

AGRISYSTEM MANAGEMENT (ASM)

Sustainable Arabica Coffee Production under market liberalization in Cameroon.

Case: small-scale Arabica coffee farmers in the North West Region of Cameroon and the challenges of improving yields and quality of coffee.

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Name of Student

Elad Enock Eric

Name of Supervisors

Jan Hoekstra (Lecturer FTM)

Michiel Kuit (Kuit Consultancy)

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DEDICATION

To my kids and my senior sister Ebamuh Mary, for the sacrifices she has made in life. Let God continue to guide and protect you all.

ABSTRACT

Coffee production in Cameroon has fallen seriously in volume (yields) and quality since the sector was liberalised two decades ago. This is true for both Arabica and Robusta. But what are the underlying reasons responsible for the fall in yields and decline in quality during these years of liberalisation?

Answering this question took me to an important arabica coffee producing area in the North West Region of Cameroon to find out from the farmers and other stakeholders.

Volatile world market prices, complete absence of institutional support, a chaotic local market where quality is not differentiated or/and rewarded, and a farming population that is not organised are some of the main issues affecting the sector. Arabica coffee farming has become uneconomical in terms of income earnings for farmers in Cameroon and the North West Region in particular.

The result or reaction has been the disaffection of farmers expressed by less interest or complete abandonment of coffee farms. The first chapter of this report puts the coffee sector into perspective, the objective of the study and the research method used – descriptive qualitative.

In chapter two a literature review of coffee as a world commodity and as an important cash crop in Cameroon is presented. Chapter three deals with the conceptual framework guiding the studies

The desk and field results are presented in chapter four and the conclusions are discussed in chapter five. Chapter six gives some recommendations on how the coffee sub-sector can be revived.

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List of abbreviations

GDP	Gross Domestic Product
ONCPB	National Board for the Marketing of Basic Commodity
ICA	International Coffee Agreement
NCCB	National Cocoa and Coffee Board
ICCC	Inter-professional Council for Cocoa and Coffee
NWR	North West Region
ICO	International Coffee Organisation
NWCA	North West Cooperative Association
SAP	Structural Adjustment Programme
VCA	Value Chain Analysis

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Chapter one

INTRODUCTION

1.1 BACKGROUND TO THE STUDY

Cameroon is predominantly an agrarian economy and agriculture contributes enormously to its gross domestic product (GDP). Agriculture is also the sector employing most of its rural population. The World Bank report (2006) on Cameroon estimates that 70% of the population farms and agriculture comprises an estimated 45.2% of GDP in 2006.

Coffee (Arabica and Robusta) farming is one of the many agricultural activities of the rural population and an important and sometime the only source of income for them.

In a Cameroon Government report (2009) on Cameroon Coffee Sector Development Strategy, an estimated 400.000 households, representing approximately 2.8 million people are involved in production and another 10.000 in marketing of coffee.

As a major source of income for the rural population and an important foreign exchange earner for the Government, the state, up to 1990 was very committed to the subsector. The state was highly involved in both production and marketing of coffee.

During this era, production was subsidized and supported by the state. Farmers received subsidised inputs like fertilizers and chemicals. Extension services were provided to in producing areas by state employed agricultural extension agents. These agents provided technical support at farm level to ensure good yields and quality.

During this period also, the marketing of coffee was done entirely by the state through the National Board for the Marketing of Basic Commodity (ONCPB). The ONCPB was responsible for the collection all coffee produced through its

regional networks. The network consisted of primary societies, regional cooperative unions, and a few private exporters. The ONCPB carried out the functions of Allocating

1. quotas and buying zone to the players
2. Fixing the margins along the coffee chain
3. Acting as a price stabilising body guaranteeing a stable price for all local players irrespective of the world market prices.

Coffee production as an activity for the farmers was successful and farmers could make a living from it.

Towards the end of the 1980s some major events took place at the global level for coffee:

- World market prices for primary commodities (coffee included) started falling on the world market.
- The international coffee agreement (ICA) collapsed in 1989. The quota system that checked oversupply in the global coffee trade stopped, so too the buffer-stock system it controlled.
- At the country level, mismanagement of the ONCPB resulted in its inability to carry out its function of price stabilization for farmers.

Farmers in Cameroon who had enjoyed protection from world market instability in price were opened to a new business environment in which coffee quantity on the market was no longer controlled. This oversupply came from countries like Vietnam that were embarked on increasing volumes favoured by its Government support that kept production cost low.

The Cameroon Government, knowing the huge socio economic challenges affecting the farming population had to react. Following recommendations and conditions from international donors and financial institutions, the Government accepted to liberalise the coffee subsector. This step or direction was taken in good faith on the argument that the sector will be professionalised and farmers will earn better by directly selling their coffee to the best buyer in a free market environment.

The liberalization of the sector started in 1991, and by 1995 the state withdrew completely all its support to farmers and disbanded the national produce

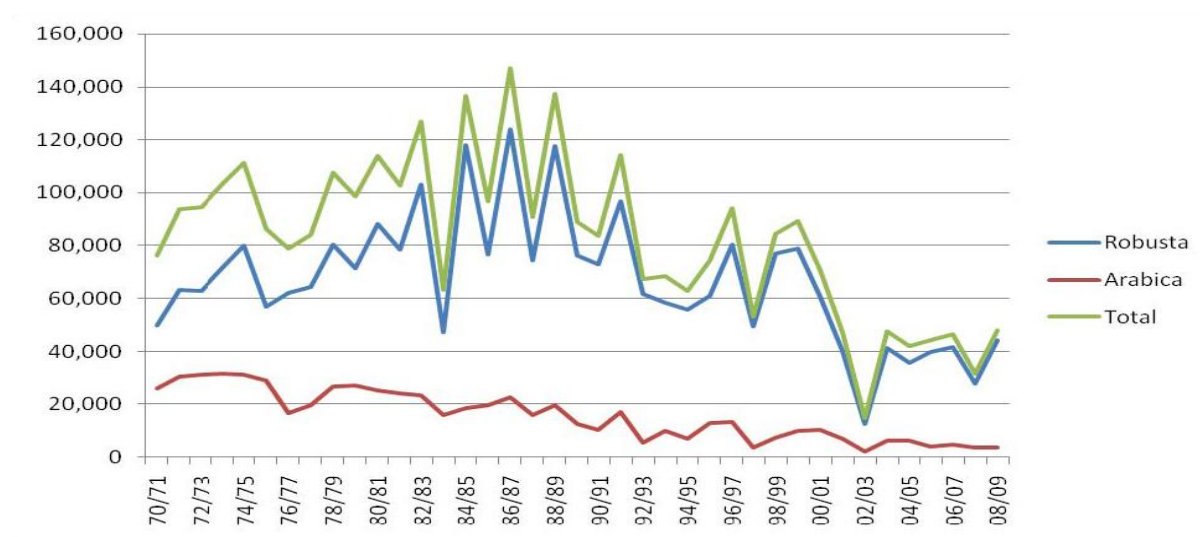
marketing board that was in charge before in providing support and organising the marketing of coffee nationally.

In place of the ONCPB, the state instituted two new agencies to look over the sector in the new liberalised market system. These are the National Coffee and Cocoa Board (NCCB) and the Inter-professional Council for Coffee and Cocoa (ICCC). Since then, the story of Cameroon coffee changed. Not for the better though.

Liberalisation, which resulted in the complete breakdown of the traditional public cooperative system, complete withdrawal of the state has left the marketing environment in chaos. Production without support for farmers and unorganised marketing has impacted negatively on quantity and quality.

For over two decades, the coffee subsector has been in protracted crisis. According to the Cameroon government report (2009), the decline in volume has been spectacular: ‘Coffee exports of Cameroon origin it says, (Robusta and Arabica) dropped by 76% between 1986 and 2008, going from almost 110.000 tons to 33.000 tons’. Considering that more than 90% of Cameroon coffee is exported, figure 1.1, which shows supply from Cameroon, highlights the decline in quantity over the years.

Fig. 1 PROCUREMENT OF COFFEE IN CAMEROON (tons)



Source: Chain Risk Assessment, ARD, World Bank

Cameroon is one of the producing countries that produces both Robusta and Arabica; 90% and 10% respectively. Arabica coffee is grown in the west, northwest and eastern regions which have the ecological conditions necessary. Robusta is grown in the rest of the country except the North.

For the North West Region (NWR), like in other producing regions, Arabica coffee is the most important cash crop and the agro ecological conditions of the region are very suitable for its cultivation. Despite its economic importance and the favourable agro ecological conditions, coffee production in terms of quantity and quality are below the potentials of the region.

In this study, I attempt to find out the underlying reasons for the decline in production of Arabica coffee in the North West Region under the liberalized market environment.

1.2 PROBLEM STATEMENT

There has been a marked fall in Arabica coffee production after the coffee sector was liberalized. Yields (kg/hectare) are low; quality has declined: (physical: berry shape, colour and ripeness, disease free; non-physical: social and environmental quality of production). For small scale farmers in the NWR, this situation is threatening their livelihoods as they depend on coffee farming for income.

Following the liberalisation of the coffee market in the early 1990s, the state created new state agencies, the National Coffee and Cocoa board (NCCB) and the Inter-professional Council for Coffee and Cocoa (ICCC) that were charged to support the coffee sector after liberalization. So far little has changed with regards to the continuous decline in yields and quality.

The commodity crisis that started in the mid 1980s hit hard on the economies of producing countries like Cameroon. These countries were left with no other choice but to follow the recommendations of the Breton woods institutes: liberalise the commodity market.

The liberalized market argument was that it was going to professionalise the sector and offer more market opportunities (farmers can differentiate their coffee by certifying it as organic, socially beneficial, environmentally friendly) for coffee farmers.

As it stands out clearly today, these reforms have almost left coffee in the hands of the private sector especially those in marketing who lack organisation in the absence of enforcement of the rules and regulation by the state agencies in charge of the sector after liberalisation.

What are these production challenges responsible for low yields and declining quality for farmers? Why is the local coffee market not organised despite the existence of Government agencies like the NCCB and ICCC?

1.3 OBJECTIVES:

To contribute in the improvement of Arabica coffee production in the NWR by understanding the underlying reasons for the low yields and decline in quality and how these can be improved in the current free market environment.

Sub objectives:

To identify and document the production constraints on Arabica coffee yields in the NWR

To identify the underlying causes for the decline of coffee quality in the NWR

To identify and document the main actors, networks, and institutions involved in the marketing of coffee and the role they play in the coffee chain in the NWR.

1.4 METHODOLOGY

Different methods (triangulation) were used to achieve the main objectives of the research. These include literature review as the source of information for the theoretical framework, reviewing of secondary data from official government documents on coffee; informal and formal interviews with key informants of the coffee sector in Cameroon. The study was more of a descriptive qualitative research and was aimed at understanding the underlying reasons for the low yields and decline of quality of Arabica coffee in the NWR of Cameroon.

1.4.1 Research location

The research took place in the Northwest region of Cameroon where Arabica coffee farming is a tradition. Arabica coffee is the main income earner for the farmers and about 70% of the population of this region live in villages and have

coffee farming as main activity. The region also is second in Arabica coffee production after its neighbouring western region.

The research was carried out in Bui Division mainly and a small part in Dunga Mantung Division. Geographically, the region is characterised by its high altitude ranging between 1,300m and 1,800 m above sea level. Rich volcanic soil, adequate rainfall make the region an ideal place for growing Arabica coffee. Arabica coffee has been grown in this region for many decades and farmers have much experience with the crop despite the challenges they face.

