



Food and Agriculture
Organization of the
United Nations



INCLUSIVE BUSINESS MODELS

Guidelines for improving linkages
between producer groups and
buyers of agricultural produce

Location	Price
markets	
Jakawa	
Kasese	550/kg
Nakasero	900/kg
Central	1300
Holkeria	850





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**Guidelines for improving linkages between
producer groups and buyers of agricultural produce**

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Contents

PREFACE	vi
ACKNOWLEDGEMENTS	vii
EXECUTIVE SUMMARY	viii
ABSTRACT	xiv
ABOUT THE AUTHORS	xv
ACRONYMS	xvi
INTRODUCTION	xviii
CHAPTER 1	
Inclusive business models – The conceptual framework	1
1.1 Background	1
1.2 Rationale for an inclusive business model approach	2
1.3 What is meant by an inclusive business model?	3
1.4 What is meant by an inclusive business model approach?	4
CHAPTER 2	
Drivers of business models	7
2.1 Producer-driven models and smallholder organization	7
2.2 Buyer-driven models and smallholder procurement	8
2.3 Public institutional procurement models	10
2.4 Intermediary-driven business models	10
2.5 Driver entry points for inclusive business models	11
CHAPTER 3	
Facilitating inclusive business models – principles and tips	13
3.1 Principles of an inclusive business model	13
3.2 What principles make a business model inclusive?	14
3.3 What principles make a business model competitive?	15
3.4 Good practice guidance tips on targeting business model participants	16
CHAPTER 4	
Moving to upgraded business models	19
4.1 Appraising current business models	19
4.2 Identifying common upgrading priorities	20
4.3 Designing an upgraded business model	22
4.4 Measuring progress	22

CHAPTER 5	
Lessons from the field on inclusive business models	25
5.1 Description of crop categories	26
5.2 Lessons on business models in food staple value chains	27
5.3 Lessons on business models in high-value and cash crop chains	33
5.4 Conclusions	38
Bibliography	39
Further reading – Guides for the development of IBMs	43
ANNEXES	
Case application of the inclusive business model approach	45
ANNEX 1	
Palm oil in Cameroon	47
ANNEX 2	
Cassava commercialization in Cameroon	61
ANNEX 3	
Cotton in Kenya	73
ANNEX 4	
Roots and tubers in the Caribbean	85
ANNEX 5	
Fruit and vegetables in Vanuatu	95

FIGURES

1. Location of cooperatives in Cameroon	49
2. Fresh fruit bunches value chain in MANAFACOOOP	51
3. Crude palm oil value chain in SOCOAP and SOCAMAK	52
4. Upgraded MANAFACOOOP value chain	58
5. Cassava general value chain in Cameroon	65
6. Collection points along the Akonolinga-Yaoundé highway in central Cameroon	69
7. Average seed cotton prices in Kenya (KSh/kg)	77
8. Cotton value chain	78
9. Upgraded cotton value chain	79

TABLES

1. Driver models for smallholder-based business models	8
2. Business model appraisal – farmer organizations	20
3. Business model appraisal – buyers of agricultural produce from smallholders	21
4. Workshop input – identifying common upgrading priorities	22
5. Tools and activities for enhancing inclusive and competitive components of smallholder-based business models	23
6. Comparative cost/benefit analysis for palm oil	55
7. Product specifications of Teuma Gardens	101
8. Product specifications of Vanuatu Direct	101

BOXES

1. Criteria for inclusive business models	4
2. Constraints facing small and medium agro-enterprises	9
3. Role of public policy	13
4. Criteria for improving inclusiveness in a business model	15
5. Criteria for improving competitiveness in a business model	16
6. Steps for implementing the inclusive business model approach	19
7. Examples of indicators to measure business model progress	24

Preface

Over the past decade, there has been an increase in investments aimed at facilitating the integration of smallholders into value chains, many of which have adopted a value chain approach. The successes and failures of many of these initiatives have been well documented. Results confirm that, in most cases, the producer-first buyer point of sale continues to be the most inefficient linkage, affecting the overall chance of a competitive and inclusive value chain.

To strengthen the weakest link in the chain, development partners have in recent years been developing variations of approaches that focus on analysing and reinforcing business models between producers and their buyers.

Generally, small actors are tied into agricultural value chains through business models that include small and large traders, formal cooperatives, informal groups, small artisanal food processors and local spot markets. The complexity of these business models will vary depending on the commodity, entity of those involved, local context and market structure.

FAO has developed these guidelines to support development practitioners in their fieldwork on strengthening business models that include smallholders in value chains. The methodology is basic and flexible so it can be adapted to the complexity of the various types of business models operating in smallholder-based agricultural value chains.

A major contribution of these guidelines to the canon of literature and tools on agricultural value chain development is the guidance it provides to practitioners on trade-offs between the “inclusive” and “business” elements of an inclusive business model (IBM).

The guidelines advise that the integration of smallholders into value chains should only take place when there is a viable business case. However, promoting viability and competitiveness alone cannot be depended upon to reduce poverty. Indeed, overreliance on the private sector can result in poorly coordinated markets and further exclusion of marginalized groups.

It is therefore important for actors in development to be continuously evaluating the trade-offs that need to be made between a business model that is viable and a business model that addresses the constraints of linking small actors and vulnerable groups to markets. These guidelines provide designers and implementers of agricultural value chain programmes and projects with the tools to make this critical evaluation so that investments in business models result in poverty reduction, improved food security and sustainable value chains.

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Executive summary

These guidelines have been developed to support the growth of inclusive business models (IBMs) that integrate smallholders into agricultural value chains. Much of the work that FAO and its partners do in field project development on agricultural value chains involves the promotion of linkages between smallholders and buyers of agricultural produce. The objective of these guidelines is to support practitioners in both the public and private sectors that design and implement these projects. The methodology described has been pilot tested across Africa, the Caribbean and the Pacific with support from the European Union (EU) and the Government of Ireland and is accompanied by guidance tips, principles and criteria based on experiences during its implementation. Findings are categorized according to crop types, cash, high-value and food staple crops – which provide an additional source of guidance useful in the design, planning and implementation phases. A FAO policy brief further complements these guidelines, describing how the public sector can contribute to both the inclusive and competitive goals of inclusive business models.

WHAT IS MEANT BY AN INCLUSIVE BUSINESS MODEL?

IBMs promote the integration of smallholders into markets with the underlying principle that there are mutual benefits for poor farmers and the business community.

A business model describes how any given enterprise – large or small, informal or formal – does business, markets its products and sources inputs and finance. Various types of business models link small farmers to agricultural value chains. These include traders, farmer organizations, agrifood processors, retailers and contract farming arrangements with large buyers. Small farmers can also supply food to the public sector under institutional procurement business models, for example, to schools, hospitals and food reserves.

The “inclusive” element of the IBM concept relates to the constraints of linking commodity-dependent smallholders and small enterprises to markets. The “business” element relates to mainstreaming business tools and private sector approaches into agricultural development.

The inclusive and business elements of an IBM often involve competing forces. Trade-offs sometimes have to be made if a business model, inclusive of small actors, is expected to generate profits and grow as an enterprise. These guidelines contribute to bringing these trade-offs to the surface and ensuring that support to smallholder-based business models results in poverty reduction, improved food security and more competitive agricultural value chains.

The following are guiding criteria for assessing the level of inclusiveness and sustainability of a business model. It is inclusive when it:¹

- *provides a living wage*² for *vulnerable groups*, such as smallholders, small enterprises, women-and youth-run enterprises, while also enabling buyers to profit;
- *uses flexible trading arrangements* that make it easier for smallholders or micro or small enterprises (MSEs) to supply a buyer, such as cash on delivery, accepting small consignments, and providing reliable and regular orders;
- *supports farmers and small enterprises to establish a stronger negotiation position* through skills development, collective bargaining and access to market information and financial services;
- *builds on the skills and expertise of existing market players*, including traders and processors, and promotes value chain collaboration, transparency in pricing mechanisms and risk sharing;
- *is scalable in the medium term* so that the number of small actors involved can be increased and/or the type of business model can be replicated in other value chains or parts of the sector;
- *allows for diversified income streams* in the long term, enabling the dissemination of upgraded skills to the rest of the sector and avoiding overdependence on any single buyer or market outlet.

DRIVERS OF INCLUSIVE BUSINESS MODELS

Smallholder business models can be driven by a group of organized producers, private and public buyers of food (also known as institutional buyers or intermediary market brokers), including non-governmental organizations (NGOs).³ Smallholders that produce a surplus and are looking for market opportunities beyond the farmgate or local spot market will typically be linked to the market by one of these drivers.

Producer-driven models are motivated by small-scale producers, based on collective action for better participation in markets. Buyer-driven models involve larger businesses organizing farmers into suppliers, which can also include the provision of inputs and technical advice based on buyers' needs, known as contract farming or outgrower schemes.

Public-driven models refer to public sector institutions such as schools, hospitals, food reserve authorities, food aid and school feeding programmes that procure food regularly. There are a growing number of initiatives focused on linking small farmers to these buyers.⁴ Last, intermediary models are commonly led by local NGOs and involve the provision of technical assistance and agribusiness development to

¹ These criteria have been adapted from the findings of an expert workshop on IBM held in Rome, October 2013 (FAO, 2014a).

² Oxfam defines a living wage as “one which for a full-time working week (without overtime) would be enough to meet a family’s basic needs and allowing a small amount for discretionary spending” (Oxfam, 2006).

³ This concept was initially developed in *Business models for small farmers and SMEs* (FAO, 2008).

⁴ Examples are the FAO/World Food Programme (WFP)/Government of Brazil initiative on Purchase from Africans for Africa (PAA Africa) project, which aims to link local food production to school feeding programmes, and WFP’s Purchase for Progress (P4P) programme.

improve smallholder market linkages. NGOs are normally funded and guided by an external actor, donor, government or large technical institution such as FAO.

WHY DEVELOP GUIDELINES TO SUPPORT INCLUSIVE BUSINESS MODELS?

The rationale for supporting business models is anchored to the premise that smallholders are linked to markets through buyers on a regular basis with different levels of support from the types of drivers referred to above. These linkages are based on a business case perceived by both farmers and buyers themselves. However, they mainly take place in unfavourable business-enabling environments.

Collectively, these types of linkages can make enormous contributions to local and national economic development. The belief is that by tapping into already ongoing local smallholder market linkages, local actors can be supported to circumvent “disabling” environment obstacles. In addition, sharing the lessons from these experiences with policy-makers can contribute to reforms in the local business-enabling environment, leading to improvements in both smallholders’ livelihoods and the competitiveness of agricultural value chains.

Against this rationale, these guidelines have been developed under FAO’s value chain and market linkages programme to help value chain practitioners appraise and design interventions for the local level, where value chain linkages are at their weakest.

The guidelines target designers of agricultural value chain projects, rural development projects and enterprise development projects as well as grassroots NGOs that implement these types of projects. Large agribusiness companies that procure from smallholders may also find this publication useful.

INCLUSIVE BUSINESS MODEL APPROACH – A METHODOLOGY

The methodological framework, described in Chapter 3, begins with a review of checklists to help practitioners address the “competing forces” between the inclusive and business elements in the design phase. Good practice guidance tips also help with the targeting of appropriate commodities and business model actors. The methodology proceeds to guide the appraisals of individual business models of the smallholder group and buyer. These appraisals identify the internal dynamics of each enterprise, how they are doing business with other value chain actors and each actor’s priorities.

The priorities identified from each business model appraisal are cross-checked against one another to identify upgrading priorities that are common to both the smallholder group and buyer. Interventions are then designed and implemented in ways that focus on common priorities to enhance the chances of investments in “win-win” solutions for both actors.

The basic steps for implementing a business model approach are to:

- *appraise the current business model*: compare the separate business models of the farmer organization and buyer;
- *identify common upgrading priorities*: prioritize upgrading needs that are common to both seller and buyer;
- *design an upgraded business model*: design interventions that respond to the common upgrading priorities identified;
- *measure progress*: set indicators to be measured on a continual basis.

APPLICATION AND LESSONS FROM THE FIELD

A methodological framework to support the development of IBMs was first pilot tested under the All ACP Agricultural Commodities Programme (AAACP) funded by the European Commission between 2007 and 2012.⁵ Further iterations and refining of the approach have taken place in Africa with the support of the Government of Ireland.⁶ The approach and findings from the implementation of the approach have since been mainstreamed into FAO's field programme on value chains and market linkages. The Annexes provide five country and commodity-specific case studies that were implemented by FAO under this programme. The cases detail the background, how the approach was applied and lessons learned in each country.

An important contribution of these guidelines is the lessons, described in Chapter 5, that have emerged from the piloting of IBM. They are based on a cross-comparative review of cases where the approach has been applied and are clustered according to crop category: staple, cash or high value.

The rationale for the categorization is that the market and value chain structures of agricultural crops can vary greatly. It is therefore proposed that the design of business model strategies are not only customized to local contexts, stakeholder needs and market structures but also according to crop categories, taking into consideration the following implications.

- *Staple food value chains* such as rice, cassava and maize have been traditionally grown by smallholders for food security. When household consumption has been met, farmers will generally sell any surpluses at the farmgate or at local spot markets, through informal cash transactions. However, fast growing industrial and biofuel markets are changing the structure of staple food crops. Large agroprocessors and breweries are increasingly looking to the production of crops such as maize, rice, cassava and sorghum for industrial processing uses. These trends are providing farmers and small traders and processors with more lucrative opportunities from staple crops. Currently, most growth in the commercialization of food crops comes from increasing domestic and regional demand for traditional processed and semi-processed food products. These value chains are complex, made up of mainly informal or semiformal business models between small farmers and equally small and fragmented traders and processors. Most processing that goes on is at cottage level or artisanal with little adherence to food safety standards and with limited business acumen.
- *Cash crop value chains* such as cotton, coffee, cocoa and fresh bunches of oil-palm are, compared with food crops, more formal with short chains and few key actors. These crops are primarily farmed for cash, and smallholders can acquire experience through outgrower schemes or formal contract farming arrangements.⁷ Pricing mechanisms in cash crops are highly dependent on

⁵ <http://www.euacpcommodities.eu/en>

⁶ Full proceedings for each of the meetings and training can be found at <http://www.fao.org/ag/ags/ivc/inclusive-business-models/en>

⁷ For more information on contract farming, see <http://www.fao.org/ag/ags/contract-farming/index-cf/en>

international market prices that are volatile, often causing market scarcities, gluts and price spikes.

Cash crops, apart from primary processing carried out by small and medium-sized enterprises, have very little value added in the country of origin. If the crop is not highly perishable, such as cotton, it is sometimes retained by farmers as a form of savings for unforeseen expenses during the year.

- *High-value food crop value chains* such as fruit and vegetables typically operate in well-coordinated markets with a clear value chain driver such as an exporter, supermarket or large processor. If this food forms part of the local diet, farmers may retain some production for household consumption and also target local informal markets. This can cause problems for a contracted buyer in the form of side-selling. Buyers are usually medium to large sized and well organized, with a relatively competent level of managerial and technical skills. High-value crops have more opportunities than cash crops for in-country value addition such as drying, cleaning and packaging.

Given the above crop category structures, business model strategies for food crops need to be adapted to informal business environments that are extremely fragmented but that have many opportunities for local value addition and for improving food safety and hygiene. Strategies for cash crops can look at introducing more inclusive practices into contract farming arrangements while high-value crops can be exploited to transfer skills developed for export markets to improve the quality and safety of products for local food markets.

MOVING FORWARD WITH THE IBM APPROACH (AND CAVEATS)

The IBM approach has not been implemented without difficulty, with unforeseen issues ranging from conflicts within farmer organizations over governance to various cases of buyers not respecting informal or formal contracts.

All difficulties, however, were a reflection of realities on the ground and market dynamics, as well as influences from institutions and individuals that contribute in one way or another to daily business in a local community. The challenges faced were documented, contributing to the learning process for the local public and private sectors and FAO. The approach was intentionally kept broad and basic to allow for these dynamics, so that business was facilitated instead of pushed or subsidized in a way that undermined local markets.

Finally, it is important to emphasize that some groups of smallholders, despite support and investment, will not be able to compete in agricultural value chains, even through IBMs. This may be because such groups do not produce enough surplus to target markets and they are primarily subsistence farmers. Becoming a member of an organized farmer group or another type of business model, for whatever reason, is not an option. They will therefore continue to rely on ad hoc farmgate sales, local spot markets or off-farm activities. These farmers may require alternative livelihoods and social welfare support strategies.

In short, supporting the development of business models that integrate smallholders into value chains is not a strategy for the poorest of the poor or a panacea for all development ills. Rather, it needs to be applied alongside broader market system and poverty reduction approaches.

It is the role of organizations such as FAO and its partners in development, in collaboration with local NGOs and national governments, to make the strategic linkages between socially oriented strategies that specifically target the poorest of the poor and market-oriented livelihoods strategies so that local and international business can become a driver of inclusion.

Abstract

Small actors in agricultural value chains are tied to markets through a series of forward and backward business linkages, which incorporate various types of business models. The complexity of these business models varies according to the commodity, number of actors involved, local context and market structure. Aimed at designers of agricultural value chain projects, rural development projects and enterprise development projects, together with grassroots NGOs that implement smallholder commercialization projects, these guidelines have been developed to facilitate the design and implementation of interventions that strengthen business models linking smallholders to value chains. An important contribution of this publication to existing literature on agricultural value chains is the guidance it provides on designing business model strategies that do not only link smallholders to markets, but that also encourage practitioners to consider the quality of market inclusion and its impact on poverty reduction.

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Acronyms

AAACP	All ACP Agricultural Commodities Programme
ACP	African, Caribbean and Pacific Group of States
CaFAN	Caribbean Farmers Network
CARDI	Caribbean Agricultural Research and Development Institute
CARICOM	Caribbean Community
CIAT	International Center for Tropical Agriculture
CIDA	Canadian International Development Agency
CODA	Cotton Development Authority
CPO	crude palm oil
DARD	Department of Agriculture and Rural Development
ECTAD	Eastern Caribbean Trading and Agriculture Development Organization
EU	European Union
FCI	Farm Concern International
FFB	fresh fruit bunches
FLG	farmer learning group
FSA	farm support association
GAP	good agricultural practice
GIZ	German Agency for International Cooperation
GRET	<i>Groupe de recherche et d'échanges technologiques</i> (French development NGO for research and technology exchanges)
IBLF	International Business Leaders Forum
IBM	inclusive business model
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IIED	International Institute for Environment and Development
IITA	International Institute of Tropical Agriculture
KONAFSCOOP	Konye Area Farmers' Cooperative (Cameroon)
MCoPD	Ministry of Cooperatives and Development
MSEs	micro and small enterprises
NGO	non-governmental organization
OECD	Organisation for Economic Co-operation and Development
PAA Africa	Purchase from Africans for Africa
P4P	Purchase for Progress
PNDRT	<i>Programme national de développement des racines et tubercules</i> (National Programme for the Development of Roots and Tubers)
R&T	roots and tubers
SA	<i>Syndicate agricole</i> (agricultural syndicate)

SAILD	Support Service to Grassroots Development Initiatives
SFL	sustainable food lab
SMAEs	small and medium agro-enterprises
SMEs	small and medium-sized enterprises
SNV	Netherlands Development Organization
STCP	Sustainable Tree Crops Programme
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
WBCSD	World Business Council for Sustainable Development
WFP	World Food Programme
WRS	warehouse receipt system(s)

Introduction

Small actors in agricultural value chains are tied to input and output markets through a series of forward and backward business linkages. Small actors are smallholder groups or organizations, small traders, retailers and agroprocessors, among others. Each is an enterprise in itself, regardless of size. At the level of a single enterprise or business, the term “business model” refers to an enterprise’s “way of doing business” – how it carries out its business, views its customers’ needs and puts in place a strategy to target a specific market and generate profits. Each enterprise has its own unique business model. Agricultural value chains are composed of various types of business models that link different actors along the chain.

The term “inclusive” refers to the belief that supporting business models at the local level, where value chain linkages are at their weakest, can strengthen the overall competitiveness of a value chain. It relates to the constraints of linking commodity-dependent smallholders to markets and to the quality of the inclusion, since procuring from smallholders is not, in itself, equal to inclusive development or moving smallholders out of poverty. For a business model to be considered inclusive, it ultimately needs to result in moving smallholders out of poverty and improving food security.

OBJECTIVES OF THE GUIDELINES

These guidelines have been developed to facilitate the design and implementation of interventions that improve small actors’ business models. Trade-offs sometimes have to be made if a business model, inclusive of small actors, is expected to generate profits and grow as an enterprise. Criteria are provided on how to expose these trade-offs, so that interventions are designed to ensure that smallholder-based business models contribute to poverty reduction and improved food and nutrition security – as well as to competitive agricultural value chains.

The guidelines were designed to support the integration of small farmers into value chains. Pilot testing was carried out with over 50 different forms of formal and informal farmer organizations and their respective buyers, which ranged from large industrial agroprocessors to small wholesalers. The inclusive business model (IBM) approach can nonetheless be customized to strengthen the business models of different types of small traders, retailers and agroprocessors working in the agricultural sector.

The guidelines target designers of agricultural value chain projects, rural development projects and enterprise development projects, as well as grassroots non-governmental organizations (NGOs) that implement smallholder commercialization projects. Managers responsible for market development in apex farmer organizations may also find the guidelines useful when designing interventions for their members. Similarly, agribusiness units within the Ministry of Agriculture could also adopt the IBM concept and promote the use of the methodology when

discussing project and programme design with extension services, development agencies or donors. Large agribusiness firms interested in procuring from farmer organizations, small farmers or enterprises could also adapt some tools from the guidelines. They may find the section on principles in Chapter 3 useful for improving the “inclusiveness” of their procurement approach, by ensuring that concerns of local actors are addressed or at least understood. A brief on the same topic accompanies these guidelines, targeting policy-makers.

The concept and approach described in this document need to be used alongside existing value chain tools and market knowledge and adapted to local business model contexts. A further reading section provides links to a number of practical guides that support the development of IBMs in developing countries.

STRUCTURE OF THE PUBLICATION

The publication is divided into five chapters. Chapter 1 provides the conceptual background on IBMs, the rationale for developing an approach for supporting business models, and what is meant by IBM and the IBM approach. Chapter 2 presents the drivers for IBMs, which include producer organizations, buyers, government and intermediary organizations. Chapter 3 provides guidance on the design phase of a programme or project, including principles that address both the “inclusive” and “business” elements of IBMs and good practice guidance on selecting target participants. Chapter 4 describes the four-step process for upgrading smallholder-based business models. These include appraising the current business model, identifying upgrading priorities common to sellers and buyers, designing an upgraded business model and measuring progress with suggested indicators.

Chapter 5 includes a number of cross-cutting lessons and measures taken to customize the IBM approach to the characteristics of a range of business models operating in food staples, cash crops and high-value food chains supported under FAO’s wider field programme on market linkages and value chains.

The Annexes include a selection of five detailed country- and commodity-specific case studies for palm oil and cassava in Cameroon, cotton in Kenya, roots and tubers (R&T) in the Caribbean and fruit and vegetables in Vanuatu. The cases outline the rationale for promoting the IBM approach in each particular context, with insights on the customization of the approach, details on the activities implemented, the innovations that took place and the lessons learned from each case.

USE OF TERMS

The terms “enterprise” and “business” are used interchangeably and can refer to the enterprise development activities of a farmer organization, an informal farmer group, a marketing cooperative or cottage microenterprise, a small agroprocessor or a large buyer. Similarly, “farmer organizations”, “smallholder groups” and “smallholders” are used interchangeably and refer to small farmers that are organized to market a surplus of agricultural produce. The term “buyer” refers to an individual, small or large company or entity that procures, agriculture produce from a group of farmers or a farmer organization.

Chapter 1

Inclusive business models – The conceptual framework

1.1 BACKGROUND

Agricultural systems are influenced by globalization, increased urbanization and changes in consumer preferences. These developments offer opportunities for agriculture-led economic growth. At the same time, they create challenges for the development of inclusive agricultural food systems.

Over the past decade, there has been an increase in investments to improve market opportunities for smallholders. Much of this work has shown the effectiveness of reducing the costs of inter-actor agribusiness along value chains (FAO, 2010).

These types of investments gained major public support with the onset of the 2007–2008 food crisis, which provided the policy justification for placing smallholder-based commodity strategies at the centre of agriculture development programmes, particularly for food commodities.

Many of these initiatives adopted a value chain approach, which is centred on the principles of promoting chain-wide competitiveness and improving collaboration and trust between actors, based on existing market opportunities. Its application begins with an analysis of the interdependence between actors and the formal and informal dynamics of chain partnerships and related needs.

The successes and failures of many of these initiatives have been well documented (Altenburg, 2007; Humphrey and Memedovic, 2006; Proctor and Lucchesi, 2012; Rich *et al.*, 2011; Seville, Buxton and Vorley, 2010). The outputs of much of this work reaffirm, however, that the producer-first buyer point of sale continues to be the most inefficient linkage in most cases, and that smallholders remain the most disempowered group, impacting the overall chances of competitive and inclusive value chains (FAO, 2012a).

Against this background, FAO developed and pilot tested the IBM approach across 16 countries in Africa, the Caribbean and the Pacific. The approach complements value chain thinking, with a specific emphasis on the producer to first-buyer linkage in the chain. It provides insights into the business models of small producers and buyers to improve competitiveness and external investment opportunities. The ultimate goal of the approach is to reduce poverty and improve food security.

The approach and findings from IBM implementation were further disseminated in Africa with the support of the Government of Ireland between 2013 and 2014. Activities included training workshops on the IBM methodological framework for FAO project teams, NGOs and government staff responsible for agricultural value chain development in East and West Africa.

The IBM concept was shared at a regional workshop in Ghana for private and public sector officials from 12 countries across the sub-Saharan region. The meeting identified recommendations for the public and private sectors to promote IBMs, as well as recommendations for FAO in supporting their delivery. The development of a set of guidelines on the IBM approach for designers and implementers of agricultural value chain projects was among the recommendations made.

An expert workshop also took place and brought together 11 NGOs, research, and technical organizations with practical experience developing IBMs under a range of agricultural value chain projects. This meeting identified good field practices for developing IBMs as well as policy recommendations to support upscaling. Relevant findings and good practices identified during these meetings have been incorporated into these guidelines.⁸

1.2 RATIONALE FOR AN INCLUSIVE BUSINESS MODEL APPROACH

The rationale behind an IBM approach is anchored in three concepts and based on FAO's practical experience in implementing the value chain approach for agricultural commodities across developing countries.

The first concept is that small-scale institutional innovations focused on reducing inefficiencies in the value chain are more effective than macro trade- and price-related policies. These initiatives can be far removed from the realities and needs of businesses (Barrett *et al.*, 2012). Findings in business management literature (Delgado *et al.*, 2012) also show that the creation of wealth does not come from macrolevel industrial activities but from firms. It is the ability of the small, medium and large firms that make up an industry to generate returns from innovations and collectively create wealth.

Second, there needs to be a business case for a buyer to procure from smallholders (Vorley, Lundy and MacGregor, 2009). This means that small farmers need to be able to offer buyers something that other larger farmers or suppliers cannot. Also known as a comparative advantage, this can be in the form of access to suitable agricultural land, local agro-ecological knowledge, agroclimatic and hydrological conditions, proximity to appropriate infrastructure (i.e. market feeder roads, warehouses and processing facilities), access to labour, inputs, or no other alternative source of supply close by (Barrett *et al.*, 2012).

Third, when a profitable market opportunity exists, the private sector will find a way to move business forward, even if the business environment is unfavourable. This is because small farmers and their buyers will do business as long as they believe that the net economic profit will be worth more than the transaction costs.

Based on these three concepts, the rationale for supporting IBMs is that smallholders and buyers will engage in business if they perceive there is a valid business case – which exists even in unfavourable business environments. Collectively, these types of linkages make enormous contributions to local and national economic development.

⁸ Full proceedings for each of the meetings can be found at <http://www.fao.org/ag/ags/ivc/inclusive-business-models/en>

Tapping into these already ongoing local smallholder market linkages and supporting them circumvent “disabling” environment obstacles and can improve both smallholders’ livelihoods and value chain competitiveness. Ultimately, the belief is that supporting business models at the local level, where value chain linkages are at their weakest, can strengthen the overall competitiveness of a value chain and result in poverty reduction.

On a more practical level, FAO’s experience supporting agricultural value chain development has shown that value chain committees are excellent platforms for information sharing among actors. However, dialogues and resulting investments may be unduly captured by the strongest actors in the chain. For instance, in newly commercializing food commodity chains in Africa, such as rice and cassava, the bulk of actors, after small farmers, are micro and small-scale enterprises. These actors rarely have a voice in value chain discussions because of a lack of collective representation, even compared with smallholders.

On the other hand, some value chain platforms can be overparticipatory, attempting to address the needs of all actors’ concerns without due consideration to the priorities that will tackle both competitiveness and poverty reduction (FAO, 2012a).

The dissemination of lessons identified from supporting the business models of smallholder groups and small buyers can help to inform value chain strategies to overcome these types of shortcomings.

The objective of these guidelines is to help value chain practitioners appraise and design interventions on two levels. First, to improve the competitiveness of an enterprise by upgrading the business model based on improved collaboration with immediate upstream and downstream actors. Second, to ensure that business models also contribute to poverty reduction and food security by applying the principles on inclusion, described in Chapter 3 of these guidelines.

