



## AN ASSESSMENT OF FACTORS CONSTRAINING COFFEE PRODUCTION AND MARKETING IN NIGERIA

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### ABSTRACT

The aim was to investigate the factors that hinder the production and marketing of coffee in Nigeria; with specific objectives of determining farmers' socio-economic characteristics and practices, as well as profitability of coffee production. Data collected from a stratified and purposive sample of one hundred and fifty coffee farmers from Kogi and Ogun States of Nigeria; were analyzed using simple descriptive statistics, such as mean, percentages, and frequency tables, as well as gross margin analysis. Results showed that majority of the farmers were above 50 years old; and that about 44 percent of coffee farmers had no formal education and 89 percent had no formal training in coffee production. It also revealed an average farm size of less than one hectare and an average output of 51.51kg of coffee. The gross margin profits from coffee has been generally low and on a decreasing trend; indicated by an average gross margin of ₦1930.54 for 2008 season and a cumulative average of ₦3936.3 for the period 2004-2008. More than 75 percent of farmers indicated that fire outbreak, poor policy, farmers' belief and occurrence of drought were the most pressing problems affecting coffee production and marketing. It was therefore concluded that if government policies focus on rehabilitation of coffee farms, improved access of farmers to capital incentives, skill development for farmers on improved management practices, and improved access to market information; production of coffee in Nigeria might increase on a sustained basis.

**KEY WORDS:** coffee production, marketing, gross margin profit, rehabilitation, decreasing trend

### INTRODUCTION

Coffee plant is native to Africa; the origin of *Coffea arabica* has been traced to Ethiopia, while Robusta coffee was believed to come from Central to West Africa (Williams, 2008; Opeke, 2005; and Ngussie and Dererse, 2007). Its preparation and cultivation was first done by the Arabs; and was introduced to most parts of Africa during the colonial era (Williams, 1998). Trends in the world production of African coffee shows that annual production in the last 10 years fluctuated between 14 and 19 million (60kg) bags, with an average of about 16 million bags; and has since fallen considerably due to varied factors (Surendra, 2002). Although Coffee is grown and exported by more than 50 developing countries, it's mainly consumed in the industrialized countries namely United States of America, Finland, Sweden, Belgium and Japan among others (Agbongiarhuoyi et al., 2006; and Daviron and Ponte, 2005). In the world market, Coffee plays a vital role in the balance of trade between developed and developing countries; being an important foreign exchange earner, contributing in varying degrees to the national income of the producing countries (Cambrony, 1992). *Arabica coffee* provides employment for a lot of people in all producing countries (Muleta, 2007); and Surendra (2002) reported that about 33 million people in 25 African countries derived their livelihoods by growing coffee in subsistence level from about 4.5 million square kilometers of land.

In Nigeria, *C. arabica* is grown mainly by small scale farmers in the highland area of Mambilla plateau in Taraba State, as well as Nasarawa, Abia, Kogi, Kwara, Ondo, and Ogun States (Williams, 2008); and it used to be one of the

major cash crops constituting the backbone of Nigerian economy before the emergence and predominance of oil. Trends have shown decline in coffee production over the period between 1960 and 2008 in Nigeria; from 18,000 bags [of 60kg bag] in 1961 to 50,000 bags in 2008, with the highest production level of 95,000 bags in 1964, 1988 and 1990 (Williams, 2008). Over 80% of coffee from developing countries, particularly Nigeria, is produced by small scale farmers who lack adequate technical education and are faced with low market price leading to poor management, poor productivity and abandoned farms (Williams, 1989; Mutua, 2000; and Agbongiarhuoyi et al., 2006). Arabica coffee accounted for 4% of export in Nigeria, and less than 2% of world coffee in 1989; and while other producing countries such as Ivory Coast have in recent time significantly increased their production level despite the collapse of world price of coffee, Nigeria no longer has a place at all in coffee production on a global scale (Williams, 1989).

