

## **Go Mango!**

# **ANALYSIS OF THE MANGO VALUE CHAIN FROM HOMOSHA-ASSOSA TO ADDIS ABABA, SEPTEMBER 2008**

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## Executive Summary

World Vision wishes to develop the mango subsector via smallholder farms in Homosha and Assosa Woredas (together referred to as Assosa) in western Ethiopia. This paper provides a mini-report on the findings of a mango Value Chain analysis study conducted between September and December 2008, through desktop and field research involving chain operators, enablers and supporters in Assosa. The study found that the mango sub-sector is a good entry point for tackling poverty in Assosa and that the market for mangoes in Ethiopia is significant and growing.

Though the immediate market is small, there is a short and established value chain linking to Addis Ababa via a 700 km trip. Typically, Assosa exports between 150-300 (10-ton) truckloads of fruit per season to other regions, principally Addis Ababa. In spite of the high cost of imported fruit, nationally the volume has risen by 100% in the last seven years, while that of imported juices has more than doubled in the last four years, evidence of an up-scaling market. The farm-gate price of mangoes in Asossa ranges from 0.25 to 1.15 Birr/kg while the retail price is approximately 5 Birr per kg in Addis, compared to 10 Birr per kg of other imported whole fruits. Farmers typically achieve approximately 5 to 8% of the final retail price (at lower levels) giving them about 1,400 Birr in annual income, while wholesalers get about 30% of it but meet the high transport costs.

Analysis reveals a reasonably resilient subsector with a favoured market position of the 'Assosa mango' regional brand. Also, the region appears to have a comparative advantage with ideal growing conditions for mangoes and high yielding trees. At the production level however, the value chain is quite rudimentary with mainly subsistence level cultivation, harvesting and post-handling techniques that limit the quality of the fruit. Upstream there are also issues with most grading and packaging being undertaken following a long road journey to the capital, undermining not only the quality of fruit but also the potential value generated at the farmer level. At the wholesale level in Addis Ababa, market traders dominate the landscape and operate in ways that make it difficult for new entrants to enter the market. Addis wholesalers have strong relationships with the traders based in Asossa and these two levels of the value chain account for most of the final retail price. Given the roles they play, it appears that there is not a proportionate addition of value in the chain, and that is where opportunities lie for improving farmer level value capture in the chain.

The mango value chain can spur development in Assosa, introduce technologies, create employment and reduce poverty among the communities. This can be achieved if value chain integration is phased, targeting beneficiaries for different interventions, and working with other development agencies. Interventions should promote land acquisition and ownership and integrate other crops and livestock for food security. Farmers need to become organised through cooperatives and undertake value adding activities at the local level, such as grading and packaging. The Asossa Agricultural Research Institute should begin cultivation and extension of improved commercial varieties for longer term planning. Grafted tree nurseries should be targeted for support, complemented with mother gardens. Extension services to the community need to be improved throughout the sector to enhance the technical education and understanding amongst farmers. Existing trees should be top-worked, spatially concentrating varieties to facilitate marketing. The landless should be targeted and positioned to provide auxiliary services to the value chain. Local providers should be capacitated to serve the sector. A mango stakeholder platform should be instituted. Input dealers should be linked to growers, all supported with business development and research services. Processing should start at zonal level then progress to regional level. Further work on characterisation of existing trees and product development is recommended. In the longer term, the sector should consider higher value export markets.

## Introduction

Helping to connect farmers in remote areas with large and expanding markets is a common pursuit of many development organisations around the world. The basic idea is that if farmers are able to better supply the needs of a sustainable market, then the reliability and size of their income can improve.

Ethiopia is a country that is often associated with famine and food shortage. Whilst this perception is the reality for much of the country at certain times, there are also regions within Ethiopia that are well suited to producing a surplus for particular agricultural commodities. One such location is the Asossa – Homosha region in western Ethiopia, which is particularly suitable to the production of mangoes. In a 2006 study, it was estimated that as much as 28% of the mangoes sold in the capital Addis Ababa, were grown in the Asossa region.<sup>1</sup>

On the face of it, one could assume that the mango industry in this region is serving larger markets well, however the reality is that farmers derive very little income from their mango farming activities, and the industry faces many issues that hinder the development of a competitive agricultural market. In 2008, World Vision together with an external consultant James Ssemwanga, undertook a Value Chain Study to better understand the nature of the market for mangoes in Ethiopia, with the aim to determine if the mango value chain from Asossa is one worth supporting through further facilitation and investment. The following short case study provides an overview of the investigation, the key findings, and the possible avenues for future market development.

## Study Objectives

The objectives of this value chain analysis were to:

1. Understand the market for mangoes in Ethiopia, and in particular the market linkages in the supply of mangoes from the Asossa region into local, regional and national markets
2. Clarify the constraints and opportunities for value chain actors by analysing the business relationships and roles in the mango value chain
3. Work with local stakeholders and players to identify establish a list of potential initiatives that can help facilitate an increase in the competitiveness of poor farmers and other participants within the mango value chain.