1.4.2 Research Organisations and coffee project in NWR

This research project is in partial fulfilment for a Bachelor degree in Tropical Agriculture at the Van Hall Larenstein University, Netherlands. It was commissioned by Olamcam, which is the Cameroon unit of Olam international, an international agribusiness firm headquartered in Singapore and operating in over 64 countries worldwide. In Cameroon, Olamcam buys coffee, Cocoa and imports many food items. In the North West Region of Cameroon Olamcam is executing a project on the sustainability of Arabica coffee and prior to that, carried out a baseline study of Arabica coffee situation in the region. This research project under Olamcam is aimed at deepening the baseline study by focusing on small-scale coffee farmers of the region to investigate the reasons responsible for the low yields and decline in quality of Arabica coffee and how this can be sustainably improved under the liberalized market environment.

1.4.3 Data collection methods

1.4.3.1 Secondary data

A lot of information about the production, marketing and management is found in articles on Cameroon coffee from the Government agencies like the ICCC and NCCB and also from international organisations involved with the marketing of coffee like the International Coffee organisation.

On the global level, the website of the international coffee organisation provided literature on world production, the global coffee market and statistics of individual coffee producing countries. At the level of Cameroon, the state agencies responsible for the coffee sector have records, documents and statistics of the coffee sector in Cameroon Past and present.

Reviewing these sources and analysing the contents was of value in gaining a good insight into the sector, especially in the provision of quantitative and qualitative data.

1.4.3.2 Primary Data

The population for the study was small-scale Arabica coffee producers of the North West Region. Within the region, Bui division and part of Dunga Mantung were the area chosen because of the project on Arabica coffee currently going on. Because of the poor roads and rocky terrain of this area, and the difficulty of travelling to the various villages, the selection of participating villages was done non-randomly.

My sampling frame was the registered Arabica coffee farmers of the Olamcam project. Considering the time available, the difficulties of transportation, the farming activities of the farmers and their availability, my sample size was limited to 35 farmers. However, despite the poor accessibility of the villages, I tried to cover many villages participating in the project for representativeness.

Snow ball sampling technique (building a sample through referrals, O'Leary, 2004) was used (as a result of difficulty in getting farmers of similar farming characteristic for interview due to their schedule) because it made access to possible interviewees easy. Within the villages, houses are widely dispersed. While on the field, after succeeding in getting a farmer for interview, they also directed me to some others whom they encouraged as well to participate.

For the individual farmers (35), an administered semi-structured interview was given. (Annex 1). Informal interviews with other informants include the Divisional delegate of Agriculture for Bui Division, three young men operating motorbike transportation business.

A focus discussion was held with one group of farmers. The group was made up of 14 farmers who are also trainers of farmers in their respective villages.

I presented the topic of discussion (see annex 2) and gave each member a copy. The set up was in a round table manner inside the Olamcam office in Kumbo. This was to allow face to face positions and ease for each group member to follow the discussion.

While in the field there were opportunities to observe farmers in action. This I did with the following thoughts in mind: to describe what was seen, to infer about what is being observed.

For this study, participant observation took place during farmer field schools in villages. I followed the field trainers to the training sessions many times participating in the trainings while getting through observation, important

insights into the farming practices and problems farmers have in their farming activities.

1.5 DATA ANALYSIS:

Qualitative research generates a large amount of textual data which have to be segmented and put into various meaningful units or themes. For the focus group discussions, though I used a flip chart to write down what the participant said, two Olamcam workers also took the minutes of the discussion to ensure consistency. The transcripts were then typed and thematic or content analysis was undertaken. This is the same for the semi-structured interviews, the observation and the informal interviews notes.

The data of this study is analysed using the method based on Taylor-Powell and Renner (2003) logically and systematically following four basic steps:

Organising

Shaping

Summarising

Interpreting

1.6 LIMITATIONS OF THE STUDY

A field study like this requires much time to gather enough data; this was lacking for this study. The poor state of infrastructure of the research area hindered travelling to some villages and influence the sampling methods used in the study. The Olamcam project going on in the area with coffee farmers and the knowledge they had acquired prior to my interviews with them, influenced their responses to some extent.

1.7 STRUCTURE OF THE REPORT

In the first chapter I give a background of the study, the objective of the research followed by the method used. Chapters two and three cover the literature reviews. In chapter four I present the findings of the research; and in chapter five a conclusion on the reasons for the low yields and poor quality from the findings and chapter six covers the recommendations to Olamcam.

Chapter Two

COFFEE

2.1 WORLD PRODUCTION

2.1.1 The Coffee Belt

From humble origins in Africa, coffee cultivation wandered east and west, eventually forming a belt roughly bounded by the Tropics of Cancer and Capricorn.

Coffee is grown in over 50 countries in the world. The major producers include Brazil, Vietnam, Columbia and Ivory Coast. Cameroon is ranked 21st (ICO classification) in the world and 5th in Africa.

From the map of the world below, the horizontal belt along the equator represents the coffee zone in the world. As can be seen, coffee is a tropical crop. It grows primarily in a tropical band around the globe between the tropic of cancer (23 degree north latitude) and the tropic of Capricorn (23 degree south latitude). There are about 35 countries in this band or zone around the equator that are regarded as the primary coffee producing nations. There are two main commercial varieties: Arabica and Robusta.

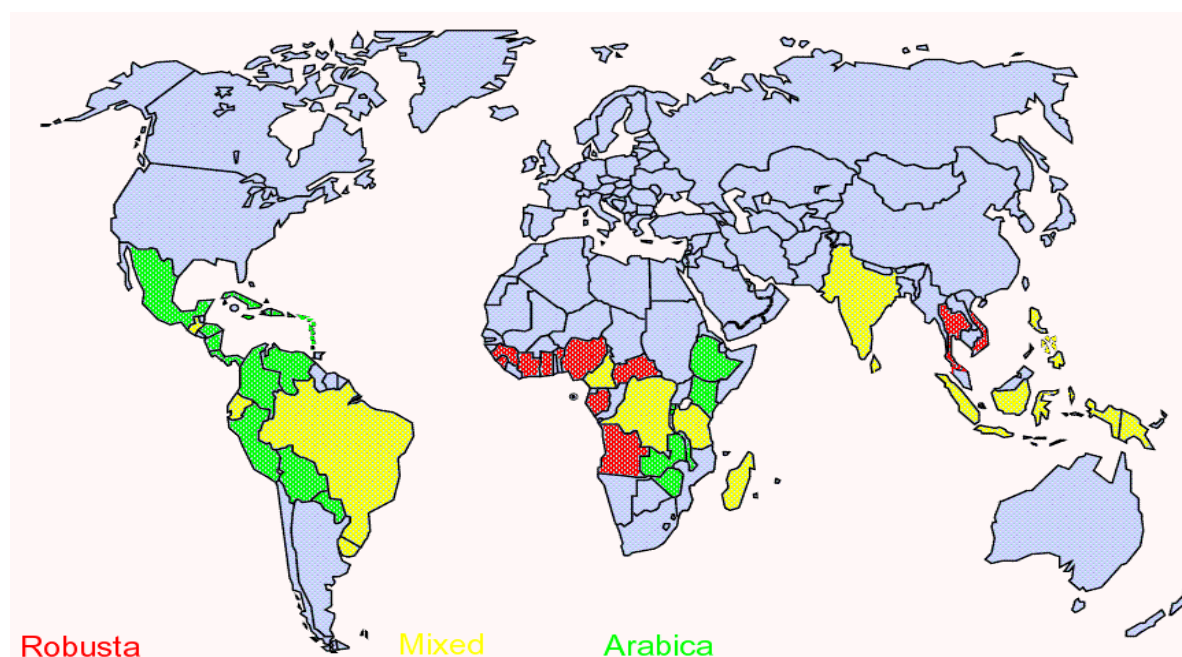


Figure 2.1 map of coffee producing region and countries

Source: world coffee bean production by coffee species 2008 (www.ico.org)

2.1.2 Coffee market

Coffee is one of the world's largest traded commodities (second to petroleum) with an average of 100 million bags produced in more than 50 countries. On one side, there is the producing and supplying countries. In these countries, coffee provides a livelihood for many rural families. Many of these countries are heavily dependent on coffee, which can account for over 80% of their total export earnings.

On the other side are the consuming (demand) countries where coffee is a universally popular drink, with over US\$50 billion (ICO, 2006) in retail sales a year.

2.1.3 International stakeholder: International Coffee Organisation (ICO).

During the Second World War from 1939 to 1945, demand for coffee fell and prices were low. However, after the war, demand increased and supplies were inadequate to satisfy this rising demand. Between 1950 and 1953 stocks reached levels below the minimum needs for normal trading purposes, a situation which was exacerbated by the outbreak of the Korean War and a serious drought in Brazil, which was followed by a frost. Prices rose to unprecedented heights in 1953. This gave rise to a substantial increase in planting throughout the world and over-production followed. Stocks increased and, in the second half of the 1950s and early 1960s, prices fell drastically (ICO, 2009).

As a reaction to this, the International Coffee Organization (ICO) was created in 1963 and had as main role to raise and stabilize the world coffee prices through export quotas. Most coffee-producing and importing countries were members.

The first two International Coffee Agreements (ICA) of 1962 and 1968 created a quota system whereby supplies of coffee in excess of consumer requirements were withheld from the market; and policies were initiated to limit supplies of coffee and promotion activities instituted to increase consumption. These agreements were successful throughout the years 1963 to 1972. The third ICA (1976) had as principal features that it allowed for the suspension of quotas if prices were high and their reintroduction if prices became too low.

Developing country governments regulated coffee marketing and pricing for years, not only because coffee was very important as source of export earnings and foreign exchange but also for social and political reasons; for countries like Brazil and Colombia their objective was to raise world prices.

In July 1989, dispute over quotas and distribution among members resulted in the suspension of the agreement and collapse of the quota system.

The ICO is the main intergovernmental organization for coffee, bringing together producing and consuming countries working together to resolve the problems of the world coffee and trying to improve standards of living in developing countries.

2.2 COFFEE IN CAMEROON

Table 2.1: country profiles

Country	Cameroon
Botanical species	Robusta and Arabica
Exported as	Green
Regions of production	Robusta: in all regions except north. Arabica: higher altitudes - west, northwest and east
Harvest	Robusta: November to mid February. Arabica: September to February
Preparation	Robusta: dry method Arabica: 90% wet method, 10% dry

Source: Fao website (<http://www.fao.org/docrep>) visited on the 20th of February 2011

2.2.1 Production



Figure 2.2: Map of main coffee production regions of Cameroon. Source: NCCB

Cameroon grows two types of coffee, *Coffea arabica* and *Coffea robusta*. Arabica coffee (10% of total production) is cultivated mainly in high altitude areas (between 1,300 and 1,800m); these are mainly in the West, North-West regions and part of the Eastern region.

Robusta coffee production (90% of total production) in Cameroon is highly concentrated in the Mounjo area (Littoral region), which produces 75% of national output, with the second production area being East region.

Coffee is grown mostly on small-scale family farms of 1 to 2 ha, often in association with other crops. Productivity is currently very low and at around 290 kg/ha, compared to 2,200 kg/ha in Vietnam and 700 kg/ha in Indonesia, according to FAO statistics.

As can be seen in figure 1, the level of production has been declining since the late 1980s. Much of this can be attributed to poor market prices but national organisational factors also contribute to the problem.

In Cameroon, production since 2004 has been on average about 40,000 tons of green coffee a year. According to NCCB Director General (Michael Ndoping) in his presentation at a forum on global commodities in Geneva, Switzerland, total coffee production amounted to about 45,000 metric tons (90% Robusta, 10% Arabica) for crop season 2009/10.

