, in addition to other supply chain actors, will be most engaged and their relationships will ultimately yield better results when incentives align with sought-after performance improvements. Incentives that lead firms offer to SMEs have been part of a practical, successful strategy to motivate performance improvements that also benefit the lead firm. Incentives cited in past projects include instruments and agreements that reduced costs and increased revenues, such as price incentives associated with higher-quality products and cost-sharing of capital investments for better production technologies. One example of this can be seen in the Alquería–Colombia Dairy Supply Chain Development Case Study, which is summarized briefly in box 8, with many more details in the full case. Another example is the Olam project (referenced in box 11), in which Olam helped organize cooperatives and then paid a premium to cooperatives that hand-shelled cashews because of the higher quality and better price received in the international market.

The key to success of linkages that facilitate relationships between lead firms and agro-processing SMEs is to respect and harness the private sector’s primary motivations for commercial linkages (table 1).
3.3 Sufficient Capacity

A minimum level of SME capacity is necessary to establish a linkage and consistently meet lead firm requirements for scale, quality, cost, and labor and environmental standards (box 7). Managerial capacity is particularly important and positively correlated with SME productivity growth and other measures of firm progress. It entails knowledge of production processes, quality oversight, fair and competitive business practices, and financial and personnel management. Technological capacity and workforce skills are also important components of internal SME capacity and directly affect product quality. Quality improvements often require investments in new technologies, quality assurance procedures, and certifications.

3.4 Supportive Enabling Environment

A supportive enabling environment is a critical foundation for encouraging business linkages between lead firms and agro-processing SMEs, because it ensures healthy industry competition and access to services at a reasonable cost (World Bank 2017). Enabling conditions such as ease of starting a business, contract enforcement, ease of hiring and firing employees, absence of corruption (e.g., bribes), and transparent taxation are important to SME and lead firm operations. The agro-processing sector’s reliance on linkages for its agricultural raw materials exposes sector actors to a wide array of enabling factors along the entire supply chain, including access to agricultural land (land tenure, property rights), access to production inputs (seed, fertilizer, irrigation, farm machinery), provision of transport and logistics infrastructure and services, access to potable water and electricity, and clear policies and efficient public service provision for product-specific quality standards and regulations. Many firms in the case studies and meta-analysis sought support from the host government before proceeding with linkage initiatives.

These legal, regulatory, service, and infrastructure factors constitute the broader enabling environment within which linkages occur. Each factor contributes to firm-level productivity, reduces the cost of doing business, and enables technological innovation and investment. When SMEs are weak in capacity, the risks and costs for lead firms increase.

A number of linkage initiatives, such as Alquería’s dairy supply chain (box 8), Nile Breweries sorghum beer supply chain (box 4), and those under FRICH (box 5), were initiated or expanded based on improvements in the enabling environment. The FRICH final report stated, “Though the challenge fund did not target policy change in its design, there were several policy environment changes that allowed certain FRICH supply chains to be particularly successful”5. For example, the liberalization of the tea sector in 2010 from the Tea Amendment Act led to the FRICH tea sector linkage initiatives in Kenya. A lead firm directly lobbied for the market reform. Liberalization allowed suppliers to choose to sell to a factory of their choice and set up supplier agreements—both of which create incentives for SME supplier upgrading. In this case, the regulation was changed before the initiative (after the...
leading supermarket chains lobbied heavily for it), and the initiative was able to take advantage of the improvement in the environment. The Alquería dairy case (box 8) in Colombia is an example of a private initiative whose success depended on government policy.

BOX 8: CHANGE IN COLOMBIA’S POLITICAL AND ECONOMIC SITUATION EXPANDS ALQUERIA’S MARKET

Better security and macroeconomic stability in Colombia in the mid-2000s played a pivotal role in growing market demand for Alquería’s shelf-stable liquid milk and made expansion of its supply chain into new regions possible. For years, Colombia’s profound political, economic, and security crises emanating from guerrilla wars and the drug trade hindered Alquería’s growth. When security and the business environment improved in the early 2000s, Alquería began acquiring processing plants, which allowed it to break into the national market and expand its supply zone across the country. Its expanded connectivity, through new public infrastructure and improved security, greatly improved milk collection in previously remote areas of the country under guerilla influence such as El Meta.

4. Designing a Lead Firm-SME Linkage Program

This section discusses key design features of lead firm–SME linkage projects and highlights successful strategies based on experience. It is focused largely on the perspective of the public sector but is relevant and adaptable to private enterprises that wish to pursue supplier development programs with agro-processing SMEs in developing countries.

Sustainability is considered throughout and woven into each design consideration.

Linkage project design features contributing to project success include:

1. Clear definition of project objectives
2. Clear and appropriate roles and responsibilities of key partners
3. Selection of key partners
4. Leveraging of cost-share
5. Implementation instruments, including phasing with

4.1 Clear Definition of Project Objectives

Three sets of objectives come into play in linkage programs—those of the lead firm, the SME, and the public sponsor—so it is advisable to invest significant time in clearly articulating the objectives, which informs program approach, partner selection, roles and responsibilities, instrument selection, and expected results and provides structure for successful linkage initiatives.

The priority of scale and sustainability should be discussed during this step. Important trade-offs are often required between sustainability and scale, job creation and technological upgrading, and pro-poor outcomes and firm competitiveness.

Problematic designs were the most commonly listed challenges to sustainable linkages, such as West Bank Olive Oil, the Allanblackia oil plant in Ghana, and Johnson & Johnson’s effort to expand pyrethrum production in Kenya. All of the unsuccessful linkages between lead firms and agro-processing SMEs involved overly ambitious designs or designs that poorly matched objectives and market conditions.

This is common, for example, in oil-based specialty products, where international quality and price demands were too rigorous for local SMEs to meet. A number of successful initiatives have credited their design’s adaptability to changing market conditions as critical to their success.
4.2 Clear and Appropriate Roles and Responsibilities of Key Partners

Partners can play different roles depending on the development approach. The public sector usually leads bottom-up and industry-wide initiatives, with close collaboration with lead firms, whereas lead firms usually lead top-down initiatives, with some degree of public participation or partnership in the case of PPPs. Often there are financial contributions from the lead firm, SMEs, and public entities to reflect shared goals and commitment. The following principles provide guidance for the public sector (when the project is run entirely publicly or as a PPP) for structuring successful initiatives that strengthen linkages between lead firms and SMEs.