The impetus for commissioning this study came from a number of different sources. World Vision Ethiopia (WVE) has been working in the Asossa-Homosha region since 2005 through its community development model called an Area Development Program (ADP). Since WVE has been working with the community, a common observation amongst development workers and the community is the abundance of already existing mango trees in the region and the massive yield that they produce – which largely appears to go to waste. Another study of potential value chains in this region also highlighted the potential for mangoes in the region and yet another study has identified Asossa as a region that produces mangoes which are particularly favoured by the Addis market.

With these considerations in mind, WVE together with WV Australia (WVA) decided to commission this study to identify what market related initiatives may be beneficial to a sector that currently has no known support and operates at a very rudimentary level.

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<sup>1</sup> Addis Ababa, Mekele and Awassa: Final report for Improving Productivity and Market Successes (IPMS) for Ethiopian Farmers Project, Addis Ababa. *World Agroforestry Centre (ICRAF), Nairobi, July 11, 2006.*

## Approach and Methodology

A study team was formed and led by external consultant James Ssemwanga (from the Ssemwanga Centre) and World Vision staff.

In order to minimise the interruption to the community and the development workers, the value chain study was combined with a baseline study to measure actual current behaviours in relation to mango production, harvesting and marketing. Whilst these two studies were conducted at the same time, different methods were used to gather different targeted information and information from both exercises is reported in this paper.

The fieldwork was undertaken in September 2008 and began with an initial day of planning amongst the study team, before travelling to Asossa to undertake the bulk of the research. The market in Addis was analysed upon returning to the capital after the fieldwork in Asossa.

### Value Chain Study

- Interviews with key informants throughout the value chain was the primary method for gathering information – overall 54 key informants were interviewed, mainly one on one, but some in groups of two or three.
- Eight focus groups were also undertaken with mango farmers, four with males only, and four with females only.
- Review of available secondary data and reports (undertaken before and after the in-country work)
- Stakeholder Workshop with ~45 stakeholders to agree constraints, opportunities and prioritisation of potential initiatives

### Baseline Study

- A survey of 480 farming households in the region

## Mango Value Chain

Most Asossa mangoes are sold either through local market channels, or alternatively through the larger market channels in Addis. This study analysed both of these critical markets and the different channels in each.

### Asossa Market

Within the market in Asossa, there are three main channels for selling mangoes:

1. Farmgate – mainly sell to traders (who sell on to Addis), consumers and small retailers
2. Asossa Town Market – mainly sell to local consumers
3. Small Retailers – mainly sell to local consumers

The Asossa market is dominated by the open town market where many farmers bring their produce for sale. During peak mango season, this market is saturated with mangoes to the point that prices fall dramatically and many farmers do not even bother to carry their produce home at the end of the day. As well as the open Asossa market,

there are a number of kiosk-style small retailers in Asossa which suffer from similar problems at peak supply times. A significant point to note is that much of the mango being supplied at the regional market is not the top grade being produced, but is actually the remaining produce from what has been already sold to traders at farm gate. In this way, traders are siphoning the best quality mangoes to sell in the Addis market, but also provide very little choice to disorganised farmers about where to sell. This study found that farmers on average sell between 0.4 and 1.15 birr depending on quality, and also customer. The lower price tended to be achieved in the Asossa market, with the higher price being received at farm gate from traders purchasing only the higher quality mangoes.

## **Addis Ababa Market**

Within the Addis Market, there are four major channels for selling to consumers:

1. Addis Wholesale Markets (Mercato & Piazza) – sell mainly to consumers, small retailers/kiosks, hotels and large retailers
2. Small Retailers/Kiosks – sell mainly to consumers at street level
3. Large Retailers – also sell directly to consumers
4. Hotels – provide only high quality fruits to domestic and international clients

The Addis market is dominated by two large wholesale markets, being the Mercato and the Piazza. These markets are the main destination for agricultural produce arriving from around the country. These markets serve not only consumers, but are also where supermarkets, large retailers, hotels and thousands of small kiosk-like retailers source their mangoes. Actual data on the volume of mangoes sold in these markets is very unreliable, however a number of interview sources have identified that in the past five years there has been ‘significant growth’ in market size and increasing consumer demand. This is largely to do with a steadily increasing population (3.2% p.a.)<sup>2</sup>, more sophisticated consumer preferences for exotic and tropical fruits, and growing incomes amongst emerging middle and upper class consumers.

The average price on the wholesale markets in Addis was approximately 3.5 birr per kg, or 3,500 birr per tonne, whereas the final retail price in Addis could reach as high as 5 birr per kg (5,000 birr per tonne). By analysing the price differentials throughout the value chain, it is clear to see that farmers only capture a small portion (8%) of the final retail price.

There is no reliable data on the number of small retailers in Addis, but it is estimated there are thousands of street level small retailers/kiosks - some of them dealing exclusively in fruit, whilst others sell a range of consumable goods. These are a major channel for selling mangoes on to final consumers and are particularly convenient as a street level channel in places of high traffic, with high turnover of goods.