2.2.2 Export

Over 90% of coffee (Arabica and Robusta) produced in Cameroon is exported as green coffee bean. It is exported in 60kg bags. As shown in the table 2.2, export volumes have been in decline especially during this period of free market. This export decline corresponds with the fall in volume produced nationally considering that over 90% of coffee is exported.

Cameroon exports its green coffee mostly to Europe. Robusta is principally exported to Italy (over 40% of total exports in 2007-2008) and Arabica is exported to Germany (over 70% of total exports). Other destinations for Robusta include Belgium, Portugal, and France; and for Arabica: United States of America, Italy and Belgium (NCCB, 2009).

Table2. 2: Cameroon export in 60-kg bags from 1980 to 2009 (compiled from ICO statistics: historical data).

1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
1573826	1590070	1597194	1566298	1406008	1616089	1788642	1406689	1632635	1318168
1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
2611259	1752179	1645851	704530	545889	407269	563549	1368030	745718	1154047
2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
1204964	1125159	639688	814341	734325	704395	739833	717176	527346	600956

Compiled by author using ICO data from ICO website.

2.2.3 Marketing of coffee in Cameroon: before and during liberalisation.

Before 1989, the agricultural commodities market was solely managed by the state through state agencies: National Board for the Marketing of Basic Commodity (ONCPB) which in the Anglophone regions operated like a marketing board and in the francophone regions as a stabilization fund. The main marketing actors, channels and governance were all under strict state control.

In the North West Region, and area of this research, the North West Cooperative Association (NWCA) for example was the sole handling cooperative for the whole region. It faced no competition from private buyers.

Supply was through a monopolistic structure, consisting of primary societies, regional cooperative unions, and a few authorised private exporters. The ONCPB allocated the players their respective quotas and buying zones. There was an official scale (*barème*) fixing the margins throughout the value chain, while the difference between the scale-determined and real export prices was attributed to ONCPB; if the difference was positive, it was turned over to ONCPB, and if negative, ONCPB reimbursed the exporters for the loss incurred.

In practice, and as a result of poor management of the marketing board, and also of the state interference into its funds, the positive differences were absorbed into general Government finances, and the ONCPB could not continue to carry out its stabilization role, notably when prices started falling in the late 1980s. It became highly indebted to cooperatives, and these ended up delaying payments to farmers, for periods of three years or more. For example

during the 1989-1990 crop years, ONCPB had become so indebted that coffee producers received only half the guaranteed price.

While this was going on in Cameroon, the international commodity crisis that began a few years back was deepening.

At the global level, the collapse of the ICA gave rise to overproduction, and developing countries naturally tried to maximize their revenue by increasing production, regardless of the fact that demand did not necessarily match supply.

Uncontrolled production, together with the ascendancy of the liberal view that perhaps the market itself could best adjust prices in the medium and long term, contributed to the ICO losing some of its ability to intervene in the market.

This crisis brought serious economic conditions to agricultural exporting countries, Cameroon being one of them. I remember in his new year's speech to the country, the president said "the world economic crisis has left no country untouched, Cameroon included" and that "we have to make personal and national adjustments to brace the wave by folding our sleeves to work harder".

Addressing the situation required both micro and macroeconomic arrangements. At home, government implemented fast fiscal and monetary reforms. To meet its national and international financial obligations, it turned for help or borrowing from some international financial institutions, the International Monetary Fund (IMF), World Bank in particular. With it, came conditions and counselling. The most important of them was for the government to liberalise its commodity market as part of a general Structural Adjustment Programme (SAP).

Today, the Cameroon local coffee market can be described as chaotic. It is characterised by many small, often unqualified and unorganised buyers. With no proper state enforcement of rules and regulations (only on paper) in place, the marketing has resulted in low and undifferentiated quality of coffee being scrambled for by ever increasing numbers of buyers. The minister of commerce in a ministerial letter addressing the coffee market situation warned that "the liberalisation of the market does not mean anarchy"

The result has been the continuous decline in quality as farmers get money (no matter how small) for any grade of coffee they bring to the market. The other effect of this has been the little or no seriousness of farmers to work on their coffee farms. This has resulted to decline in quantity too. Surviving on coffee for small scale farmers and competing with better producers in other countries on the world market is getting harder for these farmers.

The long term effect of low yield and poor quality which is felt today: Cameroonian producers are fully exposed to the vagaries of the local and chaotic coffee markets; low quality coffee that cannot compete on world market.

This was particularly the case with Robusta coffee from 2001 to 2005 as producers felt the full impact of production increases in Vietnam, Indonesia and Brazil. Past experience shows that it is difficult for Cameroon to shield itself from these price swings, but it can do much to ensure that farmers are more productive and resilient in the face of such events.

2.2.4 Local stakeholders: NCCB and ICCC:

One of the objectives of liberalization was to professionalize the operators involved in the coffee (cocoa) chain.

On the one hand, the traders were to get organized so as to be able to negotiate contracts with the importers, negotiate for financing with the banks and to ensure the marketing of coffee in strict compliance with the international rules.

On the other hand, the producers were to organize themselves to ensure effective negotiations with the traders through grouped sales, to control the quality of their products and to acquire inputs at better prices using their leverage of bulk buying.

Two organizations to co-manage the subsector, and entrusting to them the management of an intra-annual stabilization system were created: NCCB (National Cocoa and Coffee Board), public establishment; and the ICCC (Inter-professional Council for Cocoa and Coffee).

Within this framework, the NCCB and the ICCC were given the mandate of providing the proper environment for the professionalization of the actors (financing of the trainings, study trips, seminars...).

The poor functioning of the new system at the level of the coffee chain from one coffee season to the other, led the government to take some partial measures between 1991 and 1995, which finally led to the law permitting total liberalization of the marketing of the coffee in 1995. Since then on, the state in

principle is just to fix the rules in the law, and the roles of the NCCB and the ICCC.

The NCCB has been mainly responsible for the monitoring of statistics, the supervision of quality control through the main quality control organisations as well as for the certification of processing and storage facilities, but with less direct influence on the production and marketing side than possessed by the ONCPB prior to liberalisation.

The ICCC is comprised of a number of professional organisations from the agriculture, trade, industry and services sectors. ICCC's mission is to act as a consultative and liaison body on matters related to development, financing, marketing activities, and taxation.

Chapter Three

CONCEPTUAL FRAMEWORK

This chapter is the main guiding chapter for the whole study. In it, I present the conceptual framework guiding the study. To achieve the research objectives and answer the main research question of this study, I will use the value chain concept as an analytical as well as an operational model to highlight the position of small-scale farmers as chain actors in relation to other chain actors. It will also include the value chain supporters and value chain enablers and examines the role they play in value chains and how they influence the performance of small-scale farmers.

3.1 INTRODUCTION

Ruth Campbell (2007) defines “Value chain” (VC) as “all the activities and services that bring a product (or a service) from conception to end use in a particular industry—from input supply to production, processing, wholesale and finally, retail. It is so called because value is being added to the product or service at each step”.

The concept of value chain has attracted the interest of scholars, national Governments, (in both developed and developing countries) and especially development agencies concerned with agricultural development in developing countries. By agricultural development, I mean the development in the production and marketing of agricultural commodities that are produced and traded nationally or internationally.

In developing countries worldwide, agricultural commodities (coffee, cocoa, banana, mangoes, vegetables etc) are mostly produced by small-scale farmers. These farmers have some common characteristic: they produce on farms with average size of 1 to 2 hectares, are often illiterate with poor technological skills (World Bank, 2002), lack access to vital production inputs, cannot easily access high value commodity markets because of production constraints, live and work mostly in rural areas and are often not organised.

Whether active or passive, these small farmers are actors in agricultural commodity chains. Production and marketing of agricultural commodities for small-scale farmers has remained a big challenge and has thus prompted many responses. The value chain approach is one of the many responses in addressing the plights of small-scale farmers worldwide.

The value chain approach in agricultural development seeks to address the major constraints at each level of the chain (Campbell, 2007) and highlights the opportunities within the chain and how the chain actors can benefit from participating and make the chain competitive in the industry.

According to Daniel Roduner, (2007) of the Swiss centre for agricultural extension and rural development, (AGRIDEA) a product is rarely directly consumed where it is produced but transformed and value added through many stages by different actors who are linked by trade and services before reaching the final consumer.

Also important for any chain he says, are other types of public and private services like transport, financial services, favourable framework conditions like laws, regulations and their enforcement.

In agricultural commodity industry and agricultural value chains in particular, and for this study, I will focus on small-scale farmers and use the value chain framework to analyse the production (quantity and quality) constraints and market access challenges small-scale farmers have as commodity chain actors.

Understanding the problems of production (quantity and quality) and marketing at the level of small-scale farmers will require zooming on the small-scale farmers and analysing them as chain actors. Their performance is also linked to the functions or behaviour of other chain actors like the traders, processors, exporters, retailers and consumers. External to the chain and very important for the chain success are support services providers and a committed enabling environment.

Roduner (2007) goes on to conclude that, to better understand and discover the bottlenecks, potentials and dynamic interactions within a value chain network, a systemic view that integrates three important levels (figure 3.1) is needed.

- Value chain actors: the chain actors who directly deal with the products: they include the producers, processors, traders and consumers.
- Value chain supporters: the services provided by various actors who never directly deal with the product, but whose services add value to the product.
- Value chain enabling environment: the regulatory framework, policies, infrastructures at local, national and international level.

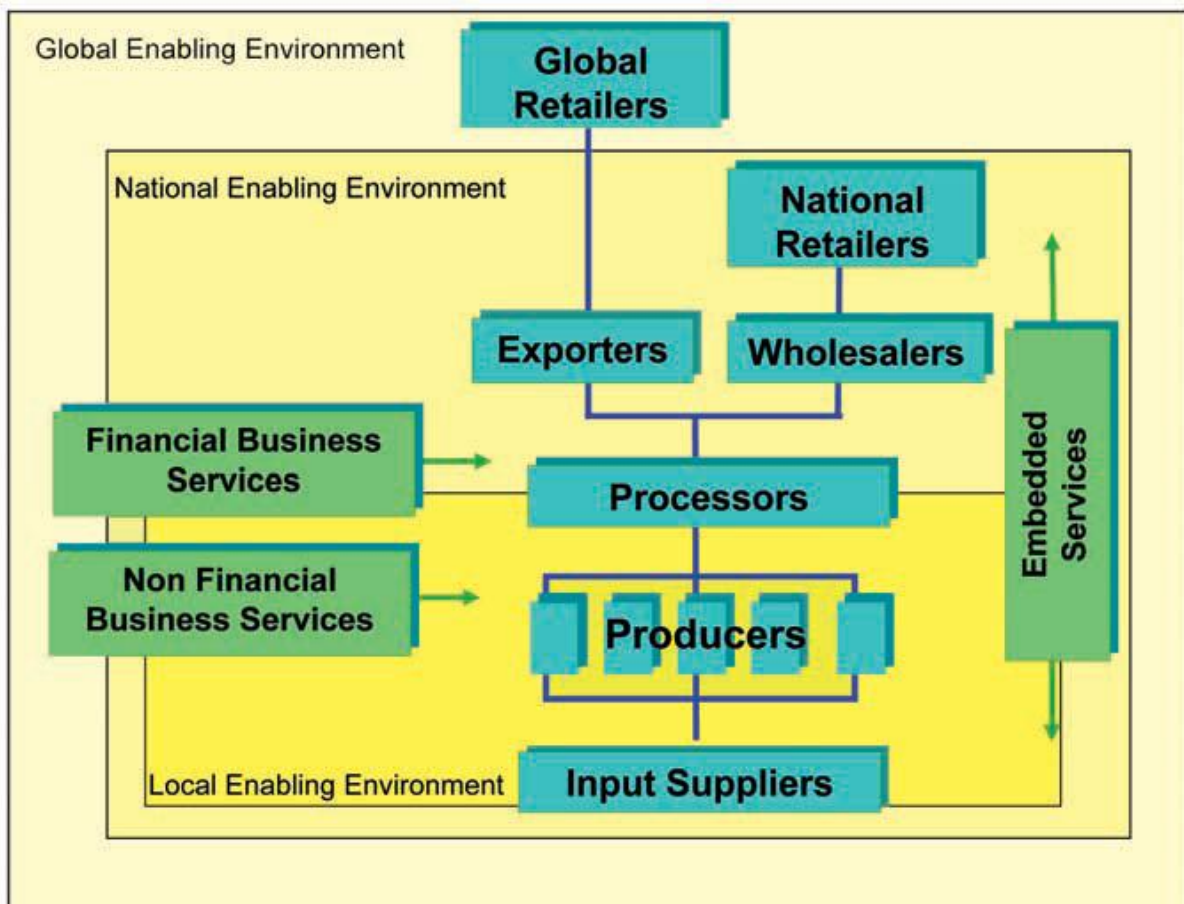


Figure 3.1 Value chain systems. Source: USAID (2006)