- Clearly articulate roles and responsibilities.
- Limit the role of the public sector to strengthening the enabling environment and addressing market failures.
- Engage directly with lead firms in the spirit of partnership and facilitation, with the lead firm providing substantial leadership.
- The public sector serves as a facilitator, not an intermediary.
- Provide training and advisory services.
- Manage the difference in corporate cultures.

**Clearly articulate roles and responsibilities.** The roles and responsibilities of each partner need to be clear so that each party can designate the appropriate staff time and resources to meet their responsibilities. Formalization of agreed objectives, roles and responsibilities, financial and staff commitments, timelines, and management arrangements of each public and private partner are needed to manage linkage projects effectively through the end of public support. Given that agribusiness entails diverse supply chain actors, stakeholder consultation and collaboration should be assigned as a distinct task to be led by one responsible party (box 9).

**Limit the role of the public sector to strengthening the enabling environment and addressing market failures.** The public sector creates and enforces the enabling environment for market competition and cooperation, addresses market failures, and fosters investment in physical infrastructure and knowledge capital. In most cases, the role of the public sector should be limited to addressing market failures and constraints, which will in turn catalyze lead firm engagement with agro-processing SMEs and reduce the risks and constraints associated with agro-processing firms in developing countries (boxes 10 and 11). In the case of PPPs, the public sector may also be involved in financing, providing needed infrastructure or collaboration in community initiatives.

**BOX 9: MANAGING THE ROLES OF THE PUBLIC AND PRIVATE SECTOR IN LINKAGE INITIATIVES**

Several examples of projects studied in the meta-analysis demonstrate how the public and private sectors can be most effective in linkage activities by specializing their activities. World Bank and International Finance Corporation programs that target an entire sector will often use public sector agencies as facilitators (bringing together various sets of actors) while still relying on private actors such as consultants and training providers for service delivery. For example, the Uzbekistan Horticulture Development Program (WBG P133703) seeks to improve on-farm productivity through policy review, coordination with relevant ministries, and backing loans to facilitate access to finance through local financial intermediaries and training providers. Similarly, the Mozambique Integrated Growth Pole Project (WBG P127303) includes public investments in smallholder associations but does so through a local Innovation and Demonstration Catalytic Fund. This fund improves the ability of smallholders and small and medium enterprises to access the market through private loan funds and complementary public investments.

**Engage directly with lead firms in the spirit of partnership and facilitation, with the lead firm providing substantial leadership.** Lead firms are essential partners for market-led linkage programs. It is important to identify lead firm champions that have the capacity and business interest to source from agro-processing SMEs. (See the case of Olam summarized in box 11.) Ideally, lead firms serve in a leadership capacity, helping to determine project scope and engage constructively with agro-processing SMEs to achieve mutually beneficial results. It is
generally advised to identify lead firms and develop close relationships with them early during the initiative design phase to generate more-effective and sustainable results. In some cases, complex agreements can be formed among lead firms, a supply chain partner, SME suppliers, and a public entity such as the government and/or an international NGO. The Olam case in Box 11 below is one such case where a lead firm initiative effectively worked as a public-private arrangement.

BOX 10: ROLE OF PUBLIC SECTOR INVESTMENT

The coffee sector in Rwanda enjoys an ideal climate for high-quality coffee production but was mired in producing commodity coffee because of the lack of the market information, profit incentives, quality control, infrastructure, and organization needed to produce a higher-quality, higher-priced product. In the early 2000s, the government of Rwanda, U.S. Agency for International Development projects PEARL I and II, foundations, and private sector investors identified the problem and initiated a bottom-up linkage project, providing programs to help coffee farmers and cooperatives improve plantings, build washing stations, and improve product uniformity and quality, as well as US$10 million in funding over 11 years. While donors provided the money, the Rwandan government allowed direct sale of coffee to importers instead of using the old system in which sales were made through a government-controlled coffee board. A production base for high-quality coffee was developed, and experts were hired to provide advisory services and training and established business linkages with lead specialty coffee companies from the United States and European Union. Today Rwanda is an established source of quality coffee receiving premium prices in the marketplace based on linkage of lead firms with SMEs. This is an example of a government recognizing the need for intervention in the market but doing so in a limited, indirect way that allowed it to service as a catalyst, not an implementer.

BOX 11: LEAD FIRM LEADERSHIP

Olam Corporation’s involvement in Ivory Coast is an example of strong leadership and commitment from a lead firm that helped ensure the success of a linkage initiative. Olam worked with the government of Ivory Coast and small and medium enterprises (SMEs) to expand the supply chain for cashews and cocoa and increase efficiencies within the supply chain. The company assisted in the formation of producer cooperatives (SMEs) that provided training in how to hand shell cashews and thereby increase the quality and value of the product, as well as increasing rural jobs. Additionally, Olam was assisted by IDH (Dutch Sustainable Trade Initiative) to develop a network of traders, processors, roasters and retailers to provide a completely transparent, traceable supply chain of cashews. (Machine shelling is done on a larger scale, but the process mechanically damages a significant percentage of the nuts, and the end product receives a lower price.) The availability of a larger supply of higher-quality cashews allowed Olam to expand sales and increase the price it paid for the hand-shelled product. Olam has initiated similar models in other African and Asian countries to expand their supply of specialized commodities and created a US$20 billion company over 25 years. SMEs have played an important role in the Lead Firm’s supply chain projects. Further research into the role that the public and NGO sectors can play in facilitating lead firm leadership would provide additional insights.

Program designers should seek the lead firm’s input regardless of developmental approach (top-down, bottom-up, industry-wide), although the degree of the lead firm’s leadership and financial commitment will vary according to the approach. Designing projects with lead firms leverages their role as buyers and their relationships with supply chain actors, which can provide incentives for agro-processing SMEs to improve performance. Lead firms are also useful in diagnosing constraints to and opportunities for growth within their supply chain. Direct involvement of lead firms ensures that project designs and implementation approaches are market led, encourages ownership of results, and creates communication networks that can respond...
effectively to changing market dynamics once public support is no longer available. Supplier development programs should improve lead firms’ bottom lines, so participation in linkage programs should be embedded in their core business operations rather than be stand-alone corporate social responsibility activities. Where possible, initiative designers should make lead firm commitment or endorsement explicit.