## **Core Value Chain Stages**

### **Input Supply and Production**

Mango farmsteads in Asossa have on average about 17 mango trees, producing an average of 13,500 mangoes per farmstead. Averaging five pieces per kg, this means that the farmer grows about 2.7 tonnes of mangoes in a year.

<sup>2</sup> CIA World Factbook, accessed July 2008

This yield is certainly impressive and conditions are very well suited for mango production to become a formidable industry - particularly as a large stock of mature mango trees already exists in the region.

Whilst the growing conditions are very well suited to growth of mangoes, farmers are still mostly at a subsistence level with minimal use of production enhancement technologies or inputs. For example, whilst 30% of farmers reported diseases attacking their mangoes, only 2% use any form of fungicide. Similarly, 40% reported problems with pests, but only 3% used any form of pest management. This is largely explainable by another key issue at this level; the lack of any scalable input dealership network in the region. This obviously has a very limiting impact on the quality of fruit that can be produced in the region.

Another issue restraining the development of the industry is the lack of organisation amongst mango growers, with only 14% of them belonging to a farmer organisation or cooperative. Due to the highly seasonal nature of the mango crop, and also the tendency to prioritise food security with grain crops, mango growing is not the main livelihood activity for most farmers, and is generally considered a complementary activity to other farming practices.

A summary of the main issues faced at this point in the chain are outlined below:

- Uncharacterised, non-commercial hybrid varieties
- Poor cultivation, harvesting and post-harvest handling techniques and processes
- Poorly resourced Agricultural Research Institutes and dearth of agricultural extension support in mango production (82% surveyed had not had access to extension services)
- Underdeveloped market information feedback loops, leaving farmers with very little understanding or incentive for improving their productive capacity or quality
- No commercial nurseries offering improved varieties

## Collecting/Bulking

The role of collection and bulking in the industry has largely been taken by the small number of large traders who supply the Addis markets. The traders organise teams of 'brokers' to pick mangoes at the farms and then pack them onto trucks which leave directly for Addis Ababa. Whilst this is an effective operation for the traders, it does mean that farmers are unable to derive further value from their crop through effective picking, grading, packaging, bulking and marketing. The large traders delivering into Addis know which varieties and what grade of mango is suitable, and this information is critical to giving them a strong position in the marketing chain. In many ways, the astuteness of a small number of traders has allowed them to vertically integrate their operations, capture a large proportion of the chain and stamp their dominance on the chain in an oligopolistic fashion.

It is unclear if this situation has been a natural response to ineffective cooperation and coordination amongst growers to establish working cooperatives, or if this is the reason that that cooperatives have been unable to emerge. The result is the same however; a small number of shrewd traders dominating the trade between Asossa and Addis and reaping as much as 20% of the final retail price on very significant volumes.

The traders selling into Addis don't have it all their own way however, as they do perform a very crucial function in transporting the fruit approximately 700km to the capital Addis Ababa. The road between Addis and Asossa has also historically been very rugged, and has meant that traders take at least 2 days to make the journey to the capital. In