1.3 WHAT IS MEANT BY AN INCLUSIVE BUSINESS MODEL?

A business model describes how any given enterprise, large or small, informal or formal, does business, markets its products and sources inputs and finance. Each enterprise has its own unique business model.⁹

The “inclusive” element addresses the development constraints of linking commodity-dependent smallholders and small actors to markets by stimulating local business model partnerships that include benefits for smallholder groups and small value chain actors.

Various types of business models link small farmers to agricultural value chains. These include traders, farmer organizations, agrifood processors, retailers and contract farming arrangements with large buyers. Small farmers can also supply food to the public sector under institutional procurement business models, for instance, to schools, hospitals and food reserves.¹⁰

⁹ This definition was developed after a review of literature on the topic that defines the term differently, including: “A business model describes the structure of product service and information flows and the roles of the participating parties” (Johnson and Scholes, 2002, p. 496).

¹⁰ Related definitions can also be found at <http://steveblank.com/category/business-model-versus-business-plan>, <http://smallbusiness.chron.com/differences-between-business-plan-business-model-4744.html>, <http://www.businessmodelgeneration.com>

BOX 1

Criteria for inclusive business models

An IBM:

- *provides a living wage for vulnerable groups*, such as smallholder groups, small enterprises, women- and youth-run enterprises, while also enabling buyers to profit;
- *uses flexible trading arrangements* that make it easier for smallholders or MSEs to supply a buyer, such as cash on delivery, accepting small consignments, providing reliable and regular orders;
- *supports farmers and small enterprises to establish a stronger negotiation position* through skills development, collective bargaining and access to market information and financial services;
- *builds on the skills and expertise of existing market players*, including traders and processors, and promotes value chain collaboration, transparency in pricing mechanisms, and risk sharing;
- *is scalable in the medium-term* so that the numbers of small actors involved can be increased and/or the type of business model can be replicated in other value chains or parts of the sector;
- *allows for diversified income streams* in the long term to enable the dissemination of upgraded skills to the rest of the sector, avoiding overdependence on any single buyer or market outlet.

Source: these criteria have been adapted from findings of an expert workshop on IBM held in Rome, FAO 2014a.

“Inclusive” also refers to the quality of the inclusion, as procuring from smallholders is not, in itself, equal to inclusive development. For a business model to be considered inclusive, it ultimately needs to result in moving smallholders out of poverty and improving food security. Consequently, a business model is inclusive when it integrates smallholders into markets with the underlying principle that there are mutual benefits for poor farmers and the business community.

The inclusive and business elements of an IBM often involve competing forces. Trade-offs sometimes have to be made if a business model, inclusive of small actors, is expected to generate profits and grow as an enterprise. These guidelines contribute to bringing such trade-offs to the surface so that support targeting smallholder business models results in poverty reduction and improved food security, as well as more competitive agricultural value chains.

Box 1 contains a list of criteria and Chapter 3 a number of principles that can help assess trade-offs against a business model’s level of inclusiveness and sustainability.

1.4 WHAT IS MEANT BY AN INCLUSIVE BUSINESS MODEL APPROACH?

The IBM approach has been developed under FAO’s value chain and market linkages programme. Its purpose is to support the design and implementation of interventions that improve the performance and growth of linkages between small-scale producers and buyers.

The approach has adapted business tools to facilitate understanding on interbusiness linkages and to identify context- and commodity-specific solutions to local market obstacles. A cornerstone of the approach is to maintain focus on improving competitiveness through win-win solutions for the smallholder-to-buyer linkage rather than addressing the individual needs or concerns of either actor in isolation.

The approach begins by carrying out an appraisal of the individual business model of a smallholder group and its respective buyer. The internal dynamics of each enterprise and how it is doing business with other value chain actors are appraised. Priorities for moving each business model forward are identified separately and then cross-checked against one another to identify upgrading priorities that are common to both. Interventions are designed and implemented that focus on common priorities or, in other words, “win-wins” for both actors. The methodological approach is described in full in Chapter 4.

Chapter 2

Drivers of business models¹¹

Smallholders that produce a surplus and take market risks beyond the farmgate or local spot markets are typically linked to the market by one or a combination of four main drivers. Smallholder business models are therefore mainly producer driven, buyer driven, public sector driven or intermediary driven.¹²

Producer-driven models are led by small-scale producer organizations motivated by improving market access through collective action. Buyer-driven models involve larger businesses organizing farmers into suppliers. These models can include contract farming¹³ or outgrower schemes, which often include access to inputs, credit and technical advice based on buyers' needs.

A public institutional-driven model can also link smallholders to markets. This type of model refers to public sector institutions such as schools, hospitals, food reserve authorities, food aid and school feeding programmes that procure food on a daily basis. There are a growing number of initiatives focused on linking small farmers to these buyers. Examples are the FAO/WFP/Government of Brazil initiative on Purchase from Africans for Africa (PAA Africa),¹⁴ which aims to link local food production to school feeding programmes, and the Brazilian Food Procurement Programme.¹⁵

Intermediary-driven models are commonly led by local NGOs and involve the provision of technical assistance to improve smallholder market linkages. NGOs are normally funded and guided by an external actor, donor, government or a large technical institution such as FAO.

The following section describes the different characteristics of each of these driver models and their opportunities and constraints for linking smallholders to markets.

2.1 PRODUCER-DRIVEN MODELS AND SMALLHOLDER ORGANIZATION

Smallholder organization – in addition to the benefits related to collective bargaining power, bulking and economies of scale – is a fundamental requirement if smallholders are expected to contribute to and benefit from their participation in a value chain.

¹¹ Adapted from FAO, 2012b.

¹² This concept was initially developed in *Business models for small farmers and SMEs* (FAO, 2008).

¹³ For more information on contract farming, visit FAO's resource centre on the topic at <http://www.fao.org/ag/ags/contract-farming/index-cf/en>

¹⁴ <http://paa-africa.org>

¹⁵ <http://www.fao.org/ag/ags/newsandevents/news/en/c/279054>

TABLE 1
Driver models for smallholder-based business models

Model	Driver	Motivation
Producer driven	Smallholder groups, associations, cooperatives	Access to new markets, increased bargaining power, access to inputs, technical assistance, secure market position, farmer empowerment
Buyer driven	Processors, retailers, exporters, traders, wholesalers	Access to land, supplies, increase volumes, supply niche markets
Public/institutional sector driven	Government procurement, hospitals, schools, food aid agencies	Familiar market outlets closer to home, less demanding requirements than export sector, government incentive to promote local markets
Intermediary driven	NGOs, development agencies, governments	Local and national economic development, farmer empowerment

Source: adapted from FAO, 2008.

Depending on the local context, commodity and market structure, there are a number of ways in which smallholders can be organized to supply the market. Examples are traditional marketing cooperatives that are vertically integrated into value chains, farmer associations mandated to bargain on behalf of members, registered producer groups and informal farmer groups. The most appropriate form of organization depends on the national law governing group associations, local cultural norms, quality of local service provision, and the local commodities and market contexts.

Farmer organizations are not a panacea for all market linkage imperfections, but can offer smallholders the opportunity to address high transaction costs and low bargaining power collectively when faced with demands from buyers for large volumes, lower prices and better-quality produce.

In some cases, farmer-based organizations may be premature or not an appropriate solution for smallholder market integration. This can be for any number of reasons, examples of which are a tarnished history of smallholder organizations in the country; lack of trust between actors, based on local cultural norms; and weak local institutions and human capacity to provide professional leadership. Organizations are also less likely to succeed if they have been driven by external actors not sufficiently familiar with local institutions, culture and markets.

In the absence of effective farmer organizations, alternative procurement arrangements can help smallholder aggregation of supply to markets without necessarily organizing small farmers or exploiting their vulnerability. These models can include outgrower schemes, local trader networks or small business associations.

2.2 BUYER-DRIVEN MODELS AND SMALLHOLDER PROCUREMENT

Understanding the needs and constraints of the buyer is a critical entry point for supporting local business models. Interacting and addressing the needs of buyers can help move them from passive or potential buyers to becoming active business partners for smallholder suppliers.

The buyers of agricultural produce from smallholders vary. They include small and large traders, small agroprocessors, farmer organizations that sell on to larger

buyers or traders, and large agricultural companies through outgrower schemes. If there are no outgrower schemes or projects that support linkages with larger buyers, smallholders typically sell to small traders and agroprocessors.

Small and medium agro-enterprises (SMAEs) play an important role in the rural economy. They link farmers to markets, provide non-farm employment opportunities and add value to agricultural produce. However, they receive far less attention from the public agricultural and development sectors compared with smallholders (FAO, 2012a).

Typically, the regulation of SMAEs in developing countries tends to be weak, probably because they fall between the policy mandates of the ministries of agriculture and trade. For instance, legal and administrative red tape can make it difficult for SMAEs to do business with farmer organizations, which larger firms can circumvent.

When buyers – both large and small – procure from smallholders, they face a number of risks, including food safety issues, lack of consistency and contract delays because of side-selling. They also have to use their own resources to provide the technical and financial assistance it takes to bring smallholders' produce up to a standard that satisfies the market.

BOX 2

Constraints facing small and medium agro-enterprises

1. SMAEs often start as family businesses, using personal savings and loans, creating additional pressure to generate income and wealth for family and relatives.
2. Capitalization and access to finance are always an issue with few commercial banking options to choose from and unreasonably high interest rates and loan criteria.
3. Large seasonal variations in staffing needs and pressure from extended family and friends for jobs is a daily stress for owners and managers.
4. The overregulation and bureaucracy that SMAEs face discourage the formalization of their businesses.
5. The inadequacy, unreliability and cost of utilities infrastructure (power and water) are a major source of unforeseen costs that affect long-term competitiveness.
6. Smallholder inability to produce, plan and market collectively is a serious procurement impediment for small firms wanting to do business with small farmers.
7. SMAEs face competition from cheap imports and thus require support in developing local brand differentiation to build up a reliable and loyal customer base.
8. Business is highly dependent on a minimum standard quality product but companies do not have the capacity to guarantee safe and good-quality food or the resources for certification fees.
9. Logistics and storage systems are often weak, causing inefficiencies and waste.

Box 2 lists a number of constraints facing SMAEs that were identified during consultations by FAO in 2011 with managers of SMAEs across different regions.¹⁶

Understanding and addressing the challenges buyers face when procuring from smallholders can improve the competitiveness of local business models and the overall efficiency of a value chain.

2.3 PUBLIC INSTITUTIONAL PROCUREMENT MODELS¹⁷

There has recently been growing interest in the potential of the public sector and large domestic buyers in linking smallholders to domestic markets. Public sector institutions such as schools, hospitals, food reserve authorities, food aid and school feeding programmes procure large amounts of food on a daily basis and, as such, are potentially important markets for small farmers.

Typically, the public sector does not have a profit motivation and is driven by the need to procure food products for consumption within its own institutions or as food donations. Public actors need to ensure high-quality standards but minimize costs because of the fiscal onus on the public sector. Public procurement is guided by policies that often leave little room for flexibility in contract negotiation or choosing suppliers. It is also usually tied to specific quality standards and regulated payment and logistics mechanisms, making procurement from smallholders difficult.

Public school feeding programmes with food procured from local farmers, commonly known as home-grown school feeding, are good examples of how market-oriented strategies can improve food and nutrition security for vulnerable groups while fostering economic development and smallholder integration in markets. Examples of home-grown school feeding programmes in Africa are those developed by the Governments of Kenya, Ghana and Nigeria.

Fostering smallholder engagement with public sector buyers, such as home-grown school feeding programmes, can increase access to familiar market outlets close to home with less demanding requirements compared with more stringent export markets. Institutional procurement at scale also has the potential to contribute to local food security and promote the formalization of markets, a crucial component for transforming agriculture into a legitimate and competitive sector for poverty reduction and economic growth.

2.4 INTERMEDIARY-DRIVEN BUSINESS MODELS

The role of local services providers and NGOs

Market-oriented NGOs and local business service providers with a grassroots presence have become increasingly important actors in strengthening smallholder-based value chains in developing countries. These specialized NGOs can include national, international and regional NGOs that have developed their own in-house approach for linking smallholders to markets. They can apply their own experiences and knowledge on local agro-ecological and marketing systems when guiding the imple-

¹⁶ Reports for the Agribusiness round table in the Pacific Islands and Eastern Europe are available at: http://www.fao.org/fileadmin/templates/ags/docs/Agribusiness/SMAE_RT_Pacific.pdf and <http://www.fao.org/docrep/018/aq420e/aq420e.pdf>

¹⁷ Adapted from a forthcoming FAO publication on linking smallholders to institutional markets.

mentation of IBMs. NGOs can develop strong but neutral partnerships with both targeted farmer groups and buyers, oversee business negotiations, and contribute to local knowledge management on areas such as food safety standards or possible innovations that can be applied to the business model.

The institutional capacity of NGOs and their ability to understand and respond to the needs of both suppliers and buyers is critical for implementing an IBM approach. However, the non-profit sector can be overprotective of smallholders, preventing farmers from gaining experience with real market forces. A history of heavy intervention approaches, with the provision of free services, finance and inputs for farmers needs to be replaced and balanced with commercially oriented services. NGOs also need to build competencies in responding to buyers' needs that, like farmers, include support with collective action, access to services and finance.

NGOs need to take the lead in adapting an exit strategy from project inception, with the degree of intervention gradually reduced over time. The exit strategy, depending on the activity and context, should include handover to the private or public sector.

2.5 DRIVER ENTRY POINTS FOR INCLUSIVE BUSINESS MODELS

Organizations that promote IBMs will have different driver entry points depending on their skills, networks and mandate. Most literature on IBM targets private sector-driven business models, providing guidance, particularly to global companies, on how to engage with small farmers in developing countries.¹⁸ The rationale for the private sector's interest in IBMs will be profit motivated, related mainly with either securing supply or corporate and social responsibility activities, or a combination of both.

FAO's entry point is to work with governments on policy design and best practices, based on normative learning, which is complemented with field learning from smallholders' market access pilot projects. The public sector supports smallholder business models for a number of reasons. These include raising smallholders' incomes, mainstreaming business and market-oriented production skills, involving the private sector in national development goals, improving food security through the commercialization of food crops, and political obligations.

When implementing value chain projects that focus on strengthening IBMs, FAO mainly works through local NGOs and in close collaboration with governments to engage both producers and buyers. The technical and methodological guidance provided by FAO to NGOs and governments on IBM is consolidated and described in detail in Chapters 3 and 4.

¹⁸ Examples of approaches that target the private sector include the Endeava-GIZ guide to inclusive agribusiness; OXFAM/SFL Think big. Go small; WBCSD/SNV Inclusive business: profitable business for successful development; IBLF Framework: practical action in inclusive business; and Department for International Development (DFID) Business Innovation Facility.

Chapter 3

Facilitating inclusive business models – Principles and tips

This chapter is intended to support the initial design phase of a programme or project by describing principles that can contribute to making a business model both inclusive and competitive. A list of good practice guidance tips is also provided to support the selection of business models and actors.

3.1 PRINCIPLES OF AN INCLUSIVE BUSINESS MODEL

The inclusive and business elements of an IBM can be competing forces. As stated in Chapter 1, the “inclusive” element of a business model relates to the constraints of linking smallholders and vulnerable groups to buyers. The “business” element relates to an enterprise’s way of doing business and its viability.

Trade-offs sometimes have to be made if a business model, inclusive of smaller inexperienced actors, is expected to generate profits and grow. The business element needs business thinking and tools to be mainstreamed to strengthen the competitiveness of business models.

Models driven solely by either the public or private sector can result in poorly coordinated markets if there is little private sector involvement or further market exclusion for vulnerable groups if the public sector is not involved.

The principles described below guide actors in designing or implementing the upgrading of smallholder-based business models so that they result in competitive models and, at the same time, contribute to poverty reduction and food security.

BOX 3

Role of public policy

“The role of public policy on this topic cannot be overestimated. The private sector and investment cannot do everything, and overdependence will lead to poorly coordinated markets and the inclusion of only the well-connected, organized and capitalized small actors, with further exclusion to marginalized groups. Procuring from smallholders is not, in itself, equal to inclusive development. Due diligence and a balanced value chain governance system is required to ensure inclusiveness.”

3.2 WHAT PRINCIPLES MAKE A BUSINESS MODEL INCLUSIVE?

Inclusion of existing value chain actors

Activities should, as far as possible, avoid being over-interventionist in the chain and instead tap into existing business linkages and knowledge of value chain actors that have already built up relationships with each other. Intentionally excluding existing actors, such as traders, transporters, SMEs, village agents and wholesalers that perform an essential economic role in a business model could unduly undermine local market dynamics and adversely impact on the overall competitiveness of a chain.

Farmer organizations can be encouraged to take on the roles of other value chain actors such as traders or agroprocessors, but only when they already excel at their core functions of providing essential services to members, are equipped with a competitive advantage and have the appropriate skills to compete in an additional part of the chain.

To demonstrate project results or accelerate progress, NGOs and project teams may also sometimes take over value chain activities. An NGO, for instance, might negotiate contract terms with a buyer rather than providing the mentoring to a farmer organization to carry out this function.

Interventions should therefore build on the knowledge of existing actors and include them in inclusive market development by bringing in partners to address their challenges in procuring or providing services to smallholders.

Inclusion of less endowed actors

Inception interventions should target the participation of the most committed and capable farmers to give the business model the best chance of success. The section on good practice guidance tips (second subheading) refers. As the model progresses and best practices and lessons are learned, opportunities can be made available to actors with fewer assets, such as youth, women and minority groups.

Inclusion of diverse market outlets

Building up a long-term relationship with a buyer is good practice since smallholders can consolidate their experience and confidence by working with a demanding buyer while also benefiting from the provision of inputs and services. However, as more smallholder suppliers are integrated into the business model, the learning gained should also eventually allow for the identification of additional market outlets and the dissemination of upgraded skills to the rest of the sector.

Another alternative is to allow farmers to continue to sell part of their produce to traditional markets, which is a good practice often adopted in contract farming schemes. It allows farmers to avail of extra services and a regular buyer with the option of taking advantage of higher local market prices.

Inclusion of right partner mix

Smallholder-based business models typically have a main driver as described in Chapter 2. These models are producer driven, buyer driven, public sector driven or intermediary driven. Overdominance of any of these actors in the chain can affect either the inclusiveness of the business model or its competitiveness. For example, if the business model is dominated by an NGO, the poverty dimension may compromise the viability of the model. Alternatively, a model dominated by the buyer,

BOX 4**Criteria for improving inclusiveness in a business model**

1. Are existing value chain actors being excluded from the business model as a direct result of support?
2. Can the business model eventually be accessible to more vulnerable groups – women/youth enterprise groups?
3. Will the business model allow for additional market outlets to be accessed?
4. Is there shared accountability and decision-making among public, private sector and NGO counterparts?

under a contract farming scheme for example, may ignore local poverty-related concerns or food security. It is therefore important that appropriate space be allocated to partners that may not be driving the model but can provide complementary services and advice. Box 4 gives criteria for improving inclusiveness in a business model.

3.3 WHAT PRINCIPLES MAKE A BUSINESS MODEL COMPETITIVE?

Managing a business model strategically

The managers of both farmer organizations and buyers need to be equipped with a core set of agribusiness strategic management skills, such as marketing, finance, logistics, food safety and standards, storage and inventory management. Value chain projects typically provide capacity building for farmer organizations and SMEs in some or all of these areas. However, building up this expertise takes time, and it is unlikely that a small enterprise will have the in-house staff expertise to cover all these technical areas. If these core management skills do not exist within an enterprise or farmer organization, they will need to be outsourced to local business service providers and consulting firms.

Business-to-business coordination

There is a range of exchanges of produce, information and finance between a seller and a buyer that require continuous consultation. However, decisions are often unwittingly taken with little coordination, resulting in rejection of produce, wasted journeys, side-selling¹⁹ and conflicts over prices and volumes, among others. More attention to the interdependence of decisions can lead to an improvement in business-to-business coordination and the upgrading of respective business models.

¹⁹ Side-selling occurs when a producer, which has agreed to supply a buyer with an agreed quantity of produce for an agreed price at an agreed time, decides to sell to another buyer. While contracts can be both informal (such as verbal agreements) or formal written ones, the term “side-selling” is usually used when the contract is formal and when the buyer has provided some form of inputs to the producer to facilitate production, such as seeds, fertilizers, credit and/or technical advice.

BOX 5**Criteria for improving competitiveness in a business model**

1. Will the project or partners be able to build up the required set of skills for business model actors so that they can manage upgrading?
2. Are mechanisms being put in place to ensure business-to-business coordination?
3. Is the business model responding to demands of end-consumers?

Developing good business relationships can take time, and requires regular communication to address problems and misunderstandings.

Responding to customers' needs

To be competitive, business models need to respond to customers' needs. Farmer organizations, NGOs and buyers advising smallholders have to understand the attributes of the product that is most valued by the end consumer, such as quality, quantity, delivery schedules and location. For instance, with a staple commodity such as maize, a food aid programme may prefer yellow maize because of its higher nutritional content. On the other hand, white maize is more in demand by local retail markets, ironically because of the food aid stigma attached to yellow maize. Such market insights need to be recognized and communicated to representatives of farmer groups and farmers themselves. (See Box 5 for criteria on improving the competitiveness of a business model.) Table 5 in Chapter 4 gives a list of possible activities and tools that can improve smallholder-based business models and at the same time contribute to adhering to the principles outlined above.

3.4 GOOD PRACTICE GUIDANCE TIPS ON TARGETING BUSINESS MODEL PARTICIPANTS

Support for smallholder-based business models needs to be anchored in a sound business case so that any investment contributes to both the competitiveness of a value chain and to poverty reduction and food security. Adopting the following good practices can help inform the design phase so that the participants targeted have the highest chances of improving their business models while contributing to local development needs.

Select commodities with potential for smallholder commercialization and aligned with government priorities

The targeted commodities need to have a proven market demand with potential for increasing smallholder production and commercialization of by-products. Market and value chain studies now exist for most commonly produced smallholder crops in developing countries. Their validity may need to be reviewed and possibly updated before investments are made. The commodities selected will also need to be aligned with national government priority crops or sectors. National and local governments need to be included in the design and implementation of support to local business models to allow for upscaling across the targeted sector.

Include a significant number of organized farmers capable of supplying target buyer

Inception interventions should initially target the most committed and capable farmers to give the business model the best chance of success. Targeted farmers should also be members of some type of farmer organization with experience in supplying markets. The group needs to have a functioning governance structure already, with a sufficient number of members capable of coordinating production to satisfy the needs of the target buyer. The group leaders or the cooperative's staff should also have a clear understanding of members' profiles (location, crops, land size, average yield, surplus after household consumption is met) and their capacity to serve the target market.

Identify receptive buyers to deal with smallholder suppliers

Providing farmer organizations with a defined target buyer with specific deliverables to respond to the prospect of a real business partnership improves market confidence and increases smallholders' ability to plan production and market collectively. The business model will have greater potential for success if buyers can also demonstrate willingness and flexibility in doing business with smallholders by paying cash on delivery, accepting small consignments and providing reliable and regular orders.

Target smallholders with a clear comparative advantage in the market

Buyers will be more willing to take on the risks of dealing with smallholders, and withstand initial trial and error for a longer period, if smallholders have a comparative advantage in, for example, access to land or lower labour costs, or if there is a lack of alternative suppliers for the buyer.

Work with competent NGOs or apex farmer organization to facilitate business partnerships and oversee implementation of technical activities

An intermediary organization is an important third party for consolidating a business relationship between farmers and buyers, but it needs to act as a neutral mediator when disputes arise. It also needs to be able to guide both the farmer organization and buyer towards better business transactions without unduly taking over activities that should be carried out by the business model actors.

Link business model actors to locally accessible financial services and products

Costs of catalysing the upgrading of a business model between farmers and buyers are typically financed by project funding, which covers activities such as business model appraisals, producer-buyer meetings, technical training, institutional strengthening of farmer organizations, exchange visits and so forth.

Capital investment required for upgrading the hard inputs of a business model – such as modernizing agroprocessing equipment, warehousing or other infrastructure needs – will require building partnerships with a range of investors. Rather than directly subsidizing these types of investments, project funding should be used to appraise the local financial landscape to identify funding that business model participants could potentially access with some support. This process would involve

engaging in partnerships with national financial service providers so that financial products are customized to the needs of local agricultural business models. Training would be required so that business model actors have the capacity to compete for potentially available funds and manage revenues to guarantee repayment of loans. Training may also be needed for employees of financial services institutions and banks charged with developing customized products and services.

Chapter 4

Moving to upgraded business models

Upgrading refers to the process of replacing a business model with a newer, improved version of the same model. An upgrade infers a better version²⁰ of the business model that, after support has been provided and based on the principles outlined in Chapter 3, is more inclusive and competitive than the previous model. In addition to the principles and good practices previously outlined, the following steps can be applied by value chain programmes seeking to upgrade local business models.

The process is basic and flexible to allow for adaptation to local contexts, commodities characteristics, market structures and evolving progress and constraints. The methodology is made up of four sequential steps summarized in Box 6 and detailed in the following sections.

4.1 APPRAISING CURRENT BUSINESS MODELS

Supporting local business models begins with an appraisal of how target farmers and buyers are doing business. The appraisal looks first at the farmer groups to understand their organizational structure, members, resources, capacities, suppliers and buyers, commodity characteristics and marketable surpluses of members. The buyer's business model is similarly appraised to understand management structure, resources, capacities, product description, operational capacity and clients. The business model appraisal should be a reflection of business reality on the ground.

BOX 6

Steps for implementing the inclusive business model approach

1. Appraising current business models.
2. Identifying common upgrading priorities.
3. Designing an upgraded business model.
4. Measuring progress.

²⁰ Adapted from a Wikipedia definition of upgrade.

TABLE 2
Business model appraisal²¹ – farmer organizations

Item	Main points
Producers	Who are the producers: men or women? What is their average age? Where are they located? Size of land and percentage allocated to income-generating crops? Is land owned or rented? Is farm labour used and when? How do farming systems function?
Products and services exchanged	What products are sold? Do they have any special characteristics that differentiate them? Are products sold raw or processed? If processed, what are the mechanisms used? What volumes are traded? How are sales carried out (individual/aggregated)?
Buyers	Who buys the products: traders, wholesalers, supermarkets, hotels, exporters? What amount of product do they buy? Why are they interested in procuring from smallholders? To whom do they sell the product (end-clients)?
Logistics mechanisms	How are products transported to buyers? Describe storage conditions and process. What type of packaging is used? Are packages standardized? How is produce weighed? What are road conditions like?
Suppliers/partners	Description of partners and suppliers of inputs/seeds, equipment, credit unions, banks.
Farmer organization	How are farmers organized? Describe the farmer organization's key activities. What is done individually by members and what is done collectively (growing, harvesting, collection, post-harvest handling, grading, packaging, primary processing, agroprocessing, marketing, distribution, etc.)?
Costs and revenue	Cost of production, price-setting mechanism used. Payment mechanisms. Describe fees paid related to collective marketing – membership fees, transport, etc.
Challenges and expectations	Constraints faced when trying to do business with current buyer (price, quality, transport, volume, access to finance). What is working well for the farmer organization? Which areas need to improve to ensure that organizations can take advantage of market opportunities? What are their expectations for the future? Do they want to increase sales to specific local, urban or international buyers? Improve a business arrangement with an existing buyer? Begin selling a different commodity? Diversify into a related business, e.g. processing?

Tables 2 and 3 indicate the contents of a business model appraisal for both farmer organizations and buyers. The business model description should be complemented with existing market or value chain analysis. Information gaps can also be addressed through interviews and surveys with farmers, buyers, district agricultural officers and Chambers of Commerce.

4.2 IDENTIFYING COMMON UPGRADING PRIORITIES

Common upgrading priorities are those action areas common to both seller and buyer. To identify these, business model descriptions of both the farmer group and

²¹ The items listed in this table have been adapted from the business model canvas developed in <http://www.businessmodelgeneration.com/canvas>

TABLE 3
Business model appraisal – buyers of agricultural produce from smallholders

Item	Main points
Business organizational structure	How is the business owned and managed? Is it registered? How many employees are there and what do they do? Where are they located? What are their qualifications and experience?
Products and services exchanged	What products are sold? Do they have any special characteristics that differentiate them? Are products sold raw or processed? If processed, what are the mechanisms used? If raw, what percentage of produce is traded, compared with the overall portfolio of produce traded by the enterprise? If processed, what percentage is processed compared with the overall operational capacity of the enterprise? How are sales carried out (individual/aggregated)?
Buyers	Who buys the targeted product (traders, wholesalers, supermarkets, hotels, exporters)? What amount do they buy and how often? Why do they buy from this supplier compared with another? To whom do they sell the product (end clients)?
Logistics mechanisms	How are products transported to buyers? Describe storage conditions. For how long are products stored? What packaging is used? Are packages standardized? How are they weighed when buying from supplier? How are they weighed when selling to buyers?
Suppliers/partners	Describe the enterprises supplying the business, e.g. traders, individual farmers, farmer organizations, own farm production, etc. Where are they located? Why do they source from smallholders?
Business associations	Does the enterprise belong to an association? What types of services does the association provide to the business? Does it pay a fee?
Costs and revenue	What is the gross profit margin? (This figure shows the sales mark-up and can therefore highlight inefficiencies and pricing issues.)
Challenges and expectations	What are the constraints faced by the buyer when trying to procure (price, quality, transport, volume, access to finance)? What are the areas that the buyer needs to improve in order to increase procurement from the target farmer groups? What are the enterprise's expectations for the future? For example, does it want to increase market share, enter into a new market, consolidate an existing market, diversify into a related value chain?

the buyer are reviewed separately and the respective priority areas identified and ranked. The results of both rankings are then compared, to identify priority areas common to both actors. In most cases, price will rank highly in both priority areas, indicating that an action area is needed to address the problem.