In spite of the facts that coffee is highly economical and can boost the country's revenue, coffee production is fast declining in Nigeria and the participation of farmers has become very low. The recent policy shift towards diversification of the national economy; whereby certain crops such as rice, maize, cassava, cotton, and cocoa; as well as livestock and fisheries enjoy promotion under the Presidential Initiative in Agriculture; provides an opportunity for stemming the declining trend in coffee production. Reviving coffee production in Nigeria would also be consistent with the vision of the New Partnership for Africa's Development [NEPAD] that "Agriculture-led development is fundamental to cutting hunger, reducing

poverty, generating economic growth, reducing the burden of food imports and opening the way to an expansion of exports". This study explored the nature of the specific constraints that affect farmer's participation in coffee production and marketing; with the aim of determining the potential options for revamping the coffee sector in Nigeria and sustaining its contribution to the goal of poverty alleviation, food security and increased income among the small scale farmers. Specifically, the objectives were to describe the socio-economic characteristics of coffee farmers; assess the production and marketing capabilities of coffee farmers; determine the profitability of coffee production; and analyze the constraints associated with coffee production and marketing in Nigeria.

#### METHODOLOGY

The data for the study were obtained from both secondary and primary sources. Field survey was conducted using Focus Group Discussion [FGD] and interview schedule to collect data from 150 coffee farmers. The key variables included farm size measured by the portion of farm size occupied by coffee trees (hectares); output from coffee farm measured in kilograms; revenue from coffee measured by amount of money earned from sales of coffee harvested from farm (in Naira); and variable cost of

producing coffee measured by the amount of money (in Naira) expended on operations such as inputs such as fertilizers, herbicides and labour for weeding, fertilizer application, harvesting and drying of coffee, as well as transportation to the market. The study area comprised two States namely Kogi and Ogun States selected by stratified and purposive sampling technique from the eight major coffee producing States in the Middle belt and South zones of Nigeria respectively. Sampling frame included both members and non-members of Nigerian Coffee and Tea Association in the selected States who engage in coffee production. Purposive and snowball sampling techniques were employed in the selection of respondents. Descriptive statistics including mean, frequency and percentages were employed in data analysis; and gross margin analysis was used to determine the economic performance of coffee production and marketing.

#### RESULTS

##### Socio-economic characteristics of coffee farmers

The socioeconomic environment of farmers is critical to farm decisions and performance; hence, factors such as the age, family size, marital status, education, sex and religion of the farmers were considered in the study.

**TABLE1.** Socio-economic characteristics of respondents

Socio-economic variables	% distribution (n=150)	
Age (years):	21-30	7.33
	31-40	9.33
	41-50	16.0
	51-60	13.33
	61-70	32.67
	Above 70	21.33
Marital status:	Single	6
	Married	94
Sex:	Male	136
	Female	14
Religion:	Christianity	69.33
	Islamic	30
	Traditional	0.67
Educational level: No formal education		25.33
	Primary	30
	Secondary	28
	Tertiary	16.67
Family size:	<6	16
	6-10	39.33
	11-15	35.33
	>16	9.33

Source: Field survey, 2009

**TABLE 2:** Level of involvement in coffee production

Level of involvement	Percentage (n=150)
Full time farming	40
Full time coffee farming	9.33
Part time coffee farming	90.67
Size of coffee farm (ha): <1	73.33
1-2	20
>2	6.67
Experience (years): 1-5	2.67
6-10	9.33
11-15	16
16-20	30.67
Above 20	41.33

Source: Field survey, 2009

**TABLE 3:** Production and Marketing Practices of Respondents

Practices	Percentage
Cropping pattern: Mixed	9.33
Sole cropping	84
Combined	6.67
Land acquisition method: Inherited	94.67
Rented	0
Leased	4
Bought	1.33
Sources of information: Extension	5.33
Friend and relative	96.67
Source of labour: Family	36
Hired labour	53.33
Friends	10.67
Source of capital: Friend	2.67
Relative	6.67
Microfinance bank	0
Agric credit	4
Cooperative society	0
Personal saving	86.67
Coffee training: Trained	0
Not trained	100
Source of Market: Government	11
Cooperative	28
Middlemen	52

Source: Field survey, 2009

Majority of the sampled coffee farmers was above 50 years old, representing about 67 percent (Table 1); which confirms the findings of Sanusi et al (2004) that the average age of farmers was 54 years while the average age of coffee farms was 30 years. This implies that most of the coffee farmers might not be energetic and enthusiastic enough to embark on long term investment in coffee plantation; thus might lead to persistently low output. Most of the farmers (about 94%) were married and about 83% had a family size of six or more people, indicating that family labour was a potential asset for coffee production in the area; thus, corroborating the finding of

Eghe et al (2003), that about 50 percent of coffee farmers have 3 – 12 children. Results also indicated that male farmers were more involved in coffee production, probably because of cultural restraints that deprive women of the right of inheriting land and hindering them from long-term use of land. Results also indicated that about 25 percent of the respondents had no formal education, while about 45 percent had at least secondary education; implying that most coffee farmers should have no problem in comprehending and utilizing technical and market information about coffee.

