



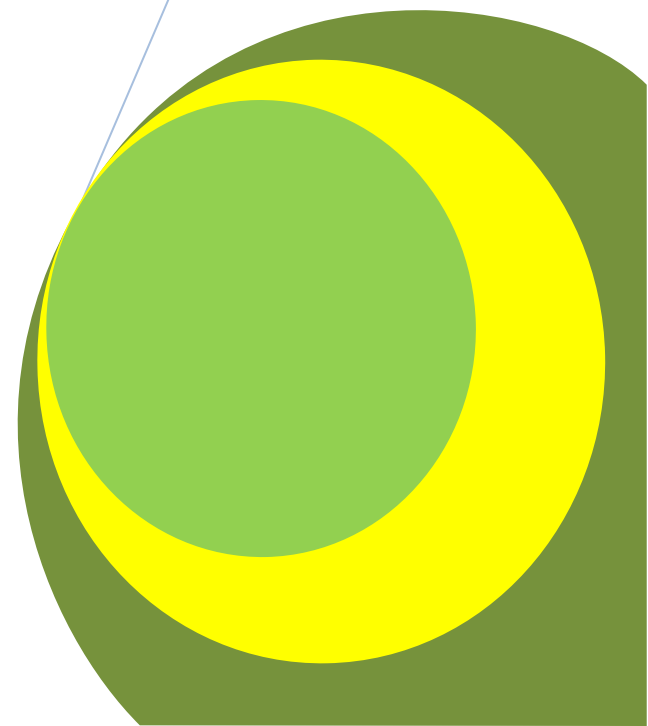
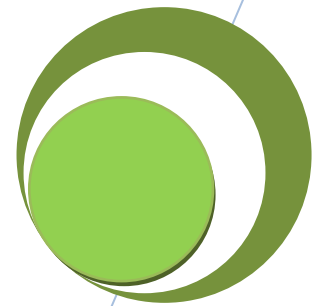
Greener Journal of Agricultural Sciences

ISSN: 2276-7770

'Insight into the Standard of Living of Ghanaian Cocoa Farmers'

By

**Mercy Asamoah.
F. Owusu Ansah.
V. Anchirinah.
F. Aneani.
D. Agyapong.**



Research Article

'Insight into the Standard of Living of Ghanaian Cocoa Farmers'

Mercy Asamoah*, F. Owusu Ansah, V. Anchirinah, F. Aneani and D. Agyapong

P. O. Box 8, Cocoa Research Institute of GHANA (CRIG), NEW-TAFO, E/R, GHANA.

*Corresponding Author: mrcyasamoah@yahoo.com, Phone: 00233-243533430

Abstract

A survey was conducted to provide insight into the standard of living of cocoa farmers in Ghana. A total of 637 households (with 3392 persons) were randomly sampled using a multi staged sampling technique from eleven cocoa districts in Ghana. Formal questionnaires were used to interview the heads of households on various aspects of their lives. The objective was to find the total annual household expenditure as a proxy indicator and compare with national living standards in order to stratify the farmers by poverty status. Results indicated that 7.4 percent of the sampled population were extremely poor with total annual expenditure less than GH¢443.61 while 11.4 percent were poor with less than GH¢570.31. An analysis of the poverty gap revealed that a person needed an average of GH¢135.45 (about \$68) or up to GH¢397.00 per annum to be lifted up from extremely poor to the upper poverty line. It could thus, be deduced that poorer cocoa farmers needed the money equivalent of two bags (125 kg) of dry cocoa to be able to satisfy their basic consumption needs. It is thus, recommended that the majority small-scale cocoa farmers should be assisted to adopt yield enhancing technology in order to increase their current low productivity of less than 400 kg.

Key Words: Standard Of Living, Cocoa, Household, Farmers, Ghana.

INTRODUCTION

Cocoa contributes significantly to the socio-economic development of Ghana in varying ways. For instance, in the 2009/10 financial year, export and local duties paid by the Ghana Cocoa Board (COCOBOD) to government treasury was GH¢153,933,253 besides the many other social responsibilities and services rendered to the nation (COCOBOD, 2011: p12).