This process needs to be carried out in a workshop setting that brings together representatives of farmers and buyers in addition to local market experts and a neutral convener, such as a local NGO. The objective of the workshop, referred to as a producer-buyer round table, is to ensure that common upgrading priorities are not only valid in terms of viability for both enterprises, but that both farmer organizations and buyers agree on the main challenges and priorities. (See Table 4 for a description of producer-buyer workshops.)

TABLE 4
Workshop input – identifying common upgrading priorities

Producer-buyer round tables
Round tables should be participatory and interactive, ensuring that both producer and buyer representatives have the opportunity to justify and discuss the factors that will move the business partnership forward. The different sessions included in such forums are described below.
1. Overview of the market structure, number of buyers and sellers, sales and demand, different market segments/customer groups, competitors, ease of entry and exit to market.
2. Results of market surveys that rank end customers' requirements, which may include consistency of supply, quality and variety of produce, compliance with global standards, brand/origin preference.
3. Environmental/social features, e.g. organic or fairtrade, and sanitary and phytosanitary regulations that need to be adhered to.
4. Overview of farmer organizations' and buyer's current business models and respective ranked priorities.
5. Round-table discussion to prioritize and identify common upgrading priorities.
6. Common upgraded priorities can be validated against end customers' requirements addressed in point 2

Priority areas will typically be grouped into reliability of supply, quality standards and price. Their ranking, however, will vary according to the nature of the commodity, such as staple or high-value cash crops and the different target markets, such as export traders, the tourist industry, hospitals, supermarkets and fresh markets. Chapter 5 provides some analysis on main lessons according to the different crop categories.

4.3 DESIGNING AN UPGRADED BUSINESS MODEL

Once common upgrading priorities have been identified, activities and interventions to address them need to be designed and costed. This process can be continued in a participatory workshop setting. The number and scope of the interventions will be highly dependent on the funding available. As described in Chapter 3, public or project funding can catalyse and strengthen linkages with local financial services and/or assist with the identification of potential investors for investments in expensive equipment or infrastructure.

In line with the step-by-step process and principles set out in Chapter 3, Table 5 describes possible tools and activities that, depending on the local context and prioritization of needs, can be implemented to enhance smallholder-based business models.

4.4 MEASURING PROGRESS

The business model descriptions provide an initial benchmark that can be used to record progress over time. They are, however, static while businesses themselves are dynamic. As such, an adapted version of a “workshop on identifying common upgrading priorities” can be reconvened every six months to understand whether the upgrading activities are actually contributing to an improvement in the business model relationship between smallholders and buyers. This progress can be gauged by a number of indicators, examples of which are shown in Box 7. Identifying and

TABLE 5

Tools and activities for enhancing inclusive and competitive components of smallholder-based business models

Purpose	Possible tools and activities
Avoiding exclusive business models	<ul style="list-style-type: none"> ▪ Value chain mapping of actors and activities at local level to ensure business model interventions do not exclude key actors ▪ Appraisal of farmer profiles involved directly and indirectly in the target value chain to ensure the most capable farmers are included at inception and to target additional farmers if market demand grows ▪ Mapping of actors, such as market-oriented women or youth groups, in the local area to supplement supply as market demand grows ▪ Appraisal of local and urban markets to identify potentially interested buyers and market outlets in order to avoid overdependence on limited buyers
Managing a business strategically	<ul style="list-style-type: none"> ▪ Appraisal of logistic mechanisms used and main constraints ▪ Low-cost process innovations that improve delivery time ▪ Design solutions to reduce waste and protect the environment from harmful production and processing activities ▪ Identify potential sources of credit and support loan applications ▪ Mapping exercises and workshops to understand product flow ▪ Training in bulk buying and marketing ▪ Training in business and financial management and marketing for both producer organizations and buyers ▪ Training in operational management planning
Improving business-to-business coordination	<ul style="list-style-type: none"> ▪ Appraisal of sources of uncertainty for a buyer, e.g. related to reliability of supply, product quality ▪ Facilitate the implementation of farm contractual arrangements (formal and informal) ▪ Information-exchange mechanisms that improve transparency, such as facilitated business meetings to identify bottlenecks and understand the role of each actor better ▪ Develop harvest, collection and transport scheduling and strategic placement of bulking centres and stores to enhance the flow of the product through the chain
Responding to customer needs	<ul style="list-style-type: none"> ▪ Develop pricing formulas and mechanisms ▪ Develop mechanisms to synchronize product delivery and logistics to suit customer demands ▪ Implement grading systems and control mechanisms for product quality and safety ▪ Disseminate information on customer requirements ▪ Market appraisal and surveys to understand consumer needs and demands ▪ Value addition by introducing activities such as cleaning, labelling and grading ▪ Training in good agriculture practices and post-harvest handling ▪ Training in standards and certification processes

BOX 7**Examples of indicators to measure business model progress**

1. Volumes traded between smallholders and target buyers
2. Smallholder return on investment from business model and net margin increase
3. Number of smallholders supplying produce through target groups
4. Number of informal and formal contracts
5. Number of repeat contracts
6. Number of additional buyers approaching smallholder groups
7. Number of additional market outlets available to buyers

agreeing on the indicators to measure can also be identified in a workshop setting with relevant stakeholders.

4.5 THE UPGRADED BUSINESS MODEL – MOVING SMALLHOLDER BUSINESS MODELS FORWARD

The principles, good practices and steps for developing upgraded business models described previously provide conceptual guidance and tools so that actors have a clearer idea of where they need to innovate, add value or differentiate in order to respond to market requirements. The results from the process help actors focus on win-win activities that need to be put in place to move their respective business models forward.

The results of a business model appraisal are also useful for communicating and sharing ideas about the organization and its plans with customers, partners, suppliers, donors and financial service institutions.

Ultimately, the aim of the approach described is to strengthen the business relationship between farmer organizations and their immediate buyers by designing and implementing activities that encourage alignment and respond to common business goals. Upgrading activities are based on the transparent needs of actors and clear market signals so that there is a departure from the traditional supplier-buyer relationship, which is often influenced by mistrust and misinformation.

Chapter 5

Lessons from the field on inclusive business models

The IBM approach was first developed and pilot tested by FAO under the All ACP Agricultural Commodities Programme (AAACP) funded by the European Commission from 2007 to 2012.²² The approach and findings from its implementation have since been mainstreamed into FAO's field programme on value chains and market linkages²³ and, in particular, under the Food Security through Commercialization of Agriculture (FSCA) programme²⁴ funded by the Italian Government and implemented in East and West Africa, and Central America. Upscaling has also taken place with the support of the Government of Ireland (2013–2014) with training workshops on the IBM approach and through sharing findings on IBM application with FAO project teams, NGOs, the private sector in Africa and government staff responsible for agricultural value chain development in East and West Africa.

The countries and commodities supported under AAACP were identified at stakeholder consultations in each of the ACP regions between January and June 2008. The products selected and identified as priority commodities form a basket of cash and food crops that, through innovation, value addition and strategic market linkages, could be commercialized to improve income for smallholders. The market and value chain structures vary greatly depending on the crop category with implications for the business model set-ups operating within these different structures.

Africa	<i>Cotton:</i> Kenya, Zambia; <i>cassava:</i> Zambia, Malawi, Cameroon; <i>rice:</i> Senegal, Mali, Burkina Faso; <i>oil-palm:</i> Cameroon. <i>Partners:</i> Farm Concern International (FCI), Zambia Agribusiness Technical Assistance Centre (ZATAC), International Institute of Tropical Agriculture (IITA), Support Service to Grassroots Development Initiatives (SAILD), <i>Groupe de recherche et d'échanges technologiques (GRET)</i> , Amassa Afrique Verte Mali.
Pacific	<i>Fruit and vegetables:</i> Solomon Islands, Vanuatu, Fiji. <i>Partners:</i> Samoa Farmers Association, Nature's Way Cooperative, Farm Support Association, Kastom Gaden Association.
Caribbean	<i>Roots and tubers:</i> Saint Vincent and the Grenadines, Guyana, Jamaica, Grenada. <i>Partners:</i> Caribbean Farmers Network.

²² <http://www.euacpcommodities.eu/en>

²³ http://www.fao.org/fileadmin/templates/ags/docs/flyers/AGS_flyer_market.pdf

²⁴ <http://www.fao.org/tc/faoitaly/italiantrustfund-home/faoitaly-fsca/en>

A review of the case lessons described in the Annexes and across the FAO field programme where the IBM approach has been applied has led to the identification of a number of important findings for supporting the development of IBMs. These findings address the cross-cutting lessons and measures taken to customize the approach described in Chapter 3 to the characteristics of a range of business models operating in food staples, cash crops and high-value food chains, the structure of which vary greatly depending on the crop. Lessons have been clustered according to crop categories since the design of business model upgrading strategies operating within these different structures requires customized approaches and tools.

The lessons give examples of various opportunities and challenges that may arise within different value chain structures, and a range of measures that can be adopted to resolve or improve them, based on “real world” experiences. This chapter first provides a brief description of crop categories, followed by cross-cutting lessons that have emerged from pilot testing of the IBM approach in the field.

5.1 DESCRIPTION OF CROP CATEGORIES

Staple food value chains, such as rice, cassava, maize, sorghum and millet are primarily grown for food security. When household consumption has been met, any surpluses will generally target local, urban or cross-border markets. Actors mainly trade on an individual basis, within highly complicated chains composed of numerous small actors.

Erratic market prices are caused by a lack of reliable market information systems and dependence on rainfed agricultural systems, resulting in seasonal variances in supply. Crops such as maize and rice, because of their importance for national food security, are also liable to government interventions such as minimum floor prices for farmers, government-subsidized input distribution schemes, and import and export bans.

Recently, industrial firms have begun to procure staple crops such as sorghum for breweries, cassava for industrial starch and maize, oil-palm and wheat for biofuels. This has helped to introduce modern farming practices and more integrated and coordinated value chain structures for these crops. In addition, according to the World Bank (2013), intraregional trade in staples is to become a major driver in the growth of African economies.

Such trends indicate that in the future there will be significant opportunities for increased smallholder revenues and market opportunities for food crop producers. However, interventions need to be implemented under the guidance of carefully developed policies so that market development does not adversely impact on the food security of vulnerable groups by causing higher food prices and competition for land.

Cash crop value chains, such as cotton, coffee and palm oil are comparatively formal, with shorter chains and fewer key actors. These crops are primarily grown for cash and can be sold within outgrower schemes or using formal contract farming arrangements. Compared with food or high-value food crops, buyers of cash crops have relatively less competition from local markets and therefore fewer problems with side-selling. Smallholders also have more consolidated market outlets, which could give rise to overdependence on a few buyers.

Since cash crops are an important source of foreign income earnings for countries, production is often supported by government fertilizer subsidy programmes. Pricing mechanisms are highly dependent on international market prices, which can lead to market scarcities, gluts and price spikes. If not highly perishable, some crops, such as cotton, can be retained by farmers for unforeseen expenses during the year.

High-value food crop value chains such as fruit and vegetables operate in highly integrated and well-coordinated markets. These crops are produced for cash and typically target the export sector or domestic and regional high-end consumers. Some production may be retained for household consumption or target local informal markets. Larger buyers will therefore have more competition from local buyers compared with cash crops and therefore possibly more problems with side-selling if operating under contract farming arrangements.

Local markets for high-value crops domestically and regionally are also increasing in developing countries. For instance, according to OECD (2013), growth in many African countries in recent years has been driven by domestic demand. In part, this has been caused by a rapid increase in Africa's middle class.²⁵ According to the African Development Bank, 370 million Africans or 34 percent of the population can now be considered middle class (Ncube and Leyeka Lufumpa, 2014). This number is expected to rise on the back of improvements in economic development policies and governance.

High-value food crop value chains are characterized by the application of strict food quality and food safety standards, as well as a higher level of vertical coordination (Swinnen, Colen and Maertens, 2013). These chains offer smallholders and processing enterprises new opportunities in export markets. There are also many challenges resulting from the demands set by end consumers' high standards and costly certification processes.

5.2 LESSONS ON BUSINESS MODELS IN FOOD STAPLE VALUE CHAINS

Smallholder-based business models operating in food staple value chains are made up of unorganized smallholders supplying the market. Compared with cash crop or high-value chains, demand is typically characterized by a large number of small fragmented and unorganized buyers in the form of small traders, artisanal agro-processors, local market retailers, restaurants, hotels, etc. Their demand is erratic and business is generally done on the spot with cash on delivery and little formality.

The following sections relate to lessons that emerged from customization of the approach for food staple value chains.

MSEs are the gateway to markets for smallholders producing staple crops but lack the capacity and policy support for transition to modern chain operations. Small traders, artisanal processors and small agro-enterprises that buy food crops play a

²⁵ The middle class in East Africa accounts for 22.6 percent of the total population, with Kenya at 44.9 percent, Uganda at 18.7 percent and the United Republic of Tanzania at 12.1 percent. A 36.2 percent growth was recorded by Kenya between 2006 and 2010 (Kestrel Capital, 2012).

critical role in providing smallholders with market outlets close to home and cash on delivery, but without the high standards demanded by buyers in the cash crop and higher-value chains. Yet their ability to support the integration of smallholders in value chains is limited, as described in Chapter 2. First, they face the same risks as all companies when procuring from smallholders – ranging from inconsistent quality and quantity of supply to side-selling. Moreover, MSEs do not have the same level of resources as large companies to provide the technical and financial assistance needed to bring smallholders' produce up to a standard that satisfies the market. In addition, compared with large companies, small buyers and farmer organizations do not have the human staff resources to deal with cumbersome bureaucratic procedures.

During the implementation of AAACP, rules and procedures that were found to be burdensome or superfluous for farmer organizations and small buyers were recorded and shared with government officials during project workshops. Examples included double taxing, lengthy waiting times for registering a business or farmer organization, and conflicting messages on procedures from different government bodies.

Donors, NGOs and technical agencies such as FAO can help support SMAEs with challenges related to technical and financial access issues through the implementation of field projects and capacity building of national institutions. However, the removal or reform of overbureaucratic rules governing the institutional, legal and administrative frameworks of both small businesses and membership-based organizations can only be addressed by governments.

Capacity building for small buyers results in more reliable demand for smallholders, improves confidence in markets and contributes to increased production. The high number of small, unorganized buyers with weak managerial and technical skills in the food staple crops sector translates into erratic demand for smallholders. This creates obstacles for organizing the supply of produce expected from farmers' groups because of splintered and unreliable market signals.

Like activities to support farmer organizations with the organization of supply, equal emphasis has to be paid to organizing small buyers to improve the reliability of demand. Examples of this type of support include training on a range of practices, including food safety practices, packaging, marketing and business management skills for associations of agroprocessors, such as those carried out under AAACP in Cameroon, Malawi and Zambia for the cassava value chain. In Cameroon, support resulted in the introduction of formal market contracts for cooperatives producing cassava food products. In Malawi, associations organized their members to calculate demand forecasts, which were communicated to small farmers to facilitate production planning and harvesting. In Mali, rice processors and traders were also trained in data collection to improve market demand signals to rice paddy farmers.

The results from support provided under AAACP indicated that improving the organization and skills of buyers translates into increases in production. In the cases described in the Annexes and during implementation of the IBM approach, support to production was minimal. The issue was only addressed if it was identified as a common priority for both actors in the business model and was not receiving support from other actors, such as the production support provided in Vanuatu and

Saint Vincent and the Grenadines, as described in Annex 5. As a result, no baseline information of on-farm production was recorded to monitor or validate increases in production. Nonetheless, anecdotal evidence across all crops indicated – particularly for cassava, rice and cotton production in Africa, as well as potatoes in Saint Vincent and the Grenadines – that production had increased as a result of better organization of buyers and improved reliability of demand.

Semiformal domestic and cross-border markets are important learning grounds for transition to more demanding formal markets. Increasing industrialization in developing countries is resulting in growing large-scale demand for food staple crops for industrial use, such as cassava chips for the animal feed sector, sorghum for breweries and maize for biofuel. Urbanization, population growth and a rise in the middle class in developing countries, particularly Africa, is also translating into a boom in demand for traditional food processed products (World Bank, 2013).

In Cameroon and Malawi, business model strategies were originally designed to link to large-scale industrial buyers of animal feed in Cameroon and the confectionery industry in Malawi. In both these countries, farmer organizations linked to large buyers had to supplement supply from their own members with additional produce from nearby producer groups. Additionally, farmer organizations and small agroprocessors were supported by purchases of industrial processing equipment²⁶ so that they could respond to larger buyers' needs for high-quality primary processed products.

Despite this type of support, groups still struggled to gain or retain regular contracts with industrial buyers because of challenges such as sufficient volumes, quality, reliability of supply and payment delays to farmers. In Cameroon, farmers needed to introduce new plant varieties to suit industrial machines, which took time to promote among growers, limiting the supplies of suitable plant varieties available for industrial processing.

As a parallel strategy, farmer groups, in addition to forging links with industrial buyers, applied their newfound skills in upgrading their business model to expand and improve existing business partnerships with small and medium traders, exporters and cassava processors. These market outlets are significant because of increases in domestic and cross-border demand for traditional food products. Their traditional characteristics are also less demanding and more familiar to smaller actors compared with products required by larger formal buyers.

The main challenge for these informal types of linkages was the development of reliable business relationships. Long-term partnerships between smaller informal players are not typical and take time to mature, mainly because both small farmers and buyers have a history of relying on local informal spot markets for staple crops.

In Cameroon, as described in Annex 2, small farmer organizations selling processed cassava products and a wholesaler and export agent managed the transition from a spot market arrangement to more formal contracts. These arrangements began

²⁶ The World Bank, under the AAACP project, financed the SOCAMAK cooperative in Cameroon to purchase a cassava chipper to supply a local feed processor. More details regarding the case can be found in Annex 2.

with trial contract periods of about three months for small quantities, which increased over time as the actors built up confidence and trust in the business relationship.

Ultimately, these semi-informal business models proved to be more successful for the farmer groups than linkages with the larger industrial sector. They showed that for the commercialization of staples, crop markets and semiformal domestic and cross-border markets, currently served by the local cottage industry, are more tenable markets for smallholders. These markets also serve as important learning grounds for transition to more formal markets that demand both higher-value produce and management processes – criteria that remain important for the growth of the agrifood system in Africa (Vorley, Lundy and MacGregor, 2009).

Associations of small processors and traders can play a key role in improving the quality and safety of food products. Traditional food products marketed by cottage industries are mainly processed by households or in local artisanal mills. These actors often have limited knowledge or skills to be able to comply with national food safety standards. This creates a lack of confidence in their products, which acts as a barrier for selling to more formal, larger buyers and cross-border markets. Food hygiene and safety processing standards are crucial for produce such as cassava, which has a high cyanide content, and maize, which is prone to aflatoxins in humid and hot agro-ecological zones. The regular consumption of these products if they are stored and processed without adherence to the proper processing procedures can have a detrimental effect on consumers' health in the long term (FAO, 1990; 1994).

National food safety standards do exist, but food standards boards are often understaffed and therefore not able to control their proper enforcement. The business models supported by FAO show that in the absence of adequate national government enforcement controls, market incentives can accelerate adherence to food safety standards. In this regard, agrifood business associations and cooperatives, if properly equipped, can play an important role in food safety by encouraging local businesses and local cottage industries to adhere to national standards in order to target larger formal buyers.

The Chinangwa and Mbatata Roots and Tubers Association (CMRTA) in Malawi, for instance, is an association of small processors that, during the business model upgrading process, received training in good processing and food safety practices. As a result, the association was able to organize and train their own member processors and local farmers in post-harvest handling, food hygiene, safety standards and packaging. The association also carried out quality control checks to ensure that standards were in compliance, so that the group could target larger domestic firms that require adherence to national food standards.

In order to raise food safety standards across the food staples sector, post-harvest and quality control training is needed for actors along the value chain, including farmer organizations, growers, traders, processors, retailers and transporters. Like farmer organizations and agroprocessors, other value chain actors need support with the development of associations and organizations to facilitate access to training on standards and to control their enforcement.

Each of these actors has a key role to play in complying with standards in their own segment of the chain and in detecting foodborne diseases. Thus, only safe food

makes its way into the chain, which will contribute to and a modern and competitive subsector.

Mainstreaming business thinking into food crop chains strengthens actors' ability to deal with market volatility but is not sufficient for modernization to take place. Mainstreaming a business model approach into a value chain is not only about identifying and implementing priority interventions that result in an upgraded model. More important for sustainability is the capacity of actors to modify their approach and strategy as markets and business environments change over time.

Local small actors often have to compete with cheap imports, such as rice and palm oil from other developing countries or subsidized wheat and sugar from Organisation for Economic Co-operation and Development (OECD) countries. In addition, because of their important role in food security, main staple crops – such as maize in East Africa and rice in West Africa – are often prone to government interventions to protect either consumers or producers.

Government interventions can include floor prices to protect producers, which can sometimes work against market forces, creating either market gluts or scarcities as well as large-trader hoarding – contributing further to price volatility. For instance, during the food crisis of 2008, some countries in West Africa introduced retail price caps for rice to protect consumers from inflating prices. However, this dampened a rare opportunity for domestic farmers producing rice surpluses to be able to benefit from the high market prices.

Agricultural markets and prices are affected by a multitude of ongoing dynamics that impact on small actors' ways of doing business. All value chain actors need to be equipped with the right skills and information to be able to adapt rapidly to these types of changing market situations.

The business model approach contributes to this need by mainstreaming business principles from the bottom up. The approach has an embedded capacity building programme for farmer organizations in agribusiness skills. However, bringing the skills of farmer leaders up to a level to be able to manage their organizations like a well-run agribusiness takes reiterative mentoring, time and resources.

Evidence from FAO's field programme shows that there is generally a lack of agribusiness professionals for farmer organizations or small buyers to tap into in order to complement "in-house" capacities.

To complement the bottom-up capacity building approach commonly applied by the agricultural development sector, it is recommended that support be allocated to the general supply of agribusiness professionals across the entire agricultural sector. This would mean an increase in the number of agribusiness professionals available to work for farmer organizations, as well as for local service providers, small and large agribusinesses, and the government.

However, this approach requires the modernization of agricultural curricula taught in universities and agricultural colleges so that young professionals are equipped with skills and knowledge that respond to the demands of the agribusiness sector. This would require political will to catalyse cross-ministerial collaboration between the Ministries of Education, Agriculture and Trade, in collaboration with farmer apex organizations, agro-industry representatives and tertiary agricultural institutes.

Lack of alignment between public policy and municipal practices creates barriers for entry in institutional markets for smallholders. Public sector institutional markets such as schools, hospitals, food reserve authorities, food aid and school feeding programmes offer opportunities to smallholder producers of food crops to access formal markets nearby that are less demanding than export markets. More details on this type of buyer are given in Chapter 2.

Preliminary lessons from FAO on projects²⁷ that aim to link smallholders to institutional markets have shown that smallholders accessing these markets face the usual challenges of supplying good-quality produce in bulk for a competitive price to a buyer. However, they also face a number of procedural issues that need to be complied with when supplying a government body.

In many cases, there is often a lack of alignment between public policy promoting these types of projects and procedures at the municipal level. Findings have shown that smallholders, like large traders, have to provide food quality certificates, comply with strict tendering criteria, and be subject to payment mechanisms and delays that are not smallholder friendly.

These lessons show that for the successful uptake of smallholder-targeted institutional procurement programmes, national policies promoting these programmes need to be closely aligned with municipal-level procedures and public procurement practices.

When applying a business model approach to promote linkages between small farmers and institutional markets, the strategy needs to be informed by a review of public institutional procurement policies. This type of review identifies where strategic and institutional changes need to take place, nationally and at the municipal level, to enable small farmers to make the transition to more formal domestic markets.

Modernization of food staple value chains is unlikely without an increase in the number of mechanisms that link small actors to credit and financial services. A modern value chain is only possible if it is composed of business models that have reliable access to financial services. The nature of high-value or cash crop chains with large commercial buyers means that they can supply farmers with inputs, provide credit for their purchases or act as credit guarantors until payments can be made.

However, access to finance for actors in food staples chains is very different. They are composed of many small-scale fragmented sellers and buyers with little collateral and are dependent on rainfed agriculture, which means that they find it extremely difficult to access finance.

Projects and governments sometimes provide subsidized inputs and credits for food staples, but this strategy is not always tenable in the long term and may undermine local input and credit markets. The Crop Intensification Programme in Rwanda is an interesting example of sustainable government support to food value

²⁷ FAO carried out a series of case studies that identified lessons from the implementation of WFP's Purchase for Progress (P4P) initiative. Copies of the case studies are available at <http://www.fao.org/ag/ags/ivc/institutional-procurement/en>. FAO also implements the PAA Africa project in collaboration with WFP. PAA Africa aims to link small farmers to school feeding projects in Africa. More information can be found at <http://paa-africa.org>

chains. The Government of Rwanda uses local agrodealer networks and farmer organizations to distribute inputs on credit and collect credit repayments in the form of maize and beans for the national strategic reserve.

Mechanisms such as inventory credit, warehouse receipt systems (WRS) or “warrantage”²⁸ also offer a promising system for access to credit for smallholders producing grain staple crops such as maize and rice. Inventory credit is commonly promoted by FAO in its field projects.²⁹ However, the system requires a competent farmer organization, a willing financial institution, appropriate infrastructure and predictable seasonal production levels and prices (FAO and IFAD, 2013). WRS are also an unlikely tool for highly perishable crops such as cassava, fruit and vegetables, and palm oil.

Lessons from FAO’s support to business models operating in the food crops’ sector show that small actors need to: (i) identify a medium to large buyer that can facilitate the provision of technical assistance and inputs or act as a guarantor for its sellers; or (ii) focus on the organization of MSEs that can collectively have a better chance of targeting local banks and financial service providers.

If value chain strategies do not facilitate access to credit and inputs for small actors in the food staple crops sector, they will continue to be farmed as secondary food crops despite their potential for commercialization and improved smallholder livelihoods.

5.3 LESSONS ON BUSINESS MODELS IN HIGH-VALUE AND CASH CROP CHAINS

Compared with food staples markets, demand for high-value and cash crops is consolidated, with fewer larger buyers and with a relatively high degree of competent managerial and technical skills. Cash and high-value crops are commonly procured from smallholders through contract farming schemes. However, if there are no contract farming arrangements in place, buyers of cash crops such as cotton ginners or coffee millers usually have a system with agents who go from farm to farm to procure produce for processing.

When contract farming is used as a business model arrangement for cash crops, third party intermediaries, such as NGOs hired by development projects, a competent farmer organization or a combination of both are often a key feature of the model (FAO, 2013). The role of these intermediary actors for business models operating in high-value chains is greater compared with staple crops. Without support from intermediaries, it is unlikely that smallholders would be able to comply with all the requirements of high-value agricultural markets because of their lack of capacity and access to information on the rapidly changing food regulations and quality standards in global markets. NGOs are also important to oversee processes related to labelling, certification and hazard control systems, which require large investments (Swinnen, Colen and Maertens, 2013).

²⁸ A warrantage system works whereby a producer association borrows on behalf of farmers against stored produce; local financial institutes lend to the farmer organizations based on the value of the produce stored; and the local warehouse managers/operators provide storage facilities for the associations. A fee is deducted from farmer loans to cover transaction costs.

²⁹ Articles related to warrantage in West Africa can be found at: www.ruralfinance.org

The following are lessons that emerged from the customization of the approach for both cash crops and high-value chains. Lessons from each category have been consolidated because of the overlap in many of them. However, further analysis of their patterns and structure in the future may lead to more insights and a segregation of lessons.

Technical support to medium and large buyers of smallholder produce is required to improve chain competitiveness and avoid inefficiencies being passed down to smaller players. With the introduction of the value chain approach into agricultural development over the past decade, appreciation of the role of larger firms in development and poverty reduction has improved and there has been an increase in investment³⁰ and technical assistance opportunities for larger companies.

For instance, international NGOs such as TechnoServe³¹ work across the entire chain, providing direct technical assistance to large firms if it will lead to an improvement in overall chain competitiveness. The United Nations Industrial Development Organization (UNIDO)³² also has the task of supporting the development of the private sector, including agribusinesses in developing countries.

Value chain projects focused on strengthening upstream business models between farmers and buyers are typically not able to provide direct technical assistance to large commercial actors. However, it may well be in the interests of the upstream business models to facilitate linkages with actors that can provide this level of assistance.

Evidence from the cases supported by FAO shows that, like small producers and enterprises, medium and large agricultural companies require assistance in upgrading their managerial, technical and operational activities. Findings in Kenya and Cameroon, respectively, showed that cotton ginners and agrifood, palm oil and coffee processors were often operating 50 percent below capacity, and demonstrated weak managerial practices with outdated technologies. The inefficiencies experienced by these players are logically passed down to weaker players.

