

**Organic Coffee Production: Rachuonyo South District.**



**Assessment Report**



***October, 2009***

## **Abbreviations and Acronyms**

<b>APF</b>	Agri ProFocus
<b>CDF</b>	Constituency Development Fund
<b>CoDF</b>	Coffee Development Fund
<b>DCO</b>	District Cooperative Officer
<b>EAFF</b>	East Africa Farmers Federation
<b>FC§</b>	Farmers Cooperative Society
<b>GAP</b>	Good Agricultural Practices
<b>KCPA</b>	Kenya Coffee Producers Association
<b>KENFAP</b>	Kenya National Federation of Agricultural Producers
<b>KIOF</b>	Kenya Institute of Organic Farming
<b>KOAN</b>	Kenya Organic Agriculture Network
<b>KPCU</b>	Kenya Planters Co-operative Union
<b>MOA</b>	Ministry of Agriculture

<b>1.0 INTRODUCTION</b> .....	4
<b>2.0 BACKGROUND INFORMATION</b> .....	4
<b>3.0 ASSESSMENT OF ORGANIC COFFEE PRODUCTION</b> .....	5
<b>3.1 METHODOLOGY</b> .....	5
<b>4.1 AGRO ECOLOGICAL CONDITIONS</b> .....	6
<b>4.2 RAINFALL</b> .....	6
<b>4.4 SOIL TYPE</b> .....	6
<b>4.5 FARMING SYSTEMS</b> .....	6
<b>4.6 LOCAL FARM INPUT SUPPLY SYSTEMS</b> .....	7
<b>4.7 FINANCING SYSTEMS</b> .....	8
<b>4.8 FARMERS ADVISORY SERVICES</b> .....	8
<b>4.9 COFFEE PRODUCTION</b> .....	9
<b>4.9.1 NUMBER OF FARMERS</b> .....	9
<b>4.9.2 ACREAGE</b> .....	9
<b>4.9.3 COFFEE VARIETIES AND PRODUCTION</b> .....	10
<b>5.0 ORGANIC FARMING RISK ASSESSMENT</b> .....	11
<b>5.1 COFFEE PRIMARY PROCESSING, WET MILLING.</b> .....	11
<b>6.0 COFFEE MARKETING</b> .....	13
<b>6.1 COFFEE GRADING AND QUALITY</b> .....	14
<b>6.2 PAYMENTS</b> .....	15
<b>7.0 MANAGEMENT CAPACITY ASSESSMENT</b> .....	15
<b>8.0 CONCLUSION</b> .....	16
<b>9.0 RECOMMENDATIONS</b> .....	16

## **1.0 Introduction**

This is a report on the assessment of production of organic coffee carried out by three members of Coffee Agri-ProFocus(APF); Kenya Coffee Producers Association(KCPA), Ufadhili Trust and Kenya Organic Agricultural Network(KOAN) between 29<sup>th</sup> September and 2<sup>nd</sup> October 2009. The group consists of six organizations working in the coffee industry in Kenya. The other members are; Solidade, Kenya National Federation of Agricultural Producers(KENFAP), Kenya Institute of Organic Farming (KIOF), and Eastern Africa Farmers federation [EAFF]. The Kenyan APF chapter consists of partners from four thematic groups in; coffee, dairy, natural resource and livestock. Organizations dealing with similar areas are required to work together, to complement each other.

APF is a platform that facilitates exchange of knowledge, experience and expertise between professionals working in Agriculture. The overall objective of the initiative is to promote partnerships to create synergy in common areas of interests to increase the level of impact, increase efficiency and effectiveness in resource use.

## **2.0 Background Information**

The Rachuonyo survey is an example of a joint initiative by the Coffee Agri-Profocus group. The survey was conducted by Ufadhili Trust, KOAN and KCPA - a coffee producers lobbying organization of the coffee producers interests within the coffee value chain. Rachuonyo South District is in the Western part of Kenya and has five coffee producers Co-operative societies who are registered members of KCPA.