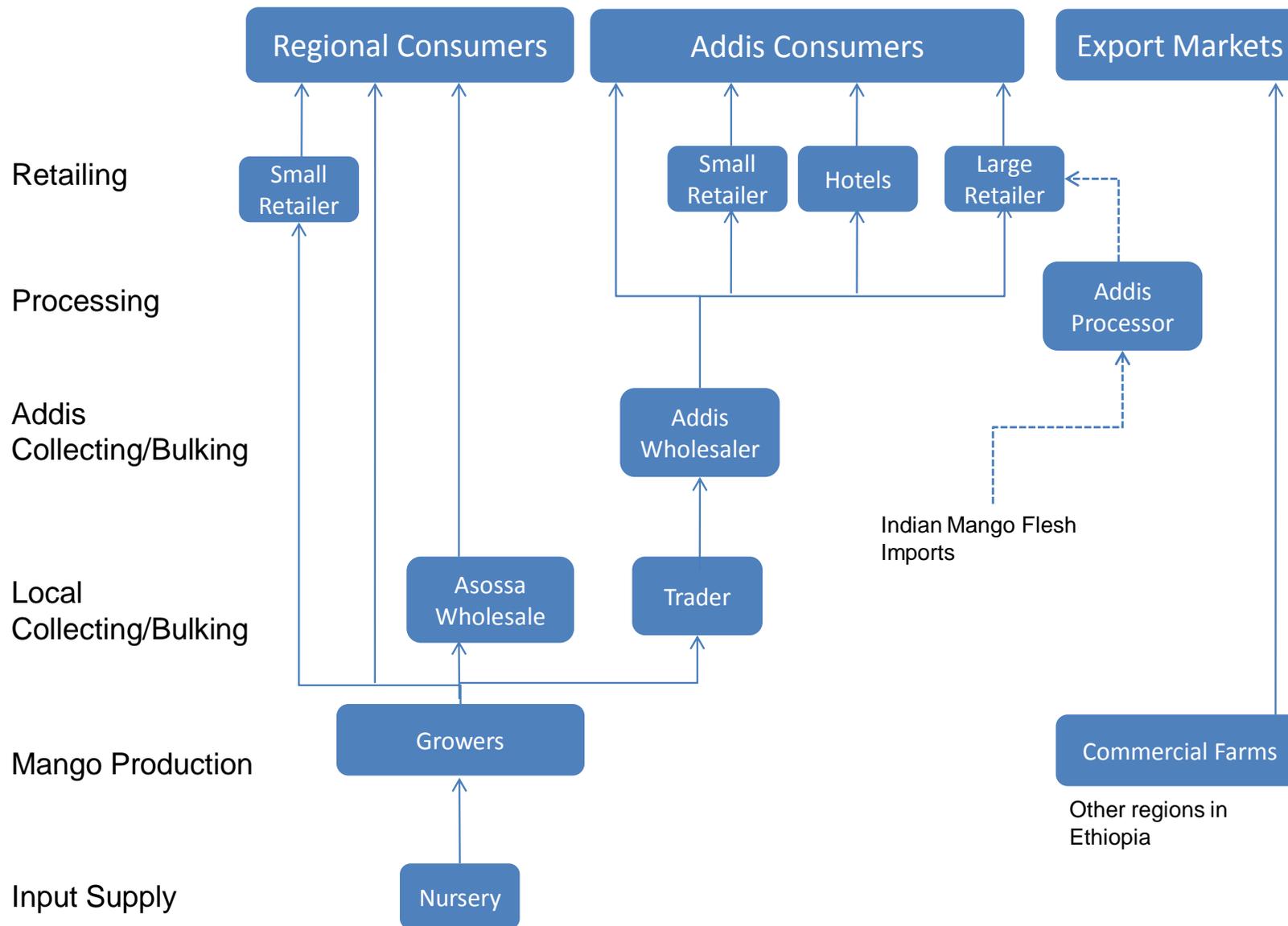
standard trucks without any cold chain, this has in the past resulted in significant fruit loss, but they have increasingly been improving their packaging operations using innovative techniques with very basic materials such as newspaper and bamboo. The government has also heavily invested in improvements to the roads and it is expected that the road between Asossa and Addis will be complete and usable within the year.

Once the traders arrive with their trucks in Addis Ababa, they deal with Addis based wholesalers who purchase the fruit from the regional traders and sell in the Addis wholesale markets. This level of the value chain will be discussed later on.

Some of the major issues at this point in the value chains include:

- Very little organisation, coordination or representation amongst growers
- Historically crude packaging techniques that can result in high post-harvest loss on the 2 day journey to Addis
- No suitable infrastructures such as packing sheds or collection points
- Entry barriers for smaller traders with difficulty in getting finance
- No cold chain logistics
- Poor roads between Asossa and Addis

Overview of Mango Value Chain – Asossa to Addis Ababa



## Local Wholesale

As described above, the local market is one of two potential options for growers to sell their fruit. Most of the top quality fruit is collected and transported by the traders destined for Addis, and the remainder is sold at the local level Asossa town markets, or possibly to small retailers (who may also purchase from the town markets). The prices achieved at this level are typically very low (particularly at peak times), and the quality of mango is also generally lower than that of the fruit destined for Addis.

These factors act as disincentives for local growers who do not have relationships with Addis bound traders, and is another reason why there has been little investment in the mango industry in the region. This situation is exacerbated by the poor roads linking farming villages with Asossa town, and the crowded and ramshackle infrastructure of the Asossa market which certainly needs upgrading to improve the prospects for displaying product.

A lack of other channels for selling mangoes therefore means that many mangoes are sold at low price and in some cases are actually dumped instead. This situation does lend itself in many ways to the development of a processing sector that is able to soak up the excessive supplies of low price mangoes, and sell them as higher value, preservable consumables such as juices, jams, concentrates or dried products. However, this type of sector does not currently exist.

In general, the local market situation could be described as saturated and low value, with non-existent value adding channels.

## Addis Wholesale

The market in Addis is dominated by the wholesale markets in Mercato and the Piazza. These markets are largely controlled by approximately ten major wholesalers, who deal in fruits and vegetables from all over the country. Industry sources mentioned that the Addis wholesalers are organised under groups that have strong ethnic ties and tend to operate in ways that have been described as 'cartels'. Similar to the upstream nature of the value chain, the wholesalers in Addis operate in a heavily crowded, poorly structured, and underdeveloped market infrastructure. There is no known refrigerated storage facilities in the market as the cost of this investment has always been seen as too high.

As briefly mentioned above, the typical wholesale price in Addis is approximately 3,500 birr per tonne and means that Addis wholesalers achieve between 20-40% of the final retail price. This is a considerable portion of the final price and reflects the risk that Addis wholesalers take in ordering mangoes from Asossa. Other value add activities that wholesalers undertake is re-packaging and grading the fruit on arrival in Addis, as produce most often arrives in 'bulk' having not yet undergone any systematic grading or packaging. These are functions that are possible at the farm level and may be areas where farmers can extract a greater price and generate more value in the chain.