When feasible, FAO has facilitated linkages for medium and large firms to non-profit actors that provide technical and investment opportunities for more commercial actors. For instance, in order to support the upgrading of coffee and cassava business models in Cameroon, FAO – under the aegis of the AAACP programme described in Annex 2 – linked large agroprocessors to World Bank investment and grant projects.

The role of an intermediary instils confidence in business partners and results in service provision from large buyers to smallholders even without contract farming arrangements. Business model appraisals for oil-palm in Cameroon, cotton in Kenya and Zambia, and fruit and vegetables in Vanuatu indicated that previous con-

³⁰ An example of an investing initiative for agribusinesses in Africa is the African (Accelerated) Agribusiness and Agro-industries Development Initiative (3ADI) led by FAO, UNIDO and IFAD – <http://www.3adi.org>

³¹ <http://www.technoserve.org>

³² <http://www.unido.org>

tract arrangements linking smallholders to large buyers had broken down. Reasons cited for the contract breakdowns included time lags with payments, disagreements over prices, side-selling and lack of credit repayment from smallholders.

In these cases, companies indicated that they were still more or less buying from the same smallholders through traders or agents, but that they were not providing services or inputs beyond payments for the crops supplied. Findings showed that with the help of a neutral broker to stimulate dialogue and collaboration, large businesses were more confident in providing services to smallholders in the form of technical training to improve product quality, advancing payments and organizing transport schedules to facilitate collective marketing.

In Cameroon, this type of intermediation resulted in a number of benefits for smallholders such as training from the industrial buyer, Pamol, in good harvest practices. In addition, agreements were made to pick up produce using the company's trucks at designated collection points close to smallholder farmers. The intermediary also convened meetings to address the issue of payment delays, the main source of tension between farmers and buyer. Representatives of Pamol, the producer organization and producers attended these meetings, which were chaired by the local NGO. As a result, the company agreed to make centralized payments to the farmer organization to cover all the supply delivered. This was done in partnership with a local financial institution. The results went a long way to building trust between the two parties and increased the number of producers able to supply the company because of the shortened payment time.

In Vanuatu, the original goal of the business model approach was to formalize contract farming arrangements, but this never materialized. Nonetheless, the linkage arrangement brokered by FSA resulted in buyers delivering a number of services to small farmers. These included the development of product specifications to guide smallholders' production planning, training trainers on modern production practices for the cultivation of temperate crops in tropical climates, and providing seeds and fertilizers – the cost of which was factored into the price offered to farmers.

It is possible that the support described above eventually led to more formal contractual arrangements, but there is no evidence on this since a post-evaluation exercise did not take place. Regardless of the formal or informal arrangements of the linkage, the main message described here is that opening up and maintaining dialogue between small sellers and a large buyer, with the support of an intermediary, can benefit smallholder producers in the form of increased access to inputs, finance and services.

Building the agribusiness capacity of farmer organizations must be a priority for value chain projects if smallholders are expected to respond to the consolidated demand of large formal buyers. Large buyers operating in cash and high-value crops can organize their procurement from smallholders by employing agents/traders or organizing contract farming operations. They generally prefer the option of working through farmer organizations, particularly for contract farming operations. However, these organizations have to be competent enough to consolidate at least some of the activities required for procurement – such as bulking produce, organizing training, distributing inputs, credit, making payments, opening back accounts,

grading and bagging. In most cases,³³ findings show that to be able to comply with buyers' demands, farmer organizations require the support of a third party, such as a local NGO or a project team.

To take advantage of the organized demand of large buyers, an agribusiness capacity building programme for the management teams of farmer groups was embedded into the business model approach and implemented across all countries. A large component of this support focused on developing agribusiness training programmes for the staff and managers of targeted farmer organizations. The objective of the training was to bring these organizations to a professional level where they would be run as agribusinesses by competent management teams able to interact professionally with buyers, donors, financial institutions, etc.

The delivery of the programmes was staggered over two years, with mentoring and output-related training sessions, such as the development of business, marketing and financial plans. The programmes were also customized to the governance structures of farmer organizations and, most important, the commodity focus of the business models. Training modules included marketing, financial planning, logistics and operations, and human resource management.

The local NGOs, which developed the materials in collaboration with FAO, continue to use and disseminate the materials in countries where the approach was implemented. In some countries, the materials and programme have been adopted by governments as part of their extension programmes. In Kenya, for example, the training programme was adopted by the Cotton Development Authority (CODA) and the directorate for cooperatives. It is used as part of the nationwide approach for strengthening cotton cooperatives and associations in the country.

FAO did not stimulate the establishment of farmer organizations in areas where they did not exist. This was based on the belief that farmer organizations have a greater chance of success if they are stimulated internally rather than through external support for short-term initiatives. In Vanuatu, there was no formal or informal organization of farmers. In their absence, the contracted NGO (FSA) was able to organize the farmers for training, input distribution and supplying produce to buyers. However, Vanuatu is an island and is small, as are the number of farmers and distances between them. In larger countries with more smallholders, it would be difficult for an NGO to take on this level of service provision without a farmer organization.

Building the organizational and agribusiness capacity of farmer organizations and groups is considered key for responding to the consolidated demand of large formal buyers and developing the types of long-term win-win partnerships described in the cases in the Annexes.

*Pricing mechanisms in contract farming arrangements need to be transparent, simple and understood by all participating farmers to reduce the risk of side-selling.*³⁴ Disagreements on price are the main cause of conflict and subsequent failure for all types of business models linking smallholders to markets through outgrower

³³ Findings from FAO's field programme and a review of the general literature on farmer-market linkages.

³⁴ This lesson has been, in part, informed by FAO (2013, Chapter 1).

arrangements. The conflict is even greater for high-value crops since the price is more strictly determined by the quality of produce supplied.

Evidence from cases supported by FAO showed that efforts to develop transparent pricing mechanisms, which had price differentials for quality grades and were easily communicated to farmers, reduced conflict and improved quality.

In cases where the pricing mechanism used is not completely understood by small farmers, the risk of side-selling increases. For instance, in the Vanuatu case in Annex 5, farmers sold contracted produce on local spot markets. They justified their motivation for breaking the contract based on the higher prices available on local spot markets at the time the produce should have been delivered to the contracting farms. However, they did not factor in the deductions that had to be made from the inputs and services provided by the buyer, or the time and costs involved in transportation to the local town – indicating a lack of understanding on the pricing mechanisms adopted. Additional reasons cited by farmers for side-selling included the social need to make regular trips to town to meet up and socialize with friends at the end of market day.

Because price is the main reason for farmers engaging in side-selling, it is crucial that companies and intermediaries take the time to develop mechanisms in consultation with farmers' representatives and ensure that the mechanism is communicated clearly to participating farmers. This can be done by providing details on how prices are determined.³⁵

In order to minimize the risk of side-selling, price mechanisms can be determined daily, based on prevailing market prices at the time of harvest/delivery, or fixing a minimum base price with the possibility of renegotiating the price, based on the market price at the time of delivery. Payments made as close to the delivery time as possible or the provision of third party credit guaranteed by the buyer will also reduce temptations to side-sell.

Contract farming with smallholders will risk some level of side-selling. Buyers, while taking the necessary steps to reduce it, will need to factor it in as a possible overhead of the arrangement.

Pilot periods integrated into outgrower schemes build up the confidence of small farmers to engage with formal buyers. The principles described in Chapter 3 recommend that initial targeting should involve farmers who regularly produce a surplus beyond household food security needs, and who already have experience supplying at least spot markets. Results from the cases show that more risk-averse farmers sign up to the linkage once they have seen the benefits accruing to neighbouring farmers.

Farmers with no experience in contract farming or outgrower schemes will require a settling-in period. They will need to develop confidence in a contract relationship, which takes time to mature, particularly those farmers with a history of relying on local informal spot markets.

³⁵ The basic formula for determining price is generally the average market price plus cost of labour, minus credit, inputs transportation and other services provided.

To address this issue, the outgrower vegetable scheme in Vanuatu adopted a pilot period, which allowed farmers to upgrade their production techniques to satisfy the needs of larger buyers. At the same time, they were allowed to continue supplying their usual informal market outlets. Intermediary relationships were also created with larger farmers within the same scheme, who passed on technical advice and mentoring that facilitated smallholders' transition to more formal markets.

Overall, this type of good practice allows for a gradual adaptation by small farmers to respond to more demanding market requirements and build up confidence to engage in more formal markets.

5.4 CONCLUSIONS

According to a range of studies, including reports from the World Bank, the International Food Policy Research Institute (IFPRI) and OECD, urban food markets will be drivers of growth in developing countries, particularly Africa. These urban food markets in Africa are set to quadruple over the next two decades owing to urban population growth, which is expected to double by 2030 with per capita income growing by 4 percent annually (World Bank, 2013).

Signs of these trends are already evident in urban markets in Africa and other developing countries. Discussions held with partners, farmer organizations and owners of small enterprises describe the growing demand locally and across borders for locally grown and processed food products.

More important, these trends offer market potential for producers and enterprises operating in the domestic high-value food and staples value chains. It means that these actors do not have to be dependent on cash crop exports for income or adhere to constantly changing standards and certification processes for high-value exports. Markets closer to home have more familiar consumer preferences and fewer requirements compared with buyers in industrialized countries. This reduces possible rates of rejection and waste as against higher-value export markets.

Exposure to markets through the commercialization of staple crops also serves as an important learning ground for the transition to more formal cash and high-value export markets, which demand both higher-quality produce and management processes. Indeed, the role of export markets should not be underestimated. Exposure to these markets is key to developing country economies for a number of reasons, not least for access to foreign currency. In addition, engaging with export markets provides national actors with benchmark standards to emulate and transfer to domestic agrifood industrial development.

In short, the consolidated message from the lessons emerging is that a systems approach that promotes the multifaceted development of staple food, cash and high-value crops, is recommended both for domestic market development and for ensuring that local industry remains engaged and learns from engagement on international markets.

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Further reading – Guides for the development of IBMs

CIAT. *LINK Methodology. A participatory guide to business models that link smallholders to markets.*

Methodology to build inclusive and sustainable trading relationships linking smallholders to modern markets.

CTA (Technical Centre for Agricultural and Rural Cooperation). *Guides for value chain development. A comparative review.*

Compares value chain guides' concepts, objectives and methods, as well as their user-friendliness.

GIZ. *Guide to inclusive agribusiness.*

A guide to help companies in developing business relationship with smallholders.

GIZ. *Value Links Manual. The methodology of value chain promotion.*

Compilation of action-oriented methods for promoting economic development with a value chain perspective.

IBLF. *A framework for practical action in inclusive business.*

Provides guidelines and tools for companies to manage their core activities in a way that is profitable and helps in fighting poverty.

Oxfam and SFL. *Think big go small.*

Guide for companies to deliver value for their business so that the poor can also benefit

Rabobank. *Framework for an inclusive food strategy.*

Provides framework opportunities for increased food production with a focus on smallholder inclusion in the value chain.

SNV and WBCSD. *Profitable business for successful development.*

Provides a framework to facilitate the development of inclusive business opportunities

UNDP. *Brokering inclusive business models.*

Provides essential information and tools to build IBMs with companies and other partners.

Annexes

Case application of the inclusive business model approach

The Annexes describe five different case studies illustrating how the IBM approach was implemented across different commodities and locations between 2007 and 2012 under AAACP and in collaboration with government, local NGOs, international partners and farmer organizations.

Cases are structured into three parts. The first gives an overview of the global and national commodity and its importance for food security and livelihoods. The second describes how the IBM approach was implemented, following the four steps listed in Chapter 4. These include a description of the initial business model, the identification of common upgrading priorities and the activities implemented that led to an upgraded model. The last part includes lessons learned from the implementation of the approach to the particular country and commodity.

Three of the cases described are in Africa, with two from Cameroon and one from Kenya. In Cameroon, activities focused on the commercialization of palm oil and on cassava. In Kenya, activities focused on strengthening the cotton value chain. The case from the Pacific region is from the island of Vanuatu and focuses on the commercialization of fruit and vegetables. Last, the case from the Caribbean region is focused on support to the roots and tubers (R&T) value addition in Saint Vincent and the Grenadines.

Annex 1

Palm oil in Cameroon

BACKGROUND

Since 2005, palm oil is the world's most consumed vegetable oil (FAPRI, 2010). Palm oil prices are between 10 and 30 percent lower than the prices for soybean, rapeseed and sunflower oil.³⁶ This is mainly a result of three factors. Compared with other oils, palm oil has the highest oil extraction rate per unit area,³⁷ requires lower use of fertilizers and inputs, and has a longer harvest period. Palm oil is versatile and its products include the oil, sauces, soap, wine, fertilizer from ashes, roofing from leaves, building material from the trunk and medicines from the roots. Furthermore, after oil extraction, palm kernel waste can be used for animal feed and co-firing electricity generators (Nchanji *et al.*, 2013).

Over the last decade, world production of palm oil has more than doubled, passing from 22 million tonnes in 2000 to 50 million tonnes in 2012 (FAOSTAT, 2013), largely as a response to growing demand for palm oil for food products, detergents, cosmetics and, more increasingly, biofuels. The global palm oil industry is worth at least US\$20 billion annually (Hoyle and Levang, 2012). Palm oil is mainly produced in large commercial plantations, especially in Malaysia and Indonesia (the world's largest producers). However, it also provides a source of income for a large number of poor rural communities.

The growing market demand for palm oil is hampered by major concerns about the environmental and social impacts of large-scale plantations. Concerns arise from the destruction of tropical forests and other ecosystems to make room for vast monoculture oil-palm plantations. Environmental impacts include the highly erosive nature of large-scale plantations, the soil and water pollution caused by the by-products generated when processing palm oil, and high greenhouse gas emissions (WWF, 2013). There is also concern about the effects of large-scale oil-palm plantations on the livelihoods and well-being of local populations.

Cameroon has a long history of traditionally growing and processing palm oil fruits to produce edible oil. The highly coloured and flavoured oil produced is an essential ingredient in much of traditional West African cooking. Crude palm oil (CPO) is the world's richest source of natural plant carotenoids in terms of retinol (pro-vitamin A). It contains more retinol than carrots, green leafy vegetables and tomatoes (Latip *et al.*, 2001), making it a highly nutritious and flavoursome oil that is an essential ingredient for cooking local dishes, and an important staple for national food security.

³⁶ Prices from Oil World as of March 2013: palm oil US\$859/tonne; soybean oil US\$952/tonne; rapeseed oil US\$975/tonne; and sunflower oil US\$1 137/tonne.

³⁷ Palm oil has an average yield of 3.75 tonnes/ha compared with 0.38 for soybean, 0.48 for sunflower and 0.67 for rapeseed (Oil World – <http://www.oilworld.biz>).

Smallholders represent around 40 percent of the plantation area in the country, providing over a quarter of national production (World Bank, 2008). Generally, palm oil is an activity reserved for men who grow the plants and collect the fresh fruit bunches (FFB) from where the oil is extracted. FFB are highly perishable and processing for oil extraction must begin a maximum of three days after harvest to ensure a good-quality product and prevent food losses.

Mainly driven by high demand for human consumption and, more recently, biofuels, Cameroon's palm oil production has increased by 70 percent over the last decade, from 136 000 tonnes in 2000 to 230 000 tonnes in 2012. Palm oil is the fourth largest national crop and the country is ranked as the world's 13th largest producer of palm oil (FAOSTAT, 2013). Nevertheless, current production does not cover national demand, with increasing imports of palm oil from Indonesia and Malaysia – creating an economic incentive to increase production even further.

However, owing to international pressure from environmental groups resulting from the crop's environmental and social impact, the government passed a series of laws that limit the capacity for surface extension of the larger agro-industrial model, as a means to protect rain forests. This represents a unique opportunity for smallholders, as they have access to arable land and are not affected by the laws.

In an effort to capitalize on smallholders' comparative advantage, consisting in their access to land to grow a product for which there is an increasing demand in the local market, the IBM approach was introduced. FAO partnered with the International Institute of Tropical Agriculture (IITA) under its Sustainable Tree Crops Programme (STCP)³⁸ to build on their engagement with smallholder palm oil growers. The approach was used to strengthen the business model of three local cooperatives –MANAFACOOOP, SOCAMAK and SOCOAP³⁹ – located in the centre and southwest of Cameroon (see Figure 1). The cooperatives represent 500 smallholders involved in the production and commercialization of palm oil as well as other food products. The approach also fostered sustainable trading relationships between the cooperatives and their direct buyers, including traders, wholesalers and medium to large agroprocessors.

IMPLEMENTATION OF THE INCLUSIVE BUSINESS MODEL APPROACH

Appraisal of business models

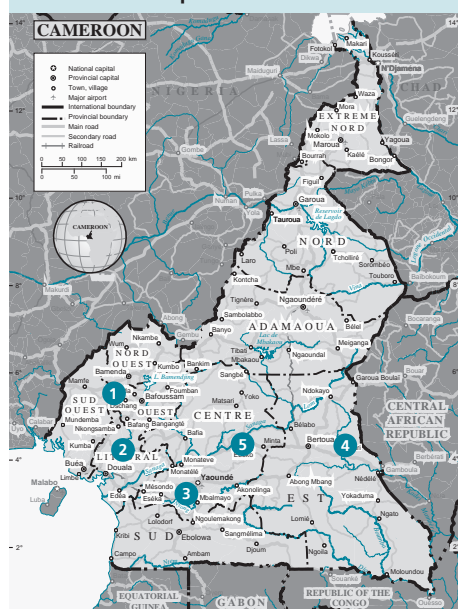
The first step was to appraise the current business models to understand how targeted farmers and buyers were doing business. To do this, a review of existing value chain studies and local market appraisals took place. Additionally, surveys on producers and buyers were carried out to provide more insights into local business dynamics.

Small-scale palm oil producers are generally men in their mid-fifties, working an average 2 ha of land and producing approximately 7 tonnes of palm oil per ha.

³⁸ STCP promotes the production, processing and marketing of tree crops, including cocoa, oil-palm and associated products such as plantain and cassava. <http://www.iita.org/web/stcp/home>

³⁹ The full names of the cooperatives are: Mana Farmers' Cooperative (MANAFACOOOP), *Société coopérative des agriculteurs de la Méfou et Akono* (SOCAMAK) and Manbiné Agro Pastoral Cooperative (SOCOAP).

FIGURE 1
Location of cooperatives in Cameroon



1. Manafcoop, Pamol
2. Konafcoop
3. Socoop, Socopa, Socamak
4. Nnem Mbog
5. Socoploucom

Source: authors' elaboration. Map No. 4227 Rev.1 UNITED NATIONS Department of Field Support, Geospatial Information Section (formerly Cartographic Section). July 2015.

Smallholders are usually part of a cooperative that provides support on agricultural practices but plays a marginal role in marketing produce. Buyers engage with smallholders on an ad hoc basis and receive little support to improve their own business capacities and buying practices to facilitate smallholder procurement. Sales generally take place on an individual basis.

The production of palm oil can be grouped into traditional (artisanal) and industrial milling (Nchanji *et al.*, 2013). The traditional process is simple but inefficient – the more rudimentary the process, the lower the oil extraction rate and the nutritional content. The smallholder-based palm oil sector can be divided into two value chains: the production and sale of FFB directly to industrial millers for large-scale processing; and the CPO value chain in which farmers process the bunches at small processing mills into CPO that is sold to traders and wholesalers for retail at rural and urban markets.

Fresh fruit bunches value chain

The members of MANAFACCOOP are located close to Mundemba in the N'dian division in southwest Cameroon (see Figure 1). Most of the 250 members earn their main income from engaging in the FFB value chain. Smallholders on average produce 8 tonnes FFB/ha, which are harvested and piled on their farms. The unprocessed bunches are mainly sold to a nearby industrial mill of the Pamol company.

Pamol Plantations Plc is the third largest agro-industrial company in the country's palm oil sector. It produces CPO that is sold in the local and regional market to refineries for soap manufacturing and supermarkets. Pamol owns close to

10 000 ha of palm oil plantations but production is currently insufficient to satisfy market demand. The company is unable to expand its production area because of recent laws; hence, it regularly buys FFB from smallholders. According to company records, there are around 1 026 smallholders covering an area of 6 400 ha with the potential to deliver 30 000 tonnes/year of FFB.⁴⁰

The relationship between smallholders and Pamol is semiformal. Smallholders are only able to sell to Pamol if they are members of a registered cooperative. However, sales take place on an individual and ad hoc basis with no formal agreements specifying quantities or price. Pamol agents collect the fruit piles at each farmgate and transport them by truck to the industrial processing mill nearby (on average 4 km).

The crop is weighed at the mill and an invoice is issued for farmers to collect their payment at the end of the month. Pamol processes the fruit to produce CPO at its industrial mill at a rate of 22 percent. Farmers sell part of their production to local processors that transform it into CPO for further sales to traders and wholesalers. The remainder is kept for home consumption. The detailed FFB value chain for MANAFACOOOP is illustrated in Figure 2.

Crude palm oil value chain

The CPO value chain is composed of farmers who process the fruit into oil in artisanal mills. The final product is sold to retailers and wholesalers for local and urban markets. This is the case for members of SOCAMAK and SOCOAP located in central Cameroon.

SOCAMAK's members take their FFB to different artisanal mills close to their farms for processing. On average, mills in the area have an extraction rate of 12 percent. CPO is packed in plastic containers for ease of transportation. Farmers sell CPO at nearby urban markets, at roadsides, to traders and wholesalers, or with the support of the cooperative, which arranges transportation by truck to Yaoundé (around 70 km; see map in Figure 1), at the main urban market in the city where they can get a better price. Traders and wholesalers are usually not involved in the processing of oil but limit their activities to buying FFB or CPO from smallholders for later sale in markets or to retailers.

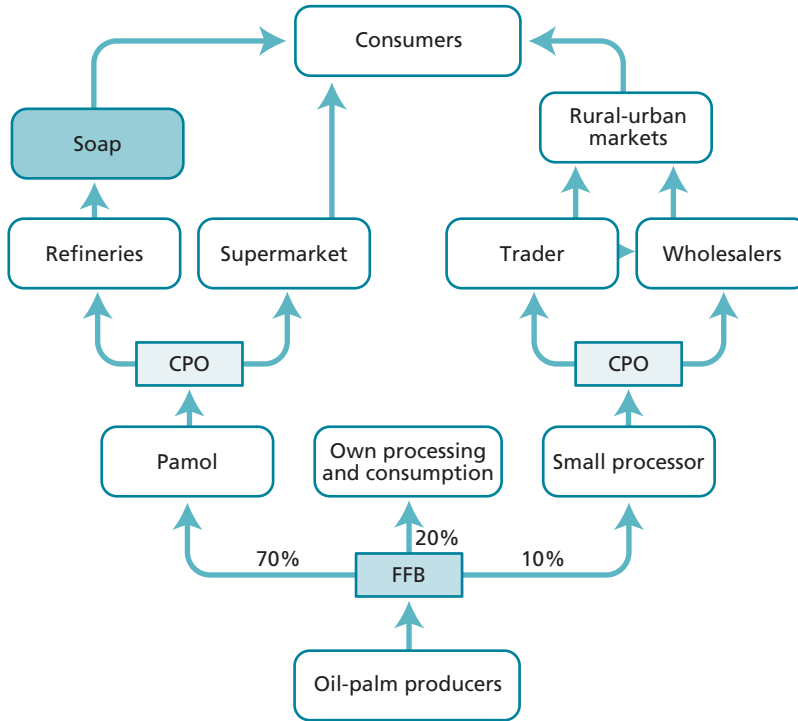
SOCOAP owns a processing mill, which farmers use to process their FFB. The mill was purchased on the common understanding across many smallholder-based agricultural chains that by investing in processing technology they could bypass the commission charged by local agroprocessors. The mill has an extraction rate of 12 percent and members pay a deducted fee for processing. The cooperative stocks CPO, acting as collecting agent for wholesalers that purchase it. The detailed CPO value chain is illustrated in Figure 3.

Identification of common upgrading priorities

With the information gathered during the business model appraisal, a round table was organized in Yaoundé in April 2009, bringing together palm oil producers,

⁴⁰ <http://pamol-plantations.com>

FIGURE 2
Fresh fruit bunches value chain in MANAFACOOOP



Source: Nsofon and Abongwa Acho, 2011.

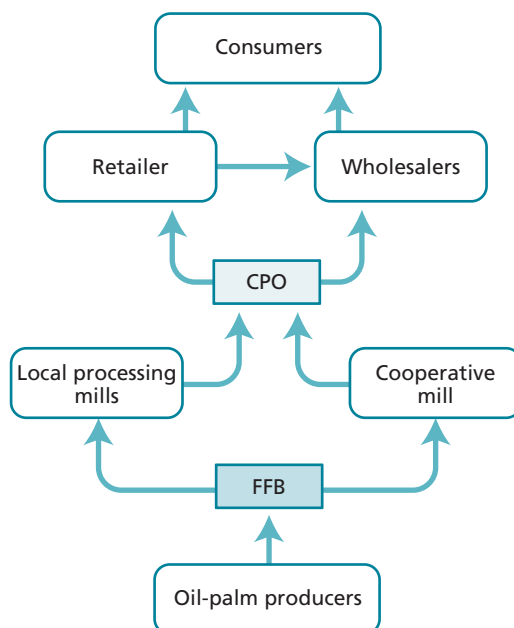
cooperative staff and buyers, including retailers, wholesalers and managers of Pamol. To launch discussions, the results of the business model appraisals were presented. Participants discussed the main challenges for the local sector and possible solutions.

For the FFB model, additional business meetings were organized between MANAFACOOOP farm members and management staff from the agribusiness Pamol. These meetings served as an open forum where producers and the buyer were able to speak openly and frankly about their concerns and past experiences. As a result of the producer-buyer forum and further meetings, it was possible to reach consensus on common priorities to improve business relations.

Transportation

For both the FFB and CPO value chain, transportation was noted as a main challenge. The lack of proper infrastructure and feeder roads, which are particularly bad during the rainy season, is a main obstacle for buyers to transport products efficiently from farms to the processing mills. However, participants agreed that a lack of coordination between producers and buyers made the situation worse.

FIGURE 3
Crude palm oil value chain in SOCOAP and SOCAMAK



Source: Nsofon and Abongwa Acho, 2011.

In the FFB value chain, Pamol collects FFB at each farmgate, without previous arrangements on expected delivery times and quantities. An insufficient number of trucks and lack of proper planning generate delays in getting produce out of the farms. In some cases, delays caused FFB to rot at the farmgate, losses borne by the smallholder. Additionally, during the peak production season, Pamol fails to pick up produce at farms, as production from its plantation is sufficient to satisfy its customers. To avoid losses, producers intentionally decrease the quantity of fruit offered to Pamol, processing part of their produce for home consumption or selling FFB to passing traders.

In the CPO value chain, the dispersed nature of farms and processing mills increases transportation costs. Furthermore, there is a lack of coordination among farmers, which causes traders to collect produce at each farmgate and, in some cases, make various trips to nearby areas, thereby increasing transportation costs.

In both value chains, it was concluded that *rapid evacuation of FFB from farms to processing mills (both large- and medium-scale) are critical to gain efficiency and reduce produce losses.*

Product quality

Both traders and Pamol expressed dissatisfaction with the quality of FFB delivered. Pamol argued that some farmers lack sufficient knowledge on appropriate leaf prun-

ing and harvesting techniques, which leads them to harvest unripe⁴¹ fruit, resulting in poor-quality oil and low extraction rates.

Traders pointed out how some of the oil processed at medium-scale mills had an inferior quality because of high levels of unsaturated fatty acids, dirt content and high humidity. They explained how they were penalized in the market for inferior quality oil, which reduced their profits and prevented them from offering higher prices to producers.

Producers, traders and Pamol agreed on the urgency to develop *mechanisms that ensure high-quality FFB and CPO to satisfy customer's requirements.*

Volume delivered

Pamol managers explained that demand for palm oil has increased over the last few years and the company does not have the capacity to meet such demand. Currently, Pamol is sourcing around 12 percent of total production from smallholders close to its plantation, but would like to increase the volume delivered. Producers explained that they had the capacity to provide increased quantities of FFB but that delays in payments and in collecting products at farms discouraged them from delivering to Pamol. Farmers also argued that they were unable to use proper fertilizers to increase their productivity because of high input costs. Both farmers and Pamol agreed on the need to *improve smallholders' production techniques and access to inputs to increase yields*, as well as to *develop logistics and payment mechanisms appropriate to smallholders' specific needs in order to provide incentives for deliveries of FFB.*

Pricing mechanisms

In both the FFB and CPO value chain, smallholders have little bargaining power and are usually forced to take the price given by traders, wholesalers and processing mills. In the FFB chain, the price offered by Pamol is generally higher than that given by traders, yet farmers sell part of their produce to traders motivated by cash payments on delivery. For CPO, prices vary according to the market, with urban markets at major cities and Yaoundé having higher prices than rural markets. Farmers in general do not receive any service from buyers and hence sell their produce to the higher bidder. It was agreed that to foster increased trading relationships it is necessary to have greater *transparency in price negotiations and develop payment mechanisms according to smallholder needs.*

Upgraded business model and action plan

As a result of the interaction between producers and buyers during the business model appraisal meetings, activities to reinforce the commercial relationships between cooperatives and buyers were designed. While there were two specific but interrelated business models (FFB and CPO), upgrading activities responded to the common challenges and upgrading priorities identified. These included: (i) feasibility appraisals to evaluate investment opportunities in value addition

⁴¹ The ripeness of FFB refers to the level of maturity of the fruit, which is determinant for the oil content.

technology; (ii) strengthening cooperatives' business service provision; (iii) developing technical skills to improve product quality; (iv) quality assurance tools to ensure adherence to buyer's standards; (v) logistics mechanism for efficient product transportation; and (vi) efficient payment mechanisms as an incentive for production and product delivery. Activities were implemented by IITA with FAO's technical assistance.