**Serve as a facilitator, not an intermediary.** The meta-analysis indicated that the public sector can be supportive of lead firm–SME projects but is rarely a direct intermediary. Programs should avoid the public sector or intermediaries performing “go between” functions such as negotiating contracts or relationships with lead firms on behalf of suppliers (Lusby 2008), which would interfere with the firms establishing sustainable relationships and can be distortive. Instead, the public sector should adopt a facilitating approach to encourage communication, commitment, and ultimately business linkages between the lead firm and agro-processing SMEs. The World Bank has used the concept of “productive alliance” to describe a situation in which an intermediary uses a group of organized producers, a buyer, or lead firm; an investment in production and marketing; and technical assistance to bring together a lead firm and SME participants (World Bank 2016).

**Provide training and advisory services.** The case studies and meta-analysis suggest that it is best practice for market actors (lead firms, private consultants) to provide training and advisory services for SMEs. In most cases, lead firms are best placed to undertake supply chain strengthening directly, rather than through third-party intermediaries.

When SME strengthening directly by lead firms is not feasible or desired (such as in publicly sponsored bottom-up programs), it is better to work with or through a local partner to help build local institutions and knowledge. Finding the right local partners is also a low-cost way to save time, lower the cost of logistics, and help organize the gathering of participating SMEs.

**Manage the difference in corporate cultures.** Engagement of lead firms must be sensitive to their internal decision-making timelines. Managing project design and implementation timelines requires understanding of the different decision-making steps of public and private institutional structures. The public sector often has several layers of hierarchical decision-making steps, whereas the private sector decision-making structure is flatter. Incorporating effective communication mechanisms to accommodate different timelines and structures is an important contributor to building trust among parties and designing a linkage program.

### 4.3 Selection of Key Partners

The criteria for selecting the lead firms and SMEs (depending on developmental approach) that will participate in a program are central to achieving results. Although it may seem that applying selection criteria falls into the category of “picking winners,” it has categorically been cited as critical to achieving successful results in linkage projects. Experience suggests that it is important to select firms of sufficient capacity and willingness to undertake change. For lead firms and SMEs to be successful, they must:

- Demonstrate sufficient capacity or potential to improve and grow through existing assets (equipment, facilities); access to investment and working capital; annual revenues; and certifications, particularly SMEs

- Demonstrate sufficient commitment by contributing to project costs (co-financing; cost sharing); dedicating adequate personnel time and financial resources; embedded within core business operations; commitment to transparency; and open access.

Analysis of the case studies suggests that lead...
firms should be identified and close relationships developed with them early during the project design phase to generate effective, sustainable results. For example, the Cambodian rice case suggests that project designers and implementers worked closely with rice processors from the beginning of the project and with the rice millers’ associations throughout the project to adjust the design according to changing circumstances. Program designers should seek the lead firm’s input regardless of developmental approach, although the lead firm’s leadership and financial commitment will vary according to the approach.

Designing projects with lead firms (anchor companies, market movers) leverages their role as buyers and their relationships with supply chain actors, which can provide the right incentives for agro-processing SMEs to improve performance. Lead firms are also useful in diagnosing constraints to and opportunities for growth within their supply chains. Direct involvement of lead firms ensures that project designs and implementation approaches are market led, builds ownership of results, and creates communication networks that can respond to changing market dynamics once public support is no longer available. Supplier development programs should improve lead firms’ bottom lines, so participation in linkage programs should be embedded within their core business operations rather than as stand-alone corporate social responsibility activities.

4.4 Leveraging Cost Share

Cost sharing of SMEs and lead firms has been a particularly effective selection and engagement strategy for linkage initiatives. Cost sharing reflects commitment from the partners and ensures that they have a stake in the long-term sustainability and outcome of the project. Examples of cost sharing can be found in the cases of Alquería (box 8 and case study), Olive Oil (box 6 and case study), and the Agribusiness and Marketing Project in the Kyrgyz Republic (box 13 and case study).

Cost-share contributions and institutional mechanisms vary in form. The mechanisms selected should be negotiated among key stakeholders, align with business benefits, and reflect clear distinctions between public and private goods. Lead firms and SMEs will contribute only to costs that have clear benefits to them. Generally, the public sector funds public goods such as non-sector-specific infrastructure improvements, training, and changes due to policy reform.

Arrangements vary based on key partner motivations and capacities and local and market contexts. In-kind contributions, including time and expenses of professional services and project staffing, meeting facilities, and new purchases of assets specifically used for the project, are valid cost-sharing resources. Examples of top-down and bottom-up cost-share and program models are captured in table 2 below.

4.5 Implementation Instruments

The gap between what the lead firm needs and what the SME can provide and the reasons for that gap vary. Therefore, the range of implementation modalities and instruments also vary. A wide range of instruments is often provided through publicly supported intermediaries in direct partnership with lead firms to encourage or strengthen linkages with SMEs (DCED 2012; USAID 2015; AFE 2014; UNCTAD 2004). The design of each instrument should be customized to the needs of lead firms and SMEs (box 12).