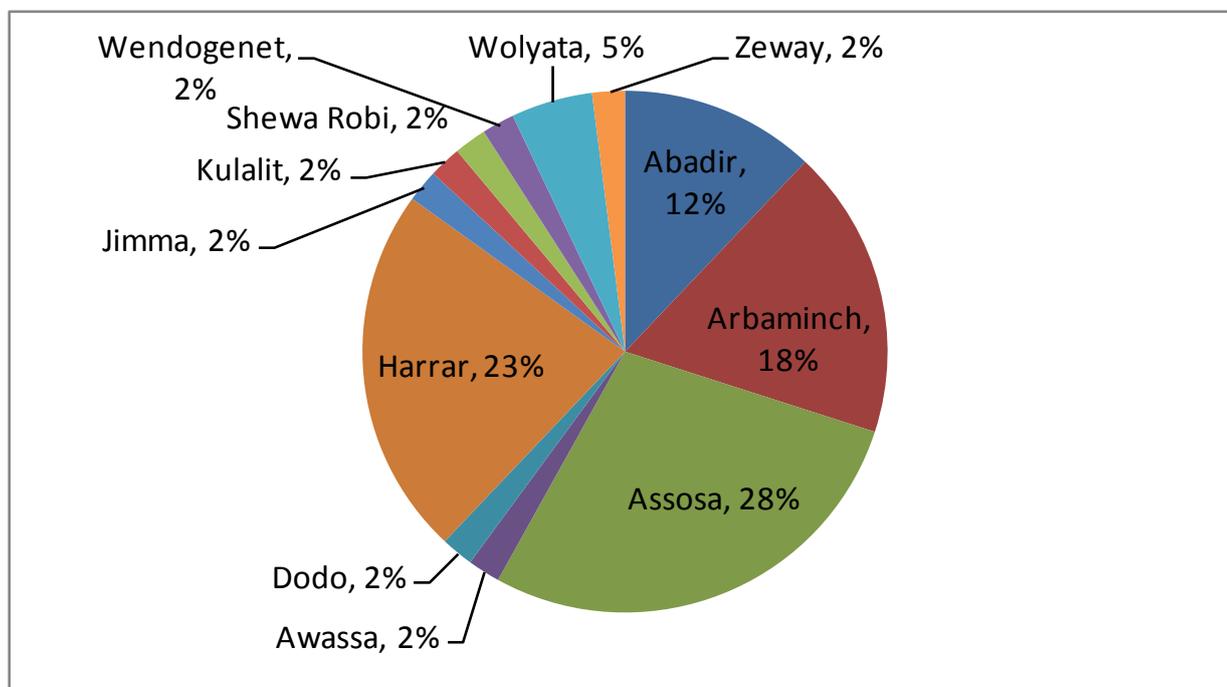
One of the significant strengths for mangoes grown in Asossa is the relative brand strength that Asossa mangoes have as compared with mangoes from other regions. Asossa's higher quality and sweeter mangoes is an often mentioned competitive advantage within the Addis mango industry and was reflected in another study, suggesting Asossa mango market share is as high as 28%.<sup>3</sup> This advantage could certainly be strengthened and leveraged

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<sup>3</sup> A. Aithal and J. Wangila, 2006. Rapid assessment of fruit markets in Ethiopia, based on research in Addis Ababa, Mekele and Awassa: Final report for Improving Productivity and Market Successes (IPMS) for Ethiopian Farmers Project, Addis Ababa. *World Agroforestry Centre (ICRAF), Nairobi, July 11, 2006.*

through clearer labelling of Asossa mangoes, improved grading and packaging, and a concerted effort to introduce newer varieties which meet consumer preferences even more than current produce. These initiatives could lay the platform for an even greater domination of the Addis market.

**Wholesale Mango Market in Addis Ababa – Market Share by Region**



**Source:** A. Aithal and J. Wangila/ICRAF 2006, based on 22 trader interviews.

The main sales channels from the Addis wholesale markets are 1. direct to consumer, 2. hotels, 3. large retailers and supermarkets, and 4. small retailers and kiosks. Although actual data for mangoes was not available, the aforementioned study found that general fruit sales direct to consumer accounted for up to 56% of wholesale market sales. The next significant channel was hotels (16%), followed by large retailers and supermarkets (14%), juice cafes/small retailers (13%) and industries (1%).

This reflects a still developing industry that is not yet dominated by large retailers and supermarkets, as is the case in many developed countries. As such, it is clear to see that the actors within the chain who yield the most power are the relatively few, but powerful Addis wholesalers and the Asossa traders who supply them. Between these two actors, up to 60% of the final retail price is accounted for, and the proportion is even greater if sold directly from Addis wholesaler to consumers.

## Processing

The fruit processing industry in Ethiopia is very weak, considering the substantial amount of fruit that is grown in the country. No doubt, one of the reasons for this is the highly developed processing industries in other countries which are able to export into countries like Ethiopia and sell the final product at low cost. Indeed, there were a number of imported, long-life mango juice brands available throughout Ethiopia and is certain to act as a competitive entry barrier for domestically produced juice.