These services include scholarships for higher education to over 2,500 people per annum, donations to various institutions, (COCOBOD, 2011: p12) maintenance of roads and provision of solar lights in farming communities. Cocoa also supports the livelihood of over 800,000 farm families and millions of others including COCOBOD and affiliate staff in Ghana (COCOBOD, 1998). Ghana and Cote d'Ivoire alone contributed 60 percent of global cocoa production (COCOBOD, 2011: p 1) making them the two leading Cocoa producers in the world. Unfortunately, the majority of these producers operates on small-scale and is spread within the seven Cocoa regions in Ghana. They are mostly living in the rural areas and characterized by low productivity of less than 400 kg/ha for low technology farmers and 650 kg/ha for medium technology farmers (CRIG, 2012), low income, lack of access to finance, high illiteracy and comparatively low standard of living.

Only 10% of cocoa farmers operate under high technology that can guarantee yield of about 1400 kg/ha (CRIG, 2010). Thus, considering the importance of cocoa and the majority small-scale farmers, it becomes imperative that their welfare and living conditions are improved in order to sustain their interest in cocoa production. Although the Ghana Statistical Service (GSS) has national data in five rounds of Ghana living standards surveys (GLSS) disaggregated by ecological zones and by rural-urban communities, it does not spell out the specific conditions of cocoa farmers who play key roles in sustaining the cocoa industry which is the bedrock of the nation. GSS (1995) studies have showed that poverty is disproportionately concentrated among certain groups of the population and that geographically, rural areas are affected by higher levels of poverty than urban areas. Again, within socio-economic groups, farming households, especially food crop farmers, are most likely to be poorer and with poor access to social and economic amenities and other infrastructure (GSS Report, 2007). Fortunately, poverty

is said to have reduced drastically from 51.7 percent in 1991 in GLSS 1 to 28.5 percent in 2005 in GLSS 5 (ibid). However, only 11 percent of rural areas compared to 72 percent of urban households had access to pipe - borne Water, while 27 percent of rural and 79 percent of urban people had access to electricity (GSS, 2008). It is expected that this trend will improve to better the lot of rural dwellers including cocoa farmers. From the year 2000, a number of yield enhancing policies such as the cocoa pests and diseases programme aimed at increasing farmers' productivity through adoption of high technology were institutionalized by COCOBOD. However, the question is, having institutionalized this policy for over a decade; to what extent have these policies impacted on farmers' living conditions compared with the general national standards. How do these farmers self-assess their standard of living and what the extent of the poverty gap is? This paper is an attempt to analyze the standard of living of cocoa farmers using their household expenditure in 2010 as a proxy indicator, compare the results with national data poverty lines published by GSS (2007) on patterns and trends of poverty in Ghana and to highlight the depth of the poverty gap among cocoa farming households. It also made possible recommendations for improving farmers' current conditions.

RESEARCH METHOD

A survey method was employed using a multi stage sampling to select eleven cocoa districts (i.e. two or three districts per region) from the seven cocoa regions in Ghana. Thereafter, eighteen communities (i.e. two to four communities per district) were selected depending on the volume of cocoa production from the districts. Finally, a total of 637 households consisting of 3392 persons were randomly sampled from these communities for interviewing using structured formal questionnaires.

This formal survey was carried out after a rapid rural appraisal of some cocoa communities were made and focus group discussions held to find out farmers' own definition, indicators of poverty and measurement of their standard of living. This initial ground work greatly informed the preparation of the survey instrument used for the collection of quantitative data which included detailed household income and expenditure, access to and ownership of household items and livestock among others. Data was analyzed descriptively using SPSS version 16 and Excel. In order to classify respondents by poverty line, annual household expenditures were converted into the United States dollars using the prevailing foreign exchange rate (i.e. \$1 = GH¢1.43) in 2010 and the results compared with the dollar equivalent of the two national poverty lines set by the Ghana Statistical Service (2007). The dollar rate in 2006 was \$1 = GH¢0.92 (http://www.trading_economics.com/Ghana/office).