3.2 SMALL-SCALE FARMERS AS CHAIN ACTORS

Though the definition of small farmers has been the subject of much debate, it still remains fuzzy (Valdes, Scobie and Dillon, 1979; Wharton, 1969) cited in Dillon and Hardaker, (2003). Dillon and Hardaker (2003) argue that a precise definition is not required to recognise either the reality of small farmers' plights or their importance in world development.

From an economic point of view, the most significant characteristics of small farmers is the small resource base on which they have to operate and the consequent low level of income. They have an extremely low level of human capital in terms of education; knowledge and health with which to work; and they suffer chronic indebtedness and lack accessibility to institutional credits and inputs. Concomitantly, their access to markets is often difficult and , when available, they face unstable markets and prices; they receive inadequate extension support; they have little share in the control and operation of rural institutions; and they lack the socio-economic power with which to gain access to public and other services. In consequence, the small farmer's existence is often precarious and the effects of poor prices can be calamitous for the farmer and his or her family (Dillon and Hardaker, 2003).

From the above economic description of small-scale farmers, there are internal and external constraints they face in producing commodities and in participating in agricultural value chains and thus access lucrative markets.

Internal constraints for small farmers will include lack of skills, basic knowledge and education on agriculture, shortage of labour and lack of liquidity.

External constraints are those beyond the farmer's control and come from the broader agricultural environment. Amongst them are risky ecological factors, absence or insufficient chain supporting services, poor institutional and infrastructural support, inappropriate policies and legislation.

With such constraints, participation in agricultural commodity chains for small-scale farmers will require that they overcome or reduce these constraints.

3.2.1 Production and marketing constraints:

Small-scale farmers need resources that include land, labour force, capital and technical skills to produce commodities. They also depend on agro-ecological factors of the production area which are often beyond their control. Bienabe et al. (2004) emphasise that poor access to these assets affect the way in which small farmers perform and determine whether or not they can be successful and benefit from market opportunities especially in term of volume and quality of their products. According to World Bank (2002), many small-scale farmers are illiterate with poor technical skills which prevent them from accessing useful formal institutions that disseminate technological knowledge.

3.2.1.1 Lack of human capital

Poor technical skills to properly carry out farming by small-scale farmer are often reflected in the final product produced by these farmers. Many small farmers are illiterate (World Bank 2002), and where they do not get agricultural extension training face challenges (in production, processing) in meeting quality requirements of the target markets. Small-scale farmers producing internationally traded commodities like coffee need to have the skills with which to carry out production to meet market standards. In addition to experience gained over the years in coffee growing, regular trainings are needed and should be provided through extension programmes by the producing country Governments. In many of these coffee producing countries, these trainings were stopped following the liberalisation of the coffee sectors and complete withdrawal of any kind of support by the state.

3.2.1.2 High transaction costs

Small-scale farmers are mostly located in remote rural areas and are geographically dispersed and far away from markets (for inputs or outputs). Distance to markets, together with poor infrastructure like roads, poor access to production assets and lack of market information result in high transaction costs for small farmers. The provision of public goods like roads, telecommunication infrastructures to name a few, is the responsibility of the state. These infrastructures contribute to economic development by facilitating business transactions. In many developing countries, these are lacking especially in the rural areas where many small scale farmers live and do farming. For them to participate profitably in value chains, they must reduce transaction costs.

3.2.1.3 Lack of on-farm infrastructure

Many small farmers do not have access to on-farm infrastructure and equipment needed to produce and participate in market through value chains. The Lack of equipment impacts negatively on quality of final product and acts like market barriers to many small-scale farmers in developing countries. In the coffee sector, the falling prices of coffee due to events at the global level are beyond the control of small-scale farmers. At national levels, farmers operate in remote areas with poor infrastructures that lead to high transaction costs. These low commodity prices and high local costs of production leaves farmers with little or no income to invest in equipment needed for production. The result is low production (in yield) and poor processing (poor quality) of commodity which in turn attracts low price.

3.2.1.4 Lack of market information

Living and operating mostly in remote rural areas with no communication infrastructures prevent small-scale farmers from accessing useful market information. Many know nothing about market demand, product price and about quality requirements. This lack of information reduces their ability to trade their products efficiently and to derive the full benefits from their production.

3.2.1.5 Low quantity and poor quality

With low production factors at their disposal (Land, inputs, technical skills) majority of small-scale farmers produce low quantities that are also of poor market quality. With increasing concentration within the global agribusiness value chains caused by pressure from demanding consumers, small-scale farmer find it increasingly difficult to participate in these chains.

3.2.1.6 Inconsistency in production

Again, not having access to adequate production factors prevents small farmers from being consistent with supply to main buyers if they find who most often need products all year round. This situation affects small farmers in that they cannot go into long term contracts with important buyers.

3.2.1.7 Lack of organised local markets

Local markets that are important to small farmers include input supplies markets, financial markets and organised local markets for their product. With such markets in place and close to small farmers, needed inputs will be at the reach of farmers in carrying out production.

3.3 VALUE CHAIN ENABLING ENVIRONMENT

The local, national and international business environments play deterministic roles for any economic activity (Campbell, 2007).

A favourable and enabling value chain environment provides economic and political stability, ensures low costs for transactions and makes business operations efficient. In the agri-business industry market reforms, trade regulations and government policies have changed and are changing the way actors in the industry operate and perform. Trade liberalisation and structural adjustment programmes in developing countries for example have modified the conditions under which the agricultural sector operates. Small-scale coffee farmers for example, have found themselves in a completely new environment in which competition from other countries for a market is high. Product standards required by major buyers are set without considering local conditions of small-scale farmers where production takes place. Following the structural adjustment programme in many commodity producing countries, the state withdrew support it previously gave to farmers exposing them to tough production constraints.

Government policies on public infrastructure like roads, telecommunication and electricity for example affect the operation of agri-business at the production, processing and marketing levels in agricultural commodity producing countries. Small-scale commodity producers like in coffee are mostly located in rural areas. Poor public infrastructure affects production in that cost of operation is always high for farmers. Investment in production activities is limited and thus production (yield) level is low.

For small farmers therefore, a viable enabling environment at the local, national and international level is very important for production to be profitable.

3.4 VALUE CHAIN SUPPORTING SERVICES

Though they are not directly involved in value chains, their services are vital for the functioning of chain actors. Financial services providers like credit institutions and Banks support chain actors with loans or credits that they need to finance their activities where and when they need and meet the required conditions.

Business consulting services, legal advice and telecommunication services are also needed in any value chain environment for the actors to make use of when they need. Sector specific service providers make available services

specific to particular value chains. In agri-business for example and in an agricultural commodity value chain in particular, specific inputs needed in the chain are provided by input suppliers specialising on that particular chain. Small-scale farmers producing chain commodity products like coffee need the services of these supporting institutions to produce and meet market demands.

3.5 SMALL-SCALE FARMERS AND VALUE CHAIN LINKAGES:

Agricultural value chain is a vertical alliance of actors collaborating to secure a more rewarding position in a market. In agribusiness, this means that production, processing, marketing and finally consumers are connected. Producers, processors and marketers become interdependent and work together to discuss chain challenges, sharing of market information, all aimed at satisfying the end consumer.

Small-scale farmers, as chain actors are influenced by these vertical linkages. For these vertical linkages to be effective there needs to be a leading actor within the chain, guiding and directing the activities of the chain with the goal of satisfactorily producing for the market. Actors at the processing or marketing levels can carry out this role. With changes happening in agribusiness environment like ever growing demands of consumers, concentration at buyers and processing level by major agribusiness firms, local commodity chains need organisation, and this can be performed by someone along the chain.

A value chain leader will encourage other chain actors especially small-scale farmers to organise themselves at their level in the chain. Organising into farmer groups or cooperatives provide them with power to bargain, bringing benefits like low transaction costs, better sourcing prices, access to trainings and other services they need.

According to Bijman and Giel (2008), producer organisations (POs) can take many forms, ranging from formal institutions like cooperatives, to informal producer groups and village associations. With the changes in the market for agricultural products like liberalisation, competition has become tough providing more reason for the formation of producer organisations especially by small-scale farmers. The World Development Report, Agriculture for Development (WDR 2008) cited in Bijman and Giel, makes a clear case for the role of POs in the livelihoods of small-scale farmers. The report argues that POs are a major part of institutional reconstruction, one that uses collective actions to strengthen the position of small-scale farmers in the market for inputs and outputs. This, the report continue, will give farmers a voice in policy process, strengthen their bargaining power and reduce transaction costs.

While agricultural production constraints seem a big obstacle in developing countries for small farmers, the value chain approach can help boost production by bringing out these constraints where they are for appropriate strategies to be developed. It is believed that identifying constraints and developing the proper strategies to solve them will help small-scale farmers participate in value chains and be connected to markets. The next chapter covers the findings of the research and presents the problems of yield and quality at the level of small-scale coffee farmers of the NWR.

Chapter Four

RESULTS

In this chapter the findings of the field work and desk studies are presented thematically. First I present the constraints to yield (kg/hectare) faced by farmers from interviews and focus group discussions which thematically are put under: inputs, ecological factors, technical skills problem, the disincentives of low coffee prices and reactions and the problem of advanced ages of farmers.

Second I give the findings on reasons for the decline in quality of coffee. This includes farmers' general knowledge on quality: awareness about coffee quality; price and quality relationship.

4.1 THE MAJOR CONSTRAINTS TO YIELD

4.1.1 Ecological factors

Three ecological factors that can impact on the growing of coffee include rainfall of the area, the level of soil fertility and the common diseases and pests of coffee of the region. Of the 35 respondents, rainfall and soil fertility were not considered a problem for the growing of coffee. As shown in tables 4.1 and 4.2, rainfall in the region is considered sufficient and the soil fertility good by most farmers interviewed as individuals and in the focus group discussion. However, pests and diseases were mentioned as problems by all farmers interviewed.

4.1.1.1 *Rainfall*

As an ecological production factor beyond the control or influence of farmer, rainfall amount in the research area is considered sufficient and not a problem for coffee farming for most of the interviewed farmers. As can be seen in table 4.1, 33 of the 35 respondents consider it sufficient.