A wide range of implementation instruments is available to encourage or strengthen linkages between lead firms and agro-processing SMEs when these linkages do not occur organically. These can be categorized into nine major tools or “instruments” that members of the World Bank and study teams have identified.
<table>
<thead>
<tr>
<th>Partner</th>
<th>Type of Linkage Program</th>
<th>Bottom-up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Top-down</strong></td>
<td><strong>Lead firm</strong></td>
<td><strong>Program focused on SME capacity-building</strong></td>
</tr>
<tr>
<td></td>
<td>• Provide guidance on performance improvements that the market requires or other market information</td>
<td>• Share knowledge on minimum qualifications for key markets and identify key constraints to linkages (enabling environment and SME capacity)</td>
</tr>
<tr>
<td></td>
<td>• Establish performance incentives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Provide on-site advisory, educational, and training or personnel transfer programs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Offer purchase guarantees or cost-sharing for new equipment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Share costs of capital investments for improved technologies and equipment for SMEs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Lead facilitation of and provide “convening power” for stakeholder coordination</td>
<td></td>
</tr>
<tr>
<td><strong>Bottom-up</strong></td>
<td><strong>SME</strong></td>
<td><strong>Fund technical assistance from a BDS provider and investments in new technologies required according to performance improvement plans</strong></td>
</tr>
<tr>
<td></td>
<td>• Partially fund food safety certification trainings and on-site technical assistance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Finance capital investments for improved production technologies</td>
<td></td>
</tr>
<tr>
<td><strong>Public sector (if applicable)</strong></td>
<td>• Partially fund food safety certification trainings and supportive on-site technical assistance for implementation of food safety improvements for many SMEs</td>
<td><strong>Build capacity of local BDS providers</strong></td>
</tr>
<tr>
<td></td>
<td>• Partially fund technical assistance for lead firms to build their supplier development capacity</td>
<td><strong>Provide matching grant to SME for training, certifications, and other assistance</strong></td>
</tr>
<tr>
<td></td>
<td>• For SME capital investments, offer guarantee to banks to cover financial losses incurred by lending to targeted SMEs participating in program; create lending fund administered through existing financial institutions</td>
<td><strong>Partially fund technical assistance for lead firms to build their supplier development capacity (when they are clearly identified and engaged)</strong></td>
</tr>
<tr>
<td></td>
<td>• Finance public, non-sector-specific infrastructure improvements and “last-mile” connectivity</td>
<td><strong>For SME capital investments, offer guarantee to banks to cover financial losses incurred by lending to targeted SMEs participating in program; create lending fund through existing financial institutions</strong></td>
</tr>
<tr>
<td></td>
<td>• Lead policy reform effort with input from private partners</td>
<td><strong>Assist SMEs with targeted marketing efforts to lead firms (buyers) to foster business linkages</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Finance public, non-sector-specific infrastructure improvements</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Lead policy reform effort with input from private partners</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Facilitate stakeholder coordination</strong></td>
</tr>
</tbody>
</table>

Source: Guidance Note for Policymakers and Development Practitioners

Note: SME, small and medium enterprise; BDS, business development services
1. **Assistance to supplier associations** may include capacity building, organizational improvements, training, or provision of infrastructure to associations. For example, Alquería, a leading diary processor in Colombia, worked with a number of dairy producer associations to improve their organizational capacity, invest in production technology, and use existing government training programs for the farmers. This helped achieve the dual goals of expanding the lead firm’s reach into new territories and improved the dairy farmers’ quality, traceability, and prices.

For better and deeper understanding of productive interactions between private firms and smallholders, IFC has developed "Working with Smallholders - a Handbook for Firms Building Sustainable Supply Chains".

2. **Cluster development** involves working with existing local development organizations to improve business linkages and infrastructure within clusters. This is particularly important in regional development projects. The World Bank Women’s Entrepreneurship Development Program in Ethiopia worked with local cluster development agencies to promote forward linkages between lead firms and women-owned SMEs in the food and agro-processing sectors, combining a gender-based methodological and training approach with existing economic cluster development plans.

3. **Advisory services** are specialized management or technical assistance services from private sector firms, local nongovernment organizations, and other local and international organizations to supply chain participants.

4. **Training programs** are common elements in strengthening members of a supply chain and may involve assistance to SMEs in adopting new accounting systems, new processing equipment, special gender programs, and various agricultural extension activities. In the Cambodian rice marketing case, the introduction of new accounting software for the rice millers allowed them to control their costs better and meet the demand from a variety of EU and Asian rice importers.

5. **Business linkage programs** are direct efforts to link businesses together through marketing seminars, trade shows, industry meetings, and dissemination of marketing materials and other marketing efforts and include trade fairs and business-to-business meetings. In the Kyrgyz food processing case, many of the food processors were not familiar with foreign market needs and requirements. Specialized trade fairs were
an efficient, one-stop way to introduce SMEs to new markets.

6. Policy and regulation change: The liberalization of the Kenyan tea sector in 2010 paved the way for the success of the FRICH tea sector linkage initiative. The Tea Amendment Act allowed suppliers to sell to factories of their choice and set up supplier agreements, creating incentives for SME supplier upgrading. Before the act was passed, tea buyers could purchase only through the government marketing board. Marks & Spencer cited the ability to buy directly from Iriani tea as a success factor in the initiative.

7. Tax incentives and regimes can be modified or introduced to add incentives for firms to expand or shift focus of their businesses to facilitate linkages. In Uganda, a reduction of the excise tax on beer allowed Nile Breweries to introduce a new, low-cost beverage that dramatically increased consumption and increased excise tax revenue.

8. Contracts and advanced purchase agreements from lead firms are a common mechanism to encourage SMEs to supply in quantity and quality required. Purchase agreements that establish volume, price, and quality specifications can provide the SME the opportunity to obtain commercial bank financing to meet working capital needs. In the case of Alquería Dairy, it was particularly important to have contractual relationships between producer SMEs and the lead firm. Dairy cows produce milk every day, and producers must know, in advance, the conditions and price of milk to make the necessary long-term investments in cows and facilities.

9. Firm financing: Of 66 initiatives reviewed in the meta-analysis, 35 used some form of firm financing mechanism in addition to other instruments such as training, business linkages, and advisory services. Firm financing examples include the Olam Corporation, Nile Breweries, Intelligentsia for green coffee purchases, and Divine Chocolate in Ghana. Financing was used for a wide array of products, including cocoa, chocolate, cashews, dairy, and confectionary. The implementation tools that linkage programs used most commonly were capacity building–focused activities such as training, advisory services, and business linkage activities (e.g., industry trade fairs, mentoring, and other matchmaking activities). Financing tools such as good terms on loans, credit facilities, input financing, matching grants, and equity investments were the next-most-frequently used implementation instrument.

Matching grants have been implemented by the World Bank for over two decades. They remain a very popular instrument for private sector development interventions, despite often challenging implementation and insufficient evidence of impact. The report on "How to Make Grants a Better Match for Private Sector Development" by Diana Hristova provides project teams with a better understanding of the matching grant instrument and help them choose the design and implementation arrangements that are best fitted to their project objectives.

BOX 13: IMPORTANCE OF BUILDING TRUST IN KYRGYZSTAN

The Agribusiness and Marketing Project was a World Bank–funded technical and marketing assistance project to modernize and expand the food and beverage processing industry in the Kyrgyz Republic. The project used an innovative bottom-up approach to address the needs of 42 carefully selected agro-processing SMEs in a comprehensive, customized, flexible manner. SMEs were primarily concentrated in fruit and vegetable processing and secondarily in dairy processing.