RESULTS AND DISCUSSIONS

Background Characteristics of Respondents

Age and Sex prolife of Household Heads:

Average age of the head was 48.7 years (Table 1). Ageing has increasingly been a concern in cocoa production in Ghana. Fortunately, the result seems to portray a positive tilt towards age less than 50 years than previous like (MASDAR, 1998, Asamoah, 2001 & 2005) studies reported. Females constituted 14.8 percent of the household heads while males were 85.2 percent which just confirms the traditional trend of male headship of households in Ghana.

Educational Level of the Respondents

Ghanaian cocoa farmers still have low level of education (Table 2). Only less than five percent of the sample heads had obtained formal education above senior high school and this, no doubt, has implications on efficient application of pesticides for diseases and pest management.

Marital Status of Respondents

About 94 percent of the household heads were married or had experienced marriage but are now widowed, divorced or are living in a form of consensual union; only 6.4 percent had never married (Table 3). This reiterates the fact that cocoa production is mainly a family business maintained by the farm household.

Table 1 Age Profile of Household Heads

Age (Mean = 48.7 years)	Percent
20 – 50 years	59.8
Between 57 -60 years	19.7
Between 61 -70 years	15.6
Above 70+	4.9
Total	100.0

Source: Field Data 2011, N= 637

Table 2: Level of education of head of household

Level of Education	Frequency	Percent
No/non formal education	39	14.3
Primary school	29	10.6
Middle/JHS	165	60.4
Vocational/commercial/technical)	9	3.3
Senior High School (SHS)	18	6.6
Post SHS(Training colleges, Nursing etc)	10	3.7
Tertiary /University	3	1.1
Total	273	100.0

Source: Field Data 2011, N= 273.

Table 3: Marital status of head of households

Marital Status	Frequency	Percent
Married	510	80.1
Single(never married)	41	6.4
Separated(single)	5	0.8
Divorced	38	6.0
Widow/widower	39	6.1
Consensual union	4	0.6
Total	637	100.0

Source: Field Data 2011, N= 637

Main Occupation/Sources & Proportion of Income from Cocoa

Cocoa farming is the main occupation for about 91 percent of the respondents and it contributes a high proportion of household income (Table 4 & 5). Indeed, 94 percent of the respondents indicated cocoa as a major source of income (Table 6) for their household with a mean total household income of GH¢4,596. Income from all farm activities for instance, constituted 79 percent of farmers' total annual household income. Mean cocoa production for the households were 20.5 bags and 21.16 bags of dry cocoa in the 2009/10 and 2010/11 cocoa seasons respectively, each of which is less than 1,350 kg for a whole cocoa season.

Table 4: Main occupation of head of household

Main Occupation	Frequency	Percent
Farmer	247	90.5
Government Employee	11	4.0
Artisan/ Self-Employed/Petty Trader	15	5.5
Total	273	100

Source: Field Data 2011, N= 273

Table 5: Proportion of income from cocoa

Proportion Of Income	Frequency	Percent
<5	27	4.3
5-7	332	52.1
>7-10	278	43.6
Total	637	100.0

Source: Field Data 2011, N=637

Table 6 Major source of income of respondents

Major source of income	Frequency	Percent
Cocoa	601	94.3
Plantain	9	1.4
Artisan	1	.2
Government Employee	5	.8
Self employed/petty trading	13	2.0
Cassava	6	.9
Yam	2	.3
Total	637	100.0

Source: Field Data 2011, N= 637

HOUSEHOLD EXPENDITURE OF RESPONDENTS

Analysis of household expenditure revealed that the expenditure in 2010 was about 1.8 times and 2.1 times more than the average expenditure made in Ghana and by rural dwellers in 2006 (Table 7) respectively. Thus, taking consumption expenditure as a proxy indicator of standard of living, it could be deduced that cocoa famers were perhaps, better off in 2010 than in 2006 since they could spend more.

Table 7: Comparative analysis of Average and Total household expenditure using GSS (2007) and Survey data (2010)

Household expenditure	GLSS5 (2006)* (*\$1= GHc0.92)	Field survey data (2010) (\$1 = GHc1.43)
Average expenditure (Ghana)	1918	(\$2084.78) -
Average expenditure (Rural forest)	1629	(\$1770.52) -
Average expenditure (Survey data)	-	5329.90 (\$3727.20)

*\$1 = (GHc0.92) in 2006

\$1 = (GHc1.43) in 2010

*The GSS income and expenditure 2006 published in 2007

Nevertheless, food still takes a chunk (54.2 percent) of total household expenditure (Table 8) although farmers are expected to get some food crops on their farms. This is a food security concern in cocoa farming households for which a study has been initiated.