Investigations of local processors found only one significant player, who actually imported frozen mango flesh from India for processing juice in Ethiopia. The main considerations for purchasing Indian imports were the variety, quality, consistency, and price of the imports. When asked about replacing imports with Ethiopian produced mango, the informant indicated that would be his preference, however so far, Ethiopian fruit was not able to compare on the key criteria identified, particularly on price.

The informant did however predict that juice processing would begin to emerge as a more viable sector, as mango juice is clearly the most favoured juice product by consumers. He indicated that demand for the juice as a category was seeing strong growth, with mango leading this growth.

Other key challenges for developing a fruit processing sector in Ethiopia include:

- Lack of technical knowledge in processing
- Low level of technical support for maintenance
- Low capital base from which to invest
- Many low priced mango juice imports

## Exporting

At present, very little mango is exported from Ethiopia with only 4 tonnes exported in 2006 at a value of less than US\$1000 according to the FAO<sup>4</sup>. This represents a significant decline since 2002 when 811 tonnes were exported at a value of US\$675,000 (US\$832 per tonne). This appears to have been a particularly high value year however, as the longer term average price for mango exports has been approximately US\$323 per tonne.

Anecdotal information from key informants suggested that one of the main reasons for the drop in mango exports has been the variable quality of Ethiopian mango exports on arrival in overseas countries. It was reported that EtFruit (the state owned Ethiopian Fruit marketing agency) had been exporting mangoes to countries such as Djibouti, Saudi Arabia and UAE but had lost some of those contracts due to the poor quality of the shipments on arrival.

This situation highlights the key challenges faced in trying to develop the export market for Ethiopian mangoes:

- Under-developed packaging and cold chain for exporting
- High cost of freight to overseas countries
- Competing product from Egypt and South Africa
- Minimal production of commercial varieties

In order to begin considering export markets as a viable opportunity, it is essential to consider the nature of demand in export markets. It is very clear that overseas markets are increasingly demanding higher quality, commercial varieties of mangoes, and are also becoming more sophisticated in their preferences for products that are organic. In Asossa then, the first step to even consider export markets would be to begin growing more commercial varieties such as Kent, Keitt and Tommy Atkins. Even if the export market was not a viable option in the short term, these

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<sup>4</sup> FAO STAT accessed July 2009

commercial varieties would present a better alternative to the domestic market with less fibre and higher levels of sweetness than existing hybrid varieties.

## Marketing Environment

The Government of Ethiopia (GoE) is keen to get investment into rural areas and gives incentives to companies that have investment licences. For example they are allowed a tax holiday of five years, and the larger ones get allocated fully serviced land, in addition to a 70% contribution to their working capital via soft credit<sup>5</sup>. In Ethiopia it is easy to start a business as it takes only 16 days to do so, including 3 days to get a trading license<sup>6</sup>.

The Ministry of Trade and Industry issues four kinds of licences and a fruit trader must have at least one of them. They are the supermarket trading license, the horticultural retailer license, the fruit retailer license and the fruit wholesaler licence<sup>7</sup>. Most traders needed only to get the supermarket retailer licence.

Traders complained that the infrastructure, such as access and storage, in the markets is very poor, information flow is poor, and there is cut throat competition yet they have to pay high taxes to the municipal authorities and the business is seasonal. On top of this the fresh produce business is inherently rife with technical problems such as perishability. Traders try to support one another through forming various unions and cartels but the problems remain and this may be the reason for lack of new entrants.

Forty five percent of the traders get market information from the radio, 35% from television, 7% get it from their unions and associations and the rest from newspapers and other market agents<sup>8</sup>. Published market information comprised mainly of prices at different places, but not on quantities available and most traders did not find it very useful. This means that the traders rely more on each other and on their suppliers to obtain useful market information, which makes it difficult if they are not in the powerful cartels of Addis.

In addition to a functional regional MFI, the Asossa region also has an active NGO sector including Action Aid and Oxfam both of whom are engaged in food security and agriculture projects. Oxfam in particular are working on agriculture scale-up projects focused on coffee, sesame, barley and soy beans.

Although there are many difficulties in the market place that may keep new entrants out, there is no institutional barrier to entering the fruit business. On the other hand the tough entry conditions created by cartelism mean that competition is limited or at least restricted within specific groups, which makes them less inclined to form long-term relationships with non-cartel members in the value chain. To deal with this problem, more groups need to be organised and supported to emerge and compete with the cartels in Addis markets.

## Conclusions from the Study

1. **The local mango value chain is underdeveloped due to low purchasing power in the region.** The chain from Assosa to Addis on the other hand is surprisingly short and established though it is under-capitalised and inefficient. Related to this is the fact that the fruit market in Addis are controlled by organised groups that tend to keep new entrants at bay.