Feasibility appraisals to evaluate investment opportunities in value addition technology. During initial consultations with cooperatives, farmers were advocating for resources and financial support to invest in processing mills in order to process and market CPO. Cooperatives were motivated to commercialize a product with a higher market value and to establish direct trading relations with refineries and soap manufacturers, or to sell produce in rural and urban markets, bypassing local agroprocessors. Cooperatives were warned about the need for independent feasibility analysis to take place before further investments were made.

A comparative cost/benefit analysis of the three cooperatives was carried out. The exercise illustrated how business tools can inform important business decisions. The study showed that even though production costs of FFB⁴² are similar among cooperatives, the profit per hectare differed sharply. Ironically, and contrary to what farmers perceived, the cooperative selling directly to industry for processing (MANAFACCOOP) had a significantly higher profit per hectare compared with cooperatives processing palm oil for the local wholesale market, mainly because of its proximity to Pamol and an absence of transport costs covered by the buyer. The details of the study can be seen in Table 6.

Besides the clear economic benefits of selling FFB to a large industrial mill close to the production area, medium-scale artisanal mills have other setbacks that are more difficult to quantify, such as low extraction rates, inferior quality of CPO and suboptimal processing of FFB, since no palm kernel is extracted and there is no use of biomass. Besides, cooperatives need to master technical and business skills in order to manage modern equipment efficiently. The exercise served to reiterate that no one size solution fits all and that designing an appropriate business model depends on context and market characteristics.

Strengthening cooperatives' business service provision. To increase smallholder bargaining power through improved service provision and support with collective marketing, the staff of cooperatives received training in agribusiness management skills. The course lasted for six months and some of the topics – operations management and finance – were repeated two years later. Overall, the topics covered were value chain concepts and the role of farmer organizations, governance, financial management, marketing, logistics and operations, and business planning. The training adapted agribusiness topics cases related to the palm oil or oil industries, and used participatory methods such as role plays, small group work, homework and applied mentoring.

⁴² FFB's production costs include tree felling, clearing, pruning, harvesting and farm maintenance.

TABLE 6
Comparative cost/benefit analysis for palm oil

	MANAFACOO	SOCAMAK	SOCOAP
Production costs/ha	247 500	255 500	235 500
Average yield (tonnes/ha)	8	7	6
Cost of transportation to mill		21 000	10 000
Processing cost (10 000 tonnes)	-	70 000	70 000
Total cost/ha	247 500	346 500	315 500
Purchase price FFB (CFA/tonnes)	40 000	-	-
Purchase price CPO (CFA/litre)	-	450	500
CPO obtained at 12% extraction rate (litres/ha)	-	840	720
Total revenues (CFA/ha)	320 000	378 000	360 000
Total profit (CFA/ha)	72 500	31 500	44 500

Source: Nsofon and Abongwa Acho, 2011.

Note: prices are in Central African francs (CFA).

The training modules developed were output oriented. During the training, cooperative staff developed strategies for different aspects of the cooperative business that all related to an overall business plan. The strategies were pilot tested under supervision by mentors during the course with various iterations adapted to the ongoing realities of the cooperatives' activities and the local agribusiness trade in CPO and FFB.

Cooperative managers were challenged to analyse and reflect on the best role they could play to support further production and commercialization of palm oil by their members. From different training exercises and in close consultation with producers and buyers, cooperatives were able to identify specific activities in which they could play a leading role, such as developing quality assurance and logistics mechanisms. Cooperatives were further supported to develop a business plan for the next five years, detailing activities, funding needed and the profile of the people required to perform them.

Developing technical skills to improve product quality. Improving the quality of both CPO and FFB was a critical success factor identified in the business model appraisal. In response, IITA organized training of trainers for cooperatives' staff on good production and harvest practices for palm oil. It first trained the trainers in its Farmer Learning Group (FLG) approach. This is a structured group-based learning method designed to teach farmers specific technical skills and is a practical learning methodology using on-site demonstrations, discussions and field exercises.

FLG was adapted to the palm oil sector, addressing technical topics on recommended practices for palm oil production and harvesting in order to improve both quality and yields. Topics included soil management, pest identification, tree spacing, leaf pruning and techniques to identify appropriate time for harvesting.

Pamol also became more actively involved to ensure FFB quality meets its standards. It offered MANAFACCOOP's members improved and certified seeds at a discount price. Additionally, it offered the use of their facilities to nurse plants. In return, farmers were encouraged to sell their fruit to Pamol. Nevertheless, still no formal contracts were signed and relations continued on a semiformal basis.

Quality assurance tools to ensure adherence to buyer's standards. Meetings between cooperative members and buyers (including traders and wholesalers) were facilitated by IITA. During these discussions, buyers explained the difficulties faced when selling products of inferior quality. They also shared the main characteristics valued by consumers at markets, such as acidity level, absence of impurities and rich colour. These discussions led the cooperatives to design and implement quality control mechanisms.

The starting-point for the MANAFACCOOP-Pamol business model was to agree on the specifications of good-quality FFB with Pamol. This included harvesting ripe fruit and delivering notched⁴³ and cleaned FFB. MANAFACCOOP, with support from IITA, and Pamol established a quality control brigade to oversee that members followed the agreed norms and specifications. Under its mandate, the brigade provides production and harvest advisory services. Producers received technical support to identify ripe fruit according to skin colour and physical characteristics (red-orange fruit with two fruits detached from the bunch – “two loose fruits criterion”). The brigade also facilitates the distribution of improved and certified planting material provided by Pamol and performs spot checks at collection points to ensure best practices are adhered to by members.

The starting-point for the SOCOAP and SOCAMAK CPO business model was the establishment of a quality control brigade in close consultation with targeted buyers. Specifications of good-quality CPO were agreed upon with traders. These included specifications regarding the content of moisture (≤ 0.1 percent), dirt (≤ 0.1 percent) and free fatty acid (< 5 percent). A training programme was also launched on processing practices for the local mills to ensure the highest possible oil extraction, proper product handling to maintain quality, and environmentally sustainable disposal of waste by-products. New procedures developed at SOCOAP and other processing mills included testing for free fatty acid to determine the quality of CPO, and establishing a bookkeeping method with specifications of procedures such as a five-day time limit for fermentation of bunches before sterilization and processing.

Logistics mechanism for efficient product transportation. To complement the quality control mechanism and eliminate costs caused by a lack of coordination and communication, a logistics mechanism was put in place by each cooperative. Collection points were established around all the cooperative areas.

In the MANAFACCOOP area, six collection points corresponding to production zones were established. Farmers were allocated a collection point with a maximum 5-km radius from their production site – with neighbouring farmers sharing trans-

⁴³ This refers to the cutting of the fruit bunch: stalks must be cut as close to the bunch as possible.

port arrangements along the routes to the collection points. In each zone, farmers synchronized their harvesting period to guarantee that on prearranged dates all products would be evacuated between two to three days. During these dates, the quality control brigades would help with the evacuation and ensure that FFB was free of dirt and adhered to the standards set in agreement with Pamol.

Collection points for SOCAMAK and SOCOAP were established close to the processing mills. Processors were equipped with tanks to ensure CPO appropriate storage. To facilitate aggregation of CPO, collection dates were with traders and wholesalers. Currently, there are five collection points close to the SOCAMAK area and eight close to SOCOAP.

Since buyers had to specify concrete dates for collecting produce from collection points, cooperatives had a detailed production programme, including volumes required. The cooperatives acted as coordinators to ensure that harvesting took place in accordance with the collection schedule. They also developed a bookkeeping mechanism to keep track of individual delivery by farmers, including product quality, volume and deliveries within schedule.

Efficient payment mechanisms as an incentive for production and product delivery.

The relationship between Pamol and MANAFACOOB was plagued by a lack of trust because of delays in payments over the years. As a result, smallholders were reluctant to enter into an agreement with Pamol involving a more collaborative business model. To resolve this issue, several meetings between MANAFACOOB, Pamol and local banks were facilitated, which led to the development of a mechanism to ensure prompt payments for deliveries of FFB to Pamol.

MANAFACOOB opened an account with a local microfinance institution (FIFFA),⁴⁴ into which Pamol makes one payment for all FFB received. The cooperative centralizes the payment transactions and pays farmers according to the FFB supplied and signed for at the collection points. After several months of the system being in place, an increase in trust developed and, by word of mouth, more smallholders began to contribute supplies of FFB to Pamol.

Upgraded MANAFACOOB business model

The actions taken in partnership between Pamol and MANAFACOOB contributed to the development of an upgraded business model in which the cooperative centralizes technical assistance, input provision and payments. Because of the higher quality of service provision and the quality and logistics mechanisms established, smallholders now deliver almost all their entire production to Pamol (delivery was previously 70 percent) and product losses at farm level have been reduced. Moreover, as a result of improved technical skills and better planting material, production yields have increased. These two actions have led to an increased volume of FFB available for agribusiness. The agroprocessor is taking advantage of the increased volume to optimize the production of CPO with a clear schedule of product arrival. Pamol has also been able to take advantage of additional uses of FFB such as energy

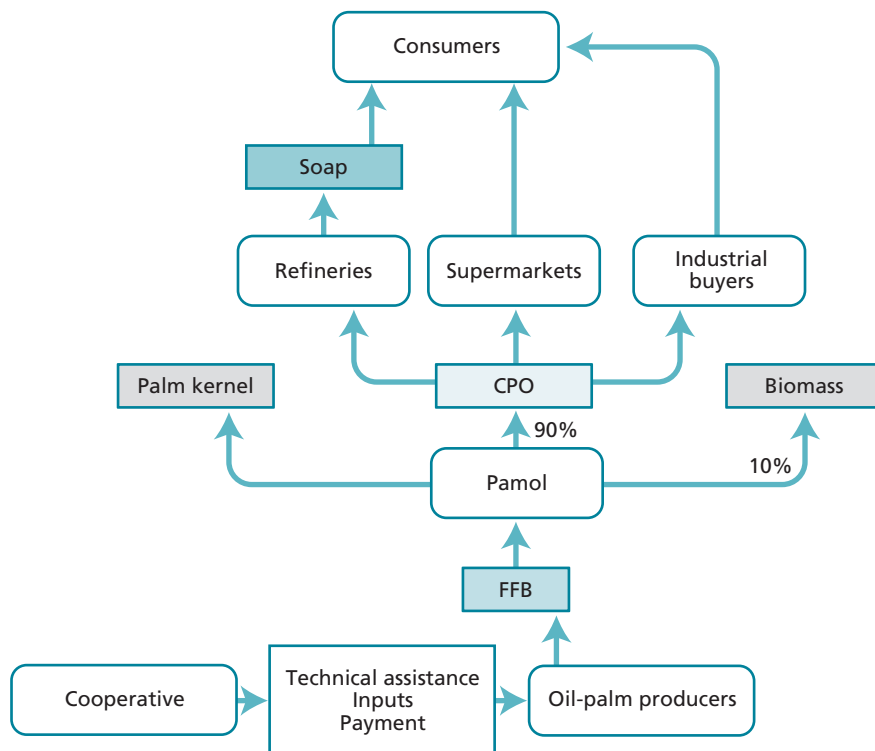
⁴⁴ <http://soft-techint.com/fiffa.php>

use of biomass and production of palm kernel. With improved FFB quality, both the farmers and Pamol benefit. For farmers, the price penalties caused by inferior quality have diminished, which translates into higher available income. For Pamol, processing high-quality products results in higher extraction rates and a larger volume for commercialization. The upgraded value chain is illustrated in Figure 4.

Upgraded SOCOAP and SOCAMAK business model

In the case of the CPO value chain, producers continue to deliver their products to processing mills, traders and wholesalers through informal agreements. However, there have been some gains in efficiency throughout the business model. The establishment of collection points proved useful to facilitate product transportation and reduce costs. With quality control mechanisms, producers are delivering a better-quality product that can be commercialized at a higher price. Cooperatives are playing an intermediary role to negotiate prices and ensure the benefits of the higher quality are passed on to farmers.

FIGURE 4
Upgraded MANAFACOP value chain



LESSONS LEARNED

This case provides an excellent example of how cooperative leaders can be supported through business mentoring over a prolonged period. Here, training and producer-buyer meetings were facilitated by IITA over a three-year period, which contributed to the development of active producer organizations guiding business relationships with buyers and delivering service provision according to members' needs. Lessons that have emerged from an adaptation of the IBM approach to the oil-palm sector in Cameroon include the following.

Independent feasibility studies contribute to market-led and profit-based investment decisions in value addition and supply chain development. Cooperatives and local NGOs were particularly keen for the groups to assume medium-scale processing activities to take advantage of the higher price per litre of CPO and bypass the fee charged by local small and medium agroprocessors. However, a comparative analysis showed that the cooperative selling FFB has a higher profit margin. Independent feasibility analysis and comparative advantage appraisals need to take place before investments are made in value-adding activities. Such appraisals would ensure that investments in value addition are market led and based on real market analysis rather than invalid assumptions.

Dialogue with large agribusinesses can lead to better-quality service provision. Cooperatives can play a strategic role in promoting mechanisms through which agribusiness can deliver technical knowledge to farmers. MANAFACCOOP, under the mentoring of IITA, engaged in dialogue with Pamol and managed to secure a number of technical advisory services from the company as well as new variety seedlings for members. MANAFACCOOP convened its members and made all the organizational arrangements for training delivered by Pamol experts on production practices. The initiative taken by MANAFACCOOP led to farmers receiving a higher price for an improvement in the quality of FFB, and Pamol was able to extract a larger volume of oil of increased quality.

Innovations in organizational and planning mechanisms can lead to efficiency gains and low-cost value addition. The logistical and quality control mechanisms designed by cooperative staff in consultation with buyers led to cost reductions and higher-quality produce. The collection points, harvest and transport schedules, and quality control mechanism led to increased efficiencies in the chain. The implemented activities cost very little, apart from fees for the quality control brigades, and were based on locally available knowledge and skills. These types of initiatives, while adding considerable value, are more likely to be sustainable and have reduced costs compared with large investments in processing equipment. They can also contribute to strengthening an investment case or loan request for capital-intensive value addition technologies, since they demonstrate innovation and operational and managerial strengths.

Logistical skills are key to ensuring food safety and quality. The high perishability of palm oil – with a three-day time margin between harvest and processing – necessitates efficient logistics mechanisms in place for a high-quality product. The sharing of

knowledge and skills training on this area of work led to a spillover effect into various components of the value chain, such as the delivery of inputs, scheduling of harvesting and aggregation of sales. While other food crops may not be as perishable as palm oil, swift logistical operations are still needed to ensure food safety and quality.

Greater product standardization at national level to ensure product safety. Regulations specifying product characteristics in the palm oil sector are needed to ensure product safety and facilitate commercialization. Currently, smallholder-based processing of CPO is mostly carried out in artisanal mills using poor hygiene practices. Many of the mills have a very low extraction rate, which also impacts on the nutritional content of CPO for local people. In addition to greater government control and support for adherence to approved hygiene practices, initiatives that promote investment in larger medium-sized mills would also make a difference. For instance, local governments could be supported to collaborate with donors to promote the consolidation of individual processors in associations with larger mills. To ensure sustainability, any initiative would need to be designed and led by private sector agribusinesses and cooperatives.

Technical and business support to medium-scale agroprocessors to maximize the use of palm oil. Medium-scale agroprocessors need greater support to ensure they maximize the economic value of processing palm oil and run efficient operations. All parts of the palm oil fruit have economic value from CPO, kernel oil and energy from waste biomass. Medium-scale processing mills should receive further training and technical support so that they are able to maximize the use of FFB by designing appropriate processing mechanisms to boost the extraction rate of CPO and also obtain kernel oil.

Annex 2

Cassava commercialization in Cameroon

BACKGROUND

Cassava is one of the most important food crops in the tropics. It is a main source of calories for around 600 million people in Africa, Asia and Latin America. In the last 15 years, world cassava production has increased by almost 40 percent, with current production at 262 million tonnes per year⁴⁵ – making it one of the top ten food commodities in the world.

In recent years, and particularly since the 2008 food crisis, governments and development agencies have placed more emphasis on cassava as a strategic crop for improving the livelihoods of smallholders. This is partly because of its flexible agro-ecological characteristics – a perennial drought-resistant sturdy plant grown all year even in low-nutrient soils. This makes it an important crop for countries susceptible to droughts. Cassava's resistance to droughts and diseases has increased over the years through innovations by national and international research institutes with new and higher yielding varieties.

Cassava is traditionally a food security crop across sub-Saharan Africa. It is mainly cultivated for its roots, which are a rich source of carbohydrates. However, cassava leaves are also consumed as a fresh vegetable in many countries and are a rich source of both protein and minerals (FAO and IFAD, 2000). Cassava's importance has increased with its transformation into a multipurpose crop that can respond to the food and cash priorities of poor communities, trends in the global economy and climate change.

The market for cassava is generally divided into three main segments: food consumption, animal feed and industrial use. With the application of processing technologies, cassava can be transformed into chips and flour for human consumption, an ingredient for animal feed, as well as starch used as a raw material for industrial products such as paper, textile, glue and alcohol (FAO and IFAD, 2000). These represent unexploited market opportunities that make growth and value addition possible for the crop in domestic and regional markets.

In Cameroon, as in many countries across sub-Saharan Africa, cassava is a priority crop for both food security and increasingly for income generation, with women accounting for 90 percent of the country's producers (IFAD, 2004). At present, cassava is the largest food crop in the country. Its national production has doubled in the last ten years or so from 1.9 million tonnes in 2000 to nearly 4.2 mil-

⁴⁵ FAOSTAT production for 2012.

lion tonnes per year in 2012.⁴⁶ More than 80 percent of households in Cameroon consume some type of cassava-derived product on a daily basis, which is mainly grown by smallholders who account for 63 percent of the domestic cassava output (World Bank, 2008).

Cassava is predominately grown as a subsistence crop, but surpluses are increasingly being sold by smallholders as a source of revenue to progressively more demanding markets. In Africa, over the last 20 years, demand for cassava food products has more than doubled (FAO and IFAD, 2000), mainly because of increased national and regional urbanization. Moreover, more small, medium and large companies are gradually becoming involved in the cassava value chain in Cameroon, from biscuit manufacturers to large-scale bakeries, and brewing companies such as Diageo Guinness.

Cameroon has made substantial efforts to increase cassava production. With support from the International Fund for Agricultural Development (IFAD), the *Programme national de développement des racines et tubercules* (PNDRT)⁴⁷ promoted the improvement of roots- and tuber-based farming systems and the performance of small processing systems by enhancing their post-harvest and processing technologies.

Smallholders have two comparative advantages in cassava cultivation: access to local agro-ecological farming knowledge from a long tradition of growing the crop, and cheap labour for harvesting by hand, since damage to the root during harvest greatly reduces its shelf-life.

Commercialization of smallholder-grown cassava faces three main challenges: transportation – because of its bulky nature; fragmentation of supply from smallholders; and the need for processing within 24–48 hours of harvesting because of the high perishability of the roots.

Given the increasing market opportunities opening up for smallholder cassava growers from small, medium and large agricultural companies, an IBM approach was implemented in the centre and southwest regions of Cameroon. The approach focused on improving competitiveness of the business linkage between seven cooperatives⁴⁸ involving approximately 600 smallholders, four local cassava traders and two agroprocessing companies.⁴⁹ Activities were implemented in collaboration with IITA under STCP, which had led the implementation of the business model case for palm oil, allowing for methodological lessons, training materials and innovations to be shared across value chains. A local market-oriented NGO, Support Service to Grassroots Development Initiatives (SAILD) was also involved in the implementation of activities, primarily related to strengthening small buyers' capacity to do business with cooperatives.

⁴⁶ FAOSTAT.

⁴⁷ The programme allocated US\$21.7 million to Cameroon's cassava value chain from 2004 to 2013.

⁴⁸ The cooperatives that benefited from the intervention are: Konye Area Farmers' Cooperative (KONAFSCOOP); Mana Farmers' Cooperative (MANAFSCOOP); Nnem Mbog Common Initiative Group (NNEM MBOG CIG); Mefou and Akono Farmers' Cooperative (SOCAMAK); Manbiné Agropastoral Cooperative (SOCOAP); Akoeman Farmers' Cooperative (SOCOPA); and Mengang Cocoa Farmers' Cooperative (SOCOPLAUCOM).

⁴⁹ The agroprocessing companies are the commercial transaction establishment (ETRACO) and EXOTIC Ngalema.

IMPLEMENTATION OF THE INCLUSIVE BUSINESS MODEL APPROACH

Appraisal of business models

To identify interventions to upgrade business relationships and performance between targeted supplier groups and buyers of cassava products, a number of assessments took place, which built on and addressed gaps in existing market analysis national value chain data and studies. These assessments included a market analysis of the local value chains for cassava, i.e. tracing activities and actors for the specific targeted districts from farms to cooperatives and to targeted wholesalers and businesses. The information was reinforced with business model appraisals that provided the following insights into the internal dynamics of both the cooperatives' and the buyers' business models and ways of doing business.

Smallholders and local processors

The seven cooperatives operated slightly different business models with a number of common characteristics. Cassava is mainly grown by women as a subsistence crop for home consumption on farms with less than 2 ha of land. Around 56 percent of these farms sell part of their production, either as fresh tubers or processed cassava products such as the following:

- *Miondo* or *chickwangue* and *bobolo* (cassava sticks): peeled soaked tubers crushed and packed in leaves in the form of sticks⁵⁰ that are boiled. There are regional and local differences in the length and thickness of the sticks, which have different names.
- *Ntip mbong* or water *fufu*: cassava paste obtained from soaked tubers packed in net bags with a plastic lining, later processed to obtain other products.⁵¹
- *Fufu*: small cassava balls produced from crushed cassava roots or dried *Ntip mbong*.
- *Gari* or tapioca: granulated dried cassava mixed with palm oil that can be roasted or fried.

Farming households engage in a cottage-type industry, carried out mainly by women, for processing fresh tubers for traditional local food products eaten on a daily basis in Cameroon. Products are processed for either home consumption or for selling individually at roadsides, local markets or to passing traders for sale at urban markets. These individual sellers have no access to national or even district market information, but will set prices according to those being offered by others in the vicinity. Cooperatives originally provided no support with access to market information or the collective marketing of cassava products.

Processing methods vary from more traditional labour-intensive practices on farm, carried out by women, to semi-industrial practices used by small enterprises specializing in processing cassava flour and paste, for example. The more industrialized the process the better the quality, food safety and shelf-life of the product, fetching higher prices on the market. In the targeted cooperatives, processing cas-

⁵⁰ Leaves are either *bendomban* (a plant growing in the wild) or banana leaves, when *bendomban* is not available.

⁵¹ *Miondo*, *fufu* and *chickwangue* can be obtained from water *fufu*.

sava for more industrial uses such as chips, flour and starch, or for use by the animal feed, baking and brewery industry was marginal.

Buyers

There are two categories of buyers – small traders who travel from farm to farm for individual sales, and exporters and medium-to-large agroprocessors.

Traders, including women, located around the villages and semi-urban areas close to Yaoundé, collect cassava from producers and sell to wholesalers in urban towns or on the periphery of larger rural markets. Wholesalers in turn sell to restaurants, street food vendors, retailers of market stalls, shops and/or agroprocessors and exporters. Products bought are those that need little or no further processing, such as *miondo* and *fufu*, and can be sold directly to end consumers.

Potential agroprocessors targeted for the selected cooperatives were ETRACO, a commercial transactions company in Yaoundé, and EXOTIC Ngalenna in Bonamoussadi Douala. Both are agroprocessing companies exporting traditional processed food products derived from local fruit and vegetables. A large part of their exports goes to Europe, with France as their main target market. Cassava processed products form an important part of their product portfolio. Both companies buy water *fufu* from wholesalers that source it from smallholders in the centre, littoral and southwest regions of Cameroon. The companies transform the water *fufu* into *chickwangué* for exports.

Figure 5 shows the various cassava by-products, including the different suppliers, processors and buyers in Cameroon.

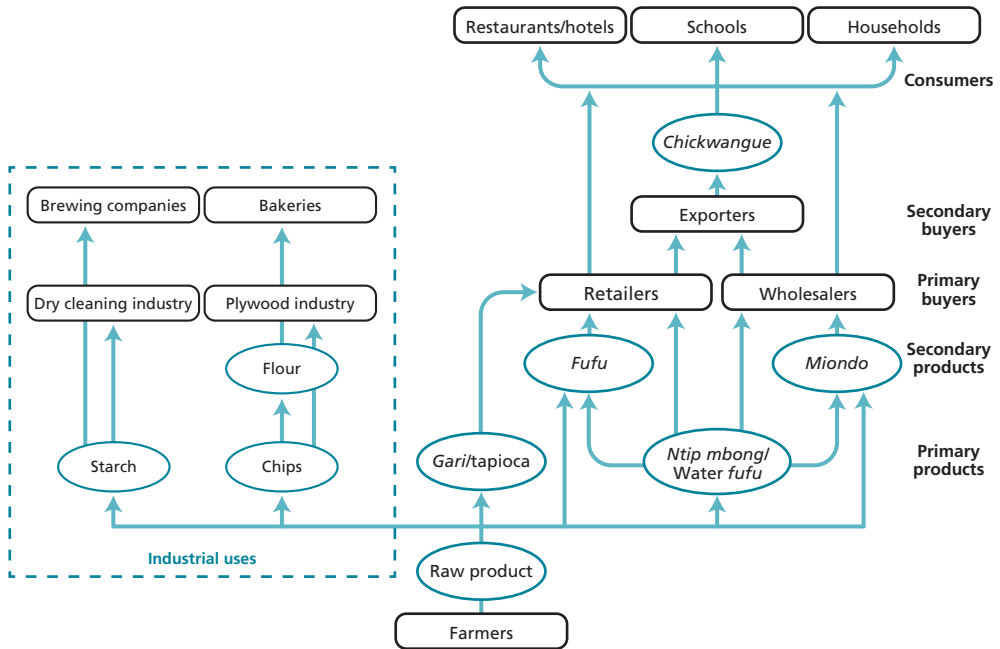
Identification of common upgrading priorities

A forum held in Yaoundé in early 2010 brought together the representatives of target cooperatives, small traders, wholesalers and managers of agroprocessors, NGOs and local government representatives. The group was presented with a consolidation of results from the business model appraisals and an overview of market opportunities and challenges. The purpose of the meeting was to reach a consensus on the interventions perceived as critical for both the suppliers of the cassava tubers and the buyers, which would result in improved business performance. The upgrading activities identified would in part be supported by FAO, but were also intended as potential investment opportunities for both public and private sector investors.

Product quality

Buyers' interventions were focused on the quality of processed products. They indicated that the cassava paste supplied by smallholders often had impurities and high acidity levels, making it hard to market and negotiate for better prices. The high water content in cassava means that its shelf-life is short and processing is more cumbersome since careful product handling is needed. This translates into extra costs for packaging, transportation and storage. *Low-cost processing technologies* exist for improving the shelf-life and quality of cassava by-products but *need to be disseminated widely among smallholders and small primary processors involved in the post-harvest and primary processing of the crop.*

FIGURE 5
Cassava general value chain in Cameroon



Source: authors' elaboration, based on IITA and SAILD, 2011.

Bulking and product standardization

A lack of aggregation of the product was another major impediment for buyers, particularly larger agroprocessors. They confirmed that prices offered per kg to individual smallholders at the farmgate were lower than those from traders or groups selling large quantities. Nevertheless, buyers preferred to pay the higher prices to farmer groups or cooperatives because the price difference was offset by a reduction in time and transport costs. A lack of standardization across products also makes pricing difficult and inefficient for buyers and suppliers. Consequently, prices need to be for each individual product, as opposed to a batch, because of variations in weight and quality of each product. *Aggregation and standardization are critical for improving the profit margins of both buyers and suppliers.*

Infrastructure and logistics

A major obstacle to aggregation is the lack of infrastructure and local market feeder roads, which are particularly bad in Cameroon. For some districts, business in the rainy season can grind to a halt as roads between cooperatives and farmers become hard to transit. As a result, prices for food, transport and a range of services increase temporarily. Consequently, investments in local infrastructure and particularly local market feeder roads are viewed as a critical factor for all parties concerned. In the

short term, however, the investment needed for infrastructure is unlikely to arrive and so other *logistics mechanisms need to be developed in order to work around the absence of adequate infrastructure.*

Upgraded business model and action plan

With the support of local development partners (STCP, national cooperative colleges and SAILD), specific activities were carried out in each of the areas identified. These included:

- realigning the role of cooperatives with the needs of smallholders and the market;
- strengthening buyers' business skills to engage more efficiently with small farmers;
- fostering innovation by horizontal knowledge sharing in the value chain;
- building cooperative business capacity through intercooperative internships;
- product aggregation as a win-win activity for smallholders and buyers;
- alternative logistic mechanisms to work around the absence of adequate infrastructure;
- quality control mechanisms to ensure products comply with required market standards;
- using existing local media tools for dissemination of market information; and
- transitioning from informal business to formal commercial contracts.