Table 8: Household expenditure (GH¢) of respondents for the year 2010

ITEM	N	Minimum	Maximum	Mean	SD
Food	637	600.00	14609.00	2890.58	1843.31
Toiletries	637	24.00	800.00	171.63	136.04
Rent	93	30.00	200.00	96.70	21.30
Electricity	238	30.00	984.00	154.30	177.31
Gas/Charcoal	93	35.00	384.00	156.61	96.28
Health	617	8.00	840.00	69.89	115.46
Water bills	213	30.00	400.00	107.86	84.32
Cloths	637	20.00	2000.00	261.87	269.15
Funeral	629	20.00	1200.00	153.36	200.27
Church	607	30.00	2400.00	217.37	302.47
Transport	637	10.00	1200.00	234.51	211.26
Cell phone	604	20.00	1800.00	230.03	228.70
Others(gifts etc)	289	10.00	1620.00	266.66	294.24
Total	637	1183.00	23776.00	5329.90	2981.60

Source: Field Data 2011, N= 637

Indeed, total household expenditure in 2010 (GH¢5329.90) (Table 8), exceeds mean total income (GH¢4,596.25) by about (GH¢734.00), but this does not even include farm level expenditure as in the case of total household income which includes on-farm activities, and thus, further deepens the excess of expenditure over income. This excess also shows that either farmers are indebted and are on loans or that they are cushioned by their livestock, stock of wealth or on social capital which they indicated as earlier as support during any vulnerability. Interestingly, social obligations, communication and transport expenditure (i.e. the last five items on Table 8) seem to be high accounting for 20.7 percent of the expenditure of the farm households.

A comparative analysis of the survey data with GSS poverty lines indicated that 7.4 percent and 11.4 percent of the total members living in the 637 households surveyed were extremely poor and poor respectively (Table 9).

Table 9: Percent of Persons Living Below Poverty Lines in 2010 Computed and Up-Dated from National Living Standard Survey 2006.

GSS Poverty lines (2007)* per equivalent adult (GH¢)	Equivalent GSS poverty lines in 2010** (GH¢)	Percent of farmers Living below poverty lines (<i>Survey data</i>)***	Minimum wage in 2010 @ 3.11/day * 264 working days per year (GH¢)	Percent of population below minimum wage in 2010
Extremely Poor 288.50	443.61	7.4	821.04****	41.8%
Poor 370.90	570.31	11.4		

1. GSS (2007)*: Patterns and Trends of Poverty in Ghana 1991 -2006
2. Inflated GSS figure (**) by the foreign exchange rate in 2010 (\$1 = GH¢1.43) computed. (www.tradingeconomics.com/ghana/currency)
3. Population head count (***) based on the field data i.e. number of people living below the computed figure (i.e. Percent of 3392 persons living in 637 households)
4. ****Note: Analysis assumed that workers work 22 days in a month for 12 months every year (i.e. 264 working days) for the minimum wage operating at the time.

It is sad to note that even using the minimum wage in Ghana for 2010, 41.8 percent of the total members (3392) in the 637 could still be classified as poor with barely basic subsistence expenditure. An analysis of the poverty gap also shows that the respondents needed various sums of monies ranging from less than GH¢50.00 to about GH¢400.00 per annum in order to be lifted from their extremely poor to the poor line (Table 10). Table 10, further shows the various amounts of money needed to be lifted from lower to the upper poverty line. This is for policy interventions, perhaps from the government's livelihood empowerment programme. In the view of Abraham Maslow (1954), these people will be at the level of physiological or basic needs and thus, will be motivated by any intervention that seeks to enhance their livelihood.