**Farmers’ Practices in Production and Marketing of Coffee**

Although 40 percent of the respondents were full time farmers, only about 9 percent still paid considerable attention to coffee production as full scale coffee growers (Table2). The modal size of coffee farm was less than one hectare, implying that most of the farmers produced coffee at very low scale. Majority of the farmers (about 84 percent) were growing coffee as sole crop (Table 3); which might have implication for mechanization of coffee farms in the area. About 16 percent intercropped coffee along with other crops like plantain, banana, pineapple among others. The results that about 88 percent of the farmers had a minimum of ten years of experience in coffee production, about 95 percent acquiring land through inheritance; suggest that most of the coffee trees would be relatively old as they were probably inherited along with the farm land. Information relating to production and marketing of coffee was obtained mostly from friends and relatives, with extension accounting for only about 5 percent; while farmers did not have access to information

through any of the mass media (Table 3). Moreover, none of the farmers had participated in any form of training relating to production and marketing of coffee. These results indicated that extension and mass media services did not respond to farmers’ information need with respect to coffee, and this might have implication for low output of coffee. Personal saving was the most popular source of capital available to farmers, no farmer benefitted from Cooperative Society and Microfinance Banks, and hired labour constituted about 53 percent; which indicates limited access to capital for proper management of coffee farm and explains the low scale of coffee production. Majority (about 89 percent) also lacked formal training that could adequately equip them with necessary knowledge and skill for efficient production and marketing of coffee. Access of farmers to market was through the middlemen (about 54 percent), Government agents (about 11 percent), and cooperative groups (about 28 percent). Sanusi et al (2004) and Eghe et al (2003) reported that farmers found it difficult to market their coffee bean and this could have a serious implication on their income.

**TABLE 4: Percentage Distribution and Mean Scores of Coffee Production and Marketing Constraints**

Constraints	Percentage Distribution by score			Mean score	Percentage Mean score
	Very serious	Serious	Not serious		
Disease	66.67	26.67	6.67	1.40	46.67
Pest	66.67	25.33	8.00	1.413	47.11
Lack of Land	6.67	17.33	6.67	1.31	43.56
Lack of Capital	14.67	34.67	41.33	1.72	57.33
Fire outbreak	73.33	8.0	9.33	2.73	91.11
Weed control	9.33	41.33	40.00	1.69	56.44
Access to farm credit	13.33	37.33	40.00	1.64	54.68
Labour shortage	4.0	36.00	50.67	1.44	48.00
Reduction of farmers income	6.67	41.33	42.67	1.57	52.44
Poor processing	13.33	26.67	50.67	1.68	56.00
Low world price	10.67	37.33	44.00	1.57	52.44
Poor access to market information	22.67	41.33	36.00	1.87	62.22
Inefficient extension service	13.33	48.00	29.33	1.72	57.34
High tax deduction	4.0	48.00	38.67	1.92	64.00
Poor policy	66.67	28.00	4.00	2.64	88.0
Demonic activities	64.0	32.00	4.00	2.60	86.67
Drought	46.67	42.67	2.67	2.28	76.00
Average				1.84	61.18

Source: Field Survey, 2009

**TABLE 5: Trend in Production and Profitability of Coffee**

Variables	Coffee Output and Gross Margin by Year					
	2004	2005	2006	2007	2008	Average
Average Annual Output (kg)	73.91	60.43	49.53	48.31	47.773	51.51
Average Annual Revenue (₦)	14813.33	12125.33	9936.00	7664.00	6279.87	9001.3
Average Variable Cost (₦)	7400	6445.33	5445.33	4020.00	4349.33	5065
Gross Margin (₦)	7413.33	5680	4490.67	3644	1930.54	3936.3

Source: Field survey, 2009.

