Viable or Premature? Contract Farming, Smallholder High-value Agriculture, and Household Welfare in Kenya

Contract farming was assessed to be a better mechanism for the benefit of both farmers and offtakers (exporters and processors) in the mango and avocado value chains than the typically unstructured approach currently seen in Kenya. In 2018, BIF piloted two interventions that involved the production and marketing of these high value crops through contract farming. BIF collaborated with a start-up processor of avocado oil for export and a large mango fruit pulp processor to organise farmers into groups that would enable these buyers to enter into direct contracts with the farmers. The offtakers provided extension support services and produce aggregation to increase farmers' productivity.

From the lessons learned, BIF has reoriented its approach to consider alternative forms of supply arrangements, including engaging first-mile enterprises as the primary link between farmers and offtakers, and greater engagement of public systems to provide extension services.

This case study describes the rationale for contract farming, the implementation of the intervention, the impact achieved, and lessons learned. This will be useful for stakeholders considering implementing similar strategies.

The intervention

BIF's interventions were structured to ensure produce purchase activities were governed by formal contracts with farmers. The approach was based on the understanding of the current farming arrangements[1] and the need to reorient it to one that is cost effective, responsive to farmers' needs, participatory, accountable and sustainable. For this, BIF adopted an approach by which the market 'offtaker' was already identified.

What impact did the pilot have?

Many farmers expressed interest in contract farming but only a few were willing to commit to formal contracts with offtakers. Consequently, the impact captured in this case study relates to those who sold to BIF partner offtakers regardless of whether or not they were under contract. While the BIF intervention has not been successful in facilitating contract farming, related interventions around farmer group formation increased the proportion of farmers marketing their produce as a group from 28% to 59%. This result has significant implications because offtakers increasingly prefer engagement with farmer groups to ease aggregation logistics. Increased group marketing reduced the proportion of farmers selling avocados to brokers from 28% to 10%. As such, farmers are assumed to have earned higher revenues as formal buyers paid 30-50% higher prices than the brokers.

New groups formed and old ones strengthened. Specialised production groups and clusters were formed to engage directly with offtakers as fruit suppliers. BIF linked the new farmer groups to offtakers to negotiate contracts to supply fruits at the end of the season. Twenty-eight new groups were formed bringing together 932 new farmers. At the Coast, in the locations targeted, it was the first attempt to organise mango farmers into groups. In Central Kenya, the number of groups supplying avocados to the offtaker increased by 33% and the number of farmers by 72%, albeit from a small base of 460 farmers. Formation of new groups also enabled the avocado offtaker to expand sourcing into new counties in Central Kenya.

Increased knowledge of technical assistants. Consultants engaged by BIF conducted training of trainer (ToT) sessions to build the capacity of agronomists and technical assistants of offtakers.

Increased volumes of fruit purchased. One offtaker increased avocado purchases by 64%.

Farmers benefit from market linkages, grouping, and training.

1. While brokers paid on average KES 7-10 per kg of Grade 2 avocados, the BIF partner offtaker paid KES 12-13.50, a difference of 20-93% (50%, on average).
2. Improved practices due to training:
   - Farmers pruning avocado trees increased from 19% to 58%
   - Farmers practising pest control increased from 33% to 50%; a majority reported pests/diseases were not a major problem.
   - As a result, the average cost of production per farmer increased by 81% from the baseline.

Important behaviour changes observed. BIF catalysed the hiring of technical specialists by partner

[1] Kenya's smallholder farmers have traditionally relied on two major types of produce marketing systems. The most dominant is the informal system where brokers have played the leading role. The second is the much smaller formal programmed commodity-based systems run by government parastatals, outgrower industrial and export companies, inputs suppliers, and cooperatives.

offtakers to build their capacity to reach farmer groups with extension education and root to market. BIF also supported existing offtaker specialists with technical training and facilitated greater engagement with farmers through groups.

What lessons has BIF learned in promoting contract farming?

Key lessons so far do not support two major assumptions about contract farming in the mango and avocado markets: 1) While a formal production contract is desirable, it is not a necessary condition to create functional linkages to markets and finance; 2) merely increasing access to inputs does not necessarily translate to increased productivity, largely because fruit farmers currently have little incentive to buy/use inputs.

Mango and avocado farmers have limited commercial incentives to engage in and honour contracts. Beyond the modestly structured export segment, fruit farmers in Kenya currently invest very little and use minimal inputs in their orchards. The need for specific inputs is too low to attract private suppliers. Greater success is attainable in the export segment, but this currently constitutes small proportions of the value chains (< 5% for mango and ~20% for avocado).