The project used an independent Agribusiness Competitiveness Center (ABCC) to build capacity and train local consultants who would then provide advisory services to agribusiness enterprises. The ABCC consultants reported that it took considerable time to build trust and establish collaborative relationships with client firms. At first, consultant visits to client sites were treated mostly as a courtesy, and consultants were not expected to be too inquisitive or request too much of managers’ time, but by the time the second set of 22 companies was selected, the clients began to appreciate the value of ABCC services and accepted the additional cost and time commitment.
The selection of an instrument mix depends on the needs of the supply chain and linkage stakeholders and on the program’s objectives. Correct instrument selection and the use of instruments in implementation requires participation from public and private sector stakeholders.

The firm-level training instruments reflect the most-basic objectives of linkage initiatives—improving ties between lead firms and their suppliers and addressing gaps in capacity that constrain the organic growth of those ties (figure 10)—although there is insufficient evidence to determine the relative effectiveness of the various instruments. Regardless of the instruments used, successful delivery models share common characteristics.

Instruments are customized to the needs of lead firms and SMEs and work toward achieving mutually beneficial results (business benefits). Projects must be designed to achieve outcomes that motivate those actors to participate, including sales growth for SME suppliers; greater market certainty for SME suppliers; greater, more-certain, less-costly, better-quality supply to lead firms; fewer risks throughout the value chains; and greater profits for both parties (box 14).

**FIGURE 10: INCIDENCE OF INSTRUMENT USE ACCORDING TO INITIATIVE TYPE**

**BOX 14: SUPPLIER DEVELOPMENT ACTIVITIES CUSTOMIZED TO SUIT SMALL AND MEDIUM ENTERPRISE NEEDS**

Rižak is a family-owned cocoa grower that has been in business in the Dominican Republic since 1905. It has 27 of its own farms but also has links with 4,500 small cocoa farmers. The grower groups are linked to Rižak through an independent farmer-run foundation called Fuparoca. Farmers deliver wet beans to the foundation and are paid a fixed price. Fuparoca ferments the beans, because that is a critical quality factor, and provides technical assistance and certification services to farmer members. The advantage to farmer members is that Rižak pays all the expenses of the foundation, whereas farmers in other free-standing cooperatives in the Dominican Republic must absorb operating expenses, which are deducted from the farm price. Rižak’s ability to process and grade ensures maximum quality, which allows Rižak and Fuparoca members to command a premium price for their products.
Implementation structures are flexible to allow for adjustments in response to changing market dynamics. Attention to the structure of delivery mechanisms, project milestones, and accountability mechanisms can contribute significantly to speed and quality of responses to changing market dynamics. Delivery mechanisms for technical assistance should be explicitly needs-driven, with processes in place to solicit and incorporate frequent feedback. Periodic project milestones build in decision-making opportunities that assess performance. Reporting structures should be representative of public and private sector actors to more-deftly navigate market changes and external events (box 15).

Assistance to SMEs is as comprehensive as possible. The assistance package should be designed to meet all of the SMEs’ needs. Failure to factor in a complete solution package to address SME problem can render the assistance ineffective. For example, when the Agribusiness and Marketing Project in the Kyrgyz Republic was asked to help a client replace an old piece of equipment, the assistance included the following complete list of tasks: identify the supplier with the least-costly equipment that meets the relevant specifications, help develop a business plan and application for credit to pay for purchase, design flow charts and plan the processing line layout, supervise the installation, advise on new product specifications, and train client personnel in the use of the equipment.

Partnership structures reflect the strength and sophistication of the specific agro-processing industry (UNIDO 2009). No single partnership structure will fit all situations. Product complexity and technical requirements will influence the need for specific advisory services. Most linkage programs in developing countries are organized around improving the quality and quantity of bulk products for export (e.g., coffee, cacao, oils, nuts, grains, fruits, vegetables). Processing of these products usually entails minimal technological sophistication, with the aim of partially processing or preparing raw material to make them more transportable for lead firms. Geographically dispersed smallholder farmers involved in weak, fragmented value chains produce many of these products. Publicly led programs tend to focus on higher levels of processing of these products in an effort to catalyze investment in greater value-added processing capabilities in developing economies. Privately led initiatives and PPPs tend to focus on improving basic agro-processing activities.

Linkage initiatives are less common for specialty or finished goods that require higher levels of technological sophistication, with the exception of food safety initiatives targeting the small and medium processors and suppliers of finished goods supplied directly to supermarkets acting as lead firms. This may reflect a prevalence of vertical integration in agro-processing activities (from upstream and downstream actors), largely attributed to the low capacity of SMEs to produce quantity and quality needed and their limited access to finance.

**BOX 15: KYRGYZ REPUBLIC AGRIBUSINESS COMPETITIVENESS CENTER (ABCC) FLEXIBLE IMPLEMENTATION STRUCTURE**

The design of Kyrgyz ABCC’s organizational structure was flexible and responsive to external events and market changes. The public–private composition of the Supervisory Board encouraged coordination, alignment with market dynamics, and accountability for ABCC results. ABCC staffing and procurement vehicles assigned qualified consultants to clients based on customized scopes of work aligned with detailed action plans. In addition, the Agribusiness and Marketing Project was divided into smaller implementation periods, which built in milestones for assessing project effectiveness and making decisions to adjust components in response to market changes. The economy and the needs of agro-processing SMEs changed every two to three years over the life of the seven-year project. Thanks to the short implementation periods and milestones, the project could make changes to stay ahead of changing SME needs (Broka 2016).
4.6 Timeline for Linkage Initiatives

Successful linkage initiatives led by the private sector, usually by a single lead firm, tend to extend over decades and expand to new SMEs and regions. These successful models adapt as needed to changing market conditions or SME capacity. Unlike the extended lifetimes of successful privately led initiatives, most publicly supported initiatives last five years or less and have finite implementation periods at specific funding levels, although in a number of cases, publicly supported initiatives are modified or extended. Most often, it is the success of the private sector players that creates the momentum to carry the project forward. To create sustainability, it is important to consider in the initial planning process how to structure the project so that it will continue to expand and prosper after public funds are no longer available.

A common pitfall in agro-processing linkage projects is failure to align project timelines with agricultural cycles. One example is the recent Millennium Challenge Corporation irrigation modernization project in Moldova, where technical assistance to create farmer-led water user associations was provided three years before delivery of irrigation water—much too early for the technical assistance to be useful. The inability to have more than one crop per year increases the difficulty of coordinating production, processing, and marketing activities. Variability in climate patterns and crop production is also an important variable that is missing in standard manufacturing enterprise.