KCPA engagement with the coffee producer organizations during its membership recruitment drive noted a coffee promotion initiative in the area as part of an economic empowerment (stimulus package) plan and decided to contribute to the initiative. The drive was spearheaded by the Local MP using Constituency Development Funds (CDF) and had established close to 500,000 seedlings of coffee (90% Ruiru 11) variety in the five producer societies for distribution to farmers in the district. Each society had been allocated a grant of Kshs 500,000 for the project.

After the recruitment exercise KCPA collaborated with Ufadhili Trust and came out with a strategy for cooperation in improving the Rachuonyo coffee farmers' livelihoods. The agreement was to strengthen the management capacity of the producer organizations and to assist farmers to identify opportunities to promote the coffee from the region. Organic coffee production was suggested as one of the opportunities. To address the first challenge in organizational capacity development, Ufadhili Trust organized training in June- July 2009 and involved the following:

- A management training programme, where five cooperative societies management committees and secretary managers underwent a capacity building training on Good governance.
- A farmers' knowledge exchange and learning visit to Othaya District Cooperative society in Central Kenya by the management committees and their secretary managers. A total of 7 farmers representing four co-operative societies participated. Ground reports indicated the farmers learnt a lot and took back a different view in coffee management and development.

Eventually, KCPA and Ufadhili Trust jointly invited KOAN to undertake a community sensitization on the benefits and markets of organic coffee in addition to assessing the possibility of initiating and promoting organic coffee in Ranchonyo South District. In the months of September/October 2009 a joint assessment exercise was conducted by the three organizations.

### **3.0 Assessment of Organic Coffee Production**

#### **3.1 Methodology**

The survey was conducted through a structured questionnaire, focus group discussion with the management committees and staff members and observations during the visit to the coffee farms and the factories. A total of 50 committee members and four secretary managers were met. Four of the visited factories were able to complete the questionnaire while one (Pala Farmers Cooperative Society) did not return the questionnaire despite efforts to follow-up with the respective management.

The following areas were assessed; agro ecological conditions, climate, farming systems, input supply chain, financial system, extension services, coffee production, processing, marketing and the management capacity.

## **4.0 The Findings**

### **4.1 Agro Ecological Conditions**

Based on observations and in absence of any other secondary data on climate and soil conditions, the Agro-ecological conditions favour coffee production.

### **4.2 Rainfall**

The area has two main rain seasons; the long rains which starts from late February and runs through June with rain fall ranging between 500mm and 1,000mm and the short rain season which occurs between the months of August and November with rainfall ranging between 250mm and 700mm. Rachuonyo borders Kisii District and therefore receives adequate rainfall.

### **4.3 Temperature**

The area falls under one main relief region – upland plateau with altitude range of 1,350m and 1,700m above sea level with temperatures between each 14°C and 25°C. This area forms the lower limit for coffee production in the non traditional coffee growing area.

### **4.4 Soil Type**

The common soils seen in the areas are the red loamy soils, which are known to be fertile and conducive for coffee production.

### **4.5 Farming Systems**

The predominant farming system observed was the small scale subsistence farming with an average holding size of two acres. Maize beans intercrop was the predominant crops in the fields occupying over 80% of the land. The subsistence farming is purposely for food security needs. Some crops like sweet potatoes and bananas are in some families grown for commercial purposes. The farming system is totally rain fed.

It was noted that in many farms especially where coffee is growing, agro forestry trees like *Dobeya spp*, *Calliandra*, and *Greveria* are planted. The trees were planted on the boundary of the farms. Local indigenous trees were also present. *Tithonia* (wild sunflower) is commonly used to separate the fields and farms.

On a typical farm, a farmer has between two to five local cows, several goats and sheep. This are kept for milk, income generation, manure and social reasons (dowry). During the visit, it emerged that open grazing practices are common, with a few farmers practicing Zero grazing.

In terms of revenue generation (income) at the household level, sweet potatoes take the lead, followed by bananas and sugar cane. Most are bought by traders outside the district. During the visit a bag of Sweet potatoes was going for Kshs 1780, and on average retails at Kshs 700 to Kshs 900.

Local resident interviewed indicated at one time (80,s) coffee was the leading income earner but with dwindling income from coffee and running down of the cooperatives the situation changed. The income generated is used on food, school fees, medical bills, supporting widows and orphans, and burials. The family is the main source of labour thus the bigger the family the better.