Weak support ecosystem. Contract farming is highly dependent on social, legal and regulatory, and policy institutions. These are currently weak in Kenya, and particularly in the mango and avocado markets. Specifically, the following ecosystem weaknesses have been observed:

- For smallholders, contract farming is highly dependent on farmer groups to achieve economies scale; currently, group governance and dynamics are weak.
- Fruit marketing has multiple and complex informal relationships and rules, making enforcing formal contracts difficult. Moreover, the legal/regulatory regime currently protects farmers better than buyers in cases of contract breaches. Buyers therefore have little incentives to enter and maintain formal contractual arrangements.
- Contract management systems are underdeveloped. Company misbehaviour (delay of harvest, failure to collect produce on time, change of price, payment delays and default) is prevalent in contract farming arrangements. Due to the substantial capital outlay required to purchase produce and a generally weak working capital base of most SME buyers, seller credit is the preferred method of sourcing. This is prone to payment delays, in many cases, default that demoralises farmers, and encourages side selling to buyers who make spot payments, such as brokers. Brokers have acquired significant power along the fruit value chains and have proven highly capable of spot buying from farmers who have contracts.
- Weak logistics for first-mile produce aggregation. Being bulky and highly perishable commodities, aggregation of fruits requires extensive investments in integrated logistics infrastructure - well-mapped collection routes and centres, produce handling facilities, machinery and equipment, storage facilities, transport systems, and information flows, among others. These are inadequate and poor in most areas, hampering collection from farmers.
- Underdeveloped and expensive payment systems. Buyers currently use bulk payments to group leaders, who then charge farmers a fee to withdraw/disburse payments. Farmers expressed a preference for direct payments due to the perceived high costs of using intermediaries, specifically group leaders who are not always transparent.

Contract farming requires strong and effective communication and information exchange to cultivate confidence in smallholder farmers. Communication channels between producers and buyers in Kenya mango and avocado value chains are either weak or non-existent; this cultivates a culture of mistrust that undermines relationships.

Successful contract farming requires innovations in contract design. Innovative design and structuring of contracts can strengthen the incentives and loyalty of smallholder farmers and companies. Capacity for contract design is weak or non-existent among smallholder farmers and produce offtakers. For example, there are often limited terms in the contract to reward loyal farmers who consistently sell to one offtaker.

Why did BIF intervene in contract farming?

Avocado and mango demand continues to grow locally and globally, with Kenya's export supply growing. The increasing demand coincides with changes to the structure of the fresh produce and processing markets reflecting a gradual move from "non-structured" to "structured" markets. Kenya's largely unorganised fruit sector faces the challenge of transforming to a structured market in ways that benefit all players.

Contract farming is considered a major channel for increasing agricultural productivity through structured participation in value chains. Minot and Ronchi (2014)[2] found that smallholder farmers can integrate into modern

[2] Cited in Dihel, Goswami, Hollweg, and Slany (2018).

agricultural value chains through contractual arrangements that provide them with inputs and new technology, technical assistance, and assured prices and markets. In addition, the buyer's logistical network may bestow economies of scale benefits to farmers. The hypothesis is that farmers on a formal or informal contract have a greater opportunity for their products to enter value chains.

Contract farming however has been found to work better in more structured high-value and commercially oriented value chains; according to Swinnen, Vandeplas, and Maertens (2010) contracting is more necessary in value chains where the need for specific inputs in production is high.[3] Through this intervention, contrary to expectations, BIF has learned that the Kenya avocado and mango value chains are currently not sufficiently structured to support contracting. Furthermore, the need for specific inputs is low to provide incentives for embedding inputs supply into contracts. It is expected that the markets will need to become more structured as the high value agriculture export segment in Kenya increases in size, with increased volumes and improved quality. However, attempting contract farming models proved premature as other underlying issues need to be addressed first.

Who did the pilot target?

The contract farming pilot was designed for the following:

- Formal offtaker companies in the avocado and mango value chains.
- Smallholder avocado and mango farmers

Participating companies, located in the Central and Coast regions, included:

Firm	Location	Size	Ownership	Main customers	Products
A	Coast	Large	Kenya owned	Domestic hospitality, institutions and retail	Blended fruit juices and concentrate
B	Central	Small start-up	Kenya owned	Europe	Avocado oil

What did the pilot cover?

- Technical assistance to offtakers
- Organising farmers into groups
- Providing extension education and training to farmers
- Aggregating and marketing produce

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[3] Cited in Dihel, Nora Carina, Arti Grover Goswami, Claire H. Hollweg, and Anja Slany. 2018. "How Does Participation in Value Chains Matter to African Farmers?" SSRN Scholarly Paper ID 3238346. Rochester, NY: Social Science Research Network. https://papers.ssrn.com/abstract=3238346.