**Constraints on Coffee Production and Marketing**

The major constraints on coffee production and marketing, with percentage mean score of more than 75 percent; were fire outbreak, poor policy, farmers’ attitude (belief in demonic influence on the performance of coffee) and drought (Table 4). Other constraints with percentage mean score between 50 percent and 65 percent; were high tax

deduction, poor access to market information, lack of capital, inefficient extension services, poor weed control, poor processing, poor access to farm credit, low income from coffee, and low world price; in descending order. The constraints that were indicated as being less serious, scoring less than 50 percent include diseases and pests infestation, labour shortage and lack of access to land.

This result suggests that lack of access to farm credit and capital prevented the farmers from proper maintenance practices including poor weed control, thereby exposing the farm to fire outbreak and subsequently result in low output. Incidence of drought also further complicates the situation as it predisposes the coffee farm to intense nutrient and water scarcity. Moreover, inefficient extension services deprived them the opportunity of necessary information and skills that would have helped them improve their output level. These findings are similar to the findings of Williams (1989) and Eghe et al (2003), except for the aspects of fire outbreak, drought and farmers' belief in demonic influence; which was specific to the findings of this study. Farmers' analysis indicated that the incidence of drought was as a result of demonic influence; which scared some farmers away from their farms, and such abandoned farms later got burnt by fire. This is an indication of frustration and hopelessness on the part of the farmers; which implies that any intervention in the coffee sub-sector to alleviate the above constraints would have to be complemented with sensitization of farmers for attitudinal change and developing their knowledge and skill for improved practices.

#### **Trends in Profitability of Coffee Production**

The trends over a four-year period (2004 to 2008) indicate that both output and revenue from coffee have been decreasing. The gross margin in year 2008 was ₦1930.54, and the average gross margin for the period (2004 – 2008) was ₦3936.3 (Table 5); both of which were far less than the minimum wage rate for unskilled labour for the period of analysis. The decreasing trend in output may be explained by poor management practices of farmers. Results also indicated a decreasing trend in cost, which might be explained by the result that most of the farms have been abandoned due to farmers' frustration. The gross margin profit indicated that farmers' income from coffee is too low to meet the basic requirements for the livelihood of the farmer and his family; which represents a discouragement for farmers from continuous production. This result corroborates the finding of Sanusi et al (2004), which concluded that if the low income trend was not checked; coffee production might be completely abandoned in Nigeria.

#### **SUMMARY AND CONCLUSION**

The study objective was to assess the constraints affecting the production and marketing of coffee in Nigeria. Findings showed that the problems affecting farmers in the production and marketing of coffee were economical, environmental, institutional and attitudinal in nature. The economic-related constraints were lack of capital, poor market information, and poor market network; environment-related constraints were pests and disease infestation, fire outbreak, and drought; attitudinal constraint was in terms of farmers' belief in demonic influence on poor performance of coffee farms; and the institutional constraints were in terms of lack of access to farm credit and inefficient extension service. Results showed that coffee farmers were mostly above 60 years of age, married with family size of six or more, and more dependent on family labour for production activities. About 44 percent of the farmers were fully engaged in

coffee production and access to market was mainly through middlemen traders, with limited involvement in cooperative activities or linkage with coffee market. Most of the farmers practiced sole cropping and majority were not using fertilizer in coffee production. The profitability of coffee production was found to be low and have been on the decrease between year 2004 and year 2008; indicated by gross margin profit of ₦1, 393.33 in the year 2008, and average gross margin profit of ₦4,524.27 for the period 2004 to 2008. As a result of these socio-economic and other constraints; the youths do not participate in coffee production and most of the coffee farms owned by old farmers have been practically abandoned.

Thus, it was concluded that if the younger generation farmers were encouraged and given incentives in terms of adequate access to inputs, information and skills required for better agronomic and management practices as well as market information and linkage established, their level of involvement in coffee production and its profitability might increase. This would generate more revenue for the farmers and the government thereby contributing more to the gross domestic product and national economic development. Increase in farmers' income would contribute to improved rural livelihood; and increased coffee production would also increase availability of coffee for domestic and export markets. Necessary measures should be taken to encourage production and marketing of the coffee such as improved access to credit, active outreach by extension agents, as well as provision of irrigation facilities and drought resistant varieties.

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