#### ***4.6 Local Farm Input Supply Systems***

Supply of farm inputs in terms of seeds, fertilizers and chemical sprays is well established in the local economy. A farmer can obtain the inputs in the local Agrovets shops in towns like Oyugi, Ringa, and Chabberra among others. Most farmers use fertilizers like DAP and CAN on maize/bean and rarely in their coffee farms. The high cost of the inputs is considered to be an impediment by the farmers. In most cases, farmers had not applied fertilizers in their coffee farms for the last five to six years. It was until they got financial support from the Coffee Development Fund (Codf) to purchase the fertilizer.

Though availability of the inputs is not a major challenge, the distribution channels to the villages is a problem as the local shops do not stock them since the demand is low. In some instances transport charges are high as the local mode of transportation into the hinterland of the area is the motor cycles (a new phenomenon in rural area transport) whose capacity is

limited and expensive. While these can be a challenge, it provides an opportunity for collective input acquisition by the farmers.

Knowledge on the right fertilizer to use is a problem. During the visit, it was observed that the farmers were using DAP and CAN on the coffee trees, which is not recommended. Farmers do know that this is not the right fertilizer for coffee.

#### ***4.7 Financing Systems***

During the survey it emerged that the agricultural financing system to provide credit to coffee farmers as very weak. Though the team did not meet the local agriculture staff for clarification, interviews with the farmers did not indicate any apart from the Coffee Development Fund in coffee, mostly the farmers rely on their own finance or remittances from their siblings in urban areas and local informal savings initiatives.

#### ***4.8 Farmers Advisory Services***

Based on the “visitors book” entries in all the five cooperative societies visited, interactions with the committee members, the questionnaire returns, and farms visits conducted, it was apparent that Coffee Research Foundation (CRF) was very active in providing advisory services to farmers in the area. The team toured the demonstration plots established by CRF in the cooperative factories and in farmers’ plots .Basic crop management in holing, spacing, pruning etc being the main trainings conducted. In one of the farms visited, the farmer had a lot of literature from CRF which was useful to him. A visit to Kabondo Cooperative Society by the team found a big advertisement by CRF calling farmers for a field day to teach on farming coffee as a business.

Coffee Board of Kenya (CBK) and the District Cooperative Officer (DCO) were also very active based on the visitors’ book entries. While the former has to do with routine visits to societies, the visits by the DCO did not elicit any positive comments from the farmer’s management committees as it concentrated in giving government directives to compile with. Two of the societies indicated they were forced to complete marketing contract forms to support Kenya Coffee Cooperative Exporters.

Coffee Millers are another category of visitors to the societies. This includes the main Millers operating in Kenya like; Thika Coffee Millers, Sasini, KPCU, Cofinaf, and Hema Millers based in Kisii. All were visiting to solicit business in milling, marketing and inputs.

It was expected that the Ministry of Agriculture (MOA) would be playing a key role in providing extension services to the farmers. Nevertheless, this did not come out clearly during the assessment. It was only in Pala society where it was said the field staff of the MOA did advice farmers to use manure on their coffee instead of chemical fertilizers. In the assessment returns it was only Ogera FCS that indicated they got support from the MOA.

#### ***4.9 Coffee Production***

##### ***4.9.1 Number of Farmers***

In terms of membership the cooperative societies, have over 6000 members. However, about 30% of the registered members are active and do participate in coffee production in the area. That is, only 2000 farmers are involved in coffee production.

##### ***4.9.2 Acreage***

The total area under coffee based on the returns from the societies was calculated to be less than 1000 acres (400ha). This was not independently verifiable with the absence of the input from the MOA during the assessment. It's also important to note that many farmers had uprooted or neglected their coffee in the past years based on oral evidence given during the assessment. On average a single farmer commands between 0.25acres (0.1ha) to 1 acre (0.4ha). Large acreages are rare in the area, and the maximum acreage established under coffee is 2 acres (0.8ha). The common talk during the field visits was 300-400 trees per farmer.