Table 4.1: Farmers' perception of rainfall

Very sufficient	Sufficient	Not sufficient	Very insufficient	total
1	33	1	0	35

4.1.1.2 Soil fertility level

Farmers are generally satisfied with the overall fertility level of the soil of the region with respect to coffee farming. Of the 24 respondents who said it was good, 15 of them went further to explained soil management activities they will use or are using to maintain the level of fertility.

From table 4.2 on farmers' consideration of soil fertility, only 4 of them thought of the soil as poor.

Table 4.2: Soil Fertility

Excellent	Good	Reasonable	Poor	No response	total
2	24	4	4	1	35

4.1.1.3 Pests and Disease

Pests and diseases are a problem with varying impacts for farmers in this region. With poor or no record keeping, it was very difficult for farmers to quantify the impact of pests and diseases on yields. In Table 4.3 farmers gave their perception of the problem. From this table it is seen that all interviewed farmers mentioned pests and diseases as a problem in their coffee farm.

Table 4.3: Pests and disease impact as perceived by farmers

very serious problem	serious problem	not so serious problem	Not a problem	No response
9	10	15	0	1

4.1.2 Inputs

4.1.2.1 Costs, availability and use in the research area

Some of the basic inputs needed for coffee farming are listed in table 4.4. As shown in the table, Input availability (the ease of finding when needed) in the region is not so much of a problem except for credit facilities which was mentioned as the most difficult to find (13 respondents said it was not available). On the other hand, prices farmers pay or are asked to pay for the available inputs are perceived by them to be high compared to what they earn from their coffee.

In the focus group discussions (FGD), Panel members also said inputs needed like fertilizers, biocides and tools are very scarce and when available are very expensive for the income they earn from coffee. Low coffee prices means little money to hire labour at peak periods (harvesting), panel members said and for labour intensive activities (like manure preparation). This affects especially those with big farms who cannot meet up with farm management requirements without external labour.

Table 4.4: responses of participants (35) on availability and prices of inputs.

Inputs	availability				price			
	Available	Not so available	Not available	No response	Expensive	Not so expensive	Not expensive	No response
Planting material	14	14	5	2	17	3	2	13
Fertilizer	17	11	2	5	30	1	0	4
Biocides	13	15	2	5	27	1	0	7
Labour	30	4	0	1	19	4	2	10
Credit	6	13	13	3	16	0	1	18

4.1.2.2 Soil management:

There are two kinds of fertilizers that farmers can use on their farms, chemical (inorganic) and natural (organic). They can use only chemical or can use only natural fertilizer; they can also use a mixture of both in varying or balanced proportions depending on farm need and means of getting both. By chemical

only, I mean farmers use only chemical fertilizer on their farms; and by natural only, farmers make use of only organic fertilizers. Farmers can also use more natural than chemical or the other way and can decide to balance the two.

Table 4.5: Method of fertilizing the farm and reasons

Fertilizer type	Total respondents	Reason
	35	
Only chemical fertilizer is used on farm	0	Not very available and very expensive.
Only natural (organic) fertilizer is used on farm	27	Cheap to make, available, chemical expensive and spoils soil, chemical creates dependence
More chemical fertilizer than natural is used	1	Labour is expensive and cannot make manure by myself
More natural than chemical	4	Available and cheap to make
50% natural and 50% chemical.	3	Because different farm sections need different amounts and chemical works fast.

The use and the choice of fertilizers depend on farm need, the availability of these fertilizers in the farming area and prices farmers have to pay. Table 4.5 shows the various fertilizer types and their usage by farmers and the reasons they give. All the farmers interviewed said they carried out different fertilization practices on their farm. From the table, more than 75% (27) them use only natural fertilizer on their farm and not even one of them use only chemical. This, they say is because chemical fertilizers are not very available in the region and they think they are expensive considering the incomes they get from the coffee.

4.1.2.3 Pests and disease control:

Pests and disease control require skills and inputs. Pest and disease are a problem affecting coffee quantity and quality, farmers mentioned. In this region, farmers use different control methods often dependent on their farm management skills and access to needed input. They also gave their perception of the effectiveness of their control methods. From the findings, natural

control (no chemical) methods are the most widely used control methods by farmers of the region. There is also a combination of other methods summarised in table 4.6. These control methods include

- Only chemical: with this method, farmers understood it meant using only pesticides and fungicides to fight pests and diseases. Of the interviewed farmers none of them controlled pest and disease with this method.
- Only natural: this method includes the use of natural compounds like wood ash, manual control like cutting of infected trees or parts of the coffee plants, cultural practices like pruning, farm hygiene and no chemicals at all. Of the farmers who responded using this method (27 of the 35), only one of them perceived the method as not effective.
- Both chemical and natural: with this method and for different reasons some farmers said they made use of both chemical and natural methods on their farm though with varying proportions. One farmer mentioned “with the intensity of pests in my farm, natural method alone cannot help or else I will get nothing from the farm, so I use some chemicals”.
- No method: those with new farms and coffee not yet producing said they used no control method since they did not have presence of pest and disease.

Table 4.6: pest and disease control: methods and perceived effectiveness

Control method	Respondents:35	Very effective	Effective	Not so effective	Not effective	No response
Chemical only	0					
Natural only	27	2	11	13	1	
Chemical and natural	5	1	4			
No method	3					3

4.1.3 Lack of technical skills

Mulching, weeding, shade control, fertilizing, pruning, pest and disease control, rejuvenation, replanting are the farm management activities that any coffee farmer carries out on the farm for the farm to be productive. Farmers all agreed that these activities are needed for a farm to be productive but mentioned the lack of skills for soil management, pest and disease control, replanting and rejuvenation of old coffee trees.

While in the field and as I observed, and was confirmed by the divisional staff at the delegation for agriculture and rural development, there are no agricultural extension services in the region supporting farmers with training on important farm management activities. Farmers say they lack the knowledge needed to carry out many farm activities.

4.1.4 Price and market instability as disincentives for investment

Low price and instability of the coffee market are at the root of all problems the sector is facing, respondents mentioned. Participants in the FGD explained how discouraged farmers have become; and how they have no reason to work for the whole year and at the end have no or very little money to show for it. “This is even more painful when we think of our family responsibilities”, they say.

This current situation is acting as disincentive for farmers to invest in their coffee farm and has caused many to abandon or diversified to the production of other crops.

Coffee trees in the research area are old or have been abandoned for very long periods without maintenance. Replanting with new seedlings and rejuvenation of old trees are the actions needed to make farms productive. These practices according to the farmers are not very common because seedlings of better varieties (for example Java) are not easy to find and they think they are expensive (between 50 and 75 FCFA or 7 and 11 euro cents per seedling) when found.

According to panel members of the FGD, yields have fallen to the levels they are now for the following reasons:

- Rejuvenation is not practiced as it should because of the time it will take for the coffee tree to start bearing again, they say, depriving them of the small incomes they earn.
- Replanting of new coffee seedlings is also not very common with farmers of the region because of seedling price and availability and also the fear of losing the little incomes from coffee during the years before coffee start bearing again.
- With the coffee crisis marked by very low and unstable price that have prevailed for over two decades now, many farmers diversified to food crop production as a means to earn money. Others stopped farming completely and started other income generating activities like local transportation with motorbikes.

4.1.5 Aging farmers and uninterested youths

Many farmers are old and are tired to actually carry out the needed management practices. This, they say impacts on production negatively. The youths are also not showing interest in coffee farming because they see no economic future in it and are migrating from the villages to cities in search of other activity that will give them money. The old parents who own these farms are also not handing over the farms to their children.

4.2 CONSTRAINTS TO QUALITY

4.2.1 Low coffee price and market instability

As a result of low prices and unstable markets for coffee, farmers have become discouraged and are paying little interest in producing coffee of standard quality. The market (national) has contributed enormously to this problem. Following liberalisation, the coffee market has become chaotic with many unqualified and adventurous traders scrambling for the little quantity in the region. There is no quality differentiation by traders and no reward whatsoever

for quality. This has made farmers to harvest and process in any way without considering quality outcomes. It has been going for long and despite farmers' awareness of quality.

Despite this market conditions, farmers in the area believe and accept that different coffee quality should earn different price; they were unanimous on this.

4.2.2 Poor Coffee processing

Coffee processing is an important stage in the production and supply of green coffee and requires much attention. It starts with harvesting, then pulping (peeling the outer coat and exposing the coffee cherries) with a pulping machine followed by a 24 hour fermentation to remove the mucous layer on the cherries. After this, the coffee is properly washed and dried.

Coffee, as an internationally traded commodity, has established standard physical quality features. The following are considered standard physical qualities of green coffee (Olamcam report, 2008). Coffee that is well harvested and properly processed has the following features:

- It is free of unpleasant (bad) smells
- It has no or very few broken beans
- It is free of foreign matter (stick, stones, and leaves)
- It looks clean and uniform (the same) of colour
- It is dry and moisture between 11 and 12%
- It is only washed coffee
- It is of the current crop; that is: not more than one year.

4.2.2.1 *Harvesting problems:*

Harvesting is a labour intensive activity in coffee production. Achieving quality coffee depends much on how harvesting is done. The best harvesting method is by picking the ripe cherries which requires care and takes time. Farmers of the region know this but are not doing it. Many cannot afford to pay for labour if and when needed because they lack access to finances. Financial credits are not common and when available are considered by farmers to be expensive limiting farmers' access to money needed to pay for harvesting labour. Many resort to using children and old women with very little motivation. Strip harvesting (harvesting of ripe and unripe) is method these women and children

use. In box 4.2, I highlight a field observation of the reason of poor harvesting and how it affects the end quality which unfortunately is encouraged by market.

In table 4.7, a summary of important constraints to harvesting and the main reasons farmer put forward are presented. From this findings, lack of access to finance for hiring of labour is not the only problem affecting harvesting. Farmers do not plan the harvesting before cherries are ripe. Coffee farms have grown into bushes because of lack of care and local beliefs or events disallow any kind of farm work which may coincide with harvesting.

Table 4.7: Harvesting constraints and reason

Harvesting Constraints	reasons
Poor planning	Farmers agree that they do not plan their farm activities well. Coffee must be harvested well and processed within some specific time which every farmer knows; harvesting is never planned they say, and farmers use children and women who do not have the skills and are poorly paid when time is against them.
Tall trees	As a reaction to poor coffee prices, Farms were abandoned for very many years and the trees have grown very tall and unattended making harvesting difficult.
Labour	Harvesting the ripe cherries by picking method requires much labour which is available but farmers cannot pay for.
Traditional beliefs	Traditional beliefs prohibit working on particular days and occurrence of certain events in the village. The death of a village member, for example, requires the mourning and participation of all villagers even when coffee is harvested and requires pulping on the same for example.
Gender bias; only men	Men impose that coffee harvesting be done by men only despite the work involved. This gender bias is aimed at excluding women from the money that will come in after the sales. Men are left with little work force and so do strip harvesting which affects quality.

Box 4.1**Harvesting and quality issue**

Although all the interviewed farmers said they knew the correct methods of harvesting the ripe cherries, many did not do so in practice. The reasons they put forward are: though labour is not lacking, they lack money to hire labour at peak harvest periods to do harvesting in the proper way. The option they have is to use children and village women who do strip harvesting for little pay.

The result of such method is many foreign objects like leaves, sticks, and unripe cherries in the coffee that requires too much time to pick.