4.6.1 Phasing

Linkage projects may require a phased approach to achieve success depending on the degree to which feasibility factors are met. Weak firm-level capacity of agro-processing SMEs was the most commonly cited reason for lead firms’ reluctance to engage in a timely, phased manner. Insufficient or undermining enabling environments were a close second. Market opportunities often cannot be seized or mutually beneficial linkages structured without sufficient firm-level capacity of agro-processing SMEs and a supportive enabling environment. The feasibility of a two- or three-phase approach to facilitating sustainable linkages between lead firms and agro-processing SMEs should be considered in certain cases. A phased approach with incremental milestone objectives allows for flexibility and course correction that is responsive to industry needs and changing market dynamics (box 16).

BOX 16: PHASED APPROACH TO CAMBODIA RICE SECTOR MODERNIZATION

In 2008, the International Finance Corporation established the Cambodia AgriSector Support Project to provide needed support to the Cambodian rice sector as Cambodia emerged from decades of civil unrest, political upheaval, and bad economic policy. By first supporting small and medium rice millers in the supply chain and gradually strengthening other elements of the supply chain, lead firms and millers could capitalize on changed market dynamics to expand export marketing programs and increase investment in the sector. The project initially focused on a bottom-up approach of modernizing and improving the capacity of small and medium mills to produce export-quality rice and then focused on market development. The case describes how identification of markets and lead importing firms became the focus of the project’s second stage and close relationships developed between lead importers and small and medium millers and exporters as the initial orders led to longer-term relationships.
5. Monitoring and Evaluation

5.1 Monitoring and Evaluation Frameworks

Harnessing lead firms to enable the growth of agro-processing SMEs is a new development approach. There are a variety of results frameworks to help monitor and evaluate lead firm’s contribution to development. It is useful early in the project to consider how it can be monitored and how linkages influence the impact, cost–benefit ratios, and sustainability.

The general novelty of lead firm–SME initiatives offers ample opportunities to refine still-fluid monitoring systems and to address the challenges of collecting empirical evidence of the developmental effect of these linkage approaches. Despite the lack of widely available data on linkage initiatives, the existing data provide some insights into the effectiveness of lead firm–SME linkages in relation to private sector development goals.

One thing the meta-analysis revealed was the wide variation across projects in the types of data collected. This variance in data availability poses difficulties in making comparisons or drawing conclusions based on the use of various implementation instruments. Concentrating on more-rigorous reporting of a common set of simple data points such as lead firm purchases and exports, SMEs reached, SME sales revenues, farmers reached, and jobs created may improve reporting and reduce reporting fatigue of the initiatives’ private sector partners and beneficiaries. Amassing a body of comparable data points is essential to identifying empirical evidence of development effect and illustrating what does and does not work for the lead firm–SME linkage development approach in agro-processing. There are several factors to consider in establishing a results framework.

- Selection of standardised indicators will aid in project comparisons.
- For publicly financed initiatives, SME and lead firm sales revenues, jobs created, number of SMEs involved, and number of farmers involved should be measured.
- For privately led initiatives, changes in revenue, volume of raw materials used, average product cost, and quality indicators should be measured.
- The same lead firm or others should be able to replicate the model.

The most-telling measure of a linkage’s sustainability is whether the business relationship lasts after the end of the initiative. Of the 66 linkage projects in the meta-analysis that had a prescribed time duration, 12 were discovered to be ongoing after completion.

5.2 Results

From an examination of the meta-analysis and case studies, we can draw some broad conclusions about project indicators, including the level of change that beneficiaries of linkage initiatives experience (e.g., increase in sales volumes or values, productivity, export revenues, job creation; decrease in costs), the number of stakeholders realising benefits (indirect beneficiaries may also benefit, such as producers selling to the SME and other businesses servicing the value chain), knowledge and technology spillovers induced over the medium and long term, and replicability of the model by the same lead firm or others.

Overall, PPPs and bulk product linkages achieved the highest per-project results in several categories. In terms of SMEs and number of farmers reached and SME overall sales revenues, PPPs achieved the highest average results. The higher success rates of PPPs are not surprising, considering that they combine the technical expertise and project management of the private sector with the development objectives and funding of the public sector. The private sector manages most PPPs, with development institutions and foundations occupying leadership positions. Rarely are governments directly involved in managing PPPs.

Aligned with the predominantly smallholder-based production systems for bulk products (e.g. coffee, cacao, nut, fruits, vegetables), the number of farmers reached is substantial, regardless of target market.

The literature review and meta-analysis found some interesting trends regarding differences between publicly and privately driven approaches. Private
sector lead firms tend to prefer smaller, tighter supplier bases, cultivating relationships with fewer yet stronger supplier networks, which means that private interventions tend to reach fewer SMEs (and consequently fewer farmers) than public ones. As might be expected, there is a positive relationship between project duration and number of SMEs reached. Public initiatives are often regional and may be more inclined towards farmer outcomes and often reach more farmers, whereas private sector linkage projects are primarily focused on SMEs as processors and aggregators.

5.3 Cost–Benefit Analysis

Cost-benefit analysis is uncommon for agro-processing linkage initiatives, and the inconsistency of results reporting limits their representation. Only bottom-up and industry-wide initiatives provided cost-benefit analysis figures, yet publicly supported linkage initiatives often provided program budget information, which allows cost per results to be calculated.

Industry-wide initiatives record the highest cost-benefit for the indicators of SMEs financed and sales facilitated. Where reported, figures varied widely, with the level of sales generated per project dollar ranging from US$3.12 to US$13 and the amount of finance leveraged per public funding dollar ranging from US$1.72 to US$22. Industry-wide initiatives reported the highest cost-benefit analysis figures for both categories.

5.4 Sustainability

The most-indicative measure of the sustainability of a linkage is whether the business relationship lasts after the end of the initiative. Sustainability was strongest with the 15 privately led initiatives; 46% described their sourcing relationships as ongoing. Of the 51 initiatives with public funding, the 13 PPPs achieved the highest sustainability rate, with 38% recording continued supplier development initiatives and sourcing relationships without public support. That said, more than one quarter of the 51 publicly supported initiatives examined were still in their prescribed period of public funding, limiting conclusions about the sustainability of these programs. Therefore, it is too early to say which type of implementation modality yields a more-sustainable business relationship in the long term; additional examples and research will help address questions of sustainability.