The current push to expand area under coffee by the local MP is very commendable and if all the 100,000 seedlings current under the nursery are planted in the fields, the acreage would expand by approximately 200 acres.

### ***4.9.3 Coffee Varieties and Production***

Ruiru 11 is the dominant variety grown by farmers: Over 80% of the farms have this particular variety which is resistant to diseases like Coffee Berry Disease, one of the most destructive diseases. Management of Ruiru 11 is much easier than the other varieties, as it requires less chemical use and it has a continuous production throughout the year, a fact the farmers said they prefer the variety. Other common varieties grown are SL 34, SL28 K7 and Blue Mountain. In Kabondo society, only Ruiru 11 is grown. Over 80% of the seedlings in the nursery are also Ruiru 11.

Despite the fact that crop management practices are low, the coffee produced is good. The yields are also very low. It was estimated to be between 2-3kg per tree according to the cooperative returns. Nonetheless, the quality of the cherry was appealing to the eye. The team observed Large, and bright red berries which were being delivered to the factories for processing. These are not common in the traditional coffee production areas.



***Quality cherry beans delivered into the hopper***

## **5.0 Organic Farming Risk Assessment**

The risks the current production system posed was categorized as low based on the following factors:

- The agricultural system practiced had low use in chemical inputs.
- Based on the production assessment in the field, the main risk to organic production was surface water run off, soil spill over from the maize/bean fields, and chemical sprays from neighboring coffee farms .The coffee farms are currently scattered over the area to be of really concern or risk. With a proper internal control system put in place, this factors can be properly controlled at little cost to the farmers
- In terms of biodiversity assessment, the region provides a good mix and variety as part of good ecological balance. The team came across a rare bird species which habitate the area at certain times of the year, and according to legend, this species is in Australia. In fact some researchers visit the area to see this particular bird. Therefore, it's possible to have bird friendly coffee.

Despite this assessment, to develop a sustainable organic coffee production system, quality production has to start from the farm. The current production practices have to be improved constantly and reliably to produce good-cup quality coffee.

### **5.1 Coffee Primary Processing: Wet Milling.**

The team toured all the five wet mills used for primary processing of the coffee. The following were the key observations.

- The pulping facilities were in a critical state of disrepair and malfunctioning. The pre grader were not functional, the pulpers' in most of the factories were in decrepit state. This led to poor bean grading, and poor separation of parchment and coffee pulp.



*The pulper unit at Kapondo FCS*

- In one of the Society, the team was able to observe and comment on cleaned beans seen in the waste soak pits. In another society there was close to 30% cracked beans on the drying tables. This crushing of the cherry was attributed to poor maintenance of the disc pulpers.



***Clean coffee mixed with waste pulp in a soak pit***

The machines were aged and where they were working, it was reported that spare parts are very expensive to buy or repair or are not available. The societies depend on diesel power to either pump water or drive the pulping systems which is expensive.

The fermentation tanks in some of the cooperative were leaking and could not hold water for long. In other cases, they did not have a shade cover over them. The floor and the channels operating and closing systems were not working properly. In all the mills, water recirculation systems were not working and, there was constant complains about the lack of proper processing materials like drying sacks, poly bags, shade nets etc.

- Good processing practices were undertaken half way or short cuts were used. There was inadequate water supply in all the units visited. Maybe to save on cost of diesel less water was pumped into the washing and fermentation tanks. The fermentation process was shortened in most cases and mostly has an immediate effect on the quality. In one of the factory, slippery parchment beans were found on the drying tables a case of incomplete fermentation.
- Management of the facilities was wanting and the staff responsible to ensure that the wet milling process was properly done was not clear on the process or had inadequate knowledge on the process. In one factory, the management had outsourced a machine operator from a neighboring Kisii district to assist with processing. That was a commendable idea .

The ad hoc process of wet mill operations compromised on the cup quality. This eventually does determine the final payments farmers receive. It was not surprising that the payments were very low i.e. below Kshs 25 per kg of cherry compared to other coffee growing zones.

## **6.0 Coffee Marketing:**

The following table summarizes the output of the various cooperatives as contained in the returned questionnaire.