In one of my field visits in Buh, I personally met a full bucket of harvested coffee with more green than ripe cherries and many foreign objects. In the farmer's yard, he was busy and sweating under the blazing sun picking dirt from the lot he had just washed. Asked what he thought about the time doing the right picking or spend time picking dirt from washed coffee, he replied he had no choice but to use children who were inexperienced for small motivation. Asked about the unripe cherries that made up most the harvested coffee, his reply was clear and straight: I will dry it and sell as dry coffee and buyers will buy though at a low price.

4.2.2.2 Processing problems

Harvested ripe coffee cherries must be processed within 24 hours to obtain good quality green coffee. Central and of great importance to this is the availability and affordability of a coffee pulping machine. In the research area, processing on time is a big problem due to shortage of pulping machines. Although of paramount importance to every coffee farmer, only 1 of the 35 interviewed farmers in the area owns a pulping machine. Some consider owning a pulping machine uneconomical because of small coffee quantity. Others think they are too expensive for their farm incomes, while some complained they did not have access to pulping machine markets. With this situation, farmers are dependent on a few machine owners in the area who go about pulping for a fee that is paid in cash or with coffee. Also affecting coffee quality is the technical skills of the person doing the pulping and the quality and maintenance of the pulping machine. In addition to equipment problem and technical skills are market issues: price and information on quality. In table

4.8, a summary of the constraints affecting coffee quality as mentioned by farmers is presented.

Table 4.8 Factors affecting quality and reasons

Factors affecting quality	Reasons
late pulping	Pulping machines are not sufficient in number for farmers to pulp on day of harvest as required.
Lack of money to pay for and own a pulping machine	Farmers say their income from coffee is very small also believe owning pulping machine is expensive.
access and information to pulping machine market	Many farmers do not know or have access to where pulping machines are sold.
Lack of maintenance techniques	Machines are not properly maintained by owners due to lack of technical knowledge resulting in broken coffee beans when pulping.
Weather variation of regions	Weather pattern is not regular and is impacting on coffee activities like harvesting and drying.
information of coffee as food	Some farmers confessed they never knew coffee was an important food and so never cared much about quality.
differentiation of quality	Those coming to buy coffee do not differentiate or reward quality, making farmers to care less about this aspect.
quality control	At the level of farmers, there is absolutely no quality checks or control.

Box 4.2

The pulping machine problem

Farmers cited lack of pulping machines as the most important constraint they have in processing their coffee. Pulping machines, they say, are in very limited number compared to the number of farmers needing to pulp immediately after harvest. Since coffee cherries ripen at the same period for most farmers, some are left with no other choice but to wait when a pulping machine is available. Some mention 2 to 4 days of waiting. Another problem affecting the processing they mention is pulping skills and machine quality.

The unpleasant consequence of machine scarcity, low pulping skills and poor quality of machine has been the fall in quality of the final processed coffee. These include broken coffee beans, non-uniform colour of parchment, unpleasant smell and presence of stinkers.

Although there are currently no quality differentiation for coffee and no incentives or rewards for quality in the area by traders, farmers still have to produce and supply coffee that meet certain standard. Paradoxically, the fact that quality is not rewarded or differentiated, do not stop buyers from checking some of the standard quality features. Of these quality features checked, uniform colour of coffee parchment, cleanness and absence of broken beans are according to farmers most difficult quality aspects to satisfy. Two reasons they gave are:

- Lack of quality pulping machines and shortage of pulping machines
- Poor harvesting in which ripe and unripe cherries, leaves and other objects are harvested together.

Table 4.9: most important quality features and reasons farmers cannot satisfy

Most difficult quality feature to satisfy	Reasons why they are difficult
Uniform Colour	Late pulping: with the shortage of pulping machines farmers pulp their coffee late which results in non uniform colour of the dried beans.
Absence of foreign objects (cleanness)	Poor harvesting: farmers who do not pick the ripe cherries and instead use strip harvesting method also harvest leaves and stick and even unripe cherries which at the end become dirt.
Broken beans	Bad pulping machines: some farmers complained of bad pulping machines and poor technical skills of operators that destroy the coffee beans during pulping.
Unpleasant smell	Late pulping: with shortage of machines, many farmer wait for many days before they can pulp their coffee.

In the focus group discussion, Panel members were unanimous in their conclusion that bad harvesting and bad processing were responsible for the decline of quality at their level. The lack of reward from buyers for better quality through differentiation was also mentioned as reason why little attention was given to quality.

Table 4.10: Washed coffee processes

activity	Method	Knowledge	problems	remarks
Harvesting	Selective picking	All know the correct method	Labour is available But expensive	Although they know the correct harvesting methods and said they did so, many did not practice it as I observed. At peak harvest period, children and women are used for little motivation resulting in poor harvesting and bad quality.
Pulping	Hiring of machine	All know the correct method	Serious shortage of machines	Of the 35 farmers interviewed, only one farmer mentioned he owned a pulping machine.
Fermentation	In basket	All Know the correct method	No problem	
Drying	On wall matt suspended on stands	All know the correct method	No problem	
storage	In 100kg bags mostly and stored on elevated surface in room	All Know the correct method	No problem	

Chapter Five

CONCLUSION

This chapter discusses the answers based on my finding to the main question: what are the underlying reasons for low yield and poor quality in the NWR. To do this I will use the value chain concept and focus on the three levels (micro, meso and macro) that need to function properly for the success of any value chain. These are the Value chain actors who include small-scale coffee farmers of the region and the constraints they face that have impacted on yields and quality. I will also discuss the state and functioning of support services providers of the region; and finally the functioning of the enabling environment and major changes within that are influencing the activities of the coffee sector at the level of small farmers in the NWR.

5.1 REASONS FOR LOW YIELDS AND POOR QUALITY OF ARABICA COFFEE IN NWR

5.1.1 Farmers lack technical support and skills:

In the NWR, there is complete absence of any meaningful kind of technical assistance on farming practice and updates on coffee farming to farmers. Extension service programmes like trainings on farm management that were common prior to liberalisation stopped completely, farmers all said. Many still remember the crop protection programme that agricultural extension workers performed that covered all farms against diseases and pest and that were for free in the past. With no support and updates from agricultural technical staff, farmers now find important activities like soil management, pests and disease control challenging and impacting on their yields and quality. A basic coffee farming practice like pruning is not carried as it should.

The role of technical support and development of agricultural skills for farmers cannot be ignored. These supports can come from the state (as prior to liberalisation) and/or from the private sector like development agencies interested in agricultural development. In Cameroon and particularly in the

commodity producing areas like the NWR, these needed support are almost absent except for a few NGO (Non Governmental Organisations) trying with small-scale projects that have limited scopes and impacts very little to the agricultural sector. An important commodity like coffee which generate revenue for the state and provides income for many families has being completely left in the hands of struggling farmers. Without support and skill building from outside (Government or private) to farmers, coffee production has fallen and continues to fall as farmers are have to deal with low prices (making inputs and services expensive) and can barely afford to live on their farming.

5.1.2 Farmers are not organised

In this region farmers have a history of belonging to farmers' groups or cooperative and are willing to if conditions permit. This is highlighted in a baseline study by Olamcam (2008) which state that despite the current situation farmers acknowledge the importance of working in groups. In the FGD I held, farmers recognised the social and economic advantages of belonging to groups. Unfortunately today, with the coffee situation farmers' groups are not common and many farmers do not belong to any group. They operate as individuals and with their little resources find coffee farming expensive in terms of investment. Even though some are affiliated to primary cooperatives, their commitment is low.

This failure to organise themselves or supported to form farmers' groups or organisations that will generate enough demand might be the reason for shortages or absence of organised input providers. The general perception is that everything is expensive since they buy as individuals. These organisations can take many forms ranging from formal institutions, such as cooperatives, to informal producer groups and village association (Bijman J. and Ton G, 2008). These organisations can provide farm inputs and credit to their members, process and/or market their products, offer community services and carry out advocacy activities.

This horizontal and important integration is very necessary for farmers. As argued by Ardenne (2009), "farmers face a wide range of risks including rising input prices, decreasing output prices, diseases and sudden changes in demand, to name but a few. Many of these issues could be dealt with very

effectively if farmers could get organised and if external stakeholders could provide a helping hand”.

Heinz (2009) emphasises that Farmers must be given the opportunity to strengthen their position in global food value chains. He stresses the role Producers’ (farmers’) Organisation play in value chain sustainability by building the capacity of farmer organisations and thus strengthening the position of farmers in value or supply chains. As it is, the lack or shortage of organised input markets in the research area and the failure of farmers organising themselves to attract such markets has resulted in the perception that inputs are expensive (for individual farmers) and is impacting on yields and quality since farmers cannot invest in farm.

For small-scale coffee farmers, being organised gives them leverage in bargaining for better prices for needed inputs which brings production costs down and improve income. Investing in farm is possible. The selling of their product in bulk is easy and for better price. Without such organisation at farmers’ level as it is in Cameroon, the problem of low yields and poor quality will persist.

5.1.3 Low availability of, and accessibility to, inputs

The use of inputs in agriculture depends on the availability and the accessibility when and where needed. Availability of input means finding it when needed and this also depend on how the market for inputs is organised and how it operates. Accessing these inputs requires finances which can come from farm earnings or borrowed from financial markets. In the research area, the input market, as a chain supporting service is not functioning to the satisfaction of farmers and to coffee production. Farmers in the area depend on few private individuals (rich farmers, traders) who determine supply quantity (based on their capital and local demand) and fix prices as they wish. For the average farmer, these Production inputs (fertilizer, biocide, credits, planting materials and tools) are perceived as very expensive and thus are not accessible. This explains the low use of external inputs for coffee farming in the NWR.

The Olamcam report (2008) confirms this problem (accessibility) with the statement “Pruning tools like scissors and handsaws are of limited availability and cannot be bought in most villages. For most farmers the nearest place to buy these is 20 to 30km away in the regional centre Kumbo”.

Unlike the era of state support when farmers were provided with free or subsidised inputs, the use of, and reliance on, natural fertilizers, for example, by most farmers today as shown in table 4.5 in chapter four, is linked to the fact that chemical fertilizers are not readily available in the area (shortage of input providers) and are also perceived as expensive by farmers in relation to farm incomes from the sales of their coffee. This is also true for chemical biocides (pesticides, herbicides and fungicides). The use of mostly natural methods to fight pest and diseases and fertilisation of the soil is because they lack or cannot afford chemical fertilizers and biocides. Conventional coffee farming uses chemical fertilizer to boost yields per hectare. Chemical fertilizer prices in Cameroon are one of the highest world-wide (Fao statistic) and nationwide usage per hectare is barely 7kg against 94 kg world average. The reason for the high and prohibitive price for an important input like chemical fertilizer can be linked to poor functioning of the input market of fertilizer that is currently dominated by just two suppliers: Yara and Ader. They fix the price (high) and the reasons are not understood (Olamcam, 2008) but the impact is affecting coffee production as farmers cannot afford to buy these fertilizers.

Credit provisions are very scarce, and when available, the interest rates charged and other conditions like collaterals asked are considered by farmers as factors limiting them to needed finances. The lack of collaterals (farmers do not have land certificates showing ownership) by farmers and the fear of lenders not to recover their money may be responsible for high rates charged by the few credit providers. In this situation, farmers generally lack finances to buy inputs and invest in their farms.

Yields (kg/hectare) depend on how well a coffee farm is managed. Carrying out their coffee farming activities require the use of modern farm implements, use of extra labour at peak periods like during harvesting. As the farmers mentioned, many of these activities are poorly carried out because of poor earnings from coffee and complete absence of any kind of support or access to finance to pay for them. Labour for example, is considered available but costly even at peak critical periods like harvesting.