6. Recommendations for Future

This study focused on the important role that lead firms and agro-processing SMEs can play within value chains for their mutual benefit, the nature of the linkages between the value-adding SMEs and the lead firms, and how to generate and deepen these linkages. Further research will help define opportunities to bring lead firms together with agro-processing SMEs and should include:

i. Preparation of additional case studies to examine the various approaches that can be taken to create successful linkage initiatives according to the needs of different value chain actors

ii. Creation of a larger sample of linkage projects that bring together lead firms and SMEs

iii. Uniform definition and collection of empirical evidence to measure and compare the effects of project development

The collection of case examples describes a wide range of specific projects and linkage initiatives. Information was obtained from private- and public sector–led projects that provide insights into bottom-up and top-down business linkage initiatives. The wide range of emerging value chains provides real opportunities for the private sector, governments, and development institutions to be innovative and pursue opportunities in developing economies.
### Annex 1: Illustrative Results of Publicly Supported Linkage

<table>
<thead>
<tr>
<th>Initiative name</th>
<th>Raw material</th>
<th>Countries</th>
<th>Farmers reached</th>
<th>SMEs reached</th>
<th>Other results</th>
<th>Project cost ($)</th>
<th>Cost per farmer ($)</th>
<th>Cost per SME ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom-up (includes overlap with Industry-wide)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Souther Ukraine Vegetable Supply</strong></td>
<td>Horticulture</td>
<td>Ukraine</td>
<td>157</td>
<td>67</td>
<td>23 new marketing channels, processing 15% greater volume of throughput; farm yields increased 50%, losses reduced from 22% to 2%, 1 policy reform, $5 million financing facilitated, $13 million sales revenue</td>
<td>40,000,000</td>
<td>254,777</td>
<td>597,015</td>
</tr>
<tr>
<td><strong>Vinnitsya Fruit Supply Chain Development</strong></td>
<td>Horticulture</td>
<td>Ukraine</td>
<td>2,150</td>
<td>52</td>
<td>$20 million sales revenue, 4 policy reforms, $6 million financing facilitated, 32 new marketing channels</td>
<td>3,182,260</td>
<td>1,480</td>
<td>61,197</td>
</tr>
<tr>
<td><strong>CM Gikonko Rice Mill/ U.S. Agency for International Development Post-Harvest Handling and Storage Project</strong></td>
<td>Grains</td>
<td>Rwanda</td>
<td>83,676</td>
<td>358</td>
<td>Losses reduced from 40% to 5%, $60,000 sales revenue, 3 policy reforms, $1.6 million finance facilitated, 53 new marketing channels</td>
<td>9,100,000</td>
<td>109</td>
<td>25,419</td>
</tr>
<tr>
<td>Initiative name</td>
<td>Raw material</td>
<td>Countries</td>
<td>Farmers reached</td>
<td>SMEs reached</td>
<td>Other results</td>
<td>Project cost ($)</td>
<td>Cost per farmer ($)</td>
<td>Cost per SME ($)</td>
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<tr>
<td>Moldova Agriculture Competitiveness Project</td>
<td>Horticulture</td>
<td>Moldova</td>
<td>5,000</td>
<td></td>
<td></td>
<td>18,000,000</td>
<td>3,600</td>
<td>Unknown</td>
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<td>Vinnytsya Dairy</td>
<td>Milk</td>
<td>Ukraine</td>
<td>244</td>
<td>48</td>
<td></td>
<td>1,400,000</td>
<td>5,738</td>
<td>29,167</td>
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<tr>
<td>West Bank/Gaza Olive Oil</td>
<td>Olive oil</td>
<td>West Bank / Palestine</td>
<td>1,000</td>
<td>9</td>
<td></td>
<td>693,784</td>
<td>694</td>
<td>77,087</td>
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<tr>
<td>Horticulture Exports 2</td>
<td>Horticulture</td>
<td>Afghanistan</td>
<td>1,446</td>
<td>4</td>
<td>$4 million sales revenue, 240 jobs created, $404,000 finance facilitated, 8 new marketing channels</td>
<td>1,748,261</td>
<td>1,209</td>
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<td>Agri-Sector</td>
<td>Cashew, Rice</td>
<td>Cambodia</td>
<td>5,082</td>
<td>299</td>
<td>Processing increased from 2% to 37%, $13 million sales revenue, 3 new firms operating, 1 new marketing channel</td>
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<td>Production, Finance and Technology Project Plus</td>
<td>Grains</td>
<td>Zambia</td>
<td>250,000</td>
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<td>Cost per SME ($)</td>
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<tr>
<td>Bottom-up (includes overlap with Industry-wide)</td>
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<tr>
<td>Production, Finance and Technology Project Plus</td>
<td>Livestock, specialty</td>
<td>Zambia</td>
<td>629,489</td>
<td>4,000</td>
<td>2,500 jobs created, $270,000 sales revenue, 4 policy reforms, $180 million finance facilitated, 5 new firms operating, 1 marketing channel established</td>
<td>22,000,000</td>
<td>35</td>
<td>5,500</td>
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<td>New Opportunities in Agriculture</td>
<td>Horticulture, dairy, specialty</td>
<td>Kosovo</td>
<td>7,803</td>
<td>137</td>
<td>6,152 jobs created, $12 million sales revenue, 1 policy reform, 422 new marketing channels</td>
<td>11,848,958</td>
<td>1,519</td>
<td>86,489</td>
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<td>Action for Sustainable Agro-Industry in Lebanon</td>
<td>Horticulture, livestock</td>
<td>Lebanon</td>
<td>1,785</td>
<td>82</td>
<td>$2M finance facilitated, 1700 jobs supported, increased income $10M for producers and $100k for SMEs</td>
<td>6,900,000</td>
<td>3,866</td>
<td>84,146</td>
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<tr>
<td>Dairy Enterprise Initiative</td>
<td>Milk</td>
<td>Zambia</td>
<td>2,020</td>
<td>18</td>
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<td>1,998,875</td>
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<td>111,104</td>
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<td>Dairy Development Program</td>
<td>Milk</td>
<td>Nigeria</td>
<td>2,500</td>
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<td>Economic Prosperity Initiative Horticulture, specialty (hazelnuts)</td>
<td>Georgia</td>
<td>8,577</td>
<td>301</td>
<td>10,500 jobs created, $61 million sales revenue, 2 policy reforms, 50 new firms starting, 6 new marketing channels</td>
<td>40,000,000</td>
<td>4,664</td>
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<td>66,729</td>
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<td>Median</td>
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<td>2,500</td>
<td>67</td>
<td>9,100,000</td>
<td>1,480</td>
<td>84,146</td>
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<td>Industry wide only</td>
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<tr>
<td>Private Investment Promotion Project Nuts Senegal</td>
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<td>19,138</td>
<td>19,138</td>
<td>3 policy reforms, 772 new firms operating</td>
<td>44,440,000</td>
<td>2,322</td>
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<td>Armenia Food Safety Project Food safety of final products</td>
<td>Armenia</td>
<td>70</td>
<td></td>
<td>$2 million finance facilitated</td>
<td>495,000</td>
<td>7,071.43</td>
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<td>Ukraine Food Safety Project Food safety of final products</td>
<td>Ukraine</td>
<td>15</td>
<td></td>
<td>44% improvement in food safety scores</td>
<td>1,959,703</td>
<td>130,646.87</td>
<td>130,647</td>
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<tr>
<td>Agribusiness Standards Advisory in Europe and Central Asia - Auchan Food Safety Program Food safety of final products</td>
<td>Ukraine, Belarus, Moldova, Kyrgyzstan, Armenia, Serbia, Tajikistan, Kazakhstan, Uzbekistan, Azerbaijian, Georgia</td>
<td>56</td>
<td></td>
<td>4,553,700</td>
<td>81,316.07</td>
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<tr>
<td>Industry wide only</td>
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<td>5% reduction of losses, 13 jobs created, $7 million SME revenue, 2 policy reforms, $22.7 million finance facilitated, 10 SMEs certified, 2 new marketing channels</td>
<td>1,200,000</td>
<td>3,069.05</td>
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<td>Georgia Food Safety</td>
<td>Food safety of final products</td>
<td>Georgia</td>
<td>391</td>
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<tr>
<td>Regional Quality Coffee</td>
<td>Coffee</td>
<td>Guatemala, El Salvador, Nicaragua, Costa Rica, Honduras, Panama, and the Dominican Republic</td>
<td>30,000</td>
<td>35</td>
<td>$19 million SME revenue, 1 policy reform, 17 new firms operating, 1100 firms certified, 16 new marketing channels</td>
<td>Unknown</td>
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<td>Georgia Food Safety</td>
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<td>1,200,000</td>
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<td>Regional Quality Coffee Program</td>
<td>Coffee</td>
<td>Guatemala, El Salvador, Nicaragua, Costa Rica, Honduras, Panama, and the Dominican Republic</td>
<td>30,000</td>
<td>35</td>
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<tr>
<td>Direct Farm Pilot Program</td>
<td>Horticulture</td>
<td>China</td>
<td>54 communities</td>
<td>500</td>
<td>1 policy reform</td>
<td>Unknown</td>
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<td>West Bank / Gaza Olive Oil 2</td>
<td>Specialty Olive Oil</td>
<td>West Bank / Palestine</td>
<td>576</td>
<td>2</td>
<td>1 marketing channel</td>
<td>796,916</td>
<td>398,458</td>
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<td>IFC Cocoa</td>
<td>Cocoa</td>
<td>Ivory Coast</td>
<td>32,110</td>
<td>1,210</td>
<td>1210 jobs supported</td>
<td>1,400,000</td>
<td>1,157</td>
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<tr>
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<td>16,343</td>
<td>571</td>
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<td>199,808</td>
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<tr>
<td>median</td>
<td>16,343</td>
<td>500</td>
<td>1,098,458</td>
<td>199,808</td>
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<td>All projects</td>
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<td></td>
<td>59,090</td>
<td>1,253</td>
<td>11,785,923</td>
<td>47,394</td>
<td>126,173</td>
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<td>3,750</td>
<td>67</td>
<td>3,867,980</td>
<td>3,069</td>
<td>79,202</td>
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</table>
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Endnotes