Realigning the role of cooperatives with the needs of smallholders and the market. Agribusiness training was developed to strengthen cooperatives' capacity to improve market-oriented service provision to members. The training focused on helping cooperatives understand their role in the value chain and prioritize services for members. Agribusiness training manuals were adapted for the cassava sector by FAO and STCP, and training was given to cooperative staff by the National Cooperative College, Bamenda in collaboration with the STCP team. Topics covered the role of the cooperative in the cassava value chain; logistics; coordination of production planning and harvesting; collective marketing strategies; contract management and pricing.

The training modules were output oriented with each of the cooperatives developing their own strategies for production planning, collective marketing, financial management and investment plans. These outputs were all merged in a five-year business plan. Each cooperative updated its specific value chain, with participants listing the different actors and functions involved within the cooperatives' catchment area. The exercise, which also included a SWOT⁵² analysis, enabled cooperatives' staff to understand their comparative advantage better and identify the best role to play within the value chain – with a focus on where their services could add value to smallholder-market integration. The training took place over a two-year period to allow for applied mentoring with iterations and adjustments to strategies during their implementation.

Strengthening buyers' business skills to engage more efficiently with small farmers. Like smallholders and cooperatives, small agroprocessors, wholesalers and traders

⁵² Identifying strengths, weaknesses, opportunities and threats.

also received training in agribusiness management skills adapted to their specific needs in the chain. The training was adapted by SAILD – experienced in SME capacity building – for a range of local traders, urban wholesalers and the managers of the two large agroprocessors ETRACO and EXOTIC. The training reinforced buyers' capacity to engage more efficiently with small farmers and contributed to developing a business partnership with cooperatives.

During training, participants reviewed the results of market and value chain studies to analyse Cameroon's potential business opportunities. Managers and traders were able to visualize their role in the chain and reflect on their product portfolio relative to the growth of the sector nationally and regionally.

The use of both formal and informal contracts with cooperatives was given particular attention. Participants were presented with an array of different types of contracts and related pricing tools applicable to the cassava sector, using a case study approach. Time was dedicated to developing pricing formulas that would guarantee fair gains for both parties and, most important, would act as an incentive to increasing supply and improving reliability – a critical factor in retaining or gaining a larger market share.

On a technical level, the SME managers underwent training in good practices in agroprocessing to improve food safety and help with standardization, particularly for transforming cassava paste into *chickwangue* – a key product for exports to European customers. Special importance was given to product quality control, material and best practices for packaging, storing and transport, as well as low-cost food-safe conservation methods.

Fostering innovation by horizontal knowledge sharing in the value chain. SAILD and IITA organized a series of facilitated meetings between representatives of different cooperatives from a range of districts specializing in the commercialization of cassava products. The visits led to an exchange of ideas on managerial, operational and marketing practices with field exercises and demonstrations on product handling and processing.

A number of innovations were shared across cooperatives to handle production challenges. An example is the dissemination of a low-cost practice to reduce high levels of impurity and acidity of water *fufu*, which often caused buyers to reject the produce or lower agreed prices. Members of one of the cooperatives were acknowledged as supplying higher-quality products. After some inquiries and field visits, it was discovered that by changing the water used for the soaking process every three days and cleaning the containers, the final product was whiter, had a lower acidity content and would pass the buyers' quality control checks. By sharing knowledge, other cooperatives were able to benefit from these simple low-cost processing practices.

Building cooperative business capacity through intercooperative internships. Intercooperative internships were a novel approach applied under the project in Cameroon to promote partnership among cooperatives, build capacities and learn from peer innovations. The Konye Area Farmers' Cooperative (KONAFSCOOP) is a good example of a well-managed and market-oriented farmer organization, which consistently records growth and regularly pays bonuses to its members, mainly the result of

an efficient management system. In order to learn from KONAFSCOOP's business model, neighbouring cooperatives' staff undertook internships at the organization.

The interns took notice of the importance of clearly defining the organizational structure with specific roles and functions. This includes the establishment of clear functions for the board, so that overlapping of functions and conflicts of interest, between the board of advisors and the management team are avoided. Interns also reflected on the importance of having clear and defined functions for each role, which makes hiring appropriate staff more straightforward and contributes to the prevention of nepotism – a serious challenge facing many cooperatives. They also learned about new and simple, but functional, accounting systems, including a system with local banks that speeds up payments to smallholders.

The internships enabled cooperative managers and staff to observe procedures and ways of doing business in a different setting. This allowed them to identify best practices that could work at their own organization, representing a unique opportunity to learn from their peers by observing them actually performing their daily tasks. After the internships, cooperative members were able to apply the new skills, update procedures on their own areas of work and share interesting work practices with their colleagues.

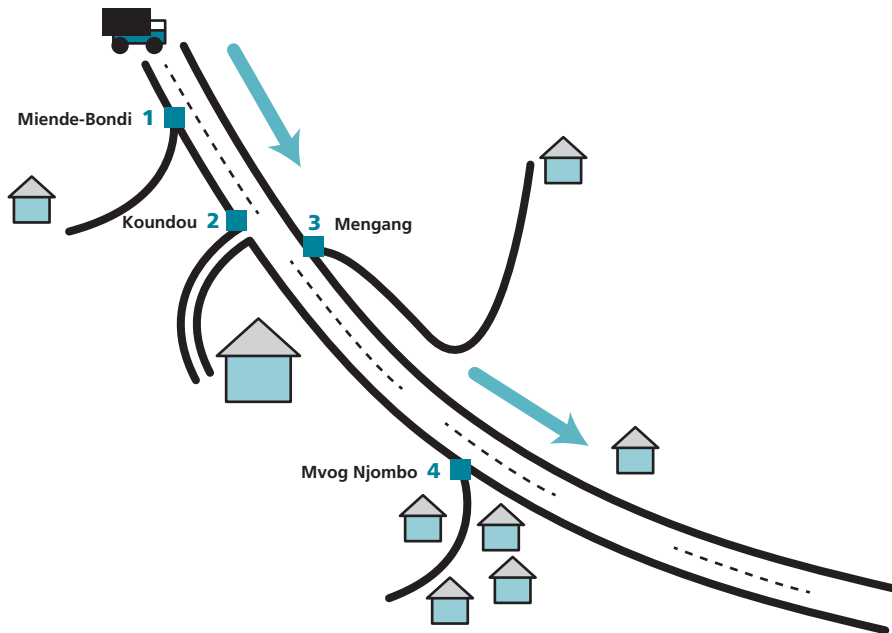
Product aggregation as a win-win activity for smallholders and buyers. Aggregation and standardization were identified as critical success factors for improving the profit margins of both buyers and suppliers. By making bulk sales, farmers benefit from increased bargaining power on prices, and buyers increase supplies and make considerable savings on transport and time.

The cooperatives had a key role in coordinating the establishment of collection points between smallholders and buyers of the processed products. An example of one of the more innovative models was adapted from activities in support of the oil-palm chain and coordinated by SOCOPLAUCOM, located in the central region. Like the support provided for the aggregation of CPO from smallholders, collection points were set up along the Akonolinga-Yaoundé highway. A producer representative brokers the sales between smallholders and traders at each of the collection points. Traders use the public transport system to collect products, with collection points converging at bus stops (see Figure 6).

Prior to the collection run, the trader communicates to the cooperative the quantities needed, prices offered and specifications for the product. In turn, the cooperatives advises smallholders when to harvest and begin processing in preparation for the agreed sale.

To complement aggregation, the service providers also encouraged cooperatives to promote product specialization – one cooperative, one product. Specialization according to cooperative catchments facilitates training, quality control and product standardization. While a good idea, it was difficult to implement since households had their preferred products and were already specialized in primary processing techniques. More important, farmers already had the tools and equipment to process their preferred products and specialization in other products would, as such, have meant households incurring extra costs. Nonetheless, specialization was retained as a strategy for the future.

FIGURE 6
Collection points along the Akonolinga-Yaoundé highway in central Cameroon



Source: IITA and SAILD, 2011.

Alternative logistic mechanisms to work around the absence of adequate infrastructure. Training in logistics management opened up a new area of expertise for cooperatives' staff, enabling them to appraise different strategic routes and design mechanisms as a service to members. SOCAMAK in Ngoumou had issues with delivering produce during the rainy season to one of its preferred buyers, EXOTIC, located in Douala along the west coast (see Figure 1, Annex 1). To ensure a continuing supply of produce, particularly during the rainy season, SOCAMAK and EXOTIC came up with an alternative transportation mechanism. It was agreed that the cooperative would take the aggregated supply of Ntip mbong to Ngoumou train station where an EXOTIC representative would receive the product and pay cash on delivery. The plastic bags containing the processed cassava would be loaded on to the train, which is part of the Camrail network, and transported for more than 200 km to Douala (Bassa station). On average, transport costs from Ngoumou to Douala by train rather than truck were reduced by more than 50 percent/kg during the rainy season.

Quality control mechanisms to ensure products comply with required market standards. The adaptation of a quality control mechanism was based on lessons learned in support of the oil-palm value chain. Like the oil-palm upgraded business model described in Annex 1, quality control brigades were set up to ensure that produc-

tion met customer requirements. Each cooperative established quality specifications according to product type. The brigade conducted initial certification visits to farms to verify produce and advise on transformation techniques, and to ensure producers understood product requirements. The brigade also performed random controls to inspect products at collection points.

To bring quality up to an acceptable standard for buyers, farmers only had to make simple adjustments to their existent production methods, which resulted in higher-quality products, less rejection from buyers and higher prices. By offering a whiter, purer and lower acidic cassava paste, SOCOPA producers earned a reputation in the local market for a high-quality product.

Using existing local media tools for dissemination of market information. To address limited access to market prices by small farmers, an agreement was made with the national newspaper *La voix du paysan* to print price data and information regularly for the cassava sector. The newspaper, which has been run since 1988 by SAILD, is a 24-page monthly tabloid in French and English. The editorial committee includes farmers, while representatives from the three main rural zones in Cameroon agree on the editorial approach. The newspaper also has a readership in the bordering districts of Gabon and Chad and is sold in local shops and churches for CFA200 or two French francs.

Transitioning from informal business to formal commercial contracts. Over a two-year period, the relationship between cooperatives and targeted buyers became stronger with an increase in trust between both parties. As a result, contractual relations gradually developed from informal to formal. During the last six months of the project, five of the seven cooperatives (SOCOPA, NNEM MBOG CIG, SOCOPLAUCOM, SOCAMAK and SOCOAP) formalized and signed supply contracts with two wholesalers and two of the larger agroprocessors.

The volume of produce contracted was initially very small. While the contractual models were being tested, quantities ranged from 10 to 50 kg of cassava paste and 1 000 to 2 800 pieces of *miondo*, with contractual periods set for a test period of three months. Buyers indicated that if the smallholder suppliers and cooperatives manage to honour the contracts and prove to be reliable suppliers, in terms of quality and delivery times, contracts could be set for longer period and for higher quantities.

The contractual relation between SOCOAP and EXOTIC for the supply of cassava paste was particularly successful. The cooperative now aggregates supplies of semi-processed products, carries out quality control checks, negotiates prices and establishes the collection spots where a cooperative representative is present. A 10 percent fee for cooperative services is incorporated into the contractual price. The contractual arrangements, improved quality and reduced transports costs for both farmers and buyers are proving to be a win-win solution for all those involved.

LESSONS LEARNED

As a result of the described changes that took place, the relationship between producers and buyers changed from one of distrust to a functioning business partnership with greater efficiency on how smallholders and buyers run their operations

and interact with each other. The relationship is not free of conflict, particularly over prices, but dialogue has nonetheless always been kept open and the trading agreements have a vision. This was achieved by providing neutral space for interventions to be designed around win-win solutions for both parties and addressing common priorities that emerged from the suppliers-buyers forums and business model analysis. Cooperatives were encouraged to foster relations with buyers and play a leading role in the design and implementation of activities, applying new knowledge and skills learned during training sessions and internships. The following were the main lessons learned during the implementation of these activities for the cassava sector in Cameroon.

For commercialization of a local food staple such as cassava, linkages with the more formal industrial sector is appealing and important but, in the short to medium term, a booming semiformal domestic and export market served by the local cottage industry may be more tenable for smallholders. The initial rationale for supporting the commercialization of cassava was the potential for linkages with the industrial animal food and bakery sectors. Dialogue was encouraged with these players and collaboration with the World Bank led to investments for a cassava chipper to be installed in SOCAMAK, to supply a local animal feed processor. However, the cooperative struggled to source sufficient quantities from its own members and surrounding cooperatives to make the chipper viable in the short term. In the meantime, activities took off around the processed food products emerging from the local cottage industry, destined for a semiformal market made up of restaurants, street vendors, local and urban markets, cross-border informal trade with Gabon and Chad, and exports to the Cameroonian diasporas in Europe.

An important lesson for donors and the public sector is that all nuances of local market product portfolios need to be considered in the commercialization of a local staple food crop – including products produced by the local cottage industry destined for more informal markets as well as larger industrial markets.

A “disabling” business environment can be circumvented, in the short term, by facilitating business-oriented dialogue to identify innovative solutions to local market obstacles. Cassava products are highly perishable so that handling and transport need to be carried out carefully to preserve shelf-life, food safety and product quality. However, the infrastructural system in Cameroon, ranging from rudimentary cottage processing facilities, inadequate storage facilities and poor feeder roads that are impassable in the rainy season, does not bode well for the commercialization of cassava. Nevertheless, the facilitation of a thinking process among local NGOs, smallholder representatives and buyers enabled low-cost innovative logistical and quality control mechanisms to be designed, which enabled business partners to work around “disabling” environment obstacles that were not going to be resolved in the short term. The role of the cooperative was key in leading and coordinating implementation of the mechanisms, eventually for a fee, and in close consultation with buyers.

Sharing horizontally – between competitors – is equally as important, if not more important for innovation, as is sharing vertically along the value chain. The internships between cooperatives and the cooperative field exchanges on solutions to local market obstacles were identified early on as good project practices. In Cameroon, these types of initiatives that allowed for sharing horizontally across the chain resulted in the dissemination of local innovations to common challenges. Support to foster similar types of exchange between small and medium buyers would also be a good practice to stimulate innovation at this level of the value chain.

SMEs require training in developing and negotiating contracts with smallholders if business arrangements with smallholders are to develop and become more formal. Small- and medium-scale buyers of processed traditional food products operate in a semiformal environment. This means that they have less experience in contracts compared with industrial buyers. Informal agreements on small quantities over short time frames were a useful testing ground for product quality, standardization, aggregation of volumes and pricing. It took over one year of dialogue and informal agreements before any formal contracts were arranged, again on a trial period. This experience highlighted the need for capacity building for the SME sector on areas such as contract management, and agribusiness skills in general, particularly if the sector is to act as an efficient gateway for smallholder supplies to the market.

Reliable demand through the formalization of contracts with smallholders to stimulate production of cassava and other staples. There are no data to prove that an increase in informal and formal contracts led to more production and market surpluses delivered to cooperatives. However, discussions with smallholders, IITA and local NGOs did indicate that the reliability of demand emerging from improved relations with buyers, particularly larger agroprocessors, provided smallholders with more confidence in the market for cassava. With a reliable demand for their products, they were motivated to allocate more land to cassava production and to improve their harvesting practices. IITA also observed that training in improved production and harvesting practices did not lead to an immediate increase in production. The combination of technical training with a more reliable market demand did, however, result in a rise in production and volume delivered to cooperatives.

Annex 3

Cotton in Kenya

BACKGROUND

World cotton production has increased in the last 15 years by more than 30 percent, with current annual production of cotton lint close to 26 million tonnes⁵³. About one-third of cotton production is traded internationally, adding price volatility to regional and national markets (World Bank, 2009). Over the last decade, real cotton prices have declined by 4 percent as a result of competition on the supply side (World Bank, 2011).

Studies suggest that the growth in global cotton output in spite of lower prices is explained by the introduction of biotech cotton.⁵⁴ Biotechnology led to productivity improvements that resulted in increased supplies with lower production costs (World Bank, 2011), particularly by the world's largest producers, China and India, accounting for close to 50 percent of world production.⁵⁵ The increase in supply has kept cotton prices low and caused losses to non-users of biotechnology, especially in African countries.

Cotton is a major source of foreign exchange earnings in more than 15 sub-Saharan countries. However, cotton output in Africa has declined by 30 percent over the last decade. Africa contributed only 5 percent to world production in 2011 with a volume of 1.26 million tonnes.⁵⁶ The diversity of approaches to cotton production and commercialization by each country has resulted in different levels of performance and development.

In Kenya, the cotton sector faces major challenges regarding competitiveness and sustainability. In theory, cotton has an important growth potential because of the high intrinsic quality of the fibre, the fact that it is picked by hand and low unit production costs. However, like neighbouring countries in the East and southern African regions, Kenya has not managed to take advantage of this potential. Kenya faces problems with inadequate infrastructure and tools for storage, handling and transportation. As a result, potentially high-value hand-picked cotton eventually becomes more contaminated, adding costs for ginners and adversely affecting quality and price. Compared with other cotton-producing countries, Kenya has low yields – 0.24 tonnes/ha compared with 1.44 tonnes/ha in China and 0.47 tonnes/ha in India (ACTIF, 2013), partly explained by the lack of use of biotech cotton, dependency on rainfed cotton systems and the low technical skills of smallholders (Gertz, 2008).

⁵³ FAOSTAT, values for 2011.

⁵⁴ Biotech cotton refers to genetically modified seeds that prevent insects from eating them, lowering the use of pesticides and increasing production yields.

⁵⁵ FAOSTAT, values for 2013.

⁵⁶ FAOSTAT.

Prior to import liberalization in the early 1990s, the textile and clothing industry was a major industrial sector, employing 30 percent of the manufacturing work force (Omolo, 2006). Following liberalization, the Kenyan market was flooded with imports of used clothing from the United States of America and Europe. An estimated 80 percent of Kenyans purchase used clothing known locally as *mitumba* (Gertz, 2008). The cotton sector was not strong enough to compete with imported materials (both clothes and yarn for textile garments). Inefficient firms in the cotton and apparel value chain have been wiped out of the market by cheap imports.

More recently, Kenya has seen a boom in apparel exports, primarily attributed to the African Growth and Opportunity Act (AGOA) adopted by the Government of the United States of America in 2000. The act allows duty-free and quota-free access to the American market for certain product lines for most sub-Saharan African countries, including Kenya. Under AGOA, apparel exports to the United States of America increased from US\$50 million in 2000 to US\$500 million in 2010 (ACTIF, 2013). Nevertheless, this increase has not led to an increase in cotton and textile production, which remains well below pre-liberalization levels, as the apparel industry relies on cheap imported inputs. Current cotton lint production is 7 200 tonnes/year,⁵⁷ supplying only around 45 percent of Kenyan textile market requirements (EPZA, 2005).

Ginners perform the first mechanical process once cotton has been collected, cleaning and separating seed cotton to produce baled lint for spinning mills that make textiles, and cottonseed for the stock feed industry. In Kenya, ginners operate under the umbrella organization Kenya Cotton Ginners Association (KCGA). Currently, there are 24 registered ginners, of which only ten are in operation. After market liberalization, many ginners went bankrupt as a result of increased costs and intense competition, made worse by outdated technology and lack of management expertise. Estimates suggest that the country has an installed capacity to produce close to 140 000 cotton bales annually, but production is nearer 54 000 bales at present (Monroy, Mulinge and Witwer, 2012), causing inefficient operations and increasing processing costs.

The cotton sector in Kenya is characterized by a strong cooperative history and is largely a smallholder-based crop. Cotton is a source of cash for small producers during lean periods because of its non-perishability and easy-to-store characteristics. Privatization also affected cooperatives, leading many to collapse and causing financial losses for their members. Moreover, there have been issues of organizational mismanagement and political interference, contributing to a lack of trust among actors and a further breakdown in trading relations among smallholder suppliers, cooperatives and ginners.

It is estimated that Kenya has 140 000 small-scale cotton farmers, down from over 200 000 in the mid-1980s when the industry was at its peak (EPZA, 2005). Smallholders face major challenges in cotton production since they are unable to compete with cheaper imports (particularly from countries with subsidized cot-

⁵⁷ FAOSTAT, values for 2011.

ton production systems or use of biotech cotton).⁵⁸ Trade liberalization affected smallholders greatly as they have limited technical skills for improved yields and insufficient access to financial services for improved inputs, limiting their ability to compete with imports (Gertz, 2008).

Against this background, the Government of Kenya requested FAO to assist in development of the cotton industry, supporting smallholder market integration. In response, the IBM approach was introduced in the eastern, western and Nyanza provinces of Kenya, with the purpose of strengthening business relations and operations among farmers, cotton cooperatives and ginners.

IMPLEMENTATION OF THE INCLUSIVE BUSINESS MODEL APPROACH

Appraisal of business models

In response to the government call, FAO undertook a study between March and November 2008 in partnership with CODA to assess the cotton sector in the country. The objective was to analyse the production, marketing and consumption of cotton, as well as the capacities and efficiencies of ginners and textile and garment manufacturers.

The study found that production of cotton is low and considerably inferior to demand from the apparel industry. Annual national demand for cotton lint is equal to about 111 000 tonnes of cottonseed, while average annual production was only about 18 000 tonnes during the period 2005–2010 (data from FAOSTAT and CODA). Main issues affecting production include low producer prices, poor seed supply, low use of inputs resulting from high costs, poor infrastructure and inadequate pest management. Cooperatives play a marginal role in the sector, since negative past experiences have decreased producers' interest in being members. There are currently 77 cotton cooperatives in the country, but only 11 are active. Challenges faced by ginners are undercapacity utilization because of low volumes of raw material, high maintenance costs of old machines that need to be repaired constantly, lack of skills among operators, high electricity costs and poor management.

To build on the results of the study, FAO worked in partnership with FCI for implementation of the IBM approach. FCI conducted business model appraisals between March and May 2009 to understand in more detail how cotton producers, cooperatives and ginners were doing business. Four ginners were analysed in the eastern, western and Nianza provinces: Nambale, Siaya, Kitui and Meru. The first two are legally registered as cooperatives while the last are privately owned.

Producers

Producers are typically men over the age of 45–50 cultivating cotton under rainfed conditions in areas averaging 1 ha. They harvest manually and sell raw cotton (referred to as seed cotton) for income generation. Farmers sell most of their cotton (around 70 percent) directly to ginners. The rest is sold to intermediaries or commission agents. Farmers generally sell individually and have little negotiation power over prices offered.

⁵⁸ Subsidies to cotton farmers in the United States of America during 2001/02 were equivalent to about 50 percent of the world price. In China and the EU, these figures were about 25 and 100 percent, respectively (World Bank, 2011).

Pricing mechanisms

Since 2006, in an effort to promote transparency in the sector and support producers, CODA has established reference floor prices for cotton. A minimum producer price is set annually before the sowing season. CODA organizes a stakeholder meeting including growers' associations, ginners' associations, textile representatives and government officers to agree on the price, which is set according to a formula that incorporates international price trends, production costs and local lint prices. Prices are set for AR grade (top-quality) cotton, which can be purchased at buying centres and ginners.

In spite of efforts to guarantee a minimum price, market information flow is weak and pricing mechanisms are not streamlined, hence farmers are not always able to sell their product above the floor price. FIGURE 7 illustrates the floor price set by CODA and average prices that producers received, according to various cooperatives. Other factors affecting the price that farmers actually receive are the quality of cotton (producers are penalized for cotton below AR quality), and the place where cotton is purchased (farmers receive a lower price at the farmgate). In general, farmers perceive a lack of price incentives compared with other crops, particularly high-value horticulture, such as green beans, which discourages them from investing further in cotton production.

Ginners

The Nambale Union is made up of eight cooperatives⁵⁹ comprising 9 800 farmers in the western province and the Siaya Union also has eight cooperatives⁶⁰ representing 2 600 farmers in Nianza province. Seed cotton is purchased at bulking centres, so farmers need to transport their produce individually and cover transportation costs. Cooperatives mainly engage in advocacy activities, providing marginal support to improve production or facilitate marketing. They also suffer from lack of management skills, aggravated by the fact that the ginner managers are the only permanent staff. Other workers are hired on a short-term basis, which causes more difficulties in running efficient operations.

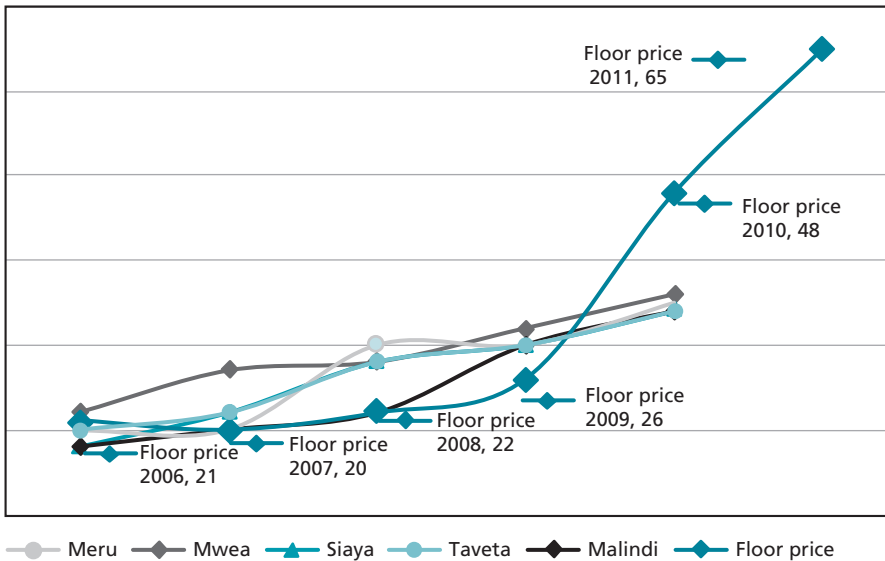
The Nambale Union has 12 gins and the Siaya Union has six, but most of the time the machines are out of order because of mechanical problems. Furthermore, the volume of seed cotton delivered by farmers is low, causing ginners to operate far below their installed capacity, and thereby increasing costs.

The Kitui and Meru ginners are both privately owned ginners in the eastern province. Both engage in informal relations with farmers in the area. According to estimates, Kitui can purchase cotton from 11 000 farmers and Meru from 7 000. Ginners offer few extension services to farmers besides transportation of cotton generally bought at the farmgate. Each ginner has an installed capacity to process 5 million tonnes of seed cotton per year, but currently operates far below this level because of low supply. There is also price competition among ginners in the same

⁵⁹ Member cooperatives are Angorom, Ndogos, Obekai, Amukura, Bugengi, Bukhalarire, Bulwani and Nambale.

⁶⁰ Member cooperatives are Alego-Usonga, Sakwa-Yimbo, Ugenya, Uyoma, Asemo, Seme, Uholo and Siaya.

FIGURE 7
Average seed cotton prices in Kenya (KSh/kg)



Source: FCI, 2011.

growing area in order to secure a higher volume. Privately owned ginners have permanent administrative staff besides the managers, but lack of business capabilities impedes their ability to improve efficiency.

Ginners process the seed cotton and produce two major products: seed and lint. They sell the seeds to vegetable oil processors and animal feed processors. The lint is usually sold to local textile companies that spin it to make yarn for different types of textiles.

The initial business model is illustrated in Figure 8.

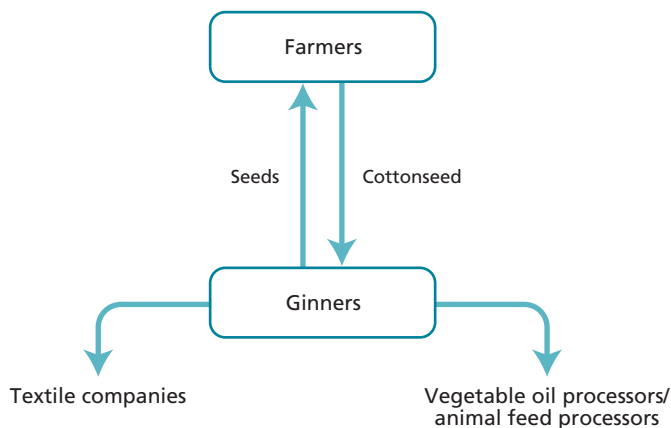
Identification of common upgrading priorities

FCI organized six producer-buyer forums bringing together farmer representatives, cooperatives, ginners and textile companies to discuss challenges in the sector and find customized solutions to local market obstacles between producers and ginners. To launch discussions, the results of the business model appraisals were presented. These were followed by round-table discussions that resulted in the agreement of common upgrading priorities to strengthen the trading relationship.

Product quality

Cottonseed supplied by farmers is of inferior quality and has a high level of contamination agents such as leaves, hair and plastic. This has a negative impact on the quality of the lint produced and causes difficulties in its commercialization. Moreover, ginners are forced to hire extra workers to carry out further grading and sorting and ensure the cotton processed by the rollers is clean. Farmers receive a price pen-

FIGURE 8
Cotton value chain



Source: FCI, 2011.

ality for cotton below the AR quality grade. The major challenge for production of high-quality seed cotton is lack of access to inputs by farmers and poor harvesting and post-harvesting techniques. Farmers and ginners agreed that there was a need to implement *actions to support the production and delivery of top-quality AR cotton*.