<sup>5</sup> Information provided by EHDA

<sup>6</sup> <http://www.doingbusiness.org/exploreconomies/?economyid=66>; a publication of The World bank

<sup>7</sup> A. Aithal and J. Wangila, 2006. Rapid assessment of fruit markets in Ethiopia, based on research in Addis Ababa, Mekele and Awassa: Final report for Improving Productivity and Market Successes (IPMS) for Ethiopian Farmers Project, Addis Ababa. *World Agroforestry Centre (ICRAF), Nairobi, July 11, 2006.*

<sup>8</sup> IBID

2. **The internal market for mangoes in Ethiopia is set to grow in the coming years** as the trends in imported fresh fruit show, provided that quality is improved to match the competing products.
3. **The mango value chain is an appropriate vehicle through which to introduce technology, create employment and reduce poverty among the communities** provided it is developed in a phased fashion, carefully and selectively targeting different beneficiaries for different interventions, and if participation of the beneficiaries as well as other development agencies are made central to the intervention.
4. **Rural intermediaries in the mango chain play a key role in facilitating the flow of produce to the markets.** They have experience that should be harnessed in the short term as the chain is being developed to include processing.
5. **Readiness of the BG region for a large scale mango processing facility cannot be confidently established** now because although there is large population of mango trees, they may not be suitable for processing.
6. **In general the institutional set up in the BG is supportive to business** although the climate can still improve to attract for more investment, especially the SME category that may not have large capital and influence.
7. **WV could coordinate mango value chain development activities in the BGNRS.** A number of development agencies are active in the BGNRS area, eager to have impact on this remote region. Their activities may be relevant to the mango initiative but could coordinated better and WV has an opportunity to show leadership in using its experience in ADP implementation.

## Short Term Upgrading Recommendations

Having completed the study of the mango value chain from Asossa to Addis, the following programming recommendations were made to improve the functioning of the chain in the short term:

- **Organise a design review workshop** whereby key informants and opinion leaders in the area join with World Vision to receive and review the report and recommendations made in here. In the workshop the log frame would be reviewed and finalised, with annual targets for process indicators.
- **Organise cooperatives to focus on mangoes** starting with grass root structures up to union level and empower them to compete with the dominant groups in Addis by having their own wholesale outlets in the major markets to handle all fresh produce in addition to mangoes. In the medium term the unions should add value to the mangoes by grading and packing them in Assosa before they are transported to Addis.
- **Women should be particularly encouraged to join cooperatives and to participate in leadership positions**
- **Implement activities to specifically target those with small pieces of land** and who are either not producing mangoes at all or are unable to expand the acreage under mango. These may include imparting skills to take part in complementary activities linked to the mango production effort such as making baskets for bulk packaging, nursery management, service gangs such as top-working, tree training, spraying, pruning, preparing irrigation channels, engaging in intermediary activities such as assembling fruit<sup>9</sup> and harvesting.
- **Extension services should be provided for mangoes and complementary crops.** Demonstrations should be set up for mangoes as well as the complementary crops continuing the extension services already provided under different projects.

<sup>9</sup> One report by Oxfam said that settler women were already performing this role for various kinds of produce.