Table 10 Amount of Money (gh¢) Needed to Lift People Living below Extreme Poor to Poor Status (no. Of sampled households 637 consisting of 3392 individuals)

Poverty Gap (GH¢)	Total No. of households affected out of 637	Total No. of persons in affected household out of 3392
Less than 50.00	24	192
50.00 – 100.00	16	108
101.00 – 200.00	21	168
201.00 - 390.00	24	184

Source: Author's Calculations from the Field survey data, 2010

It could be deduced from the analysis above that in terms of standards, all those below the minimum wage operating in 2010 (i.e. 41.8 percent of the sampled population, 3392 and 34 percent of the 637 households) have low standard of living. This is because the minimum wage is usually earned by those in the informal sector of the Ghanaian economy and it is the very minimum below which employers should not pay their employees. The rest could only be described in this paper as non-poor.

Self-Assessment of Standard of Living by Respondents.

Respondents were asked to give their own candid opinions about their standard of living and wealth status after perusing their detailed income and expenditure patterns as well as their assess to various material resources with them. The results indicated that about 50.9 percent felt just okay by conveniently placing themselves in the middle of a five level scale from very poor to excellent (Fig 1). However, 32.7 percent and 0.6 percent classified themselves as poor or extremely poor compared to the 11.4 percent and 7.4 percent classified by the computed poverty lines indicated in Table 9 above. This gives an interesting variance between people's perception and culture of poverty and their actual poverty level based on quantitative calculation of their household expenditure. The gap then may represent material, human or monetary resources that the individual may need to be satisfied at the preferred standard of living.

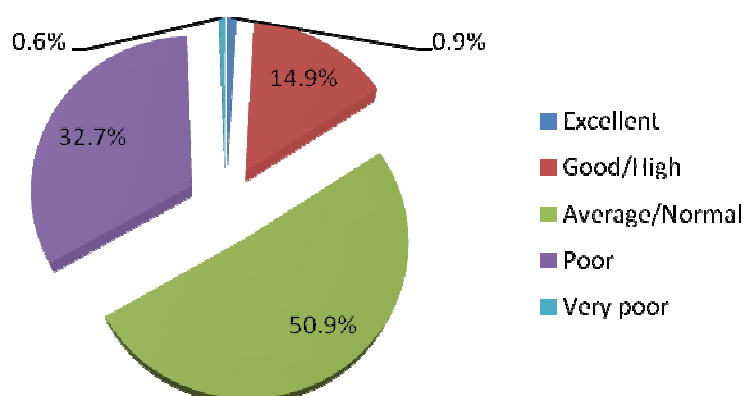


Fig. 1 Self -assessment of standard of living by respondents
Source: Field Data 2011, N= 637

DISCUSSIONS

The standard of living for each individual is measured as the total consumption expenditure per adult equivalent of the household to which he/she belongs as expressed in constant prices of Accra, January 2008 (GSS, 2007:4). With this definition, the Ghana statistical service set two poverty lines at GH¢288.50 for extremely poor and GH¢370.90 for poor persons (ibid). These figures were a revision of the earlier lower and upper poverty lines GH¢700.00 and GH¢900.00 set for extremely poor and poor respectively in 2000 (GSS, 2000). In order to stratify the sampled farmers by poverty status, the GSS (2007) figures were first converted into the US dollar using the annual average exchange rate in 2006. The resultant dollar was converted into the cedi using the exchange rate in 2010 to take care of inflation in order to compare with the results of the survey data. The result indicated that only 18.8 percent of the total members (3392) of the 637 households interviewed were either extremely poor (7.4 percent) or poor (11.4 percent) and thus having low standard of living. The rest could simply be classified as non-poor. This seem to support GLSS 5 survey results that indicated that although poverty in Ghana is not evenly distributed geographically to the disadvantage of the rural areas, yet, poverty in the rural areas, especially in the rural forest has declined drastically from 64 percent in 1991/92 to about 28.5 percent by 2005/06 (GSS 2007). This figure keeps declining as this study among cocoa farmers in Ghana showed a lower figure above living below the two poverty lines. Nevertheless, A quartile analysis of expenditure indicated that the first 25th percentile of households interviewed had mean expenditure below GH¢2,484.00 per annum while the third quartile spent (i.e. GH¢5,586) which is more than double the first quartile. This implies that some farmers were far away from the poverty line than others indicating a wider poverty gap. An analysis of the poverty gap therefore, revealed that an individual needed an average of GH¢135.45 or an amount up to GH¢397.00 per annum to be lifted up to the poverty line. From this analysis it could be deduced that poorer cocoa farmers need the equivalent of the current price of about two bags of cocoa as additional income to be able to satisfy their basic consumption needs.