5.1.4 Low and unstable coffee price as disincentives for farmers

Liberalisation of the coffee sector was aimed at professionalising the sector at the levels of production and marketing. It was hoped that a free market setup

will bring in efficiency and benefits especially for the farmers. But the reality is that, the failure of properly handling the transition from state control sector to free market sector is at the core of the problem afflicting farmers today. In the Government inter-ministerial document (2009) on coffee sector development strategy, “stakeholders of the sector agree that the complete withdrawal of the state during the liberalisation of the sector in 1995 was the origin of several of the problems that exist today”. They also argue that the deterioration of prices caused the disaffection of producers and the fall in production and the deterioration of quality.

In my informal interview with a former coffee farmer who now owns a motorbike and does transportation, he lamented: ‘Working all year round with little motivation and hope, and at the end getting little money is nothing to be happy about. The money from coffee is so little compared to the family problems I have. With this how can I buy what I need like a good machete, hire a good pulping machine? I am better with my motorbike business’ (My interpretation from Pidgin English, a locally adapted form of English language used locally).

Low and unstable prices have seriously impacted on the motivation of farmers in the NWR to take coffee farming serious. The low prices have acted as disincentives and have discouraged many farmers. The effects have been

- Complete abandoning of farms by some farmers over long periods resulting naturally to low yields, disease and pest infestations.
- Diversification to the production of other crops that can fetch cash
- Reduction of land area previously planted with coffee for other uses.
- Some farmers have taken up other activities completely caring less on coffee.

In her paper on technical and institutional innovations for sustainable rural development on Cameroon, Arne (2003) contends “With the fall in prices, farmers have different strategies to cope with the situation. Some look for off-farm activities or tests new farm patterns. Young farmers particularly diversify and go into vegetable production. Discouraged farmers transform coffee areas”.

With such withdrawal or abandoning and diversification, yields are bound to reduce and quality affected. Old and unattended coffee trees produce little. The low coffee prices and income insecurity of farmers that have prevailed for so long, and the disaffection felt by farmers might be the reasons for the low rates of farm rejuvenation or new tree replanting that is affecting yields and quality.

5.1.5 No quality control at production and quality reward at trading levels

Final quality of coffee is determined by the entire production process. Unlike the period of state control when quality was rewarded, today there are no quality controls at the level of farmers in the producing villages and no reward for quality. At the national level, the failure of the state agencies (NCCB and ICCC) to properly manage the coffee sector in this era of free market has resulted in chaos in the market place. With no mandate for the NCCB and ICCC to control production quality at farm and trading levels, farmers have no motivations to consider quality in the production process. This policy decision not to include quality control has impacted on Cameroon coffee quality. As farmers said, there are no discussions on quality at their level now in contrast to the time when the state was in charge of production with programmes like crop protection and coffee grading. Compounding this is the failure of buyers to differentiate and reward quality. With these conditions farmers have no incentives to consider quality since the market is not rewarding it and the state agencies lack the mandate to control or check it.

5.1.6 Ageing farmers and uninterested youths

Coffee farming is labour intensive and most farmers in this area are in advanced age. Although I did not ask their ages, but by my observation and the number of years many said they have been growing coffee, I can say most are above 50 years of age. The low yield and poor quality can be considered linked to the efforts and quality of work carried out by these ageing farmers. Advanced age was mentioned as a reason many farmers considered manure preparation, pruning as most challenging of all farm activities. The old farmers who own the coffee farms complain that their children were not interested in coffee farming.

On the part of the youths or young men and women, in addition to low income from coffee farming is the reluctance of aging parents to hand over farms. This has caused many to migrate to other areas in search of other jobs, reducing the work force in coffee.

5.1.7 Absence of a lead actor in the coffee chain

The Coffee value chain in the NWR for a long time can be considered a buyer driven one since buyers come to the villages to buy and are those setting the price. In the region, and during the buying season, these buyers have financial

power and can use it to influence the coffee chain, creating some dynamism within like influencing farmers to work in groups, demanding volume and quality. Unfortunately, as it is now, there are some few major buyers (Olam is highest in Robusta and third in Arabica as of December 2009, NCCB) or groups of buyers who can influence production at the farmers' level in the region, but are not taking up that role. The market actors are not organised, lack professionalism and are not linked to farmers as they should and operate under laws that are not enforced by the state. This has resulted to disorganisation at the trading level.

In my findings as presented in the results chapter, farmers agree that different quality should earn different price but no one at the trading level is doing so. Those at the level of marketing also have vital market information which they can share with farmers especially market demand, price and quality on coffee. With such information flow and cooperation between farmers and some lead or major buyers, quality issues will be handled and farmers will also share the challenges they face in production.

The absence in the region of such buyers who could influence production by demanding quantity and quality and readily paying farmers adds to the problems farmers face especially discouragement as a result of market instability. The regional cooperatives, which occupied strategic positions in the coffee chain and performed such roles, have lost farmers' trust, and the few existing ones like the NWCA are highly mismanaged.

5.2 NATIONAL ENABLING ENVIRONMENT

5.2.1 Services

The institutional environment for the coffee subsector in Cameroon and the NWR specifically, is not functioning properly since the sector was liberalised. Adding to the problems coffee farmers face in the region is the weak presence of other services that are needed for coffee production. Suppliers of farm inputs related to coffee growing like chemicals, tools, machines for pulping, bagging accessories are not present as a defined market. Financial markets for provision of agricultural credits and other issues related to finances are just not there. The weak presence of these services can be attributed to the poor state of the coffee sector in which the providers of these services do not find enough demand for their products. One reason for this is that farmers are not organised in groups and so cannot generate enough demand to attract these services and products. Farmers attempting to buy on individual basis find these inputs and services expensive and so do not invest on their farms; this creates little demand and discourages the development of support services market.

With this, farmers find it hard to get at affordable prices the inputs they need for growing of coffee.

Support to farmers from the government in the form of extension stopped after the coffee sector was liberalised. Technical skills and upgrading of coffee farming knowledge are not provided to farmers. Private initiatives to help in technical areas are made difficult in this region since farmers are not organised in groups.

5.2.2 Policy

At the national level, government policies on agriculture were modified following the structural adjustment programmes. As mentioned before, the state under this programme withdrew support to the sector again being influenced or conditioned by international financial institutions like the International Monetary Fund, the World Bank. The effect at the local level has been the complete absence of production support in any kind: technical or financial.

Official documents from the Government (inter-ministerial document on coffee sector development strategy, 2009), acknowledges that liberalisation is at the centre and responsible for the state of the coffee sector in Cameroon as a whole. In the same document, stakeholders (farmers, traders, processors, exporters, state agencies) of the sector agree that the withdrawal of the state during the liberalisation of the sector in 1995 was the origin of several of the problems that exist today. They argue that the low and unstable prices caused the disaffection of producers and have resulted in the fall in production and the deterioration of quality. Their argument as stakeholders is based on comparing the two systems: state controlled system before, and free market system now.

Prior to liberalization, the coffee sector was relatively stable Cameroon in terms of prices and farmers' incomes. The coffee chain then could be characterised as organised and structured with all the actors playing their respective roles.

Production by farmers was supported with the provision of subsidised inputs; technical support to farmers was guaranteed by the state with extension services. The national market was organised and controlled in a monopolistic but functioning manner by the state agency: ONCPB. Through the network of primary and regional cooperatives, and authorised dealers, the ONCPB collected all coffee, controlled quality and marketed all national production.

The ONCPB also played a very important role: that of price stabilisation in which farmers had a pre-established price irrespective of the prevailing world market price.

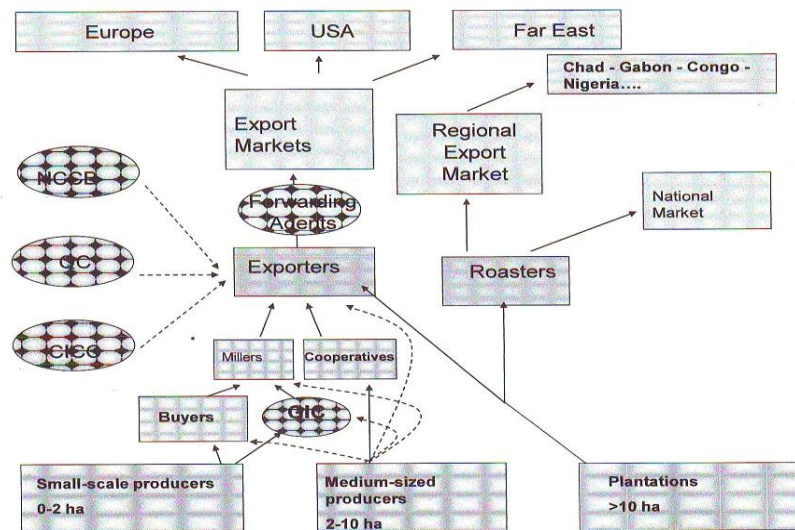
The liberalized system has a completely different setting for the coffee chain, the government acknowledges; it is characterised by poor organisation, no defined structure and lack of dynamism within the chain from production through marketing to export.

In figure 5.1 the coffee chain as it is today is schematically presented (NCCB, 2010). Looking at its structure, we find that the NCCB, ICCC, commissioned after the complete liberalisation in 1995 to take charge of the sector play no role at the levels of production and marketing.

The result as can be observed at farmers' level is very low yields and poor quality; the local market in producing areas is flooded during coffee season with many kinds of buyers: unprofessional, speculators.

Also of concern is the absence of effective and functioning frameworks for cooperative setup and operation in the region. This has led to very weak and poorly managed cooperatives that do not encourage or inspire farmers to join. In their document on the organisation of coffee and cocoa in Cameroon, (inter-reseaux, 2008), the authors zoom on cooperatives in Cameroon and highlight some problems with cooperatives (POs). They explain that "POs (producers organisations) are fragile as concerns accounting and funding, suffering very often from very low levels of management of the leaders and more so because of limited own capital stocks. They conclude "if there appears to be a proliferation of POs, most of them are fictitious". This absence of functioning POs and lack of enforcement at the trading level by the state agencies is being exploited by many speculative and unprofessional buyers.

ANNEXE 1: Coffee Value Chain in Cameroon



Cameroon Coffee Sector Development Strategy

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Figure 5.1: Cameroon coffee chain (source: NCCB)

The impacts of these weak supports in services and policy to farmers of the region have been poor performance of farmers and consequent fall in yields and poor quality.

5.3 GLOBAL ENABLING ENVIRONMENT

On the international scene, changes in regulations like the collapse (in 1989) of the International coffee agreement (ICA) that controlled and guaranteed the quota system has opened up and stiffened competition on the international coffee market. Oversupply from countries like Brazil and Vietnam with more efficient and supported productions are pushing prices down, compounding the already hard conditions for producers in Cameroon and the NWR in particular.

The concentration at global level of major coffee processing and marketing firms put pressure on local production for standards. Coffee quality is an

important feature and determines prices small farmers get. For small Arabica producers like those in the NWR of Cameroon who have little or no production capabilities, meeting and satisfying market standards has remained a challenge and is translated into poor incomes.

With such low earnings, investing in coffee farming is not possible for these farmers. The low prices have also acted as disincentives for many who have abandoned their farms or diversified production.

The result of this lack of means to invest and the discouraging prices are reflected in low yields and poor quality of coffee in the region for many years.