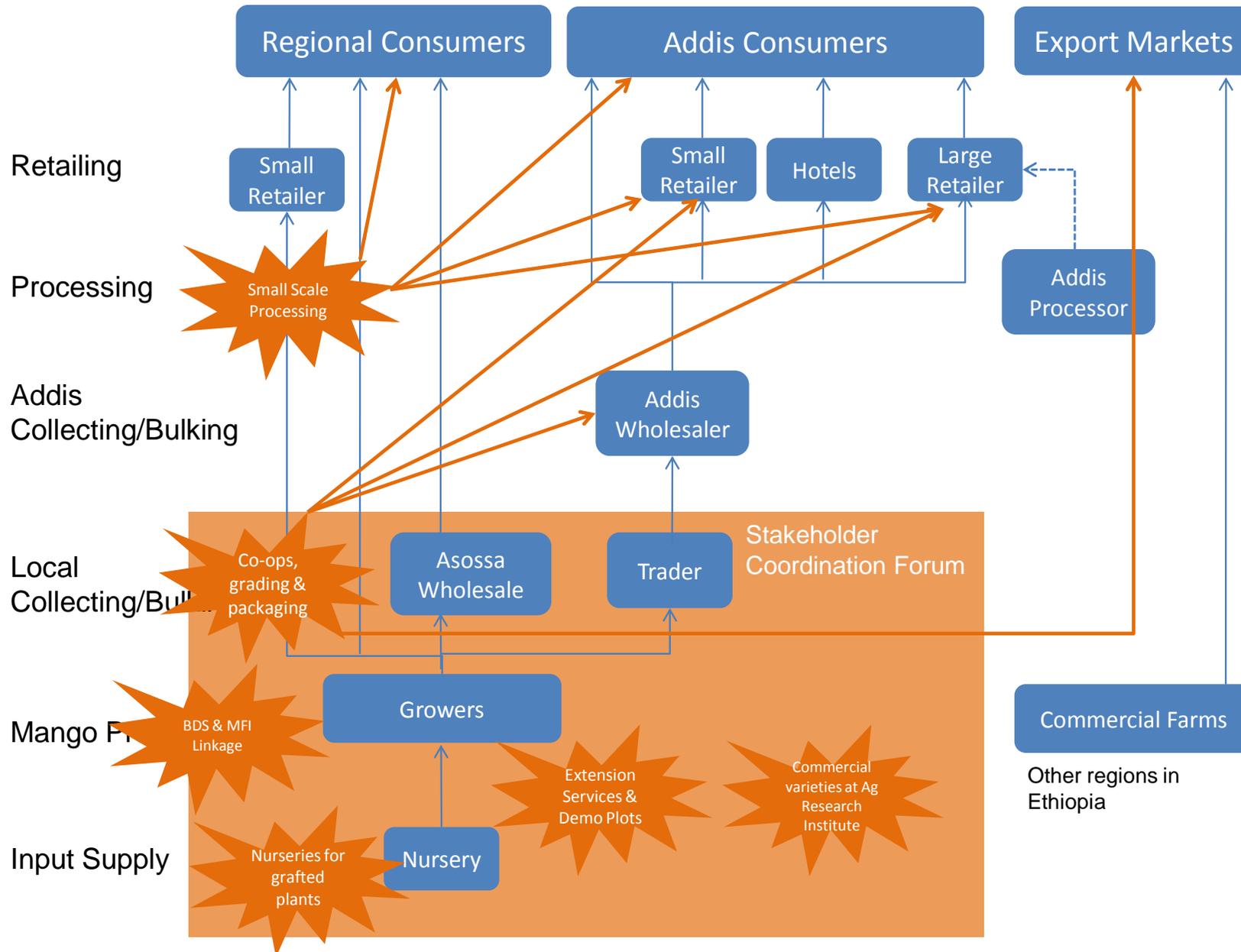
- **Import new commercial varieties of mangoes** and test them at the Assosa Agricultural Research Station, targeting both table and processing types. This would be the first step to possibly enter higher value export markets in the longer term.
- **Nurseries for grafted plants** should be hosted at the Assosa Agricultural Research Station and one for every 10,000 growers in the Woredas. These should be promoted especially for some of the landless beneficiaries as jointly owned enterprises.
- **The mature trees should be top-worked** in all Woredas, taking care to maintain the ones identified as good cultivars. In so doing care should be taken not to have too many varieties scattered but rather to have specific varieties in concentration.
- **Initiate stakeholder co-ordination platform** targeting the mango sector. Partnership with government and others should be central to planning any future interventions on mango sub-sector development. Regular coordination meetings with regional stakeholders in the mango sub-sector modelled around the SNV sector platforms are recommended.

## Medium Term Recommendations

- **Business Development Services** and training should be offered to input dealers, nursery operators, growers, and small traders to help them understand the requirements for running a business and better deal with shrewd operators in the value chain. Services such as basic business skills training, tax education, marketing, and demand analysis should be offered.
- **Develop links between input distributors and the MFI** to improve the provision of useful inputs to growers in the region.
- **Existing trees should be characterised** in terms of growth habit, tree morphology, fruit quality, including post harvest properties. This will help in targeting markets and will be useful in making selections for breeding purposes.
- **Mango processing should be introduced in steps.** Although it is clear that processing would help to mop up the unmarketable surplus of fruit in the high season, a phased approach to processing is advised, starting with small scale juice and preserves processing and drying followed in a 3-5 year period by large scale juice processing. A phased, small scale approach will also be useful to attract potential investors into the sector which could improve prospects for employment and provide a viable output option for currently wasted mango.
- **Promote international standard good agricultural practices (GAP)** through demonstration sites for every 10,000 growers, exposure visits to Awasa in southern Ethiopia, Kenya, Uganda and other places, if possible.

The following chart highlights the main points of interventions and some of the intended flows that are hoped can be developed in the future:

### Overview of Value Chain Interventions Proposed



### **Recent Update: Study Outcomes**

After this detailed study, a series of consultation workshops with various project stakeholders was held to review and validate the report. The workshops proceedings were captured and formed the basis of the project design process which commenced thereafter spearheaded by the World Vision and informed through the Stakeholder Coordination Forum. The project design was approved and the implementation phase of a three year project commenced. Within the first six months of project implementation, the following have been achieved:

- 19 farmer's cooperatives have been set up and linked to an umbrella cooperative union. Out of these, 100 Cooperative members have been trained on Mango Processing especially in producing jam, juice, compote, vinegar, wine etc. This processing is under taken on site in Asossa.
- Farm gate Price of Mango increased from 25 Birr/100kgs to 175 and the farmers have started using weighing scales to measure quantities rather than counting pieces or heaps.
- Between March – June 2009, 357 tonnes of mangoes were sold at the price of 569,084 Birr (roughly USD 46,000) to the most reputable fruit dealer- EtFruit for the first time. With World Vision supervision, the income was equitably shared among the farmers.
- 4,000 bottles of various processed mango products like jam, juice, wine and compote have been packed and sold to a number of super markets in Addis Ababa.
- The farmers have entered into partnership with the Ecological Products of Ethiopia, (Ecopia) to process and market mango products.