It is sad to note that food takes a chunk, more than 54 percent, of farmers' total household expenditure despite the expectation of getting free farm produce to reduce food expenditure. In the GLSS 5, rural forest dwellers spent 55.3 percent which is close to the survey figure compared with the national average of 50.6 percent of household expenditure on food alone (Coulombe and McKay, 2008). These high percentages of cost of food may be due to the increasing scarcity of land to cultivate food crops. This is also a source of concern and has implications for food security of the farming population in future coupled with the high cost of other non-farm food items like Rice and Oils.

Since cocoa farmers get a chunk of their household income from farm activities (79 percent) and over 95 percent of them have between 50 -100 percent of their income from cocoa, efforts at helping them rests heavily on improving their productivity from the current less than 400 kg/ha to appreciable levels. This would be possible only when farmers are encouraged and financially assisted to adopt high technology recommended by CRIG to increase production per unit area.

CONCLUSION AND RECOMMENDATION

It is concluded that the majority of cocoa farmers are non-poor based on national poverty lines. However, they may not be categorically having higher standard of living since over 40 percent had annual household expenditure below the minimum wage and are still characterized by over dependence on income from cocoa, low productivity and high illiteracy among other social woes. In respect of these results and discussions, it is recommended that efforts at increasing farmers' productivity should be accelerated to improve their income and the general standard of living of Cocoa farming households. Since the application of fertilizer in combination of good agronomic practices which hold the key to increasing productivity, it is further recommended that fertilizers should be made more affordable and available while increasing the price of dry cocoa for the benefit of farmers. Again, COCOBOD should consider assisting small-scale cocoa farmers with microcredit with Education interventions to be able to benefit from yield enhancing CRIG recommended technologies. Also, farmers should be educated on income diversification activities to avoid over dependence on on-farm income. Furthermore, farmers should be encouraged to form self-help groups and be linked to credible financial sources and farm business and investment advice which hold the key to improved livelihood of farmers.

ACKNOWLEDGEMENT

This paper is published with the kind permission of the Executive Director of Cocoa Research Institute of Ghana (CRIG). We acknowledge the kind contribution of colleague scientists who peer-reviewed it as well as all the technical staff and National Service personnel in the Social Science and Statistics Unit who assisted in the data collection and processing.

REFERENCES

- Asamoah Mercy & Clara Fayorsey (2005): Influence of Socio-cultural Factors on Adoption of CRIG-Recommended Technologies. A Paper presented at the 24th Biennial Conference of the Ghana Science Association, 2005, Accra, Ghana.
- Asamoah Mercy (2001): Socio-cultural and Economic Factors affecting Adoption of CRIG-Recommended Technologies. Mphil. Thesis submitted at the University of Ghana Graduate School in partial fulfillment of the Master of Philosophy Degree.
- Coulombe, H and McKay, A. (2008): The Estimation of Components of Household INCOMES and expenditures: A Methodological Guide Based on the Last Three Rounds of the Ghana Living Standards Survey, 1991/1992, 1998/1999 and 2005/2006. Pp 49 Cocoa Research Institute of Ghana (2010): Cocoa Manual. A Source Book for Sustainable Cocoa Production. Ghana Cocoa Board (2010): 41st Annual Report & Financial Statement for the year ended September, 2010. Pp 19. www.cocobod.gh Ghana Cocoa Board (1998): Socioeconomic Study of Cocoa Farmers in Ghana. MASDAR International Consultant. Ghana Statistical Service (2007): Patterns and trends of poverty in Ghana 1991 – 2006. Pp 74 Ghana Statistical Service (2008): Ghana Living Standard Survey Report of the Fifth Round (GLSS 5), September, 2008 Ghana Cocoa Board (2011) 42nd Annual Report & Financial Statement for the Year ended September 2011, pp46
- Institute of Statistical Social and Economic Research (2008): The State of the Ghanaian Economy. University of Ghana, Legon
- Maslow A. (1954): Motivation and personality. New York NY Harper. Pp 236