1. Austin describes four categories of agro-processing, organized according to the complexity of transformation. Examples of Level 1 processing are grading and transport-stabilization, such as cooling and drying. Level 2 processing involves extraction, pressing, cutting, and fermenting. Level 3 processing is final consumer packaging. Level 4 processing does not take place in this study’s initiatives.

2. The agro-processing subsector, in particular, is highly integrated with the agriculture and services sectors of the economy, thereby having a broad effect through its economic footprint (da Silva et al. 2009). Agro-processing activities create a demand pull for upstream raw materials; inputs; veterinary services; production and harvest equipment; aggregation; wholesale; sorters; graders; and professional support services such as financial services; third-party certifications; and packaging, storage, warehousing, and logistics services. In turn, opportunities for income growth and greater value generation are created for every actor in the value chain from production to distribution and sales (da Silva 2006; Austin 1982).

3. This report drew from two literature reviews that summarize theories and practices in the area of supplier development (Ahmed and Hendry 2012; Chavhan et al. 2012) and the Chartered Institute of Procurement and Supply report (CIPS 2013), which provides practical guidance to buying firms on supplier development initiatives. Ahmed and Hendry (2012) distinguish direct from indirect supplier development activities. Indirect supply development activities require minimal engagement or resources and include instruments such as performance evaluation and feedback and provision of incentives for performance improvements. Direct capacity-building activities transfer knowledge, skills, and in limited cases, capital to suppliers. These instruments include establishing performance-based incentives, sharing product or market information, on-site consultation, educational and training programs, and personnel transfer programs.

4. Section 3–5 are based on the literature review, the case studies, the meta-analysis, and the guidance note for policymakers and development practitioners.


6. Within the private-sector context, a supplier development program is defined as “any effort by an industrial buying firm to improve the performance or capabilities of a supplier” (Chavhan et al. 2012, p. 37). There is a growing body of literature on supplier development programs of private entities (buyers and suppliers) because they are perceived as building blocks of supplier management practices and are considered important to maintaining a competitive edge in the marketplace. The literature review discusses the findings from two literature reviews that summarize theories and practices in this area (Ahmed and Hendry 2012; Chavhan et al. 2012). Lead firms working with SMEs are often involved in supplier development programs.