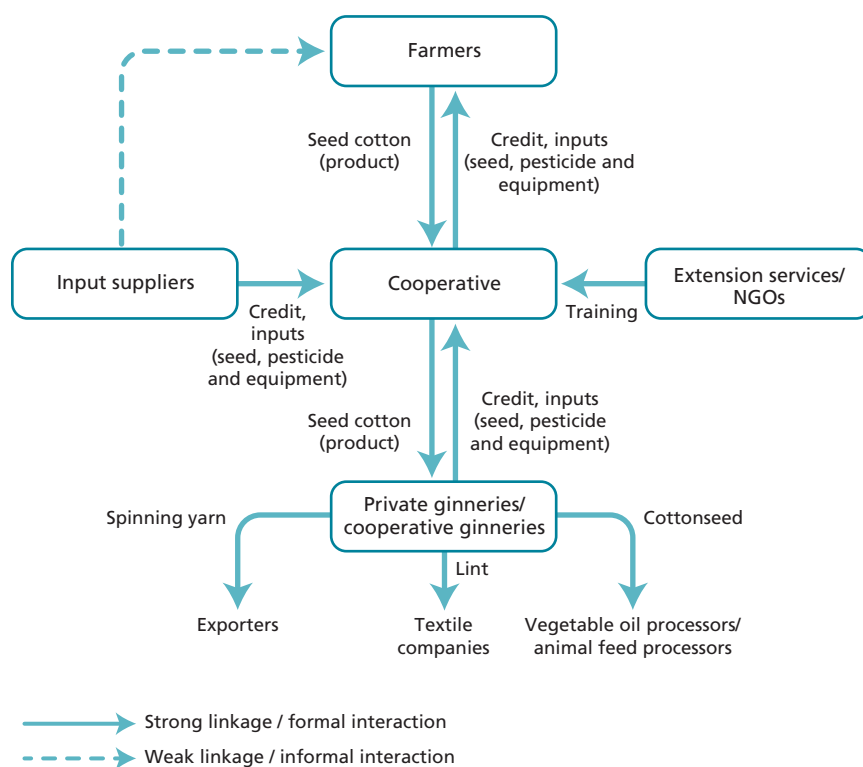
Volumes delivered

Ginners also explained how irregular supplies and low volumes result in inefficient operations at between 10 and 30 percent of full potential, which increase operational costs. However, they recognized their own limited managerial capabilities, outdated technology and lack of proper procurement systems. Farmers explained they had more land available to cultivate cotton but were not interested in increasing production because cotton was not perceived to be a profitable activity. Besides, late payments from ginners motivated them to sell part of their production to traders that offered immediate cash at the farmgate and took care of cleaning, package and transport. Cooperatives and ginners agreed on the need *to increase the volume of seed cotton delivered by smallholders without providing free inputs or generating market distortions*.

Product transportation and storage

Because of the low supply of seed cotton, ginners, particularly private ones, compete over prices and are forced to go to farms in order to procure cotton. Both Kitui and Meru ginners have to cover wide extension areas in the eastern province in order to secure their supply, which increases costs and limits their ability to offer a higher price. Producers explained how cooperatives offered limited collective marketing support, forcing them to sell individually to the highest bidder. It was agreed that further *organization of farmers was needed to facilitate transportation, storage and bulk purchases*.

FIGURE 9
Upgraded cotton value chain



Source: FCI, 2011.

The forums were an excellent neutral setting for all to share their concerns on local bottlenecks within the sector, raising awareness of the need for farmer groups and cooperatives to work more closely with ginners in order to add value and encourage cost savings within the linkage. Both actors agreed that by working together they could reach agreements to reduce costs and gain efficiencies.

Upgraded business model and action plan

As a result of the business models appraisal and the identification of common upgrading priorities, farmers, cooperatives and ginners agreed on an upgraded business model with a stronger role of cooperatives as the market linkage between producers and ginners (see Figure 9). The following areas of intervention were selected:

- strengthening cooperative market-oriented service provision to members;
- improving product quality;
- strengthening ginners' managerial skills to facilitate procurement;
- strengthening cooperatives as market intermediaries between producers and ginners;

- financial appraisals to improve access to public and private funding for both cooperatives and ginners;
- partnering with stakeholders to disseminate training and lessons across the sector.

Strengthening cooperative market-oriented service provision to members. With the aim of reinforcing cooperatives' agribusiness capabilities so that they could play a more active role in the cotton value chain, specific training was customized for the cotton sector.⁶¹ Topics included group dynamics and leadership, operations management, business planning, financial planning, contract farming, farm management and marketing of seed cotton.

Training was carried out using participatory approaches including case studies, role plays and experience sharing to incorporate the day-to-day challenges faced by trainees. As part of the learning process, exchange visits between staff from different cooperative unions were organized to share ideas about best practices in each of their organizations.

Training was output-oriented, with each module culminating in take-home strategies and action plans for trainees to try to revert to the trainers for feedback and adjustment. These outputs included the development of five-year business plans by each cooperative. Plans covered the cooperatives' mission statements, a SWOT analysis under which each cooperative identified the areas it needed to strengthen and the different activities it would carry out in order to achieve its objectives. The business plan also included a production schedule validated with ginners. Although the target delivery and processing volumes in the business plan were not initially met, the initiative represents a first step in drafting common goals and coordinating efforts to achieve them.

Despite agribusiness training and advisory services, some cooperatives were not able to overcome organizational difficulties in order to improve service provision to members and facilitate linkages with ginners. In some regions, existing common interest groups were identified and supported to engage in collective marketing activities. These groups received the same type of training as cooperatives. Through reiterative training, the groups were encouraged to have clear governance structures with defined roles and responsibilities aiming at facilitating cotton commercialization.

Improving product quality. To address problems related to poor product quality, training was developed for cooperatives on cotton production and quality control. Cooperatives' staff participated in a training of trainers, addressing topics such as on-farm management, production planning, harvesting and post-harvest techniques, in order to improve technical service provision to members. Practical training on good agricultural practices for cotton production included optimal seed spacing, determining labour requirements and effective weed management techniques. Post-harvest techniques included product separation at harvest and cotton drying after collection to ensure high-quality products.

⁶¹ FCI can be contacted for the detailed agribusiness course.

Cooperatives were also trained on product requirements for lint, so they could advise producers on the characteristics necessary to deliver AR cotton. These include white colour; long, strong fibres (of 1 inch [2.5 cm] and above); and no husk. Another critical factor that farmers need to control is the oil and hydration level of cottonseed. With the knowledge acquired on production and harvesting techniques, cooperatives carried out periodical training for farmers on how to improve their production systems.

Strengthening ginners' managerial skills to facilitate procurement. Ginner managers acknowledged the need to improve their business and organizational capacities to manage risk, and run their businesses and trading relations more efficiently. In response, business skills courses were designed specifically for ginner managers, focusing on cutting costs, optimizing operations, and managing risks related to product quality and procurement from smallholders.

Business training included topics on contract management and negotiation; logistics and operations management; financial management and resource mobilization; marketing; and sales. It also provided information on contract farming and the development of smallholder friendly procurement tools. These included the design of two-tier payment mechanisms for different quality grades, shorter payment periods for farmers and aggregated cotton collection points. The training further offered a setting for ginners to interact and discuss common challenges faced, allowing for the development of partnerships and learning from success stories shared by competitors in the sector.

Strengthening cooperatives as market intermediaries between producers and ginners. The cotton cooperative model in Kenya has suffered since liberalization owing to a number of factors dating back to the pre-structural adjustment period when marketing cooperatives were generally run by the government and often dogged by accusations of corruption and mismanagement. Because of the stigma associated with the cooperative movement, it is difficult to attract new members. In order to work around institutional obstacles, cooperatives were motivated to develop advisory services on production, aggregation and procurement mechanisms in addition to their traditional advocacy activities.

The producer-buyer forums were a starting-point to build trust between cooperatives and ginners. Following the forums, FCI facilitated regular exchange visits between selected cooperatives' officials and ginners. As a result, ginners provided regular updates on product specifications required, which were communicated to cooperatives to develop a production schedule and organize farmers into production zones.

Cooperatives also developed detailed supply and transport schedules based on forecasted yields and the quantities established with ginners. With the agreed production plan, cooperatives were able to negotiate prices with ginners according to a pricing scheme that rewards farmers for higher-quality seed cotton. Farmers receive the agreed rate if production meets the requirements of AR quality and timely delivery, and a lower price if production fails to meet these standards.

Financial appraisals to improve access to public and private funding for both cooperatives and ginners. Access to financial services is a major challenge for small and medium cotton businesses in Kenya, mainly because of high interest rates, risk-averse banks and a history of bad debts. In order to develop strategies to improve access to public and private funding for both cooperatives and ginners, a financial services appraisal was carried out. The appraisal came up with key recommendations, including: developing business plans with annual budgets to finance operations; the need to carry out independent feasibility studies before making investment decisions for acquiring new machinery; and setting up transparent accounting systems to instil confidence in potential investors.

The training in agribusiness skills coupled with the financial appraisals meant that cooperatives and ginners were more confident in approaching local banks and service providers to develop financial products according to their needs. In consultation with ginners, the Ministry of Cooperatives and Development (MCoPD) and local banks designed customized financial products that decreased delays in payments from ginners to farmers – a longstanding cause of conflict between the two parties. The targeted ginners now centralize payments to cooperatives' accounts held in local financial institutions that release cash to farmers upon product delivery.

Partnering with stakeholders to disseminate learning on the IBM approach. A round-table meeting was organized with CODA, MCoPD and the Ministry of Agriculture to present the findings of the activities implemented under the IBM approach in the eastern, western and Nyanza provinces of Kenya. The meeting provided insights for government authorities and local development organizations on the types of strategies and tools that can be replicated and scaled up to foster business between smallholders and immediate buyers or processors.

During the meeting, FAO and FCI highlighted the importance of formalizing commercial relationships between cooperatives and ginners around either informal or formal contracts. Finally, CODA and MCoPD agreed to take ownership of the agribusiness management training course for cooperatives for further dissemination to agricultural and cooperative colleges and for incorporation into its overall strategy to upgrade the sector.

LESSONS LEARNED

In its reports back to FAO, FCI stated that “cooperatives now have a better understanding of the need to work with ginners rather than in opposition to them”. This change in mind-set also contributed to cooperatives offering higher-quality services to members, including technical advisory services on production, planning and marketing. These practices resulted in the mobilization of farmers around cotton production and an increase in the use of cooperatives as a marketing channel. Lessons that have emerged from an adaptation of the approach to the cotton sector in Kenya include the following.

Existing organizations can be revived through training and structural changes. With the provision of training in agribusiness management skills and the promotion of clear organizational structures with defined roles and functions, it is possible to revitalize existing farmer organizations and mobilize farmers around the commer-

cialization of a crop. In spite of the stigma associated with the cooperative model in Kenya, and cooperatives' increasingly marginal role in agricultural marketing, it was possible to revive their cooperative functions by involving their leadership in discussions with the public and private sector to identify solutions to bottlenecks. Important elements leading to this were improvements in cooperative managers' capacity in agribusiness skills and the development of context-specific solutions for the local cotton sector designed together with ginneries. As a result, cooperatives began to see an increase in the number of new members and better returns on investments since members, using the cooperatives' marketing channels, began to pay fees for services.

Improved quality service provision and reliable demand can stimulate production.

Increasing production was not a primary objective of the project and no production inputs or on-farm training for farmers were provided. However, improvement in cooperatives' service delivery to members, combined with harvesting and supply schedules developed with ginneries, resulted in an increase in the volume and quality of production.

Transparency in pricing can act as an incentive for better-quality produce. Agreeing on a price is a very sensitive topic for all sellers and buyers, not least for small-holders, and can be the cause of unresolvable conflicts and an end to a potentially sound business relationship if not handled carefully. Facilitated by FCI, a pricing mechanism was designed under the guidance of farmer representatives, cooperative managers, ginners and CODA. The formula considered all activities along the chain (labour, production inputs, processing and transport costs), a fair margin for farmers and prevailing market prices. Through dialogue, diverse actors were able to agree on a price mechanism ensuring that prices offered act as incentives for farmers to deliver better-quality cottonseed.

Optimizing operations with existing machinery translates into economic benefits.

During the launch of the project, ginners were primarily interested in acquiring funds for the purchase of new ginning technologies. The business model appraisals helped them to understand that before investments could be justified for acquiring technologies, operations needed to be improved in order to increase throughput and optimize ginning as much as possible under prevailing conditions. Improving management skills contributed to sounder business plans that were presented to banks and investors for resource mobilization for new gins.

Annex 4

Roots and tubers in the Caribbean⁶²

BACKGROUND

The roots and tubers (R&T) sector includes many crops, the most important of which are cassava, Irish potatoes, sweet potatoes and yams. Around 45 percent of world production in R&T is used for human consumption (FAO, 1997). The remainder is used for animal feed or for industrial processing of products such as starch, distilled spirits, glue and paper. In sub-Saharan Africa and the Caribbean, the bulk of production is consumed as food. The starch content on average accounts for between 16 and 24 percent of the weight of plants. Consequently, they are an important source of energy and play a major role in national food security for many developing countries (FAO, 1997).

In the Caribbean, R&T became the second largest fresh product group in 2006 (Fitzroy, 2009) with a production of over 2 753 282 tonnes. Since then, production further increased to 3 829 235 tonnes in 2013, with cassava and sweet potatoes both accounting for 29 percent of production and yams 26 percent, followed by Irish potatoes and cocoyams (including eddoes and dasheen), both with 6 percent.⁶³ The region currently imports around 78 000 tonnes of Irish potatoes,⁶⁴ and exports 20 000 tonnes of yams and dasheen (Fitzroy, 2009), and almost 10 000 tonnes of sweet potatoes.⁶⁵

In recent years, the Caribbean region has identified cassava, sweet potatoes and yams as the R&T crops with the highest potential for value-added development and for addressing the region's food and nutrition security needs. The crops are given priority in several of the region's key agricultural and food security strategic plans.⁶⁶

Of the CARICOM member countries, the largest exporters of sweet potatoes are Saint Vincent and the Grenadines, accounting for 54 percent and Jamaica, accounting for 45 percent. Dominica and Guyana make up the remaining 1 percent.

⁶² This case is an adaption of the case study developed by S. Rose-Richards, 2010.

⁶³ FAOSTAT, accessed 8 August 2014.

⁶⁴ Idem. Note that FAO data for the Caribbean include the Dominican Republic but exclude Guyana, whereas CARICOM data for the region include CARICOM member countries (excluding the Dominican Republic and including Guyana).

⁶⁵ FAOSTAT, accessed 8 August 2014, last data available for 2011.

⁶⁶ These strategies include the CARICOM Regional Food and Nutrition Security Policy; the Inter-American Institute for Cooperation on Agriculture (IICA) Caribbean Agricultural Development Strategy 2010–2014; and the Caribbean Agricultural Research and Development Institute (CARDI) Medium-term Plans 2008–2010 and 2011–2013 (commodity development programme, roots and tubers).

Products are sold primarily within the region, with some exports to the United Kingdom and Canada. The total aggregate for exports from the region in 2011 was only 2 917 tonnes, accounting for 0.6 percent of total production and valued at just under US\$0.5/tonne (CARDI/CFC, 2013).

Despite the weak figures for exports, the Caribbean diasporas in the United States of America, the United Kingdom and Canada offer significant market potential for smallholders. Imports of fresh and value-added produce such as frozen, fried or dehydrated convenience food are growing. For example, between 2008 and 2012, Canada increased its imports of fresh cassava from 2 753 tonnes to 3 948 tonnes. Fresh and dried cassava imports to the United States of America in the same period increased from 37 494 to 71 247 tonnes. Imports to these countries of fresh and frozen sweet potatoes have also been growing steadily in recent years. Nevertheless, the following have been identified as barriers to entry for smallholder markets: lack of surplus production for export; strict phytosanitary regulations; and weak intraregional transport, market information and processing technologies for production (CARDI/CFC, 2013).

The regional tourism industry also offers a significant market close to home, attracting 40 million visitors annually, with a food import bill of US\$366 million. A number of studies, policies and institutional frameworks have been developed in recent years for tapping into this market, for products such as potatoes, cassava, sweet potatoes, dasheen and yams.

Under the aegis of the AAACP regional work plan for the Caribbean, an IBM approach was adapted to support the commercialization of R&T across the region in Grenada, Guyana, Saint Vincent and the Grenadines and Jamaica, with a total outreach of more than 7 000 smallholders. Under the regional coordination of the Caribbean Farmers Network (CaFAN),⁶⁷ activities were implemented to support linkages between four national farmer organizations and buyers.

A regional perspective meant that business model upgrading strategies were able to tap into ongoing activities taking place at regional and national levels. The approach also allowed for the development of a regional interface for domestic and foreign buyers interested in Caribbean R&T produce. The approach and lessons learned in these countries were disseminated to other countries during regional lesson learning workshops.

This case describes experiences and lessons from Saint Vincent and the Grenadines, where the IBM approach was implemented in collaboration with the Eastern Caribbean Trading and Agriculture Development Organization (ECTAD).

Saint Vincent and the Grenadines is one of the Windward Island countries of the eastern Caribbean, an archipelago of approximately 32 islands. Saint Vincent is the largest island, covering 344 km² of the total 389 km² land area. Most of the land is rugged and mountainous, and volcanic in origin. Some 69 percent of the country's land area is forested. The climate is tropical with a dry season from January to May and a rainy season from May/June to September. The majority of the critical infrastructure and population of about 100 000 are located on or near the coast.

⁶⁷ <http://www.caribbeanfarmers.org>

The coastlines of this small island developing state are particularly vulnerable to increased climate change.

Agriculture in Saint Vincent and the Grenadines is practised largely on the main island of Saint Vincent with some subsistence farming on the Grenadines. Latest figures indicate that agriculture accounts for 5.6 percent of the gross domestic product and 26 percent of the labour force (CIA, 2014). Bananas are still the main crop, although their importance has declined significantly, and there has been an increase in the cultivation of root crops such as cassava, eddoes, dasheen yams and sweet potatoes. The government has been implementing a series of structural reforms to promote greater investment in the agricultural sector through restructuring of the banana industry and agricultural diversification.

Strengthening business linkages between small farmers represented by ECTAD and a local export agent that targets the United Kingdom and European Caribbean diaspora food markets is described below. Appraisals were first carried out on how these two actors were carrying out their business. This was combined with outputs from a producer-buyer forum in order to identify common priority areas that the business partners wanted to upgrade. Some of the lessons from the implementation of the upgrading process are also described.

IMPLEMENTATION OF THE APPROACH

Appraisal of business models

In order to understand how ECTAD was doing business and interacting with local and foreign buyers, a business model appraisal was carried out. A survey of members took place that gathered information on crops grown, areas harvested, product characteristics, markets supplied and funding sources. The appraisal provided the following insights.

ECTAD's business model

ECTAD has a membership of 2 000 farmers to whom it provides technical and agribusiness services for a fee. Like other developing countries, smallholders in Saint Vincent and the Grenadines have traditionally grown R&T such as cassava, sweet potatoes and dasheen for food security. These crops are grown on areas averaging 1 ha, with women and young people actively involved in production. Crops are eaten daily, using a variety of preparation methods. Any surplus after household consumption is generally sold fresh in the rural and urban markets. In recent years, efforts have focused on increasing surpluses to respond to the growing demand from high-value food markets, but they remain modest.

ECTAD's core business focuses on identifying and coordinating the supply of members' produce to markets. When possible, representatives of ECTAD travel to Europe to make contacts and identify market outlets. At the time of the appraisal, ECTAD's business model was focused on selling small quantities – 3 tonnes of dasheen – every week to one buyer in the United Kingdom and 7 tonnes every two weeks to another two buyers, also in the United Kingdom. This arrangement was made possible by the business support services of an export agent in Saint Vincent and the Grenadines and a United Kingdom-based wholesale distributor.

Export agent's business model

ECTAD exports dasheen with the support of an export agent, Sol Caribbean, in Saint Vincent and the Grenadines. The agent regularly visits buyers in the United Kingdom to understand their preferences, and to identify new market outlets for Caribbean produce. Sol Caribbean is able to target these high-value export markets by taking advantage of the relatively low-cost shipping arrangements available for Europe because of the banana trade between regions. As part of the business model appraisal process, the agent visited the United Kingdom, France and other countries in Europe together with ECTAD and CaFAN representatives to attend international food trade fairs, visit agents and potential buyers of Caribbean produce, and compare the quality of Caribbean produce with produce from other countries.

A first step in upgrading the business model arrangements between ECTAD and the export agent was to understand the common priorities of both parties in order to identify where upgrading interventions needed to be focused.

Identification of common upgrading priorities

A producer-buyer forum was held to build on the information compiled from the farmer survey and business model appraisal, and to identify the areas that were perceived as critical for moving the business models forward.

The forum brought together ECTAD's management team, farmer representatives and the local marketing agent. The meeting was also attended by the Ministry of Agriculture, public extension staff, local staff of the Caribbean Agricultural Research and Development Institute (CARDI), and local transporters and representatives of the shipping lines. The presence of these other value chain actors was valuable to understand downstream bottlenecks, which were hampering business for the farmers and export agent.

During the forum, buyer representatives explained that the major challenges for supplying high-value markets with produce sourced from smallholders were the inconsistent volumes and quality of produce. Despite buyers communicating preferred varieties, sizes and appearance of the tubers, consignments did not match orders. Examples cited by buyers were, for example, requests for sweet potatoes that had "red skin, yellow flesh" or "red skin, white flesh". These preferred varieties were not respected in the consignments, which were delivered in small batches by different people at different times rather than in regular bulk deliveries.

Buyers believed that sweet potatoes could be a good second crop for smallholders as they had considerable market potential, could tap into the same market channels as dasheen in the United Kingdom, and cleaning, packaging and labelling requirements for sweet potatoes are similar to those of dasheen. However, to break through the strict phytosanitary regulatory barriers for these markets, buyers also emphasized the need to develop traceability and quality assurance mechanisms to comply with standards imposed by countries such as the United States of America and Canada.

In addition, buyers argued that packaging, branding and labelling needed to be standardized for high-value markets. They added that branding the produce as being sourced from a smallholder in the Caribbean could position the produce in a niche market, given the intense competition from other developing countries, such as China and Africa.

In response, farmers highlighted a number of issues that constrained them from producing more and higher-quality produce. They argued that there was a limited supply of good-quality planting material on the market and that fertilizers and pesticides were expensive. ECTAD representatives stated that farmers' lack of knowledge on soil fertility meant they did not optimize fertilizer applications. In the harvest season, there was also a lack of farm labour, causing high post-harvest losses that were exacerbated by inadequate knowledge of pest control for sweet potatoes. Moreover, the lack of access to tractors meant that proper land preparation was not possible.

Farmers added that in the past some buyers had taken up to three months to pay, meaning that they were unable to buy the inputs needed for the planting season. ECTAD explained that to be of more support to its members in these situations it needed to have better management systems in place. These included ensuring that working and financial capital is in order so that ECTAD can support members with short-term credit needs in order to maintain production levels.

The meeting concluded that to continue and augment supplies to existing overseas markets, major changes to the traditional way of growing and doing business were required. These included:

- improving access to quality and appropriate production inputs, and multiplying planting materials of specific varieties (i.e. sweet potato vines);
- setting up traceability mechanisms, with records maintenance aligned to quality assurance through pest and disease control, fertilizer optimization and post-harvest handling for improved shelf-life and product appearance;
- planning production and forecasting orders to facilitate consistent deliveries of supplies;
- improving packaging, branding and labelling to improve product image;
- strengthening village-based producer groups to improve product aggregation, coordinating delivery of produce to buyers and facilitating farmer training.

Upgraded business model and action plan

Based on the outcomes of the business model appraisal, four major action areas were developed to respond to the common priorities identified. These are:

- capacity building of farmer organizations to improve service delivery to members and engage professionally with buyers;
- farmer training in improved production and post-harvest technologies to access higher-value markets;
- farmer clustering to address labour shortages and develop local innovations; and
- targeting high-value markets through intraregional coordination of production and marketing.

Capacity building of farmer organizations to improve service delivery to members and engage professionally with buyers. To ensure that smallholders could call on high calibre management and technical advisors, the ECTAD management team underwent training in management, marketing, record-keeping and contract negotiation skills. The team also attended regional training for managers of farmer organizations across the Caribbean to build capacities to respond to trends in R&T.

Specifically, the training covered topics in the production and marketing of R&T products, agribusiness and contract management skills. A workshop was also held to coordinate the regional marketing of R&T for export markets. The training helped boost farmer organization managers' confidence to engage with buyers as business partners and to negotiate contracts.

As a result of improved management capacity, ECTAD also improved its overall service delivery to its members, for example, by developing a record-keeping manual with a production cost booklet for farmers. The updated production costs helped ECTAD improve its advisory services to farmers on ways of reducing costs such as labour sharing and soil testing. Upgrading activities included additional support and advisory services by ECTAD for its members, such as the organization of farmers into clusters to optimize labour, and into lead farmer groups to facilitate the decentralization of farmer training.

Farmer training in improved production and post-harvest technologies to access higher-value markets. To respond to buyers' requests for higher quality and larger quantities of certified produce, ECTAD set up farmer groups in different production locations for group training. In collaboration with CARDI, a training of trainers on production and post-harvest technologies was conducted for group leaders. Training included proper drying procedures, using crates for transportation and adopting appropriate storage facilities to maintain the freshness and quality of produce.

Dasheen farmers received intensive training on post-harvest handling, cleaning and packaging practices according to the United Kingdom's market quality requirements. The use of field crates was made mandatory for export produce. Sponsors were identified to pay for the design of ECTAD labels with "sourced from smallholders in the Caribbean" on them for targeting niche markets, and provided a first batch of packaging material in the form of labelled cardboard boxes for export shipments. Later, the costs of packaging material were added to the marketing and handling costs and included in the dasheen sales price.

Through improvements in product quality, ECTAD was able to negotiate a trial shipment of sweet potatoes, and increased the quantity of dasheen supplied to the United Kingdom. Figures from the organization show that dasheen exports have increased steadily in recent years and during the period April to July 2013 a total of 40 tonnes was exported – an increase of 75 percent on the same period in the previous year.

After receiving feedback from the buyer on the trial sweet potatoes, ECTAD started the process of multiplying specific sweet potato varieties. The production of these varieties was earlier tested by CARDI to support their multiplication. However, increasing volumes of export quality sweet potatoes is a lengthy process because farmers need to be certified in Good Agricultural Practice (GAP). To attain this certification, ECTAD began to work with a regional project funded by the Canadian International Development Agency (CIDA).

Regrettably, progress was hindered when Hurricane Tomas hit Saint Vincent and the Grenadines in October 2010. The work on sweet potatoes had to be abandoned because farmers had to focus their efforts on rehabilitating their farms and on dasheen. However, ECTAD managed to re-secure markets for sweet potatoes in

the United Kingdom and a first shipment of 3.2 tonnes of certified sweet potatoes was delivered in July 2013. Informal conversations with ECTAD have indicated that orders are increasing and now include contracts with buyers in France.

Farmer clustering to address labour shortages and develop local innovations. In response to farmers' concerns about labour shortages during busy harvest seasons, ECTAD developed a cluster approach whereby farmers in adjacent locations work together to support each other in production, post-harvest, transportation and marketing activities to benefit from economies of scale.

An example of this approach is a cluster of eight farmers living close to each other near the town of Vermont. To address labour shortages and reduce costs, they organized themselves to assist each other in farm operations and provide labour. They developed a schedule where once a week the entire group worked on a specific farm to carry out tasks such as land preparation, planting and harvesting. Later, the group realized that it was more efficient to be flexible and asked for labour sharing only when needed. This method has proved to be more efficient than hiring occasional workers who tend to be unreliable and costly.

Working more closely in farmer groups also provided a great opportunity for exchanging ideas and peer learning. For instance, an additional benefit that emerged from one of the groups was the establishment of a common bank account where each member saves an agreed amount on the condition that the funds are used by members for unforeseen events only. The establishment of this informal insurance mechanism developed among farmers was a result of their long-standing working relationships and familiarity.

Targeting high-value markets through intraregional coordination of production and marketing. Buyers indicated that in order to expand into higher-value markets in Europe and North America, small and irregular deliveries needed to be addressed since they were not cost effective. In collaboration with CaFAN and the farmer organizations in the top producing islands of the region, including Grenada, Guyana and Jamaica, ECTAD developed a regional farmers' production database.

The database is updated by each cooperative by telephone and the Internet. In Saint Vincent and the Grenadines, for example, information is collected by ECTAD's group coordinators in the different production locations on area planted, treatments given, anticipated harvest time and volumes. This information is reported back regularly by the group coordinators to the central ECTAD office where the data are inserted into the database.⁶⁸ The same process, more or less, is carried out across all the participating countries and data are centralized regionally by CaFAN.

In this way, the export agent has more precise data on the quantity produced and its location. This allows it to interact with buyers, based on more informed marketing data such as forecasted production quantities and expected times of delivery. The database is used to coordinate service provision by farmer organizations to their

⁶⁸ See ECTAD's Web page <http://partners.cta.int/ECTAD/Pages/Marketing.aspx> and http://www.caribbeanfarmers.org/index.php/styles/reports/doc_download/11-eu-aaacp-lessons-learnt

members, since information is collected on service, inputs or finance required by members in order to maintain production targets.

Farmers across the region also benefited from intraregional exchanges on better production practices. For example, farmers from Grenada visited farmer groups in Saint Vincent and the Grenadines and picked up ideas on improving dasheen planting techniques, specifically reduction in planting densities. These new skills were incorporated into production systems back in Grenada.