***Table 1. Cherry Production***

Factory	2005	2006	2007	2008	2009
Ayoro FCS	0	0	0	0	0
Orinde FCS	74,291kg	124,700kg	101,142kg	128,954	NA
Ogera FCS	20,886kg	29,726kg	63,295kg	33,362kg	96,110kg
Kabondo FCS	0	49,280kg	62,781kg	65,720kg	78,000kg
Pala FCS	0	0	0	0	0

*Table 2: Parchment Production.*

Factory	2005	2006	2007	2008	2009
Ayoro FCS	0	0	0	0	0
Orinde FCS	308bags	507bags	341bags	499bags	NA
Ogera FCS	120bags	97bags	228bags	106bags	324bags
Kabondo FCS	0	130bags	176bags	181bags	215bags
Pala FCS	0	0	0	0	0

Based on the above data, the area on average produces 1500 x 50kg bags of clean coffee or 75 tons of coffee season.

### **6.1 Coffee Grading and Quality**

Without proper reference records from the marketing agents on the quality of coffee produced and the scanty records obtained from the societies, it was not possible for the team to categorically classify and grade south Ranchonyo coffees. Available records from some societies indicated that the coffee is of Fair Average Quality (FAQ). Below is some of the information.

#### **6.1.1 Ogera Farmers Cooperative Society**

The following grading information was provided by Ogera Farmers Cooperative Society for the 2008/2009 season:

(a) Grades AA- 4 bags, C-5, TT 5, T7, PB 4, AB 4(6-7).

(b) The cup quality was Fair Average Quality(FAQ)

#### **6.1.2 Orinde Farmers Cooperative Society**

Orinde Farmers Cooperative Society provided the following classification and did not provide the number of bags:

(a) A mixture of AA, AB, C, E, T, PB, TT and SB.

(b) The cup quality was assessed to be FAQ

There were concerns on management of milling agents and marketers. The farmers felt that the service providers were taking advantage over them as they hardly have knowledge on coffee marketing. Another issue was the role of the Ministry of Cooperative to have the societies sign up contracts with the new Kenya Coffee Cooperative Exporters(KCCE). The farmers proposed that the officers of KCCE should solicit business directly from them.

## **6.2 Payments**

The payout averaged between Kshs 13-18 per kg for cherry and Kshs 20-35 per kg of mbuni. The lack of transparency on pricing was raised as a big issue as the farmers did not understand how coffee is priced. The DCO expressed disappointment on the fact that the payments by the market have always been too little.

## **7.0 Management Capacity Assessment**

Management capacity of the five Cooperative societies varied significantly. While some societies were well managed, others had weak management teams. In some cases, some of the leaders seemed not to understand how the coffee processing is done hence they rely totally on the factory managers.



### ***Management committee: Kabondo FCS***

Orinde farmers' cooperative society was an example of the societies with good leadership followed by Kabondo FCS and the others follow.

## **8.0 Conclusion**

Based on the findings of the survey most of the factors analyzed favored production of organic coffee. This conclusion is supported by the good soils, adequate rainfall, coffee varieties of Ruiru 11 which is resistant to pests and diseases and less use of chemicals in the farm. It implies that the farmers can easily convert to producing organic coffee in a relatively short time and at a manageable cost.

## **9.0 Recommendations**

1. The current boost of the coffee industry by the local MP is very commendable. The expansion plan should be supported by all stakeholders. The farmers should also tread carefully on the same as this could probably be a “political expedience”.
2. A sustainable organic coffee production system should be established if the farmers commit to go the organic way. In addition there was need to make immediate action to:
  - Carry out an audit of the factories current status and provide estimates necessary to fix the problem-an expert in coffee wet mills should be invited.
  - Plan for a manufacturing practices capacity development program for the factory managers and machine operators to improve their skills, knowledge and understanding in the wet milling processing
  - Plan for quality enhancements program at the farm level to increase coffee yields, enhance knowledge in soil fertility, crop nutrition and coffee tree canopy management skills.
3. Linkage of the farmers to the organic coffee market is important so that they produce coffee with a clear knowledge of the buyer.
4. Other certification to be considered are, Fair-trade and bird friendly coffee.