As we have seen, coffee farming in the NWR insufficiently reward farmers' efforts due to very low production in terms of quantity and quality and the consequent low farm incomes. The low financial (falling prices) returns from coffee farming, coffee market instability, and withdrawal of state support following liberalisation acted as disincentives and resulted in the disaffection of many farmers. The result has been the continuous fall in yields (kg/hectare) and decline of quality for many years.

Coffee as I mentioned in the previous chapters is the main and sometimes the only source of meaningful income for farmers and their families; and also for farm investments like purchase of equipment, biocides and fertilizers.

Also of importance is the fact that unlike other crops that can generate income, coffee is the only crop in the NWR region that buyers themselves come to the producing villages to buy, incurring all the costs of transportation. For any other crop, the farmers themselves have to transport expensively to the markets, considering the poor state of the roads, making them uneconomical.

In this region and for many generations, the economies of these coffee producing villages have depended on income earnings from coffee. Local businesses, social and family matters like marriages, education for children, borrowing and lending, to name a few, are all planned, discussed and carried out following the coffee calendar. With this, it is very clear to see and understand the economic role coffee plays in the lives and livelihoods of these farmers.

Reversing this situation for these farmers require interventions in the areas of support, marketing and policy which I recommend in the next chapter.

Chapter six

RECOMMENDATIONS

This chapter covers the recommendations to Olamcam as the commissioner of the research project. In it, I highlight the importance of a public-private partnership between Olamcam and the government of Cameroon, through the state agencies (NCCB and ICC) in addressing the problem of low yields and poor quality of Arabica coffee in the NWR. To successfully improve the situation, there are actions that Olamcam can undertake and actions that only the state can carry out. There are also areas where Olamcam must partner with the state in realising. These actions are put under three main headings: support, market and policy.

6.1 SUPPORTING SMALL-SCALE ARABICA COFFEE FARMERS IN NWR

The fall in yields and poor quality of Arabica coffee have taken many years to be at this current level. It will require a lot of commitment, investment, planning and time to reverse the situation. For farmers to become coffee chain actors and benefit from it, and for production to be revived and made sustainable, the constraints that are impacting on the sector need to be addressed (annex 4). With success in production, especially the need to increase yields per hectare, linking them to markets will follow easily. Olamcam as the biggest Robusta coffee buyer and third Arabica coffee buyer in Cameroon, and an important partner in the project for the promotion of Arabica coffee in NWR, enjoys an important position and image. It can help these farmers of the project area (NWR) to become coffee production specialists in two key areas: the development of their technical skills; and assisting them in forming farmer groups. Succeeding in these two key areas will facilitate market participation and give farmers a strong position to at least start participating in agricultural policy issues in their area to their favour.

The project that is currently taking place on the promotion of sustainable Arabica coffee in the area will last for five years. There are many objectives set out to be met within this period. The first year is over and by the time of this report, some positive improvements have been demonstrated in production and farmers' hopes on coffee as an important cash crop.

6.1.1 Developing farm management skills of farmers

- Establishing of Farmer Field Schools (FFS): Olamcam should continue to help in building the technical skills of farmers as it is doing (at the level of production, processing, safety and record keeping) now in the FFS, but needs to plan for the continuation of such trainings after the project ends. This will require that by the third year of project, Olamcam has trained permanent staff in every coffee producing village and has helped to build through workshops for village farmers an adequate participation in FFS. These workshops should include topics on the importance to farmers of a local and permanent technical staff who must be close to the farmers. Such staff needs to be motivated and remunerated for their time. Olamcam should try with the participation of farmers in coming up with a scheme of how such FFS will be managed financially. Years two and three of project can be dedicated to this, helping farmers to take charge (management and finances) of their local field school. Years four and five will allow Olamcam time to observe and advice before the project ends.
- Farmers should be educated on the need and importance of continuous trainings for their success. They must also be told that these activities are not completely free of charge and that their contributions are needed to pay for staff and materials. Olamcam needs to start encouraging farmers to make financial contributions (no matter how little) to the trainings they are receiving during the years of the project. This will build the spirit of financial participation in projects in the future.

6.1.2 Encourage farmer groups in the area

Though farmers know and acknowledge the advantages of working in groups (which they do in other activities), the discouraging coffee situation has made many to be sceptical and not to be interested in working together. Encouraging farmers through education on the benefits of working together and giving them support is very important. Building the capacities of farmers to manage such groups through trainings should be included into Olamcam's project. Because of negative experiences in the past with poorly managed cooperatives, a new system of trust, transparency, with clear objectives and benefits need to be built and checked by farmers. Olamcam can demonstrate the importance and benefits of a functioning group to its members by encouraging group formation and overseeing how they carry out some basic

functions during the project period. Important functions like bulk buying of inputs, bulking and sales of coffee; and negotiating skills of these groups can be observed and advice given by Olamcam to prepare them for the future.

- Through FFS, farmers should be taught the benefits of group membership using successful examples. As farmers show interest and are participating in groups, they should be helped or encouraged to have a statute with the authorities immediately. So far in the first year (as I found during this research) of project, many farmers are participating in the project as field school farmers. Olamcam can help them register officially as farmer group, assist and collaborate with them in drawing up and publishing of a group constitution that will guide the functioning in the second year. During the second year and while the field schools are going on, it should prepare group management staff through trainings to start managing the group activities. By the third year farmers groups from the region should start participating in the Interprofessional Council for Cocoa and Coffee where they have a right to discuss their problems and views with regards to coffee. Olamcam will have extra two years to monitor and advice on the functioning of group and how they participate in policy issues.

6.1.3 Lead actor role in the local chain

The poor functioning of the coffee market locally has been responsible for many of the problems with the sector today. Prices are not only low, they are very unstable.

The poor organisation of the coffee market and the way traders within operate have contributed in the decline of coffee quality the NWR. Farmers can do nothing on quality if the market does not need it or is not differentiating and rewarding quality.

Organising a reliable market environment in which farmers have sincere information on coffee prices, coffee demand, input prices and coffee quality is at the core of reviving the broken interest of farmers. As we know, the fluctuations in world coffee prices are far beyond the control of a buyer like Olamcam.

Olamcam can take up the role of a bulk buyer and a lead actor in the coffee chain in the area. The sharing of all important market information transparently with farmers will create trust and build a sense of security in the farmers of having a reliable buyer and leader. With an atmosphere of trust and

security Olamcam can start thinking of linking these farmers to different market segments like the certified coffee segment.

Considering the progress and achievement after the first year for Arabica coffee farmers of the project (annex 3) getting certification (Olamcam can own the certification) is very possible by the third year if the progress and commitments are maintained.

6.1.4 Organise an input market

Scarcity and high costs of inputs in the area, coupled with low coffee prices, have resulted in a vicious cycle of reduced yields, declining farmer income and further reduction in investments in husbandry (e.g. reduced pruning, maintenance, and pest and disease control). Majority of the existing farms are now too old. Old age of tree further contributes to reduced yields and makes coffee plantations more susceptible to pest and disease attack. A coffee seedling and other input market are available.

- Olamcam can setup directly or through able and willing people in every village a seedling nursery before the project ends.
- A financial scheme to provide credits at market rates to farmers is needed. With members belonging to groups, this is can be started as early as possible and functioning monitored during the remaining years to make necessary adjustments for the continuity. An area of concern will be payback rate of farmers.
- Olamcam can start an input market supplying its project farmers with fertilizers and other needed inputs directly or through farmers groups. Following the response of farmers in the project, and the revived interest in coffee farming, Olamcam can start this input business and build the sector which is absent in the area and impacting on production.

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World Bank, country report, (2006) on Cameroon.

Annex 1: Interviews with key informants and farmers

Informal interview

For a relaxed discussion without people trying to give you the answers they think you as a researcher are looking, informal interviews were carried out. This was done with three young motorbike riders, two night security agents (during the day, they work on their coffee farm). I also had discussions with regional sector experts including the divisional delegate of agriculture, the chief of statistics of the region. These interviews helped in guiding how the semi-structured interviews were prepared. The informal interviews were centred on open-ended questions around my topic of interest and done in a flexible manner to deepen and broaden the topics. Topics included, fall in coffee prices, poor yields, coffee market, Government role, the liberalised market, farming population.

Semi-structure interviewer administered interviews

A semi-structured interviewer administered survey was done for farmers in the project area. The sample size was 35 farmers consisting of 30 males and 5 females, respecting the gender proportion of registered project members. Questions I asked covered ecological aspects of production; quality issues; the local coffee market and what farmers thought about the government and the support to the sector.

Annex 2: Focus group discussion with community trainers

Arabica coffee production in the North West Region of Cameroon and the production (yields and quality) challenges of small scale farmers.

A focus group discussion with community trainers from all the project villages

Date: 04/11/2010; at OLAM OFFICE KUMBO.

BY: ERIC ELAD ENOCK

INTRODUCTION

In a latest Cameroon Government report (2009) on Cameroon Coffee Sector Development Strategy, an estimated 400.000 households, representing approximately 2.8 million people are involved in production and another 10.000 in marketing. The report states 'Coffee exports of Cameroon origin (Robusta and Arabica) dropped by 76% between 1986 and 2008, going from almost 110.000 tons to 33.000 tons'.

'Coffee farming (especially by smallholders) has become economically unsustainable and the "coffee crisis" is also threatening the social fabric of communities that rely heavily on coffee cultivation for their livelihoods'.

The World Bank report (2006) on Cameroon estimates that 70% of the population farms and agriculture comprises an estimated 45.2% of GDP in 2006. As the main source of livelihood generating income for most of the rural population, especially those with coffee as their main cash crop, increasing yields and improving the quality are needed.

Arabica coffee is the most important cash crop in this area and the agro ecological conditions of the region are very suitable for its cultivation. Despite its economic importance and the favourable agro ecological conditions, coffee yields are below the potentials of the region.

QUESTION:

What are the **underlying causes responsible** for the **low yields** and **decline in quality** of Arabica coffee in the North West Region of Cameroon after liberalization of the **coffee market**?

Let us discuss the underlined phrases.

Annex 3: Positive result for farmers after one year of project

In my interview with farmers in group discussion or as individuals, they practically want everything needed for their coffee farming for “free”. This way of thinking is the product of the former system under the state where they received support and were officially made to believe they were free. For the sustainability of the sector when Olam leaves, farmers have to pay for such services; and that spirit of financial sacrifice should be built during the period of the project.

The role support to farmers in the coffee chain is being proven by Olamcam in the research area. One year of project with farmers has results already. Yields and quality have improved following trainings registered farmers received. And farmers have better earnings. A summary of my phone discussion with the project agronomist, Mr. Ishmail of the impact of one year of training on yield, quality and price.

Summary of phone interview with Olamcam agronomist, Mr. Ishmail in Kumbo, on the coffee yield and quality after one year of project.

This crop year, he said, farmers who are participating in the Olamcam project have seen increases in yields. Quality has also improved thanks to training on processing.

The marketing of their coffee is still not organised. Although olamcam trains farmers, it does not in any way force them to sell to it. The market is free and farmers are free to sell to the best buyer in term of price.

Interestingly, farmers who organised themselves like those in Nkwi village, sold in bulk and had the chance and leverage to bargain. While farmers who sold as individuals got 800FCFA/kg (about 120euro cents per kilogram), those who bulked and bargained got 1000FCFA/kg (150euro cents per kilogram).

Farmers, who were not pressed with financial obligations, held their coffee and waited for price to go up. In October average price was 560FCFA/kg (about 85euro cents. By late January the price per kg has averaged 900FCFA/kg (137euro cents per kilogram) he told me.

Annex 4: Coffee constraint tree for Arabica farmers of NWR

Figure 5.2 Problem tree for coffee constraints.