LESSONS LEARNED

With the implementation of the activities described above, ECTAD was able to engage more professionally with buyers, and advise members on how to respond to their needs. An important element of the approach was the overall regional coordination provided by CaFAN. Its role was particularly instrumental because of the small island context of the region, which characterizes low surplus volumes across all the islands. Following are some lessons that can be drawn from the experience in Saint Vincent and the Grenadines, which were able to build on support at regional level.

Allocation of leadership roles to farmer organizations in business model upgrading accelerates learning and improves professionalism. Providing CaFAN, ECTAD and other farmer organizations in the region with the opportunity to lead business model appraisals and producer-buyer forums meant a higher-level ownership of the process compared with working through an intermediary NGO. As a result, learning was accelerated by the organizations.

They also had the possibility of benefiting directly from technical support offered by international development agencies such as FAO, rather than through a local NGO. Working directly with large organizations, with strict standardized terms of contract and financial reporting requirements, improved ECTAD's professionalism and confidence for engaging with large partners and businesses.

Membership of a farmer organization must contribute to improving farmers' livelihoods if fees are to be justified. In order to justify time and resources committed to a farmer organization, members of the organization must be confident that they will receive something in return and that ultimately their livelihoods will improve. They do not need to be equipped to provide all the required services all the time, but they need to be aware of their members' needs and have the ability and contacts to contract in services when needed.

Like many farmer organizations in developing countries, ECTAD struggles to maintain a regular source of working capital. Management training enabled the organization to upgrade its service provision to its members, increasing their incomes and thereby providing justification for increasing membership fees. In the past, the organization had received training in good production practices and was able to count on public sector extension services. In order to support members in responding to high-value food markets, ECTAD staff required better knowledge on agribusiness trends in the R&T sector and other skills, such as developing contracts with foreign buyers.

Training also took place at a regional level, which gave ECTAD staff the opportunity to interact with people faced with similar mandates and challenges in other

neighbouring countries. This networking opportunity was important for coordinating the identification of overseas markets for members. Additionally, improving the overall quality service provision to members meant that ECTAD could improve membership recruitment.

Regional farmer federations, if technically oriented, can play a key role in linking farmers to markets. Primary-level farmer organizations need to be part of a wider network that provides member organizations with information on new technical ideas, innovation markets and funding opportunities.

This is even more relevant for small islands such as Saint Vincent and the Grenadines that struggle more than larger countries for obvious reasons, including smaller production zones and often costlier transport services. The case described above was mostly able to thrive because of the regional support and coordination provided, not only to Saint Vincent and the Grenadines but to other island countries in the region. As a result of the centralized database, farmer representatives and marketing agents had more opportunities to talk to buyers in Europe as they could make reference to larger volumes – even though still modest.

The case shows that a hands-on technically oriented approach as opposed to a politically oriented regional farmer organization can contribute to national farmer organizations' efforts in linking farmers to markets.

Catalytic opportunities for farmer peer learning can result in low-cost solutions to local constraints. Like other cases described in these guidelines, the case in Saint Vincent and the Grenadines shows that, given the opportunity and with catalytic and organizational support, small farmers can resolve many problems using low-cost and locally customized solutions. One example is the common bank account set up by a group of members, which acts as an insurance mechanism for unforeseen events.

Annex 5

Fruit and vegetables in Vanuatu

BACKGROUND

Vanuatu is a republic consisting of 13 principal and many smaller islands in the South Pacific Ocean, with a population close to 265 000 inhabitants. It has a tropical climate with rich natural vegetation and much of the land is still covered by primary forest. Vanuatu is widely known for its high-quality beef and coconut production systems. It is one of the most vulnerable countries in the world, regularly hit by cyclones, earthquakes and volcanic eruptions. Recent changes in weather patterns have contributed to an increase in droughts and periods of heavy rainfalls causing regular landslides and flooding.

Approximately 80 percent of the population lives in rural areas with agriculture as the main source of livelihood. The country is not self-sufficient as regards food, with the value of imported food and drinks accounting for nearly 20 percent of total imports. Most imports of fresh vegetables come from New Zealand and Australia by air. Rice is imported mainly from Australia and Asia. Domestic demand is driven by local consumers, a relatively large number of expatriates and a growing number of tourists. Tourism is one of the major drivers of economic growth in Vanuatu, with the number of visitors growing rapidly and accounting for around 290 000 visitors in 2013 (VNSO, 2013).

Subsistence farming is predominant on the outer islands. Farmers still apply slash-and-burn farming practices. R&T crops such as taro, sweet potatoes, yams and cassava are the main staple crops. These are supplemented with breadfruit, plantain and sago when in season. Some smaller areas grow island cabbage, Chinese cabbage and temperate vegetables.

Traditionally, farmers generate cash from growing and selling commodities such as coconuts and cocoa. Coconuts constitute the main agricultural exports, usually exported as copra and coconut oil. Income generation possibilities have declined for farmers in recent years because of the loss of preferential access to the European market and decreasing world market commodity prices. Consequently, alternative sources of income needed to be found.

Some smallholders have experience producing for high-value markets such as organic vanilla and pepper. The spice industry in Vanuatu is small but viable. Its growth has been led by a small enterprise called Venui Vanilla,⁶⁹ which targets the local tourist industry and exporters. The industry has been championed by a local NGO, the Farm Support Association (FSA), which provides business services and production advice to local farmers. With the support of FSA, Venui Vanilla has

⁶⁹ <http://www.venuivanilla.com/venu-vanilla/204-vanilla>

established the Vanuatu Spices Network, helping more than 200 farmers spread across seven islands to produce according to high-quality standards.

A multistakeholder workshop for the Pacific held in Apia, Samoa in February 2008⁷⁰ identified fruit and vegetables as a promising sector for improving the livelihoods of smallholders in the region. The factors influencing this decision were mainly improved food and nutritional security and growth through import substitution to serve the growing domestic demand for locally grown high-quality fresh fruit and vegetables by an increasing number of tourists.⁷¹ The products identified as having the best potential for development were temperate vegetables such as cucumbers, tomatoes, capsicum, Irish potatoes, beans and cabbages, as well as tropical fruit, such as papaya and citrus.

Some of these products are grown by a few larger farmers and small farms located near the main cities or hotels. Potatoes can be grown in open fields, an activity mainly practised on the southern island of Tanna. The cultivation of temperate vegetables requires considerably higher labour inputs and irrigated production systems compared with the cultivation of the traditional R&T crop.

Large-scale farms supply fruit and vegetables to supermarkets, restaurants, hotels and cruise ships. However, they lack the capacity to expand production because of insufficient access to land and the high cost of local farm labour, which competes with the higher-paying tourist industry. The main competition for domestic suppliers are imports from New Zealand and Australia. Domestic market prices for temperate vegetables are determined by CIF⁷² prices of imported vegetables.

A business model approach was proposed to improve the integration of smallholders into high-value vegetable chains. Activities focused on Éfaté, the main island of Vanuatu, where the capital Port Vila is located and where the majority of commerce and tourism takes place. The process resulted in the development of business linkages between two commercial farms and smallholders, with the intermediary support of a local NGO. Described below are the appraisal of the targeted actors' business models; identification of common upgrading priorities to improve linkages; and design and implementation of a set of upgrading activities to move the business model forward. The case concludes with a number of lessons learned from implementation of the approach in Vanuatu.

IMPLEMENTATION OF THE INCLUSIVE BUSINESS MODEL APPROACH

Appraisal of business models

In order to develop a business model upgrading strategy for the high-value vegetable sector, the first step was to see how farmers and buyers were doing business. This process was informed by a review of existing market data on the fruit and

⁷⁰ [http://www.euacpcommodities.eu/files/PACIFIC%20KOW%20SUMMARY%20NOTES%20\(RÉV\).pdf](http://www.euacpcommodities.eu/files/PACIFIC%20KOW%20SUMMARY%20NOTES%20(RÉV).pdf)

⁷¹ Vanuatu is recognized as a premier vacation destination for scuba divers wishing to explore the coral reefs of the South Pacific region (Harris, 2006).

⁷² Cost, insurance and freight price of goods delivered at the frontier of the importing country, including any insurance and freight charges incurred to that point.

vegetable sector, followed by a value chain analysis tracing the actors involved in the production and commercialization of fruit and vegetables in Éfaté.

A series of meetings with traditional community leaders and farmer representatives took place. Reiterative visits and consultations were needed to seek approval for activities at the village level in order to sensitize risk-averse farmers on the potential opportunities and risks from diversifying into high-value vegetable production.

Supported by extension workers from the Department of Agriculture and Rural Development (DARD), meetings were held with 50 smallholder vegetable producers on their production practices. These meetings generated important information on the types and quantities of products already grown in the area. After this initial screening, 17 of the more market-oriented smallholders were selected. Important criteria in the selection process were current capacities and willingness to expand vegetable production, take risks and cooperate with the larger farmers under out-grower schemes.

To identify potential buyers, a rapid assessment took place of local commercial farms' organizational skills, product specialization and willingness to work with smallholders. This was followed by visits to four of the largest commercial farmers, which were introduced to the idea of supplementing supplies through smallholder procurement. These were Nougro Farms, John Crowby, Teuma Gardens and Vanuatu Direct.

At the end of the process, two buyers, Teuma Gardens and Vanuatu Direct, were selected. They agreed to modify their current procurement systems to increase supplies from small farmers.

FSA was identified as a natural intermediary to support the business model initiative, based on its role in developing the smallholder-based spice industry. FSA would play a double role in the business model process. First, as broker between the smallholder groups and buyers, and second as a service provider jointly with extension staff from DARD to both actors, once upgrading needs had been identified. FSA's capacity to do both its business models also needed to be reviewed.

Business model descriptions for smallholder groups, respective buyers and FSA are described in the next sections.

Smallholder vegetable producers

Communal and customary land law allows farmers to use most agricultural land in Vanuatu. However, cash crop production requires special community approval. Most small farmers do not have legal property rights. They usually grow their crops on areas ranging from 1 to 2 ha on rented or leased land, based on verbal agreements with owners, and they rely on family labour.

The main vegetable growing season is between May and October, when rainfall decreases along with temperature. Most small farmers have basic production systems applying traditional land preparation and production techniques. Family members – men, women and children – work on the production of staple food crops and vegetables. Communal work is common for land preparation. In rare cases, external labour or machinery is hired.

Farmers grow products for home consumption and sell surpluses in the main municipal market in Port Vila, which requires a fee, or in neighbourhood or road-

side markets. However, recently introduced council regulations preventing roadside sales have discouraged marketing, as farmers are obliged to organize transport to towns for surplus produce.

Farmers are aware of the increasing demand for locally sourced high-quality fresh vegetables. However, without strategic marketing support, they have continued to focus on ad hoc sales at best prices, rather than building up relationships with regular buyers.

Buyers

Large farmers in Vanuatu grow and supply the market with relatively low volumes of a small range of vegetables that they produce with the given factors of production – mainly land and labour. Teuma Gardens and Vanuatu Direct both supply formal domestic markets.

Teuma Gardens is located in the Etas area of the Teuma valley, 15 minutes' drive from Port Vila. The farm produces a range of vegetables, including cabbages, carrots, capsicum, chillies, broccoli and tomatoes. It has a vegetable seedling nursery and conducts ongoing trials to improve knowledge in plant nutrition and pest disease control. Teuma Gardens sells products directly to hotels, restaurants, schools and hospitals.

Vanuatu Direct is the largest supplier of South Pacific indigenous tribal food.⁷³ It has a commercial farm and warehouse located in Milk Tree, to the northwest of Port Vila. It carries out intensive farming of fruit and vegetables such as sweetcorn, beans and cauliflower, applying mechanized land preparation and irrigation. Vanuatu Direct is the lead supplier of fresh products to hotels, supermarkets and cruise liners. The company imports large volumes of fruit and vegetables that are repackaged locally and also purchases local produce when the quality is right, providing wholesale clients with a “one stop shop” for imported and locally procured fresh food.

Teuma Gardens and Vanuatu Direct were already buying modest quantities of fruit and vegetables from small farmers for high-value markets, but cited low volumes, unpredictable deliveries and inconsistent quality as reasons for the market not developing.

Farm Support Association

FSA has over 25 years' experience in extension services and more than 200 members spread all over Vanuatu. The association is managed by a committee composed of six members from different islands of Vanuatu. It has been instrumental in acquiring organic certification of pepper and vanilla for farmers, and provides ongoing extension advice to the Vanuatu spice network. It conducts on-farm research for improved root crop production with DARD and FAO. FSA also works closely with the private sector, such as Venui Vanilla on the commercialization of organic vanilla.

While FSA had worked on vegetable production as part of traditional food gardens for many years, it had not applied its experience and network from the high-value niche vanilla and pepper markets to the high-value vegetable market.

⁷³ <http://www.vanuatudirect.com.vu>

Over the years, the association has built up a reputation for high-quality service delivery, generating income from service fees charged to farmers, private companies, development organizations and the public sector. The demand for the services of the association has increased to the extent that it has had to recruit additional staff.

Identification of common upgrading priorities

The results of the farmer consultations, and market and business model appraisals were shared at a multistakeholder workshop attended by producer groups, FSA, DARD, NGOs, FAO and service providers active in the sector. The results of these appraisals helped determine the challenges that all the parties understood to be priorities for the business model upgrading process. They are described in the following sections.

Poor post-harvest handling resulting in inferior product quality. Buyers cited the quality of produce as the main risk they perceived when procuring from small farmers. They argued that the main cause of poor-quality produce and irregular suppliers was linked to weak road infrastructure and the poor post-harvest handling practices used by farmers. They gave examples of the transportation of perishable fresh produce in sacks on horseback, wheelbarrows, or being carried in woven baskets on rough foot trails over long distances. These practices result in the delivery of ruined and unsellable produce that ultimately has to be rejected by buyers.

Farmers can move their products in hired 4x4 trucks. Costs are usually shared between producers living in the same areas, but are nonetheless high for poor farmers. The main roads on Éfaté have improved considerably in recent years, but many of the feeder roads are still in poor condition and in some cases do not exist. Despite favourable growth conditions, transport infrastructure and costs are major obstacles for increased production of high-value vegetable crops.

Lack of access to good-quality seeds, resulting in inadequate production planning and low volumes. Farmers felt that low volumes and inferior produce were primarily caused by the lack of good-quality seeds and knowledge on growing high-quality seedlings. They were obliged to purchase seeds from Vanuatu Agricultural Supplies, which sells a limited number of seed varieties that often do not correspond to market demands. They also explained their difficulties in growing vegetables out of season resulting from their lack of expertise in managing fungal diseases.

An absence of local service providers or public extension workers experienced in high-value vegetable crops. As already stated, some smallholders have experience producing for the high-value spice market and are supported by DARD and FSA. However, outside the private sector, the public sector and NGOs had little exposure to marketing high-value vegetables. As a result, it was difficult to transfer learning between the two sectors.

Before tools and approaches from the spice network could be customized for the vegetable sector, two main market structural differences needed to be considered. First, prices for spices are relatively stable over the course of the year, allowing buyers and traders to engage in relatively fixed terms of trade with producers. Second, spices are a cash commodity and buyers do not have to compete with local markets so there is little risk of side-selling by farmers.

In contrast, vegetable producers have many local marketing opportunities, from hotels, restaurants, supermarkets, wet markets and roadside stalls, creating many opportunities for side-selling. Prices and demand also fluctuate depending on production, tourism season and prices of imported vegetables.

Gaps in the provision of ongoing supervision and mentoring for farmers to ensure a constant supply of high-quality produce. The two buyers were prepared to share their expertise with small farmers and take on additional supplies for onward selling to restaurants, hotels, supermarkets, hospitals and agents for cruise ships. To address the challenges described above, they were also willing to offer technical support, including provision of quality seeds, guidance on production training and post-harvest handling.

However, they could not coordinate and provide the reiterative training and monitoring needed to ensure a constant high level of production quality. Follow-up and mentoring are critical when farmers are working with crops that require a new perspective on farming. It was estimated that for the mentoring process to be successful, extension staff needed to visit every farmer once a week, at least for the first season.

Based on the priorities described above, the following were developed as upgrading strategies to move the business model strategy forward between smallholders and buyers of high-value vegetables.

- Developing a smallholder outgrower scheme and smallholder procurement model with buyers located within a reasonable geographic distance from growers.
- Developing seedling enterprises to improve access to high-quality inputs to improve production planning, volumes and quality of produce.
- Transferring knowledge from commercial farmers to small farmers through a local market broker.
- Upgrading FSA's technical capacities in high-value vegetable crops so it could transfer and adapt its existing knowledge and approach from the high-value spice sector.

Upgraded business model and action plan

To address priorities, a number of the following upgrading strategies were designed to contribute to the overall development of a smallholder outgrower scheme with Vanuatu Direct and Teuma Gardens. The upgrading strategies included:

- developing an outgrower scheme and smallholder procurement model including clear product specification;
- developing seed enterprises for high-quality fruit and vegetable production;
- transferring knowledge from commercial farmers to small farmers, and from the spice sector to the vegetable sector through an ongoing mentoring programme; and
- building up the capacity of FSA to transfer knowledge and approach from the high-value spice sector to the vegetable sector.

Developing an outgrower scheme and smallholder procurement model including clear product specification. Under the proposed scheme, small farmers grow and sell vegetables to the larger farmers under informal agreements. The larger farms

TABLE 7
Product specifications of Teuma Gardens

Product	Specifications	Volume	Package	Price (vatu/kg) ⁷⁴
Capsicum	Minimum size (approximately 10 cm in length, equal to the palm of a man's hand) Must not be deformed in shape	50 kg/week	Crate or bucket	400

TABLE 8
Product specifications of Vanuatu Direct

Product	Specifications	Volume	Package	Price (vatu/kg)
Potatoes	Brushed (unwashed) Grade A (minimum size and correct shape)	3 000 kg/ month	20-kg sack	90
Cauliflowers	Grade A (no insect damage, clean appearance)	300 kg/ month	13-kg crate	250
Carrots	Washed Grade A (no forking, not too skinny)	1 000 kg/ month	20-kg mesh bag	100
Onions	Size 50/60 Cured	1 000 kg/ month	20-kg mesh bag	80

would use these supplies to supplement their own production to be sold to local formal markets. The larger farmers would provide information on volumes required for specific vegetables and price ranges, and provide guidance on nursery and production technologies.

Farmers were divided into two subgroups according to their location. One group was set up to work with Teuma Gardens and the other with Vanuatu Direct. Problems related to transport were therefore reduced since farmers were producing near buyers, preventing unnecessary spoilage from transporting produce over long distances.

Under its broker function, FSA worked closely with Teuma Gardens and Vanuatu Direct to ascertain the quantities required and product characteristics, and to develop pricing and procurement mechanisms that would work for both farmers and buyers. This process resulted in the development of product specification tables for each of the new high-value crops.

Table 7 shows the specifications for capsicum as regards product, volumes, packaging type and price/kg to be procured by Teuma Gardens to supplement its own production. Through FSA, the company provided seeds, fertilizers and technical information to farmers.

Similarly, Vanuatu Direct was interested in procuring potatoes, cauliflowers, carrots and onions from smallholders and developed the specifications shown in Table 8 to facilitate their procurement.

⁷⁴ The local currency in Vanuatu is vatu. As of 25 February 2012, according to Bloomberg, US\$1 = 93.3 vatu.

Clear and detailed product specifications were key to helping FSA communicate buyers' requirements to farmers. With the specifications, FSA could advise farmers clearly on the types and numbers of seeds to plant; the type of production and post-harvest practices to be implemented; and the packaging required. Farmers also knew in advance the payments they could expect to receive if their produce complied with specifications.

With technical support from FSA and buyers, farmers would grow the crops, and harvest and deliver products to buyers' premises according to the specifications described in Tables 7 and 8. FSA used this information to prepare customized extension material for farmers.

The scheme began with farmers that had the most experience in supplying markets. Over time, it expanded to include additional farmers when there were shortages or problems supplying the required quantities.

Developing seed enterprises for high-quality fruit and vegetable production. To respond to farmers' concerns related to high-quality inputs and seeds, seedling nursery enterprises were promoted. During previous intraregional exchanges on smallholder commercialization, FSA had learned of an innovative smallholder-managed nursery enterprise model successfully operating in Fiji.

Nursery demonstrations based on a customization of the Fiji model were held for farmer training purposes at FSA's La Source demonstration farm. To support the model, Vanuatu Direct and Teuma Gardens agreed to import the seeds needed for setting up a small-scale nursery enterprise. The seeds produced at the nursery would later be sold on to farmers for transplanting and growing.

The demonstration site included three nursery models of different sizes for backyard gardeners, small farmers and medium-size farmers. Trials were undertaken to determine the most suitable potting mix. The effects of using a range of fertilizers were documented and different nursery models were compared.

From the nurseries, seedlings were transplanted to the demonstration sites where their growth continued to be monitored and documented. FSA also coordinated the propagation of seedlings and their distribution to smallholders for on-farm production.

The seedling plots meant that farmers were able to improve production planning and coordinate land preparation as seedlings became available from the nursery. Farmers were also able to extend the season by growing seedlings in the nursery when the weather was too hot or dry and transplant when weather conditions were suitable.

Using seedlings and chemical fertilization was new to farmers and the practices generated many discussions on how high-value vegetable crops differ from traditional crops. The feedback received from farmers was encouraging. Several farmers, including a women's group, received additional support to develop nursery kit enterprises in their own backyards.

Transferring knowledge from commercial farmers to small farmers, and from the spice sector to the vegetable sector through an ongoing mentoring programme. FSA designed and delivered a training package on production practices in consultation with DARD's extension staff and commercial farmers. The package included a clear communication on buyers' product specifications. Training also incorporated the growing and transplanting of seedlings, capitalizing on the nursery enterprises. An

important component of the package was the inclusion of best practices based on the lessons learned and knowledge gained by Teuma Gardens and Vanuatu Direct in producing the crops.

The package included a series of information sheets with modern production and post-harvest practices covering topics such as seeds and seedling selection, nursery management, land preparation, planting, crop maintenance, harvesting and transportation. Basic record-keeping, cost of production and gross margin (profit) calculations were included. To make the material appealing, FSA gave special attention to making the language simple and including visual aids.

To deliver the training, FSA coordinated regular visits to farmers to ensure they were following the recommended set of practices for each crop. Farmers provided regular feedback to FSA on the performance of varieties, the results of which were documented and compared over time.

Providing farmers with appropriate inputs and training, reinforced with regular extension and production monitoring, proved to be essential. They allowed farmers to adapt to new production technologies, confident of back-up support and advice when needed.

All the activities were carried out in close collaboration with DARD extension staff. This meant that new modern horticulture production technologies were mainstreamed into the public extension system through on-the-job training and for further dissemination across the islands.

Building up the capacity of FSA to transfer knowledge and approach from the high-value spice sector to the vegetable sector. FSA's role in the business model upgrading strategy was to act as a market broker linking small farmers to commercial farms without becoming directly involved in product marketing. This role involved the provision of technical support on production practices and on small-scale nursery enterprises for farmers. Equally important was the broker function that FSA played between commercial farmers and smallholders.

FSA had indicated in the appraisal process that, despite high demand for its services, it was concerned about its sustainability. The association needed to be more business-oriented in its approach and to generate revenue from service provision to cover operational costs and overhead expenses that were being met on an ad hoc and unsustainable basis by donors. To ensure that the association could undertake the market brokerage and service provider roles required in the medium to long term it was important that it was itself a viable enterprise.

An advisor assessed the viability of FSA and made a number of recommendations to upgrade its performance and the sustainability of its business service provision. FSA's financial reports, organizational structure and ongoing activities were reviewed, followed by a capacity needs assessment. The association also underwent a series of on-the-job training to strengthen its ability to provide the required services to farmers and buyers.

Three recommendations were made to enable FSA to embed cost-covering activities into its business model to improve service provision.

- *Setting up new services such as selling farm inputs.* FSA now sells field crates to members, which generates revenue and addresses a gap in market service provision.

- *Merging FSA with its sister organization* Syndicate agricole (SA). SA runs an input store and provides extension services to the productive sector. For many years, it has been implementing a programme to import day-old chicks for farm household egg production. The two organizations have a common history and interrelated goals, with the staff in both organizations supporting each other's work. With a merger, the new organization could focus on two lines of business: services and input provision, enabling it to consolidate its client base and generate additional sources of income.
- *Strengthening a network of partnerships* to call upon when it cannot provide the required specialized services to farmers. FSA was advised to establish closer ties with the Chamber of Commerce and other business service providers working outside the agriculture sector, such as the tourism sector, which held many opportunities for the development of smallholder-procured high-value crops.

LESSONS LEARNED

The envisaged goal of the initiative in Vanuatu was to develop business models based on formal contracts between commercial farms and smallholders. While the two parties did engage in increasing business over time, they did not reach formalized contracts during the time frame of the project. The following sections describe, however, a number of lessons that can be drawn from the process and built upon during future similar activities in Vanuatu, or adapted to other smallholder market linkage contexts.

Lessons and approaches developed for cash crops can accelerate commercialization of staple crops. FSA was a key player in the development of the spice sector in Vanuatu and was therefore able to transfer its knowledge, tools and lessons to the high-value vegetable market. A time lag occurred, however, since staff from the association and the government initially had to be trained in practices to support the commercialization of vegetable crops before they could begin to adapt approaches from the spice sector. With increasing efforts to commercialize staple crops, local business service providers and government extension staff require knowledge in both cash and commercialization of staples, which will reinforce efforts in both sectors.

Local large buyers are willing to collaborate on smallholder projects out of corporate and social responsibility, despite risks of side-selling. The project struggled because of side-selling when farmers, instead of delivering the agreed produce to Vanuatu Direct and Teuma Gardens, sold their produce at the market in Port Vila and at roadside markets. Reasons for this ranged from prevailing higher market prices, need for immediate cash and the tradition of travelling to the city on market day to meet friends.

The many cases of side-selling did not come as a surprise to buyers. They are familiar with the local culture and habits of small farmers in Vanuatu. The companies collaborated partly because they needed additional supplies, but also out of a sense of “corporate social responsibility”. They are keenly aware that small farmers have to modernize their farm practices, requiring patience and a reiterative process in their role as buyers. Despite the negative experiences with side-selling, they reported that they would be likely to support similar initiatives in the future.

Integrating commercial farmers into smallholder market linkage projects improves the quality of extension services. The tools and practices taught to small farmers were based on large farmers' own tried and tested experiences in farming vegetables for high-value markets. These practices were first taught to FSA and extension workers and then the learning was customized into training materials for small farmers and their application followed through ongoing mentoring. The trainers could therefore be confident that the training and knowledge they were transferring would deliver high-quality results for small farmers.

The FSA role was key to coordinating the large-small farmer linkage, but its role should not be to fill gaps in service or capacities. The linkage between small and large farmers would not have taken place without the mediation of FSA. Together with DARD, it learned from commercial farmers and transferred this learning to smallholders. It was able to carry out the ongoing production monitoring that an overstretched public sector cannot do, but which was crucial for high-quality produce.

However, the activities of an NGO need to focus on facilitating a linkage, and channelling training and service provision to that linkage. Its role should not be to fill a service or capacity gap by transporting goods or facilitating cash transactions. In such cases it could, for example, train farmers to prepare delivery schedules, organize collection points and, in the early stages, monitor that products actually are delivered and payments reach farmers.

Quantitative tools are needed to understand whether smallholders can generate profits without subsidized farm inputs and services. The project showed that by providing farmers with the proper inputs and training, it is possible for them to produce high-quality temperate vegetables in tropical climates and supply high-value local markets. This transformation, however, requires long-term external investment and support, and these should be phased out within a reasonable period to avoid the creation of dependency on subsidies.

To guide the investment process, quantitative tools are needed to understand the length of time and size of investments needed. This type of guidance would also inform stakeholders on the time to be expected for smallholders to generate profits unaided.

Financial tools that compare financial benefits over time between supplying to high-value markets and local spot markets are needed. Outputs from these types of tools would not only be useful for investors but also, if adapted and clearly communicated, to demonstrate to smallholders the long-term benefits of commercialization.

Allow farmers to continue to market some of their surplus to familiar market outlets. In Vanuatu, there were no previous formal relations between buyers and small farmers. Risk-adverse small farmers were understandably reluctant to use labour and land on new production practices for unknown buyers. To encourage reluctant farmers into commercial markets, the quantities expected should be kept low and farmers should be allowed to continue to sell produce to their usual market outlets. In this way, farmers can gradually build up a business relationship with formal

buyers and take their time to adjust to new market dynamics and understand the long-term benefits. This type of approach may avert some of the side-selling. It would nonetheless require at least a three-year time frame to enable relationship building and smallholder market transition to take place.

INCLUSIVE BUSINESS MODELS

Guidelines for improving linkages between
producer groups and buyers of agricultural produce

Small actors in agricultural value chains are tied to markets through a series of forward and backward business linkages, which incorporate various types of business models. The complexity of these business models varies according to the commodity, number of actors involved, local context and market structure. Aimed at designers of agricultural value chain projects, rural development projects and enterprise development projects, together with grassroots NGOs that implement smallholder commercialization projects, these guidelines have been developed to facilitate the design and implementation of interventions that strengthen business models linking smallholders to value chains. An important contribution of this publication to existing literature on agricultural value chains is the guidance it provides on designing business model strategies that do not only link smallholders to markets, but that also encourage practitioners to consider the quality of market inclusion and its impact on poverty reduction.

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